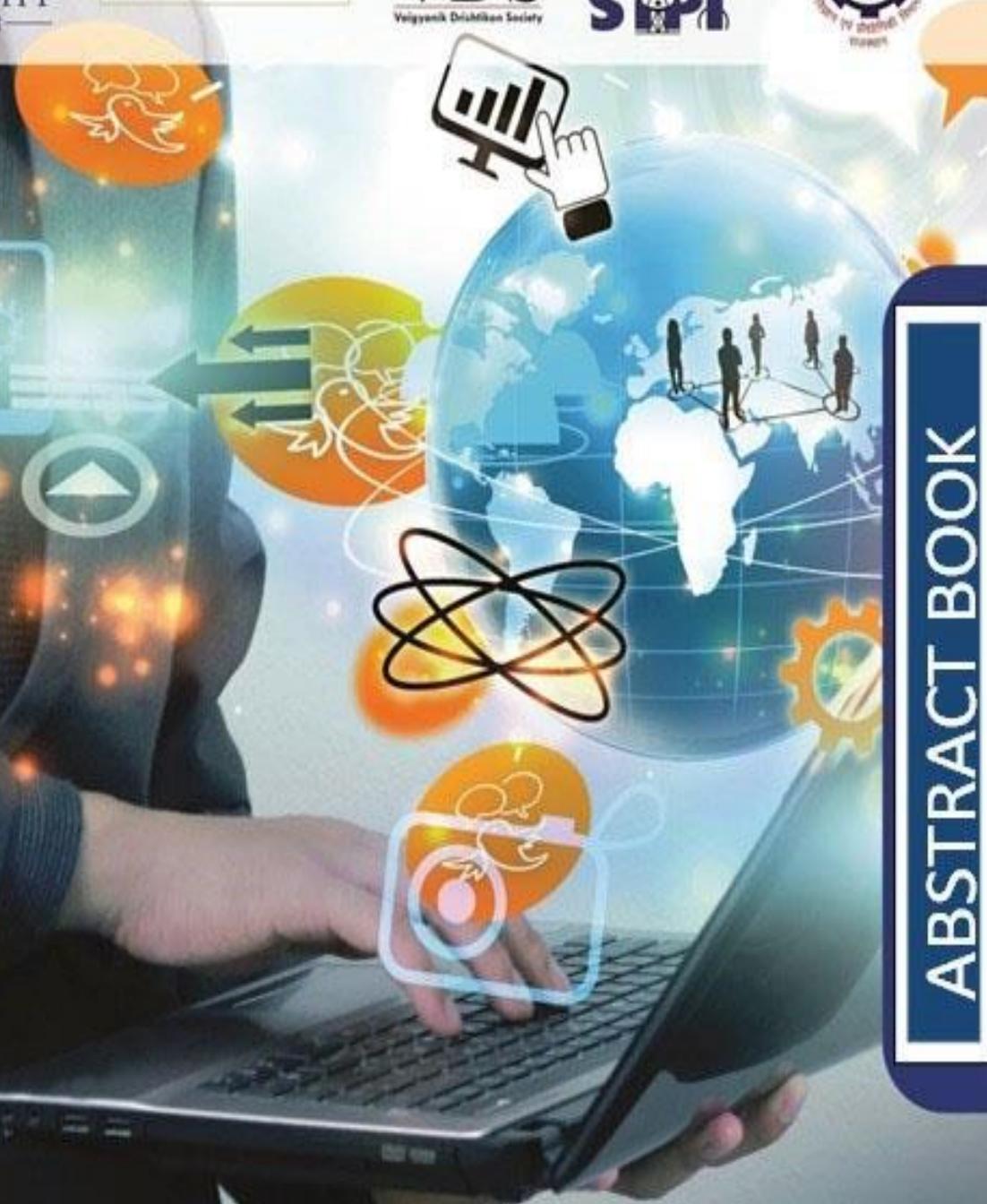




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**Social Concern of Vaigyanik Drishtikon**

**Focal Theme: Science & Technology for Sustainable Development of State of Rajasthan**



5<sup>th</sup>

# RAJASTHAN SCIENCE CONGRESS

Focal Theme : Science & Technology for Sustainable Development of State of Rajasthan  
13<sup>th</sup> - 15<sup>th</sup> October, 2017

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## VENUE

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## **Abstract Contents**

- Theme # 01: Climate Change vulnerability assessment and adaptation
- Theme # 02: Sustainability for genetically engineering organisms
- Theme # 03: Digital India for Sustainability
- Theme # 04: Automation and Industries
- Theme # 05: Economic, social and environmental sustainability
- Theme # 06: Peace, justice and strong institutions
- Theme # 07: Industry, Innovation and Infrastructure

S. No.	Abstract ID	Authors	Abstract title	Page No.
1.	RSC-001	Sushil Kumar Gautam Ashish Routray <sup>2</sup>	Intensity estimation of tropical cyclone 'Megh' associated with the distribution of wind shear and CAPE	2
2.	RSC-002	R. S. Ghasura, Durgga Rani.V	Impact of Climate Change and Vulnerability in Livestock Sector	2
3.	RSC-003	A. K. Srivastava <sup>1*</sup> , D. Kumar <sup>2</sup> , A. Misra <sup>3</sup> , V. P. Kanawade <sup>4</sup> , S. Tiwari <sup>5</sup> and P. C. S. Devara <sup>5</sup>	Aerosol characteristics in the UTLS over the Indian Summer Monsoon region during Successive and Contrasting Monsoon Season	2
4.	RSC-004	A. K. Srivastava <sup>1*</sup> , N. Kishore <sup>1</sup> , D. S. Bisht <sup>2</sup> , Sachchidanand Singh <sup>3</sup> and S. Tiwari <sup>3</sup>	In-situ Aerosol Characteristics at an Urban Megacity over IGB: Implications to Climatic Forcing	3
5.	RSC-005	Anurag Kandya, Shyam Dhrangadharia	Evaluation of Human Thermal Comfort for Ahmedabad city using a Meteorological Approach	3
6.	RSC-006	Raveena Raj, R. Bhatla	Study of frequency of Tropical Cyclones over the North Indian Ocean during 1931-2012	4
7.	RSC-007	Rwitabrata Mallick	Climate Change Vulnerability Assessment & Adaptation	4
8.	RSC-008	M. Dharmesh Reddy <sup>1*</sup> , A. K. Srivastava <sup>2</sup> and V. K. Soni <sup>2</sup>	Columnar Aerosol characteristics over a Highly Polluted Region in north India using Sun/Sky Radiometer Measurements	4
9.	RSC-009	Suresh Tiwari*, Atul Kumar Srivastava and Deewan Singh Bisht	Source Apportionment of Absorbing Atmospheric Aerosol (Black Carbon) in Megacity in Delhi, India	5
10.	RSC-010	Devansh Saraswat, Rhishika Srivastava	Climate Change and Obligations: Analyzing the Emerging Concepts and our Duties	5
11.	RSC-011	Sumaiya Arfin, Manish, Shani S Thankachen, Pooja Pandey, Mehak Segan, Shazina Saeed, Rajiv Janardhanan	Affect of Change in Climate on Allergic Tendency in Residents of Delhi (NCR) region	6
12.	RSC-012	Parveen Kumar	Climate Change Impacts on Water Resources and Adaptation	6

13.	RSC-013	Baljeet Kaur*, Shilpa Kapoor, Garima Kumar, Muskan Kaushik, Shazina Saeed, Mehak Segan, Rajiv Janardhanan	Knowledge of Climate Change and its impact on Reproductive Health among young females: Northern India	6
14.	RSC-014	Era Upadhyay <sup>1</sup> *, Jhumoor Biswas <sup>2</sup> and Mugdha Nayak <sup>3</sup>	An Assessment of Air Quality Status of two Northern Indian Cities	7
15.	RSC-015	Tanvi Shrivastava	Planning Strategies for Adaptation and Mitigation of Climate Change Impacts on Rainfall: Case Study of Rajasthan	8
16.	RSC-016	Ashish Pateriya <sup>1</sup> and Akashay Pateria	Climate Change and Water Issues	8
17.	RSC-017	Parth Samariya* and Karan Gupta	Climate change refers to the variation in Normal Weather Patterns caused due to Pollution	8
18.	RSC-018	Virendra Singh* and Sanjay Kumar Rewani	Effect of Climate Change on Livestock	8
19.	RSC-019	Ravi Ranjan Kumar*, M. Sateesh and V. K. Soni	Distribution of different Aerodynamic Size Particle in Winter Season over Ranichouri: A remote location in foothills of Himalaya	9
20.	RSC-020	M. Sateesh <sup>1</sup> , V. K. Soni <sup>1</sup> and P. V. S. Raju <sup>2</sup>	Source apportionment of equivalent Black Carbon during 2016 at Jodhpur: A desert site	9
21.	RSC-021	Abhishek Lodh	Response of Himalayan Vegetation loss on Hydro-climate of the India: An RCM study	10
22.	RSC-022	Swatantra Kumar Dubey, Devesh Sharma	Assessment of Climate Change impact of Crop Production of Banas basin using Aqua-Crop model	10
23.	RSC-023	Abhishek Byadwal	Climate Change Vulnerability Assessment & Adaptation	10
24.	RSC-024	Anurag Kandya, Santosh Kolte	Water Management in India – Missing Links and Stepping Stones	11
25.	RSC-025	Rupan Raghuvanshi and M. A. Ansari*	Climate Change Vulnerability Assessment of Indian Agriculture	11

26.	RSC-026	Manish Soni, Sunita Verma, Swagata Payra	Role of Meteorology and Satellite Retrievals in estimating the ground particulates matter during the Pre-Monsoon period over Jaipur (India)	11
27.	RSC-027	Prasad K. Bhaskaran	Coastal Vulnerability Assessment associated with Tropical Cyclones for the Indian Coast	12
28.	RSC-028	Meena Barupal, Vinod Kataria	C <sub>3</sub> -C <sub>4</sub> intermediate plants: Interlink between climatic adaptations from C <sub>3</sub> to C <sub>4</sub> plants	12
29.	RSC-029	Nikita Jain, Sushant Rathi	Resilient Climate Adaptive Building Shells for Sustainability in Built Environment	13
30.	RSC-030	Archana Rawat, Abhinaba Bose	Green Office Spaces in Jaipur in Context of Climate Change Vulnerability	13
31.	RSC-031	O. P. Sharma	Aerosols and Clouds in Climate Modelling	13
32.	RSC-032	Ajit Tyagi	Impact of Climate Change and Role of Climate Services in Managing Climate Risks	14
33.	RSC-033	Kuldeep Srivastava, Prodyut Bhattacharya, Naresh Kumar, Ashok Jaswal	Study of long term trends in precipitation pattern over the state of Uttarakhand	15
34.	RSC-034	Rohini L. Bhawar, P.R.C. Rahul, Simone Lolli, Sonali Shete	Aerosol types and their variability: Impact on climate over Indian region	15
35.	RSC-035	Amit Bhardwaj, T.N. Krishnamurti, O.P. Sharma, A. K. Mishra, Tarkeshwar Singh	Monsoon Precipitation Forecast using a suite of Mesoscale Models	15
36.	RSC-036	Dhruv Anurag Khurana, Ravi Upadhyay	Sustainable Development and Environment: Global Warming, Climate Change and Legal Responses	16
37.	RSC-037	A.S. K. A.V. Prasad Rao, C.Y. Huang	An Impact of GPS RO Soundings for the prediction of severe weather systems	16

38.	RSC-038	Manju Anand, Tejinder Kaur	Biotechnological approach for the cloning of <i>Cissus quadrangularis</i> - a valuable medicinal plant	18
39.	RSC-039	Desha Meena	Preliminary screening of ISSR primers for genetic diversity study of <i>tecomella undulate</i>	18
40.	: RSC-040	Mrinalini Prasad, Prem Kumar Dantu	In vitro regeneration and establishment of suspension culture of <i>Tylophora indica</i>	18
41.	RSC-041	Teg Bahadur Singh, Prem Kumar Dantu Prem Kuma	Screening of plant growth promoting rhizobacteria	19
42.	RSC-042	Arti Yadav, Prem Kumar Dantu	Nucellar embryony a boon for citrus rootstock	19
43.	RSC-043	Divya Singh, Rachna Kathal, Sakshi Singh, Meenakshi Singh, Mazaher Gholipourmalekabadi Narendra Pal Singh Chuahan	Non isothermal kinetic parameters and antimicrobial study of high thermal resistive synthesized o-, m-, p- chloro substituted (phenyl) maleimides homopolymers	19
44.	RSC-044	Rajesh Kumar Meena, Harshita Sharma, Vaishali Jain, Neelu Chouhana	Green synthesis of Ag NP's using by zingiber officinale plant extract and optical properties	20
45.	RSC-045	Pradeep K Srivastava	Bionics: learning science from nature to combat climate change	20
46.	RSC-046	Renu Upadhyay, Vijay Parewa, Jyoti	Facile and Environ benign synthesis of "Pyrazolo Pyrane Derivatives" using GO Composite	20
47.	RSC-047	Renu Upadhyay, Sumanta Meher, Vibha Goswami	Simulated Methylene Blue Dye removal using Activated Carbon: A Batch Study	21
48.	RSC-048	Shikaa Samuel, Vinod Gill	Numerical Study of Effects of Adrenal Hormones on Lymphocytes	21
49.	RSC-049	Rajiv Ranjan, Nidhi Saraswat ,Parul Tyagi	Comparative computational analysis of Synaptotagmin genes in human and plants	21
50.	RSC-050	Pratima Bhagat, Sachin Kumar Verma, Jagdeep Singh Sohal, Neeraj Khare, Sekhar Tiwari,	Hairy root cultures: a potent approach for the production of high value Secondary metabolites	22

		Gajendra Kumar Aseri <sup>22</sup>		
51.	RSC-051	Susmita Shukla, Ruchi Verma	In-vitro micropropagation-A significant footprint for growing opportunities of Citrus Species in Rajasthan	22
52.	RSC-052	Simmy, Jyoti Parbhavishnoi	Antimicrobial Activity of Spice Extracts against Pathogenic and Spoilage Microorganisms	22
53.	RSC-053	Aruna Kumari Andy, Vinod Singh Gour	Application of Pgprs: A Potential Eco-Friendly Approach to Enhance yield in Crop	23
54.	RSC-054	Urvi Panwar, Kanchan Mishra, S. L Kothari, Kanjaksha Ghosh	Isolate, Characterize and Expand Human Umbilical Cord Derived Mesenchymal Stem Cells: Using Explant Method	23
55.	RSC-055	Kanika Dudi, Vinod Singh Gour	Surfactant Biomolecules Derived from Bacteria	24
56.	RSC-056	Yogita Madan, Divya, Prakash Bharti	Estimation of iron in Multivitamin Tablets by Various Spectroscopic Methods	24
57.	RSC-057	Prerna Sharma, Vikram Yadav	Review on immunity and immunological preparations: bacterial and viral vaccines	24
58.	RSC-058	Premlata Singariya, Krishan Kumar Mourya, Padma Kumar	Antibacterial Efficacy of Alkaloids of <i>Anaegissus Ruteundifoia</i> An Indigenous Medicinal Plant Against Some Micro-Organisms	25
59.	RSC-059	Krishan Kumar Mourya, Premlata Singariya, Padma Kumar	Identification of some Bio-Active Compounds of Methanolic Extracts of <i>Euphorbia Caducifolia</i> By Gas Chromatography-Mass Spectrometric Analysis	25
60.	RSC-060	Priyanka Dhakate	Use of artificial miRNA as efficient tools of manipulation for redundant silencing of transcripts in crop Brassicas	25
61.	RSC-061	Anil Kumar Sharma, Nitin, Gupta, Mahesh Chandra Sharma	Isolation and Characterization of Medicinal Imperative Phytochemicals from stem bark of <i>Bombax melabaricum</i>	26
62.	RSC-062	Yattapu Prasad Reddy, Ravindra Kumar, Yadav Keshawanand Tripathi, G. Abraham	Optimization of mycosporine like amino acids production in the halotolerant	26

			cyanobacterium <i>Nostoc</i> sp isolated from Rann of Kutch	
63.	RSC-063	Keshawanand Tripathi, Ashwani Kumar Rai	Phosphate metabolism of freshwater diazotropic cyanobacterium <i>Anabaena fertilissima</i>	26
64.	RSC-064	Pramodkumar P. Gupta, Virupaksha A. Bastikar, Dalius Kučiauskas, Nadezda Dreize, Shanker Lal Kothari, Jonas Cicenias, Mindaugas Valius	In Silico Analysis and Molecular Docking Studies of RH1 Drug with Up and Down Regulated Protein Kinases in Rh1 Resistance Human Breast Cancer Cell Line MDAMB231 in search of Off-Target to RH1 Drug	27
65.	RSC-065	Anmol Jain	A critical analysis of the Convention on Biodiversity	27
66.	RSC-066	Saket Kashyap, Bikash Kumar, Pradeep Verma	Isolation of Arsenic Resistant Bacteria from Granite Factory Soil	28
67.	RSC-067	Pratheek Sudhakaran, Jitendra Singh, Bhavesh Joshi, Shailendra Kumar	Bio-inspired built environments for Climate change: developing strategies for adaptation and mitigation	28
68.	RSC-068	Pratheek Sudhakaran	Using biomimicry to inform Urban Infrastructure design that addresses 21 <sup>st</sup> century needs	28
69.	RSC-069	Nitesh Singh Rajput, D D Shukla, Shiv Kumar Sharma, Deep Rajput	Experimental study of Nanofluid based Thermal Systems	29
70.	RSC-070	Virendra Singh, Sanjay Kumar Rewani	Management of Infectious Disease: Goat	29
71.	RSC-071	Narendra Pal Lamba, Sangeta Yadav	Biological importance of ternary complex prepared from Hg(II), Amino acid and Substituted Benzazole	29
72.	RSC-072	Divya Prakash, Jyoti Sihag	A Review: Promoting plant growth effects of biofertilizer and biopesticides in agriculture with modeling technique	29
73.	RSC-073	Rangoli Jain, Saurabh Sharma	GM Crops: The answer to hunger?	30
74.	RSC-074	Sandeep Gupta, Pooja Kumari, Rini Singh, Anoop M D, Kanad Ray, S L	Morphological and Structural Studies on Bismuth Nanostructures	30

		Kothari, Kamendra Awasthi, Manoj Kumar		
75.	RSC-075	Hemant Kumar Gupta	Potential of Nano fluids for Enhancement in Solar conversion Efficiency and Emission Reduction of Solar Collector	30
76.	RSC-076	Dignya Desai, Debajyoti Bose, Manali Datta	Comparison of efficacy of Sensor based Diagnostics with Current techniques for Chronic Kidney Disease (CKD)	31
77.	RSC-077	Santosh Ranva, Neelam Jain, Y.V. Singh	Influence of Natural Safe Rock Minerals on Soil Microbiological Parameters of Rice-Wheat Cropping System	31
78.	RSC-078	Priyanka Yadav, Upasana Agri, G.K. Aseri, Neelam Jain	Green synthesis of Silver Nanoparticles from kachri fruits against Nosocomial Infections	32
79.	RSC-079	Sonal Gupta, Pradeep Tiwari, Vandana Nunia, Shanker Lal Kothari, Krishna Mohan Medicherla, Praveen Mathur, Babita Malik, Prashanth Suravajhala	Challenges in the Long non-coding RNA research	32
80.	RSC-080	Hemant Singh, Manishita Das Mukherji	Challenges towards effective Municipal Solid Waste Management in India: An Overview	32
81.	RSC-081	L Brahmawar, M D Mukherji	PGPR: A tool for Sustainable Agriculture	33
82.	RSC-082	Anuj Soni, Vishal Panchariya, Vishal Bhati, Nidhi Mathur	Structural Insight into the Proteins Causing Neurological Disorders	33
83.	RSC-083	Ranjeeta Soni	Fluoride is harmful or beneficial: a summery on fluoride in Rajasthan	34
84.	RSC-084	Pratibha Singh, Preksha Jain	Sustainability of genetically modified organisms	34
85.	RSC-085	Tarang Kumar Shah	Blue revaluation is next revolution for nutritional security in India	34

86.	RSC-086	Jinal Thakkar, Gayatri Yadav, Pranali Vankore, Virupaksha A Bastikar, Santosh Chhajed, Pramod kumar P Gupta	3D structure modeling and analysis of Human Mucin-6 protein	35
87.	RSC-087	H. Sharma, M Dhaka, M D Mukherji	Influence of heavy metal stress response on plant secondary metabolites	35
88.	RSC-088	Jainam Jain, Chayan Patra, S L Kothari, Ajay Jain, Desh Deepak Singh	Recent advancement and challenge in next generation sequencing technology	35
89.	: RSC-089	Nitigya Mathur, Aditi Jain, SL Kothari, Ajay Jain, Desh Deepak Singh	Bacterial-Fungal Interactions: Hyphens between Agricultural, Clinical, Environmental, and Food Microbiologists	36
90.	RSC-090	Neha Arya, S.K. Kashyap	Utilizing Community Radio Stations as an ICT tool for empowerment of rural masses	36
91.	RSC-091	Nitish Kumar Rai, Himanshu Sanadhya, Manish Chawla, S. K. Singh	Bio-Medical Waste Management	36
92.	RSC-092	Sanni Kumar, Anupam Jyoti	Evaluation of total nitrite and pro-inflammatory cytokines in plasma: Potential prognostic biomarker for early onset of sepsis	37
93.	RSC-093	P Soni, R Gaur, M D Mukherji	Mitigation measures of tropospheric ozone	37
94.	RSC-094	M. Chhabra, M D Mukherji	Studies of phytoplankton diversity of a polluted water body	37
95.	RSC-095	Shailesh Kumar, Sumit Govil, Vikram Kumar, Sumita Kachhawah, S L Kothari	Classification of length normalized UTRs of mRNA in human genome by applying various machine learning approach	38
96.	RSC-096	Sruthi S Unni	Assessment of Biodiversity in Kumbalgarh Wildlife Sanctuary: A Conservation Perspective	38

97.	RSC-097	Harshita Sharma, Rajesh Kumar Meena, Sonia Lalwani, Yash Sharma, Harshit Vijay, Suresh Godara	Synthesis of ZnO Nanoparticles by Hydrothermal Method and Optical Properties	39
98.	RSC-098	Smit Patel, Jitesh Adwani, Raushan Singh, Anjali Dahiya, Debolina Majumdar, Shweta Kulshreshtha	Oilgae production from Algal Biomass	39
99.	RSC-099	Kriti Gautam, Uma Chauhan, Shweta Kulshreshtha	Isolation of nematodes from soil of Achrol village, Jaipur	39
100.	RSC-100	Raunak Prakash, Mayank Solanki, Shweta Kulshreshtha	Isolation of Tar ball degrading yeast strain	39
101.	RSC-101	M.Rishi Nandhan, Shweta Kulshreshtha	Application of Natural and Modified Bagasse for removal of dyes	40
102.	RSC-102	Suchita Atreya, Shweta Kulshreshtha	Degradation of hydrocarbon from polluted soil using <i>Candida tropicalis</i>	40
103.	RSC-103	Saakshi, Shweta Kulshreshtha	Effect of Paper and Cardboard Industrial effluents on the growth of <i>Cicer arietinum</i> seedlings	40
104.	RSC-104	Chandan Saini, Arshad Khan, Lotus kathuriya	Sustainable development by Handmade paper making	41
105.	RSC-105	K Prabhu Ram, Lavanya Arora, Ramgopal Dhakar, Jyoti Yadav	Using photoautotrophic microbes to increase efficiency of solar energy utilization	41
106.	RSC-106	Shobhit Vaishnav, Lokesh Tiwari, Ankit Shakyawal, S L Kothari, Desh Deepak Singh	Molecular Bacteria-Fungi Interactions: Effects on Environment, Food, and Medicine	41
107.	RSC-107	Lavanya Arora, Ramgopal Dhakar, Jyoti Yadav, Prabhu Ram	Effective waste water treatment and fluoride adsorption from fresh water using nanoparticles-enriched filter systems	42
108.	RSC-108	Rakesh Sharma, Vandana Nunia, Prerna Dhingra, Raini Verma, Rakhi Poonia, Sankalp Sharma, Deepak Sharma, Sumita Kachhwaha, S L Kothari	Prediction of homologous genes using Multiple Sequence Alignment and Hidden Markov Model by RNASeq transcripts	42

109.	RSC-109	Babita Patni	Morphophysiological parameters associated with allelopathic potential of rice genotypes for sustainable weed management	43
110.	RSC-110	Sakshi Sharma, Ravneet Chug	Stem cells and their Potential Therapeutic Applications	43
111.	RSC-111	Sheenu Nathawat, Bharat Singh	Phytochemical analysis and assessment of in vitro antibacterial activity of <i>Tinospora cordifolia</i>	43
112.	RSC-112	Peer Rayees Aziz	Acute Grain Overload in a Goat	44
113.	RSC-113	R. Yadav, M D Mukherji	Avian Electrocutation Mitigation: Preventive Measures and Suggestions	44
114.	RSC-114	Aayushi Shrivastava, Ravneet Chug	Nanoparticles as Potential candidates for targeted drug delivery	44
115.	RSC-115	Sapna Yadav, Rajesh Kumar Kesharwani, Sudhanshu Mishara, Dushyant S. Chauhan, Sandeep Tripathi, Yatindra Kumar	Docking simulation study for Curcumin and its derivatives/analogues against Parkinson's Disease by targeting Nrf2 Protein	44
116.	RSC-116	Sachin Kumar Verma, Pratima Bhagat, Sekhar Tiwari, Gajendra Kumar Aseri, Jagdeep Singh Sohal, Neeraj Khare	New approaches of elicitation towards enhancing the production of secondary plant metabolites	45
117.	RSC-117	Meenal Khandelwal, Bhoomika Yadav, Parul Yadav, Devangna Basu, Manish Saini, Kush Modi, Vikas Chauhan, Priyanka Mehta, Shweta Kulshreshtha, Era Upadhyay	Production of Bio-fertilizer using Bio-wastes	45
118.	RSC-118	Sourabh Singh Chandel, Era Upadhyay	Alternative Use of Rice Stubble to Generate Electricity	45
119.	RSC-119	Ayushi Kashyap, Naman Jhalani, Era Upadhyay	Changes in the Nutritional Values of Maize due to Environmental Pollution	46

120.	RSC-120	Mridul Joshi, Era Upadhyay	Air Quality Data Analysis by Using SAS	46
121.	RSC-121	Kanika Patwal, Desh Deepak Singh, Madu Yadav, Amita Jain	Clino-sero-prevalence study of Japanese encephalitis virus infection in Uttar Pradesh	46
122.	RSC-122	Ghanshyam Zaveri, Naveen Kumar	Nanotech Revolution in Food Industries	47
123.	RSC-123	Rajni Bharti, Neelam Jain	Moving towards sustainable energy production using biorefinery methods	47
124.	RSC-124	Pardeep Kumar, Sonul Bodhane, Machiavelli Singh	Effect of human hair hydrolysate on the agronomic growth parameters of <i>Gossypium arboretum</i> in field conditions	48
125.	RSC-125	Rohit Meena, Basant Bais, Ashok Prajapat, Durga Devi, Parmaram, Lokesh Tak, Sanjay Mahla	Goat milk soap: An emerging product for healthy skin	48
126.	RSC-126	J. Anuradha, Rahul Yadav, Sandeep Tripathi, R. Sanjeevi	Green and Biogenic generation of silver nanoparticles using an indigeneous weed	48
127.	RSC-127	Durga Devi, Basant Bais, Lokesh Tak, Sanjay Singh, Parma Ram Gorachiya, Ashok Prajapat, Rohit meena, Jorawar Singh Jayani	Goat Milk and Human Health	49
128.	RSC-128	Lokesh Tak, Basant Bais, Sanjay Singh, Durga Devi, Parma Ram Gorachiya, Ashok Prajapat, Rohit Meena	Goat Milk Nutritious Alternate of Cow Milk	49
129.	RSC-129	Aarti Sharma, Rajesh Kumar Kesharwani, Sandeep Tripathi, Manisha Choudhary, Surendra P. Gupta, Yatindra Kumar	Genetically Modified Organisms and Its Role as a Future Food	50
130.	RSC-130	Satyajeet Das, Sanket Kaushik	Designing tight inhibitors against important protein drug target of	50

			multidrug resistant pathogenic bacteria Enterococcus faecalis	
131.	RSC-131	Ena Gupta, Anupam Jyoti	Role of Active Nitrogen Molecules and Myeloperoxidase Activity as a Marker of Inflammation in Sepsis	50
132.	RSC-132	Neha Shekhawat, Manali Datta	Can an egg white 'constituent' be a solution for sustainable survival?	51
133.	RSC-133	Rajeev Sharma	Pyrolysis of Jatropha residue cake	51
134.	RSC-134	Rajeev Sharma	Review: Modelling and Simulation of Pyrolysis of Deoiled Cake	52
135.	RSC-135	Santosh Kumar	Non-coding slippery sequences: its role in regulation of plant gene regulation	52
136.	RSC-136	Sanjay Singh, Basant Bais, Lokesh Tak, Durga Devi, Parma Ram Gorachiya, Rohit meena, Ashok Prajapat	Diversified Utility of Goat Hair	52
137.	RSC-137	Parma Ram Gorachiya , Basant Bais, Lokesh Tak, Durga Devi, Sanjay singh, Ashok Prajapat, Rohit	By-Products of Goat Milk and Its Healthier Aspects	53
138.	RSC-138	A.K. Bishnoi , R. Saini, Narendra Singh, P. Bishnoi	Orchiectomy in bilateral cryptorchid buck under spinal anaesthesia	53
139.	RSC-139	Sumita Kachhwaha	Optimization of factors influencing genetic transformation in Indian cultivars of Barley	53
140.	RSC-140	Jitendra Kumar Barupal, Shamshad Ul Haq, Kumar Sambhav Verma, S.L. Kothari Sumita Kachhwaha	Plant Based epigenetic modulators: A knowledge discovery report	54
141.	RSC-141	Deepanshu Sharma, Patel Gaurang	On a theory discussing the foundation of life	54
142.	RSC-142	Pramod Singh Khatri, Parveen	Pediatric Wilms Tumor: Contemporary Prognosis and Future Reflections	54

143.	RSC-143	Pramod Singh Khatri, Aijaz Khan , Anuj Shrivastava Amity University Haryana, Haryana, India	Impending A New Epoch in Duchenne Muscular Dystrophy (DMD) Treatment	55
144.	RSC-144	Rashmi Singh, D.S. Meena, M.M. Mali, Jitendra Bargujar, Nirmal K. Jeph	Common Diseases in Goat and its Management and Control	55
145.	RSC-145	Rashmi Singh, Sanjita Sharma, Samita Saini, Monika Karnani, Bhawana Rathore	Zoonotic Diseases in Goat	55
146.	RSC-146	Pradeep Kumar, G.K. Aseri, Vishal Saxena	Dendrimer- Based Drug Delivery System- Focus on Indian Visceral Leishmaniasis	56
147.	RSC-147	Suchitra Rai, Virendra Kumar Vishwakarma, Surendra Prakash Gupta	Impact of Genetically Engineered crops on Agri-Products sustainability in India: Challenges, action and expectation	56
148.	RSC-148	Sadia Anwar, Era Upadhyay	A Review on Plastic Waste Management in India	56
149.	RSC-149	Smrit Gahlot, Rajesh K. Kesharwani, Sandeep Tripathi	Dengue and its effect on Human Heath	57
150.	RSC-150	Shamshad Ul Haq, Pradeep Kumar, R. K. Singh, Kumar Sambhav Verma, Ritika Bhatt, Meenakshi Sharma, Sumita Kachhwaha, S. L. Kothari	Assessment of Functional EST-SSR Markers (Sugarcane) in Cross-Species Transferability, Genetic Diversity among Poaceae Plants, and Bulk Segregation Analysis	57
151.	RSC-151	Palak Balyan, Akshay Shankar, Arun Yadav, Chirashree Ghosh	Effect of Micro-Environment on Bioaerosol Count	57
152.	RSC-152	Arun Yadav, Chirashree Ghosh	A review on Indoor air pollution and its associated health risk	58
153.	RSC-153	Suneel Kumar, Marion S. Röder, Ravi P. Singh, Arun Kumar Joshi, Uttam Kumar	Association and validation of spot blotch resistance and leaf tip necrosis at molecular level in advanced breeding lines	58

154.	RSC-154	Virendra Kumar Vishwakarma, J. Anuradha, Suchitra Rai, R. Sanjeevi	Health Risks of Genetically Modified Crops as Food and Feed for Human and Livestocks	59
155.	RSC-155	Sameer Baijal	A Comprehensive Study on Cloud Computing	59
156.	RSC-156	Manish Tiwari, Sabhyata Bhatia	Comparative study of two component system (TCS) in legumes: An evolutionary perspective	59
157.	RSC-157	Neha singh, G.K. Aseri	Desert Medicinal Plants: Development of natural products regime for Urinary tract infection	60
158.	RSC-158	Chaitanya P, Era Upadhyay	Evaluation of potential health effects on human due to exposure to criteria air pollutants: A critical review	60
159.	RSC-159	Chintan Tripathi, Amit Mathur, Kanika Thaneja, Nitesh Singh Rajput, Shweta Kulsheshtha	Decolourisation of Congo Red from the wastewater using Natural Plant Fibers	61
160.	RSC-160	Subodh Verma	Utilizing the mapping and transcriptomics approaches for identification and characterization of genes involved in chickpea seed development	61
161.	RSC-161	Anurshi Mehta, Shachi Poddar, Mahak Gupta, Parul Chowdhury	Allelopathic effect of aqueous extract of <i>Chenopodium album</i> induce salt stress tolerance in Wheat Seedlings	62
162.	RSC-162	Karishma Sinha, Abhijeet Singh, Juhi Saxena	Elucidating the role of temperature and salt stress on stability of silver nanoparticles from fungi <i>Penicillium chrysogenum</i>	62
163.	RSC-163	Renu khangarot , Gokulendra Singh Bhati	Phytochemical screening of various extract of seed and bark plant part in <i>ficus religiosa</i> and effect of solvent selection on yield of crude extract	63
164.	RSC-164	Sakshi Saraswat, Harshit Chhabra, Shruti Kakkar, Rinki Mishra, Sudipti Arora	Performance Evaluation of Vermifiltration technology for Co- treatment of Organic Fraction of Municipal Solid Waste and Domestic Sewage	63

165.	RSC-165	Sonika Saxena, Sree lakshmi Ramakrishnan, Krishna Meena, Deepak Soni, Rinki Mishra	Effect of Leachate on Groundwater Quality in Jaipur City	64
166.	RSC-166	Rajkumar Gupta, Sudhanshu Singh, Ashutosh Tripathi	BER analysis of WCDMA system using MUD-MRC technique for different modulation	66
167.	RSC-167	Sandeep Gupta	Power Saver for Industries & Commercial Establishments	66
168.	RSC-168	Ashutosh Tripathi	Clustering and Data Aggregation Technique in Wireless Sensor Networks	66
169.	RSC-169	Ashutosh Tripathi, Raj Kumar Gupta	Design and Analysis of low power flip flops using mcml tri-state buffers	66
170.	RSC-170	Ashutosh Tripathi, Sanjay Kumar Singh, Gyan Arora	Colour Modification for Vision Defects	67
171.	RSC-171	Sandeep Gupta, Akash Talwariya	Home automation using android phone over Bluetooth	67
172.	RSC-172	Deepika Goyal, Prem Kumar, Dantu	Sensors to monitor Crop Physiology and Crop Production	67
173.	RSC-173	Anshuman Senapaty M S Pragyana, Parimita Nanda	Credibility of social media in Bollywood films: A comparative study on selected films	68
174.	RSC-174	Narsingh Majhi, Jisha Y George	Social Media Paralyzing the health culture of the society: An analysis on the use of Facebook and Instagram	68
175.	RSC-175	Debastuti Dasgupta, Shivanie Agarwal	Fake news and Social Media: Case studies of some popular fake news of Facebook and Whatsapp	68
176.	RSC-176	Arif Nazir, Katra Sher Singh	Health Communication in the era of New Media Technology: A study	69
177.	RSC-177	Archana	Emerging trends of Science & Technology in an Event Management	69
178.	RSC-178	Gayatri Rai	Credibility issues on Social Media, Authenticity of the sources – An analytical study	69

179.	RSC-179	Gyan Arora	Design and control of a Rhinestone planting machine using image processing for application in textile industry	70
180.	RSC-180	Anjan Kumar Sahu	Into brainwaves to: Decode brain for better algorithm	70
181.	RSC-181	Vaibhav Bhardwaj*, Pushkar saha, Mohan yogi, Himanshu, Aman Aggarwal	Energy harvesting from walking	70
182.	RSC-182	Rekha*, Bandita Kumari Panda	Subjugation of Health applications and its Acquiescence among Smart Phone Users	71
183.	RSC-183	Shunmuga Nathan, S. Arulchelvan	Effectiveness of mobile health apps on Forging Knowledge about obesity: A content analysis	71
184.	RSC-184	Sangeeta Shekhawat*, D.D. Shukla	A Review on super High frequency Microstrip Patch antenna	71
185.	RSC-185	Sangeeta Shekhawat*, D.D. Shukla	A review on wearable/textile Microstrip patch antenna	72
186.	RSC-186	Anil Kumar Bansal, Ritu K. Gupta, Renu Upadhyay, Shikha Sahay	Synthetic Strategy and Characterization of IPMCO complexes of Cu <sup>+2</sup> , Ni <sup>+2</sup> and Co <sup>+2</sup>	72
187.	RSC-187	Neeru, D.D. Shukla	Six sigma and its tool to improve quality	72
188.	RSC-188	Narendra Pal Lamba	Synthesis of Hg(II) complexes with 2-substituted benzothiazoles and glycine and valine based ligands having antifungal and antibacterial activities	73
189.	RSC-189	Akbar Ali, Prem Kumar Dantu, M Masroor A Khan, M Naem, Lalit Varshney	Radiation processed sodium alginate enhances Plant Growth, Physiological activities essential oil content and yield of mentha piperita l.	73
190.	RSC-190	Shruti Shanbhag, Maryann Fernandes, Prathibha Sudhakaran, Madhuparna Mondal, Pooja Metri	Wimax based meta material antenna on IE3D using Lithography	73

191.	RSC-191	Vinod Gill	Analytic solution of Fractional Differential Equation associated with RLC electrical circuit	73
192.	RSC-192	Anjani Kumar Shukla	Bianchi type V cosmological models with modified Chaplygin Gas	74
193.	RSC-193	Anju Devi	Solution of Partial Differential Equations by Elzaki transform	74
194.	RSC-194	Rishi Dewangan, Pankaj Kumar Pandey*	Utilization of bauxide ore for development of submerged arc welding basic flux	74
195.	RSC-195	Moon Banerjee	Mechanical alloying of Mg-Ti-x (Nb/Zr/Sc) with nano synthesis for Hydrogen Storage Application	74
196.	RSC-196	Katyayani Kashyap	Nonlinear Dynamic System and Programmable Hardware for next generation Wireless Networks	75
197.	RSC-197	Sandeep Kumar	Recent advances in Nature Inspired Algorithms: A survey	75
198.	RSC-198	Sanjay Jain	Improved Differential Evolution algorithm	75
199.	RSC-199	Siraj Pathan	Survey on Particle Swarm Optimization algorithm	76
200.	RSC-200	Tanmay Solanki, Nitesh Singh Rajput, Shiv Kumar Sharma	Power generation in New India- A pilot study	76
201.	RSC-201	Ritu Vashistha, Yash .A. Bhatt	A study on Hospital Information System	76
202.	RSC-202	Santosh R Durugkar, Ramesh C Poonia	Technology Driven Interdisciplinary approach to utilize Natural Resource (water) at optimum level in Smart Home Gar#den	77
203.	RSC-203	Jyoti Sihag, Divya Prakash, Yogita Madan	A Review on synthesis, characterization and biological activity of Schiff base and with its Iron complexes	77

204.	RSC-204	Ruchi Singh Gaur	Engaging social media for health communication in Rajasthan: Approaches & result	77
205.	RSC-205	Yogita Madan, Divya Prakash, Sagar Batra	Nanotoxicological effects of Silver Nanoparticles	78
206.	RSC-206	Karanvir Singh, Kanak Modi	L 1 -convergence of certain trigonometric series with complex coefficients	78
207.	RSC-207	Deepak Panwar, G.L Saini	A systematic literature review and analysis on Software Quality Prediction	78
208.	RSC-208	Prathibha Sudhakaran, R.Roy , Sunil Karamchandani, Archek Praveen Kumar	Pre-processing of speech signal in Malayalam Language: A comprehensive review on Windowing and Filtering	79
209.	RSC-209	Grishma Raj, Aryal Pragyan, Parimita Nanda, Anshuman Senapaty	A study on the Credibility of Social Media in Movie Promotion	79
210.	RSC-210	Meenu Srivastava, Sangeeta Vaishnav	Digitization of warli folk art for sustainable growth of Rural Artisans	79
211.	RSC-211	Abhishek Jain, Rohit Parakh Jain, Karthika Krishnankutty Nair	Application of PLC & SCADA to increase the efficiency by the automation of a casting process	80
212.	RSC-212	Manisha Sheoran, Deepshikha Rathore, Umesh K Dwivedi	Synthesis and characterization of Mn ferrite by chemical co-precipitation method	80
213.	RSC-213	Shweta Sharma, Vaishali	Comprehensive analysis of latest Metaheuristic Algorithms	80
214.	RSC-214	Sunil Kumar Sharma	Fusion of S <sub>4</sub> R monomeric units in the formation of D <sub>4</sub> R cubans versus polymers in Zinc Organo-Phosphates	81
215.	RSC-215	Vaibhav Bhatnagar, Ramesh C. Poonia	Design of algorithm to determine Nitrogen need using leaf colour chart of wheat in Rajasthan perspective.	81
216.	RSC-216	Pooja Parnami	From Monolith to microservice	81
217.	RSC-217	Vaishali, Tarun K. Sharma	Exploring asynchronous Differential Evolution	81

218.	RSC-218	Ashwani Kumar Yadav, Ratnadeep Roy, Vaishali, Cherku Sandesh Kumar	Features Extraction and classification for off-line Signature Verification	82
219.	RSC-219	Cherku Sandesh kumar, Ratnadeep Roy, Sanyog Rawat, Vinod K. Sharma, Ashwani k. Yadav	Multitask network cascades via deep learning techniques for instance aware semantic segmentation	82
220.	RSC-220	Abhay Sharma, Rekha Chaturvedi	Multilevel Image Segmentation using firefly algorithm and entropy function	82
221.	RSC-221	Rekha Chaturvedi, Abhay Sharma	Digital image watermarking using SVD and PCA in YCBR color space	83
222.	RSC-222	Amit Chaurasia, Achyut Sharma, Umesh Kumar Dwivedi	Comparative analysis of SLM & PTS techniques for P.A.P.R. reduction in OFDM	83
223.	RSC-223	Priyanka Roy, Vinod Gill	Solution of Ordinary Differential Equations with Variable Coefficients using Elzaki Transform	83
224.	RSC-224	Prachi Sharma	Study of different methods to Control Congestion using Routing Protocols in Wireless Sensor Networks	83
225.	RSC-225	Amit Sharma, Nitesh Sharma, Deepak Kachhot, Kamal Singh Raghuvanshi	Multipurpose Boiler	84
226.	RSC-226	Derick Dcunha, Auxilia Augustine, Prathibha Sudhakaran, Sachin Bangar, Kunal Kamble	Design & development of Smart Terrain wheel chair for the handicapped	84
227.	RSC-227	Shraddha gupta, Ashutosh Tripathi, Bhupendra sharma, S.K. singh	Study and analysis of Ultralow Power logic gates	85
228.	RSC-228	Sanjay Kumar Singh, Ashutosh Tripathi, Shiwani Tanwar	A study of emission free high power electric vehicles	85
229.	RSC-229	Bhupendra Sharma, Ashutosh Tripathi, Rahul Runthala, shraddha gupta, Sangeeta Shekhawat	Extended study and analysis on fabrication of ka-band space travelling wave tube	85

230.	RSC-230	Vishwas Singh Chauhan, Nitesh Singh Rajput, Shiv Kumar Sharma	Application of TiO <sub>2</sub> nanofluids for Solar Thermal Systems	85
231.	RSC-231	Divya Sharma	Science & Technology for sustainable development of state of Rajasthan	86
232.	RSC-232	Priyanka Yadav, R Roy, Ashwani Kumar Yadav	Review on brain tumor detection using Segmentation Techniques	86
233.	RSC-233	Aditya Sharma, Videsha Bansal, Sheetal Sharma	Pragmatic Amplification of Vortex Structural Geometry: A Review	86
234.	RSC-234	Archeek Praveen Kumar, Ratnadeep Roy, Sanyog Rawat, Prathibha Sudhakaran	Continuous speech recognition of Telugu language	87
235.	RSC-235	Arun Kumar Yadav, Himanshu Kumar, Sanju, Manisha Choudhury	Self-reported satisfaction with Amplification Devices among older adults in Indian context	87
236.	RSC-236	Ahammed Junaid NP, Mohammed Noor Al Adwan	Digital media literacy and Indian diaspora in UAE: Exploring a framework on a communication campaign	87
237.	RSC-237	Ayushi Gupta	Rubbercrete: Scrap tires as concrete aggregate	88
238.	RSC-238	Joel Saji	A comparative study on Tensile Strength of coir and banana Fibre-latex composite	88
239.	RSC-239	Riyaz Pathan	Microwave slotted waveguide antenna design: A review	88
240.	RSC-240	Kiran Rana	Role of technology advancement leading to Sustainable Development	89
241.	RSC-241	Kanta Prasad Sharma, Ramesh C. Poonia	Map matching algorithm for real time trajectory computation on road network	89
242.	RSC-242	Peeyush, Shweta Sharma	Password optimization techniques in 3d world	89
243.	RSC-243	Aishwarya Pandey, Dr. Vikram Kumar*, Shailesh Kumar, Sudarshan Singh Lakhawat	Nanotech enhanced synbiotics: An approach to augment human health	90

244.	RSC-244	Rohan Sharma	Optimization of hybrid energy system to electrify an educational institute using HOMER	90
245.	RSC-245	Shaurya Gupta, Umesh Sharma	A short review on delay tolerant network	90
246.	RSC-246	Somanath Sahoo	Requirement of engaging social media for health communication: A case study on Rashtriya bal swasthya karyakram (RDSK) in district early intervention centre (DEIC), Jajpur district in the state of Odisha (India)	91
247.	RSC-247	Meetu Bhatia	Technology and learning- An augmentation of employability related language learning techniques	91
248.	RSC-248	Abhishek Jain, Rohit Parakh Jain, Karthika Krishnankutty Nair	Application of PLC & SCADA to increase the efficiency by the automation of a Casting Process	91
249.	RSC-249	Puja Jangid	Role of media in kulbhushan jadhav case in context to India- Pakistan relations	92
250.	RSC-250	Deepak Kachhot, Amit Sharma, Mangal Singh Sisodiya	Energy audit: Reduction of electricity consumption in academic building	92
251.	RSC-251	Shreya Chakraborty, Lata Ladrecha	Sustainable development in context of right to life	92
252.	RSC-252	Priyal Sharma, Vinod Singh Gour	Cuticular wax: A source of Biochemical Marker for varied applications	93
253.	RSC-253	Kanak Modi	Exponentiated generalized Lindley Distribution	93
254.	RSC-254	Kumar Vaibhav, Jagdish Prasad, Cheruku Sandesh Kumar	Content based image retrieval using Genetic algorithm based on Relevance Feedback	93
255.	RSC-255	Ravi Shanker Dubey	Definite integrals of generalized certain class of incomplete elliptic integrals pertaining to function	93
256.	RSC-256	Ravi Shanker Dubey	Analytical solution of Nonlinear Fractional Diffusion equation by Q-Homotopy method	94

257.	RSC-257	Sourabh S. Borchate, D.D. Shukla, Sachin K. Patil	Wear prediction of brake friction material $Si_3N_4$ / $SiC_2Ti_3$ and stability analysis of brake squeal by considering contact pressure - temperature effects using the fem	94
258.	RSC-258	Sumaiya Anees	Assessing different biomarkers in cyanobacteria in response to change in their habitat due to pesticide exposure	94
259.	RSC-259	Divya prakash, Yogita Madan Bharti	Synthesis and characterisation of herbal lipstick -a revolution step towards cosmetics	95
260.	RSC-260	Pragati Singh Parihar	Tourism promotional videos: A comparative study between Rajasthan and Madhya Pradesh	95
261.	RSC-261	G.L Saini, Deepak Panwar	An evaluation and investigation on quality models of Open Source Software	95
262.	RSC-262	Sudhanshu Singh, Munesh Rathore, Umesh Kumar Dwivedi, Deepshikha Rathore	Synthesis of polymeric Nano composite and their Crystallographic characterization	96
263.	RSC-263	Bhagwan Ji Gupta	Nanotechnology – “The next big thing is really small”	96
264.	RSC-264	Sumita Choudhary, Subhashis Gangopadhyay	<i>Growth morphology of zinc oxide nano-structures: nano-wall to nano-rod</i>	96
265.	RSC-265	Munesh Rathore	Electrical transport in ion conducting polymer Nanocomposites	97
266.	RSC-266	Yash Jakhar, Munesh Rathore	Preliminary studies on the dark matter	97
267.	RSC-267	Manish Srisvastava, Sudhanshu Singh	Nanotribology-a review of importance of nanomaterials to minimize the wear-& tear losses in various fields	98
268.	RSC-268	Kriti Vaid, Umesh Kumar Dwivedi	Physical properties of ferrites in relation to their Insulation cables construction	98

269.	RSC-269	Neelam Kumari	The clinical case for proton beam therapy	98
270.	RSC-270	Vikesh	Physics of the Dark Universe	98
271.	RSC-271	Naresh Singh Tomar, Sudhanshu Singh	Reduction of fossil fuel in thermal power plant by adding renewable energy sources using soft computing techniques	99
272.	RSC-272	Saurabh Verma, Sudhanshu Singh	Development of bio-compatible conductive ink for bio and nano-Electronics applications with their rheological properties	99
273.	RSC-273	Aprajita Katiyar, Ayush Tripathi	3d printed water sensor & water pollution	99
274.	RSC-274	Munesh Rathore, Sanjay, Vikas Sharma, Anshuman Dalvi	Electrical Characterization of Mg <sub>2</sub> SO <sub>4</sub> -PVA and Li <sub>2</sub> SO <sub>4</sub> -PVA Polymer Salt Composite Electrolytes	100
275.	RSC-275	Pooja Shrivastava, M. K. Verma, Meena Murmu, Ishtiyaq Ahmad	Bayesian approach for uncertainty analysis of an urban water system	100
276.	RSC-276	Rishabh Tinker	Android as a Server Platform	100
277.	RSC-277	Rahul Meena, Girish Paliwal	A review on dynamic routing of Ad hoc On-Demand Distance Vector protocol in MANET	101
278.	RSC-278	Neeraj Kumar Negi, Girish Paliwal	Comparative study of various augmentation methods in ConvNets	101
279.	RSC-279	Bhavesh Joshi, Nilofer Naaz, Jitendra Singh	Utilization of industrial waste –a green concept for smart city	101
280.	RSC-280	Kanta Prasad Sharma, Ramesh C Poonia	Map Matching Algorithm for real time trajectory computation on road network	102

281.	RSC-281	D.S. Bisht, A.S. Gautam, R.S. Negi, D.S. Mahar, S. Rawat, A.K. Srivastava, S. Tiwari	Chemical Characteristics of PM <sub>2.5</sub> and PM <sub>10</sub> at Alaknanda Valley Srinagar in the central Himalaya Region, India	102
282.	RSC-282	Pooja Nanda, Vikas Kumar	Ethical Issues in using the Social Media Analytics	102
283.	RSC-283	Sanjay Kumar Singh, Nitish Katal, Naresh Tomar	A Performance Evaluation of Tuning Methods of PID Controller	103
284.	RSC-284	Swapnesh Taterh	Security attacks intrusions for wireless and wimax network	103
285.	RSC-285	Nitheesh Murugan Kaliyamurthy, Swapnesh Taterh	Software Defined Networking – Imposed Security measures over vulnerable threats and attacks	103
286.	RSC-286	Jitendra Rajpurohit, Tarun Kumar Sharma	Inclusion and Range Testing of a Scaling Factor in Firefly Algorithm	103
287.	RSC-287	Jitendra Rajpurohit, Tarun Kumar Sharma	A Review of Parameter Based Modification in Firefly Algorithm	104
288.	RSC-288	Neeraj Kumar, Jitendra Rajpurohit	Present Status and Challenges in Quantum Computing	104
289.	RSC-289	Lokesh Kulhari, P.K. Khannaa, Kanad Ray	Layout Design and Fabrication of Multilayer LTCC Micro-spiral	104
290.	RSC-290	Shankar Kumar Vijay	Single Feed Multi-Slotted Bow Tie Antenna for Multi-Band Applications	104
291.	RSC-291	Ushaben Keshwala, Sanyog Rawat, Kanad Ray	Planner Circular monopole Ultrawideband antenna with triple band notched characteristics for Bluetooth, UWB and Ku band applications	105
292.	RSC-292	Anita Garhwal, Kanad Ray	Hexagonal Fractal Patch Antenna for WiMAX and Satellite Communication	105
293.	RSC-293	Radhika Khandelwal, Harsh Vardhan Harsh	Some new Contiguous Functions Relations for Hyper Geometric Series due to Gauss	105
294.	RSC-294	Siddhi Mittal, Radhika Khandelwal	Natural Transformation of Exton's triple Hypergeometric series	105

295.	RSC-295	Kavita, Radhika Khandelwal	Some new results closely related Gauss's second theorem for hypergeometric function	106
296.	RSC-296	Kirti, Radhika Khandelwal	A note on contiguous Kummer's theorem for the Gaussian hypergeometric function	106
297.	RSC-297	Jithin Jose, B.R. Manjunatha, Naveen Kumar, A. K. Balakrishna	Particle Size Distribution in the atmospheric dust collected during the winter and spring seasons over Manipal Campus, West coast of India	106
298.	RSC-298	Vinod Kumar Sharma, Cheruku. Sandesh Kumar, P. B.Purkayastha	A Review on Photovoltaic cell and its applications for Future Prospective	106
299.	RSC-299	Suman Goyal, S.K. Dube, Ashish Kumar	Satellite based technique for forecasting and tracking of evolution of cloud clusters	107
300.	RSC-300	Jitendra Joshi	A Novel System to Communicate between Devices in a Wireless Network within Macro-Cell Using mmWave and Exploiting Spatial Reuse	107
301.	RSC-301	Anuradha	Behavioral Evaluation of Data center energy efficient resource scheduling	107
302.	RSC-302	Chinmaya Sharma, Amit Kumar, Shiv Ranjan Kumar	Erosion analysis of Aramid Fiber Epoxy Composite and Determination of physical properties	108
303.	RSC-303	Palak Lodha	Night Vision Technology	108
304.	RSC-304	Sumit Verma	Electronic Word of Mouth	108
305.	RSC-305	Usha Sharma, Khushboo Sharma	Annihilator domination Number of Cartesian Product of paths	108
306.	RSC-306	Sarsij Mishra	Sky X Technology	109
307.	RSC-307	Shubangi, Viditya Kumar	Ingestible Origami Robot	109
308.	RSC-308	Shubham Kumar Jain, Harendra Singh	Smart Charger	109
309.	RSC-309	Prarthana Roy	Holographic Technology	109

310.	RSC-310	Amlan sahu, Sabih Momin, Prathibha Sudhakaran, Suraj Singh, Yash Karve	Lilypad Arduino Based Led Embedded Duplex Security Vest	110
311.	RSC-311	Neeraj Gupta, Rananjai Singh, Ankit Bharadwaj	Smart City Program Rajasthan: A critical Overview of Implementation	110
312.	RSC-312	Kunal Kamble, Derick D' cunha, Sachin Bangar, Auxilia Augustine, Pratibha Sudhakaran	Design & Development of Smart Terrain Wheelchair for The Handicapped	110
313.	RSC-313	Divyansh Kalra	Smart Grid	111
314.	RSC-314	Mangal Singh Sisodiya	Experimental analysis for machining of titanium alloy through grinding wheel	111
315.	RSC-315	Saloni, Swapnesh Taterh	Ontology of XSS Vulnerabilities and its Detection Using XENOTIX Framework plus Prevention	111
316.	RSC-316	Nivendita Sharma, Vikas Mahor	Future of VLSI Design: The FinFET Logic Circuits	111
317.	RSC-317	Geetika Dewan	Blue Brain Technology	112
318.	RSC-318	Gunjan Maken	Communication Duration between LEO Satellite and Ground Stations	112
319.	RSC-319	Aishwarya Singh	Embedded System	112
320.	RSC-320	Vijander Singh	Integration of optimized DSR routing protocol in mobile ad-hoc network	113
321.	RSC-321	Shivkant Kaushik	A Study of Dynamic Discovery Service Protocols	113
322.	RSC-322	Prashant Vijayvargiya, Abhishek Sharma	Making smart city in Rajasthan, challenges and opportunities in Jaipur city	113
323.	RSC-323	Nahid Fatima	Variational Iteration method for solving Burger's Equations in Two Dimension	114

324.	RSC-324	Nahid Fatima	Solution of the Boussinesq-Burgers' Equation by method of lines	114
325.	RSC-325	K. Narendra kumar Trivedi, Gourav Sharma, Sameer Saxena	A combined propotion of linear discriminant analysis with Baye's theorem	114
326.	RSC-326	Jasjeet Singh	Research on Software Security Testing: Problems and Prospects	114
327.	RSC-327	Keshav Dev Gupta	An Analysis of Data Mining by Log Files	115
328.	RSC-328	Puneet Krishna Sharma, Harsh Vardhan Harsh	A note on contiguous relation for the basic hyper geometric series	115
329.	RSC-329	Rahul Gadekar, Cherry Patel	Gender differences in Facebook use and gratifications among college going youth of Gujarat	115
330.	RSC-330	Chitreshh Banerjee	Role of Security Metrics in Evaluation of Software Security: SDLC Perspective	116
331.	RSC-331	Jayati Sharma	An Analysis of the Significance of Social Media in Influencing Political Engagement and Civic Participation	116
332.	RSC-332	Ajith Kurien, M Rishi Nandhan, Ananthu R Kurup	Rodon: An Autotropic approach for the purification of water	116
333.	RSC-333	Pallavi Sharma, Shikha Singh	An Approach of Mining Data Sets Using B-Trees	117
334.	RSC-334	Renu Upadhyay, Pankaj K. Pandey, Pardeep	Adsorption Characteristics of Cu <sup>+2</sup> on Modified Zeolite from Industrial Wastewater	117
335.	RSC-335	Swarnima Singh Mandhata, Pallavi Sharma, Anil Saroliya	Smart House (IOT)	117
336.	RSC-336	Aniruddh Saran	Is Google a Complete Teacher?	118
337.	RSC-337	Gaurav Phulwari, Anuj Jain	5G Cellular Technology	118
338.	RSC-338	Vinod Kumar Sharma	Data Logger System for weather Monitoring	118

339.	RSC-339	Jeevesh Ranjan	Smart Village: A Practical Approach Towards Creating an Economically Self-Sustainable Village in Rajasthan	119
340.	RSC-340	Pavel A Munshi, Shubhansh Tiwari	The Transition to Electric: Scope and Viability in the Indian Sector	119
341.	RSC-341	Ravendra Pal Singh, Narendra Singh Yadav, Sanjay Kumar Singh	Wireless Sensor Networks: Bridging the gap between physical and digital world	119
342.	RSC-342	Shivani	Game Play implementation through Artificial Intelligence	120
343.	RSC-343	Shubham	Java Rmi & Corba A Comparatively study on Distributed Object Technology	120
344.	RSC-344	P.R.C Rahul, R.L.Bhawar, P.D.Safai, T.V.Prabha	Extreme Black carbon loading at elevated levels over Hyderabad during the northeast monsoon than during pre-monsoon and southwest monsoon periods	120
345.	RSC-345	Ritu Vashistha, Yash Bhatt	A Critical Approach to Cyber-Crime Laws	121
346.	RSC-346	Girish Paliwal, Swapnesh Taterh	A Scenario of Smart City Traffic Management System using Wireless Sensor Network	121
347.	RSC-347	Sanchit Srivastava	Smart Parking	122
348.	RSC-348	Anil Saroliya, Namagiri Pawan Sai, G Hemeswara Harsha Vardhan	A Novel Approach of Resource Sharing by maintaining adequate Privacy within Limited Proximity using Peer-to-Peer (P2P) Networks	122
349.	RSC-349	Jyoti Yadav	Paper Battery	122
350.	RSC-350	Rahul	Need of Software Testing in different area of computer Science	123
351.	RSC-351	Deependra Dadhich	Flitration Technique used to detect the Spam Mail	123

352.	RSC-352	Anmoal Tandon, G.L Saini	Review on Holography	123
353.	RSC-353	Jashan preet Singh	Indian Regional Navigation Satellite (IRNSS)	123
354.	RSC-354	Kanak Modi, Vinod Gill	Ratio of Gamma and Lindley Random Variables	124
355.	RSC-355	Ajay Sharma	Cloud Storage	124
356.	RSC-356	Aman Gupta	Streaming Media	124
357.	RSC-357	Anirudh Swarankar	Poster on Cassini-Huygens inter-planetary Mission	125
358.	RSC-358	Aman Gupta	Article on Cloud Computing	125
359.	RSC-359	Aditya Rakhecha	Crawling Html/XML Data	125
360.	RSC-360	Chinwe Peace Igiri, Deepshikha Bhargava	Recent Advances in Modified Nature Inspired Algorithms and their Application areas	126
361.	RSC-361	Harsh Bothra, Anil Saroliya, Pallavi Sharma	Study of Applying Concept of Business Intelligence in Modern Web Application	126
362.	RSC-362	Aman Kumar	Internet Censorship	126
363.	RSC-363	Gourav Kumar Gupta	Cloud Architecture	126
364.	RSC-364	Sameer Saxena	Face recognition by using Principle Component Analysis	127
365.	RSC-365	Arun Keshav	Could Business Incubation Model be a way forward to support Rural Manufacturing Enterprises	127
366.	RSC-366	Ramesh C. Poonia	Performance Analysis of TCP Variants for Congestion Control Using NS-2	127
367.	RSC-367	Aman Abhishek	Ambient Intelligence	128
368.	RSC-368	Agarta Mahajan	The Doppler radar technology	128
369.	RSC-369	Aakash Chaudhary	Exascale Computing	128
370.	RSC-370	Sahil Kumar	Viruses	129

371.	RSC-371	Chandra shekhar Sharma	Generations of Programming Languages	129
372.	RSC-372	Ajay Kumar	Microservices	129
373.	RSC-373	Abhinav Kumar	Cooperative Linux	129
374.	RSC-374	Anshaj Mathur	Computer vision	130
375.	RSC-375	Dhruv Kumar	Virtual private network	130
376.	RSC-376	Satyam Chhaparia	Wine Software	130
377.	RSC-377	Govind Pareek	Game Physics	131
378.	RSC-378	Shanu Yadav	Physics of the Dark Universe	131
379.	RSC-379	Ayushi Gupta, G.L Saini	Supercapacitors Batteries	131
380.	RSC-380	Hitesh Gautam	Bluetooth Shared Smart Devices	132
381.	RSC-381	Jeet Patel	Cryptocurrency Mining	132
382.	RSC-382	Karan Bhalan	Introduction to Quantum Computing	132
383.	RSC-383	Deepjyoti Pandit	Database Encryption	133
384.	RSC-384	Rajeev Ranjan, Sonali Vyas	A Survey: Nature Inspired Metaheuristic Optimization Algorithms	133
385.	RSC-385	Divya Prakash, Sunita Verma, Swagata Payra	Assessment of Ambient air quality over Kota, Rajasthan and its impact over the region	133
386.	RSC-386	Gurleen Saluja	IPV 6 – The Next Generation Protocol	133
387.	RSC-387	Siddharth Nagar	Global Positional System	134
388.	RSC-388	Sawan Kumar Chhipa	Motion Capturing System	134
389.	RSC-389	Anind Kumar Jha	Nvidia Personal Super Computer	135
390.	RSC-390	Akshita Gupta	3d Printing Technology	135

391.	RSC-391	Aakanksha Gupta, Anil Saroliya	The study of the impact of utilizing Cloud services with Internet of Things (IoT)	135
392.	RSC-392	Bharti mali, G.L. saini	DNA based cryptography	136
393.	RSC-393	Somya Jain	Data Encryption	136
394.	RSC-394	Shivam Bajpai	Quantum Computing	136
395.	RSC-395	Safeer Ahmad, Riyadh Sulaiman	Digital Healthcare and their impact on Architecture	137
396.	RSC-396	Harshvardhan Rathore	Time Sharing on Operating System	137
397.	RSC-397	Md Aminul Islam, Rajnish Kumar, Baljinder Singh, Sabhyata Bhatia	Development of microsatellite and SNPs markers using de-novo transcriptome sequencing in lentil (Lens sp.)	137
398.	RSC-398	Shashwat Bhalla	Sixth Sense Technology	138
399.	RSC-399	Adit Khandelwal	Virtual Reality	138
400.	RSC-400	Kaushal Sharma	Augmented Reality	138
401.	RSC-401	Akhil Sharma	Air Cars	139
402.	RSC-402	Aditya Kumar Shukla	M-Banking (Mobile Banking) Adoption by Indian Bank Consumers	139
403.	RSC-403	Sumit Narula	A Social Media as a tool for Effectively of Popularize Science among University Students	139
404.	RSC-404	Dhruv Sabharwal	B Green Marketing: Current Trends and Future Prospects with Special Reference to India	140
405.	RSC-405	Vikram singh	Ethical Hacking	140
406.	RSC-406	K. Narendrakumar Trivedi, Manoj Kumar	Importance of Soft Skills for IT Professionals & Employability of Students in IT	140
407.	RSC-407	Shikhar Johri	Raspberry Pi: Microprocessor based computer technology	141

408.	RSC-408	Nishtha Pradhan	xMax Technology	141
409.	RSC-409	Prachi Sinha	Radio Frequency Identification	142
410.	RSC-410	Rounak Sarda	Brain Computer Interface	142
411.	RSC-411	Achint Jha	ATMEGA32	142
412.	RSC-412	Bhavesh Raghwani, Wasim Dyer	Virtual Reality Applications In Manufacturing Process	142
413.	RSC-413	Hiral Manish Kothari, Abhay Sharma	Web Application Penetration Testing	143
414.	RSC-414	Aditya Goyal	Internet of Things	143
415.	RSC-415	Honey Gocher	How a Virus Works	144
416.	RSC-416	Shalini Shekhawat	Some Fourier series relations and an Exponential series involving multivariable H- function	144
417.	RSC-417	Rajendra Kumar Bairwa	Analytical approach to fractional Navier-Stokes equations by Iterative Laplace Transform method	144
418.	RSC-418	Harsh Vardhan Harsh, Sanjay Kedia	On Q-Analog of Extension of Bailey's Summation Theorem	144
419.	RSC-419	Ramkumar Eswaraprasad, Linesh Raja	A Novel Study of Genetic Algorithm Used In Web Crawler	145
420.	RSC-420	Leo John Baptist Andrews, Linesh Raja	An Intelligent Approach for Mining Cyber Criminal Network	145
421.	RSC-421	Deepak Tiwari	Digital India: A progressive initiative by the Government	145
422.	RSC-422	Amandeep Singh Arora, Linesh Raja	Data Centric Security Approach: A Way to Achieve Security & Privacy in Cloud Computing	145
423.	RSC-423	Sankhadeep Ghosh	Fibre Based Composites: A New Dawn	146

424.	RSC-424	Neeraj Chaudhary, Krishna Sri Tirumal Kandula, Abhishek Srivastava	Behavioral study of Geopolymer stabilized soil: a review	146
425.	RSC-425	Neeraj Chaudhary, Krishna Vamsi, Abhishek Srivastava	Performance of Unreinforced and Geocell Reinforced Flexible Pavements- A Laboratory Investigation	146
426.	RSC-426	Anurag Bharadwaj, G. L. Saini	Firewall Monitoring System	147
427.	RSC-427	Shubham Bhaskar Sharma	Application of Search Engine Optimization for Business Growth	147
428.	RSC-428	Deepak Jha	A DNA-Based Archival Storage System	147
429.	RSC-429	Jagdish Prasad	On Methods of Construction and Analysis of 5-DIB Designs Based on (40+3) Series	147
430.	RSC-430	Pooja Solanki	Blue eyes technology	148
431.	RSC-431	Nitya Sharma	Facial Recognition Technology	148
432.	RSC-432	Naresh Sharma	Information Security in Big Data	149
433.	RSC-433	Naveen Kumar	Biochip Technology	149
434.	RSC-434	Nishant Bhardwaj	Computer RAM	149
435.	RSC-435	Neha Rai, Navneet Kumar Verma	Cultural Advancement Through Machine Learning, An Advancement In Information Technology	149
436.	RSC-436	Nishant Saxena, Jitendra Singh	Impact of Modern Day High Rise Residential Complexes on Transition of Cultural and Social Lifestyles of Inhabitants in Context of Historical Cities- Case Study of Jaipur	150
437.	RSC-437	Samarth Patel	IPFS: For the Era of IoT	150
438.	RSC-438	Sonali Vyas	Performance Analysis of Virtual and Non-Virtual Databases	150

439.	RSC-439	Diwakar Srivastava	Adsorption Refrigeration using Zeolite-Water Pair on Pro-e and Matlab	153
440.	RSC-440	Shiv Kumar Sharma, D.D. Shukla, Kamal Kishor Khatri, Nitesh Singh Rajput	Implementation of pert/cpm in the analysis and improvement of Biodiesel Production process	153
441.	RSC-441	Sourabh S. Borchate, D.D. Shukla, Sachin K. Patil	Development and Certification of silicon based Ceramic Matrix Composites modified with c-sic / si <sub>3</sub> n <sub>4</sub> / sic <sub>2</sub> ti <sub>3</sub> / c-mosi <sub>2</sub> / sic-bn-sic / c-sic-b <sub>4</sub> c / graphite brake friction materials for low to heavy duty	153
442.	RSC-442	Videsha Bansal, Mohd. Shahnawaz Khan	Active Catalysts for Biodiesel Production: A Review	153
443.	RSC-443	Nirajkumar C Mehta, Vishvas Rajyaguru, Dipesh D Shukla	Investigation on Automated Guided Vehicle: Review	154
444.	RSC-444	Nirajkumar C Mehta, Vishvas Rajyaguru, Dipesh D Shukla	A review on Research Trends in Flexible Manufacturing System	154
445.	RSC-445	Rohan Sharma	A review on integration of Renewable Energy Sources for Distributed Generation of Power	154
446.	RSC-446	Anurag Kandya, Yashika Agarwalla, Kamaljit Ray	Active Catalysts for Biodiesel Production: A review	155
447.	RSC-447	Arjun Raj	A review on application of Nano-Fluids as coolant in Automobile Radiator	155
448.	RSC-448	Priyanka R. Sharma	One step approach for Synthesis of Carboxycellulose Nanofibers from untreated biomass	155
449.	RSC-449	Yogita Madan, Divya Prakash, Vivek Vaghasiya, Harsh Sanghani, Kishan Nonghanvadara	Production, Optimisation of Biofuels Synthesized from various domestic waste and its Physico-Chemical & Biochemical Analysis	156

450.	RSC-450	Navneet Kumar Verma, Aishwarya Ashok, Ishan Kumar	Automation of Boiler Process at Thermal Power Plant using sensors and IOT	156
451.	RSC-451	Nitesh Singh Rajput, Deepesh Dilip Bhai Shukla, Shiv Kumar Sharma, Deep Rajput	Experimental study of Nanofluid based Thermal Systems	156
452.	RSC-452	Preeti Choubey, Upendra Mishra	MHD Stagnation Point Flow of Micropolar Fluid on a vertical plate	157
453.	RSC-453	Amit Kumar, Chinmaya Sharma, Shiv Ranjan Kumar	Wear Analysis of Metal Matrix Composite on Air Jet Erosion Tester	157
454.	RSC-454	Anurag Joshi, DD Shukla, Umesh Gurnani	Experimental Investigation of Micro Drilling of C464 Brass	157
455.	RSC-455	Sivaa Vishnu G	Bioremediation of Oilzapper	157
456.	RSC-456	Shikha Singh, Md. Raihan Arfin, Chetna Jala, Anurag Mani Tripathi, Patel Dharmik kumar Dilipbhai	Modeling of Two Well Mixed Batch Reactors with Interchange	158
457.	RSC-457	Shikha singh, Pallavi sharma, Fathima shahin A R, Saurav Kumar	Modelling and Simulation of Septuple Effect Evaporator	158
458.	RSC-458	Saurabh Verma, Sudhanshu Singh	Development of Bio-Compatible Conductive Ink For Bio And Nanoelectronics Applications With Their Rheological Properties	158
459.	RSC-459	Shubham Kumar Saini, Nitesh Singh Rajput, D.D. Shukla, Shiv Kumar Sharma	$Al_2O_3$ Nanofluid for flat plate Solar Water Heaters	159
460.	RSC-460	Vinod Kumar Prajapat, Nitesh Singh Rajput, D.D. Shukla, Shiv Kumar Sharma	Carbon based Nanofluids for Heat Transfer Applications	159
461.	RSC-461	Sushant Koolwal	Today's World of Industrial Automation and Sustainability and its future in Rajasthan	159
462.	RSC-462	Upendra Mishra	Heat transfer along a Porous Vertical surface of Unsteady Flow bounded by	160

			Absorbent Medium	
463.	RSC-463	R. Sanjeevi, Muhammad Bello Haruna, Hafaiz Usman, Sandeep Tripathi, J. Anuradha	A novel approach on investigation of Kinetics in co-composting of Vegetable Waste and Camel Dung as Activator	160
464.	RSC-464	Rishi Dewangan , Mudit Dayma	A Review on Hard facing by using Submerged Arc Welding	160
465.	RSC-465	<b>Anirudh Swarankar</b>	Comparative Study of RC Flight Controllers used in DIY Copters	161
466.	RSC-466	Akash Jain	Unmanned Aerial Vehicles	161
467.	RSC-467	Prachi Jain	Past Present and Future of 3D Printing	161
468.	RSC-468	Monu Kumar, Rajeev Kumar	Reliability Analysis of Two-Unit Cold Standby Hardware-Software System Considering Lcfs Repair and Repeat Repair Policy	162
469.	RSC-469	Tushar Pareek	Roll Acted Bearing	162
470.	RSC-470	Karan Khichi	Abstract on “Industry 4.0”	162
471.	RSC-471	Abhishek Jain, Karthika Krishnankutty Nair, Sajid Kadival, Charchil Badaya	Determination of stresses and shakedown limit of cracked thick pressure vessel using Unified Strength Criteria	162
472.	RSC-472	Akash Talwariya, Pushendra Singh, Deepak Sharma	3A Comparative Study of Demand Side Management through SPT and TOU	165
473.	RSC-473	Mona Kejariwal, Abhishek Tiwari, Sunil Sahani	Development of a cost effecting Water Quality Testing Field Kits (WQTFKs) after evaluation of all possible field testing methods	165
474.	RSC-474	Pragati Parihar	Tourism Promotional Videos: A Comparitive Study Between Rajasthan and Madhya Pradesh	165 166
475.	RSC-475	Shirin Abbas	Digital strides: Health communication Initiatives on new and Social Media in Most Backward Districts of Central Uttar Pradesh in UP	

476.	RSC-476	Sudhanshu Maurya	A Survey on Authentication in Internet of Things	166
477.	RSC-477	Preksha Shrivastav, Prem Kumar Dantu	Physico-chemical Properties of Soil in a Local Botanical Diversity Park	166
478.	RSC-478	Manmohan Singh, S S. Randhawa, Manish Rai	Trends of seasonal snow cover variation over Himachal Pradesh during the period 2010-16 using Satellite data	167
479.	RSC-479	Jasleen K Sahota	ECOLIT 2017: Economic, Social and Environmental Sustainability	167
480.	RSC-480	Paramveer Singh, Sweta	Usage of new media for higher education- A study of Central University of Jharkhand	168
481.	RSC-481	Poonam	Role of new media in the lives of rural teenagers in Mandar, Ranchi	168
482.	RSC-482	Pushendra Singh Rathore, Mamta Pankaj Jain	A Study on the Impact of Goods and Services Tax (GST) on Indian Hospitality Industry	169
483.	RSC-483	Radha Kashyap, Kalpana Munjal	Clothing consumption practices: a step toward sustainability	169
484.	RSC-484	Balram Meena, Kirti Choudhary	Solid waste Management in Alwar City	170
485.	RSC-485	Aayushi Soni	Smart Future of Fashion & Technology in concern of India	170
486.	RSC-486	Avneet Kaur	Problem of Noise Pollution in India	171
487.	RSC-487	Jai Prakash Maloo, Mamta Pankaj Jain	Economic Progress – Rethinking Beyond GDP	171
488.	RSC-488	Pallavi Rekhi	Biodegradable Sanitary Napkins: A Step towards Sustainability	171
489.	RSC-489	Sampath Kumar Venkatachary, Jagdish Prasad, Ravi Samikannu	Application of swot in distributed energy sector using renewable in the rural areas in the state of Rajasthan, India	172

490.	RSC-490	Dhruv Anurag Khurana, Ravi Upadhyay	Sustainable Development and Environment	172
491.	RSC-491	D.S. Rathore	Sustainable Use of Water Resources in The Arid Zones	172
492.	RSC-492	Gautam Kumar Sinha	Environmental Sustainability in Economic Development: An Overview	173
493.	RSC-493	Dhruv Anurag Khurana, Ravi Upadhyay	Analysis of Environment Protection Act, 1986 with Sustainable Development	173
494.	RSC-494	Mamta Pankaj Jain, Tilottama Khanna	Analysis of Industrial Revolution-IV: With special reference to Indian Economy	173
495.	RSC-495	Sunita Sharma, .D.S.Rathore, Jagdish Prasad	Statistical Comparison between selected public and private sector banks with regards to increase in Non- Performing Asset (NPA)	174
496.	RSC-496	Rohit Bajaj	Representation of Italian society in the works of Luigi Pirandello: an analysis of the short story “The Oil Jar”	174
497.	RSC-497	Savita Yadav, Vinita Agrawal	A Study on the style and behavior of the Transactional and Transformational Leadership	174
498.	RSC-498	Chitra Jain, Rekha Vijayvergiya	Science and Technology for Environmental Sanitation in Coming Decades	175
499.	RSC-499	Avi Singh Rathore, Munesh Rathore	The Power of the sun on the surface of the earth	175
500.	RSC-500	Priya Kushwaha, Preeti Yadav, Jagdish Prasad	Empirical study on impact of SAP ERP in IT Sector	175
501.	RSC-501	Shalini Singh, Sahana Hegde	Wheat straw and Phanerochaete chrysosporium for dye decolorization from textile waste water	175

502.	RSC-502	Bhumi Sharma, Mudita Dubey	Sustainable development and environment	176
503.	RSC-503	Mamta Vashishtha	Wool Dyeing with Pure Natural Yellow Dye extracted from Turmeric Rhizomes	176
504.	RSC-504	Nivedita Kala, Bindu Sharma	A Survey on Technical Textile in India	176
505.	RSC-505	Shiv Kant Shukla	Innovative approach of quality management system in commercial plant tissue culture	177
506.	RSC-506	Jitendra Singh, Pratheek Sudhakaran, Gaurav Singh, Nayana Singh	Sustainable design practices-lessons from heritage	177
507.	RSC-507	Durgesh Batra	Employment Branding: Tool for HR Success	177
508.	RSC-508	Deepesh Katariya, Abhijit Mohanty	Water, air and environment pollution, Forest Conservation	178
509.	RSC-509	Medhavi Jain	Help of Science and Technology in English Language Teaching and Learning	178
510.	RSC-510	Chhavi Kumawat, Divya Prakash, Yogita Madan	Studies on the Water Purification Technology in Rural Areas of Developing Countries	178
511.	RSC-511	Shelley Gupta, Smriti Tripathi	Awareness about Organic clothing in college going girls	179
512.	RSC-512	Aman Singh, Smriti Tripathi	An Introduction to Green Manufacturing	179
513.	RSC-513	Bindu Sharma	Sustainable Development–A Phase Change Process in Technical Textile	179
514.	RSC-514	Divya Prakash, Sushma Singh	Estimation and Future trends of Municipal Solid Waste Generation in Metropolitan Regions – A Review	180

515.	RSC-515	Himanshu Tekwani, Raj Singh, Bhavesh Joshi	Traffic volume study of Dadabari Chauraha, Kota	180
516.	RSC-516	Gracy H. David	Impact of physical development on urban Lake Ecosystem: Case study-Kishangarh, Rajasthan	180
517.	RSC-517	Neha Tomer, R.S. Rathee	Converging HR Practices & Entrepreneurship: Promoting Innovation	181
518.	RSC-518	Tora Ghosh	Various Techniques for Sustainable Production	181
519.	RSC-519	Bhawna Chaudhary, Dipti Singh, Sonia Mirza	Corporate Social Responsibility: A study of TCS, IBM and Infosys	182
520.	RSC-520	Deepak Kumar	Environmental Implications of Utilizing Hydrogen	182
521.	RSC-521	Sonu, Mamta, Babita Khosla	Assessment of Groundwater near a Municipal Solid Landfill Site of Rohtak, Haryana.	182
522.	RSC-522	Smriti Agarwal	Analysis of the Current Curriculum of Textile, Fashion in Relation to Different Aspects of Sustainability	183
523.	RSC-523	Swagatika Mishra	Developing Sustainable Neighbourhoods with Gender Sensitive Approach: Lessons from Traditional Neighbourhoods of Rajasthan	183
524.	RSC-524	Nisha Yadav, Bornolli Roy	Formation of Star	183
525.	RSC-525	Anuj Kumar Rajput	Pollution de l'environnement	184
526.	RSC-526	Shivangi Singh	Sustainable Tourism Development in the State of Rajasthan	184
527.	RSC-527	Siddhi Singh	Sustainable Management of Water Resources in Rajasthan	185
528.	RSC-528	Shrey Parekh	Rainfall and Conservation of Water in Rajasthan	185

529.	RSC-529	Pankaj Jain, Gunjan Raghuwanshi	Role of Religion in Politics & Economics	185
530.	RSC-530	Karan Lodhi, Vishakha Nirwal, Ritu B Rai	Ancient Wisdom - Overlapping of Traditional Principles in Present practice	186
531.	RSC-531	Nayana Singh, Gaurav Singh, Jitendra Singh	Water Conservation techniques and its use for Passive Cooling in dry arid region of India: a study of Kuchaman Fort (Nagaur, Rajasthan)	186
532.	RSC-532	Shweta Desai	Society, Environment and Ethics- A comment	187
533.	RSC-533	Jashan Kaur, Smriti Tripathi	Sustainable Development	187
534.	RSC-534	Divyanshu Suthar, Karan Gupta, Parth Samariya	Organic Waste Resources and Recycling Trends in Rajasthan, India	187
535.	RSC-535	Smriti Tripathi	It's Time to Up-cycle	188
536.	RSC-536	Siddharth Mishra	Khadi and its future	188
537.	RSC-537	Pooja Kriplani	Sustainable development and Environmental Growth	188
538.	RSC-538	Ashu Maharshi	Sustainable Development and Environment	189
539.	RSC-539	Gunjan Gupta	Phytotoxic effect of textile wastewater on germination and growth of <i>Triticum aestivum</i>	189
540.	RSC-540	Shivani Verma	Cost effective & an efficient bio alternative for waste water treatment: <i>Moringa oleifera</i>	190
541.	RSC-541	Shefali Magan Tiwari	Employability through Effective Communication Skills	190
542.	RSC-542	Sheelpa Sweety	Action Research in ESP: The way forward	190

543.	RSC-543	Pooja Choudhary, R. S. Rathee	Human Capital is the key to Success: A Case Study	191
544.	RSC-544	Vinod Bhatia, Praful Sharma	Sustainable development of traditional knowledge	191
545.	RSC-545	Rumi Roy	United Nation's Credibility and The Gulf Crisis (1991): Role of United Nations Security Council Post-Cold War	191
546.	RSC-546	Mayank Baghmar, Shahnawaz Ansari	Design of flexible pavement (widening and repairing work) on NH – 89	192
547.	RSC-547	Jasbeen Chawla	Employability Skills: With special reference to Career Management among Youth	192
548.	RSC-548	Udai Bhan Singh	Nature and Determinants of Household Income Mobility: Study of Social Groups in India	192
549.	RSC-549	Varsha Lamba	Csr and its role in boosting industrial participation	193
550.	RSC-550	Vinay Kumar	Relative contributions of dry and moist static energy in extreme rainfall events	193
551.	RSC-551	Linesh Raja	A Survey of Jaipur Vehicular Network for Intelligent Transportation System	193
552.	RSC-552	Priti Bala Sharma	MOOCs: A Helping and Informative Tool for the Young Professionals	194
553.	RSC-553	Soniya Brar, Aneesh Khandelwal	Leopard Project Rajasthan	194
554.	RSC-554	Sacchi gupta, Deepali Bhatnagar	Cashless Economy- A Way towards Sustainability	194
555.	RSC-555	Pravat Ranjan Sethi, Harshlika Khangrot	Triple Talaq: A Rendezvous with Oppressiveness and Malevolence	195

556.	RSC-556	Sanjiv Singh Bhal	Innovation Portfolio in the VUCA Era	195
557.	RSC-557	Sushil Kumar	Tourism Industry in India and GDP	195
558.	RSC-558	Smriti Agarwal	Textiles for Better Future	196
559.	RSC-559	Deepak Kumar Gupta, Anil Kumar Bhardwaj, Jagdish Prasad	Regression model for BSE – Sensex and exchange rates of different foreign currencies	196
560.	RSC-560	Parul Mishra	Portable and Peripheral Communication: Pen and the keyboard technology	196
561.	RSC-561	Shyam S. Khinchi, Meenu Tanwar	Globalization and Its Impact on Indian Agriculture Scenario	197
562.	RSC-562	Shyam S. Khinchi, Meenu Tanwar	Globalization Impact on Environment and Proposal for Solution	197
563.	RSC-563	S S Sharma, D D Shukla	A Literature Review on Barriers in Implementation of Lean Manufacturing in Indian SMEs	197
564.	RSC-564	Nakul Narang	An Investigation for the Scope of Multi Network Marketing in India	198
565.	RSC-565	Asha Mamraj Sharma	A study on GST: Awareness, Prospectus and challenges in Indian Economy	198
566.	RSC-566	Khushboo Rathore, A.K. Bharadwaj	Impact of Tourism on Economy of Rajasthan	198
567.	RSC-567	Dipanshu Suman	Evolution of Sarees	198
568.	RSC-568	Khadija Kagdi	Evolution of bridal dresses	199
569.	RSC-569	Monalisha Goyal, Smriti Tripathi	Bamboo Clothing: A Green Substitute to Cotton	199
570.	RSC-570	Sanskriti Sumedha Mallick	Environmental protection and sustainable development	199

571.	RSC-571	Deepika, Smriti Tripathi	Hemp clothing: solution to sustainable living	200
572.	RSC-572	Sukhender Kumar, Pankaj Jain, Narendra Jangid	HIV related knowledge, attitude among nurses and paramedical health care providers in Delhi	200
573.	RSC-573	Aditi Bhardwaj, Ritu Agarwal	Deep Ecological Perspectives in James Cameron's Avatar	200
574.	RSC-574	Shruti Rawal	An Eco critical Study of Arundhati Roy's The God of Small Things and Amitav Ghosh's The Hungry Tide	201
575.	RSC-575	Rekha Mishra, A. K. Saini	Role and Contribution of Corporate in Sustainable development of India: A Case of Maharatna Companies in Energy Sector	201
576.	RSC-576	Rani Sharma	Globalization: Impact on the Indian society	201
577.	RSC-577	Pradyuman Singh Rathore	Hospitality's role in the Growth of Character building	202
578.	RSC-578	Amita Chourasiya	Examine the existing career stage model in the consequences of changing nature of work and career	202
579.	RSC-579	Tanushree Gupta	An assessment of Self Help Group Bank Linkage Programme in Sustainable Development of Rural Uttar Pradesh	202
580.	RSC-580	Pragati Natani, Anil K. Bhardwaj, Jagdish Prasad	Demonetisation: impact on services provided by public banks and private banks	203
581.	RSC-581	Pragati Natani, Anil K. Bhardwaj, Jagdish Prasad	Demonetisation: impact on services provided by public banks and private banks	203
582.	RSC-582	Simran Ramani	An analysis of Indian Economic Growth and Economic Development	203
583.	RSC-583	Nanu Ram Meena, Jagdish Prasad	Impact of Demonetization and GST on the Indian Economy	204

584.	RSC-584	Shradhanjali	Rapidly changing world and standards of professional behaviour at the workplace	204
585.	RSC-585	Hiral Baberwal, Pankaj Jain	Women at work	204
586.	RSC-586	Parul Pareek	Corporate Social Responsibility and Environment Protection: A Judicial Perspective	206
587.	RSC-587	Mahima Pandey	Constitution of India and sustainable development	206
588.	RSC-588	Suma Prakash	Symbiosis of Industry and Academia	206
589.	RSC-589	Amritansh Mishra	Psychology in communication and employability: the perspectives of employers	206
590.	RSC-590	Ankita Bhatia	Effective Communication brings Successful Organizational Change	207
591.	RSC-591	Ritesh Varshneya, Shruti Tyagi	Sustainable Development and Environment	207
592.	RSC-592	Kush Kalra, Surya Saxena	Corporate Social Responsibility in India: The Road Ahead	207
593.	RSC-593	Honoriam Samson	Role of innovative HR practices for effective organization performance	208
594.	RSC-594	Ashna Rathore	Sustainable Development and Analysing Indian Judiciary	208
595.	RSC-595	Isha Khanna	Sustainable development in India and state of Rajasthan	208
596.	RSC-596	Rajesh Kumar Meena, Kirti Choudhary	Employment for female through dairy training	209
597.	RSC-597	Manvi Sharma, Gaurav Vardhan	Constitution of india and sustainable development	209

598.	RSC-598	Sourabh Bansal, Mayank Sharma	Governance – peace, justice and strong institution	210
599.	RSC-599	Tanushri Mukherjee, Rajesh Sharma	Growing Impact of Graphic Design in Social Media as A Tool of Brand Promotion & Consumer Awareness: A Perception Study of Jaipur Based Mass Communication Students	210
600.	RSC-600	Gautam Bhattacharya, Tanushri Mukherjee	Blogging as A Means of Science Communication—A Critical And Comparative Overview of A Few Eminent Science Blogs And Their Effectiveness	210
601.	RSC-601	Shivang Soni	Sustainable development and Indian constitution	211
602.	RSC-602	Padam Bhushan	Does the Growth of Food Processing Industry Lead to "Make in India	211
603.	RSC-603	Poonam Prakash Sonawane	Environmental Protection through Sustainable Development: Policy and Parameters in India	211
604.	RSC-604	Smridhi Marwah, Pallavi Rekhi , Shazina Saeed, Mehak Segan, Rajiv Janardhanan	Sustainable Living- Use Less or Be Useless	212
605.	RSC-605	Riya Rathore	Right to Human Health and Sustainable Development	212
606.	RSC-606	Meher Anudeep	Universal law of divisibility	212
607.	RSC-607	Sudhir Mann	Sustainable Development across the Globe in its International Scenario	213
608.	RSC-608	Poorva Gupta	Recent Trends of Sustainable Development in Rajasthan A Socio-Economic Approach	213
609.	RSC-609	Tripti	International Laws and Environment	214
610.	RSC-610	Tejaswini Malegaonkar	Sustainable Development and the Indian Constitution	214

611.	RSC-611	Anil Balhera	Right to Dissent Under Indian Constitution: A Critical Study	214
612.	RSC-612	Rashi Choudhary	Right to Freedom of Speech and Expression under Indian Constitution	215
613.	RSC-613	Drishti Singh	Environment and sustainable development: a study of judicial role in realising sustainable	215
614.	RSC-614	Aayush Goyal Shreshtha Maheshwari	Sustainable Development Across the Globe (International Scenario)	216
615.	RSC-615	Saanya Singh	Laws for Protection of Forest and Wildlife	216
616.	RSC-616	Shikha Trivedi	Right to Life, Liberty and Freedom of Expression	216
617.	RSC-617	Beena Dewan	Right to Life and Jainism-A Comparative Study	217
618.	RSC-618	Jayati Dasgupta	Ecology in literature: alliance between nature and conscious mind, as evoked in regional and Indian francophone	217
619.	RSC-619	Nithin Kalorth	Questioning and answering on Quora: science communication in the age of user generated content experiences	217
620.	RSC-620	Preeti Singh, Pankaj Singh	Sustainable Development and Intellectual Property Right	218
621.	RSC-621	Malvika Sagar	Communicating science in social media environment: direct and contextual implications and data verification	218
622.	RSC-622	Sampurna Adak, Stuti Sanghamitra	Sustainable development goals in the international scenario	218
623.	RSC-623	Deepesh Katariya, Arijit Sanyal	Writ jurisdiction and sustainable development	219
624.	RSC-624	Md. Faizullah Khan	Indian society and women through the eyes of the French and francophone translators of premchand's short stories	219

625.	RSC-625	Mayuresh Kumar	An Ecocritical Approach to the Peninsular Spanish Poetry	220
626.	RSC-626	Palak khandelwal	Sustainable Development and Intellectual Property Rights	220
627.	RSC-627	Anmol Sharma	The Constitution of India And Sustainable Development	220
628.	RSC-628	Hardik Harjani ,Eshank Chaturvedi	Forest and wildlife laws: a critical analysis	221
629.	RSC-629	Sanju Yadav	Sustainable Development and The Role of Environmental Law	221
630.	RSC-630	Sumaiya Arfin, Baljeet Kaur, Muskan Kaushik, Garima Kumar, Shilpa Kapoor, Mehak Segan, Shazina Saeed, Rajiv Janardhanan	Evaluation of communication skill development in college students to suggest study models for school students	222
631.	RSC-631	Sanjula Thanvi	Constitution of India and sustainable development- Right to Information & Its Impact Towards Sustainable Development of a Country	222
632.	RSC-632	Md Imran Ansari, Shakti Singh Tevatia	Role of Government and other Authorities in Development of IPR	222
633.	RSC-633	Gaurav Phulwari, Praveen Kumar Sharma	Citizen centric assessment of E-governance service delivery through E-Mitra between two cities	223
634.	RSC-634	Nihar Lalas, Shubhi Bhatnagar	Sustainable development and corporate social responsibility	223
635.	RSC-635	Fatema Kabir	Apocalyptic Dali	223
636.	RSC-636	Vidisha Kaul	Sustainable development and implementation of CSR	224
637.	RSC-637	Puneet Bafna	Traditional knowledge: Path to its development & protection	224
638.	RSC-638	Avijit Shukla, Ankita Mishra, Rajni Parmar, Nitesh Saraswat	Sustainable development: a scrutinized study on corporate social responsibility, strong institutions and future perspectives	224

639.	RSC-639	Siddharth Jain, Garvit Garg	Right to privacy- A Judicial Trend	225
640.	RSC-640	Astha Poonia	Constitution of India and sustainable development	225
641.	RSC-641	Arijit Sanyal, Harshvi Chaumal	Writ jurisdiction a ladder to achieve sustainable development	226
642.	RSC-642	Apeksha Bhatnagar	India @ Social Justice	226
643.	RSC-643	Pratima Soni	A Pragmatic Analysis of Conflict on Company's Corporate Social Responsibility Policy after Implementation of GST	226
644.	RSC-644	Sneha Vaza	Odd and even traffic scheme; Need to impose in Rajasthan	226
645.	RSC-645	Aakritee Gambhir	Sustainable development: A global perspective	227
646.	RSC-646	Pragya Mishra	Sustainable development and international intellectual property laws	227
647.	RSC-647	Geeta Ahalawat	The psychology of adolescence - The science of adolescent risk-taking: Workshop report	228
648.	RSC-648	Deepankar Sharma	Companies Act, 2013 & environmental sustainability: CSR as an alternative	228
649.	RSC-649	Farzana Parveen, Shahina Maqbool	Well-Being of Medical Students in Relation to Self-Resilience	228
650.	RSC-650	Rupal Sinha	Corporate social responsibility and sustainability	229
651.	RSC-651	Uma Jain	Constitution of India on sustainable development	229
652.	RSC-652	Aashi Dixit	Behavioural approach to law and economics	229
653.	RSC-653	Hem Lata	Role of U.N. Security Council in maintenance of peace and security of the world	230
654.	RSC-654	Jaya Choudhary, Sakshi Dewangan	Writ Jurisdiction and sustainable development	230

655.	RSC-655	Ishita Rao	A critical analysis on IPR and biodiversity in India	231
656.	RSC-656	Ansuman Sahrawat	Adolescence and the problems of puberty Psychology Today	231
657.	RSC-657	Anjali N	Human wildlife conflict; A critical analysis on the present legal mechanism	231
658.	RSC-658	Yamini Naruka	The constitutional mandates of environmental jurisprudence	232
659.	RSC-659	Kaushal Kishore Sharma	Kinesics; An introduction to closed mouth speech	232
660.	RSC-660	Praveen Kumar Sharma, Vijay Singh Rathore	An E-Governance in Rajasthan: Performance of Citizen Centric Services	232
661.	RSC-661	Himanshu Shekhawat	Mobile Phone Addiction Among Adolescents	233
662.	RSC-662	Bharti Choudhary	Role of Fundamental Duties in Sustainable Development of India	233
663.	RSC-663	Arun Kumar Singh, Radha Naruka	Role and Contribution of corporate in Sustainable Development of India	233
664.	RSC-664	Gaurav Sanghi, Anuniti Pandey	Intellectual Property Rights and Sustainable Development	234
665.	RSC-665	Mona Mahecha	CSR, Human Rights and the Sustainability	234
666.	RSC-666	Ankita Gehlot, Swati Ranka	Sound Marks in Indian Context	235
667.	RSC-667	Somlata Sharma	Right to Clean Environment under Constitutional Provisions: An Analysis	235
668.	RSC-668	Bangarva Jaigop, Sanjula Thanvi	Mahatma Gandhi National Rural Employment Guarantee Act, 2005 (MGNREGA)	235
669.	RSC-669	Mahaveer Singh Sodha	Sustainable development in India and corporate social responsibility	236

670.	RSC-670	Shreya Chakraborty, Lata Ladrecha	Sustainable Development and Human Rights (Right To Life)	236
671.	RSC-671	Nayansha Srivastava, Meenal Kamra	Ecocriticism through Disney Movies	236
672.	RSC-672	Paulamy Bhattacharjee	Eco-Criticism in Kamla Das' Poetry	237
673.	RSC-673	Swati Kumari	Ramayana: An Alternative Text to Ecocritical Readings	237
674.	RSC-674	Dipa Chakrabarti	Jean-Jacques Rousseau and French Eco-literature	237
675.	RSC-675	Jaivardhan Singh Rathore	Woman Flower Man through the prism of Wolfgang von Goethe's poetries	238
676.	RSC-676	Aashi Dixit	Corporate Social Responsibility in India	238
677.	RSC-677	Umesh Kumar Gupta	Ecological literature in China: an Overview	238
678.	RSC-678	Pravat Ranjan Sethi, Birendra Kumar	Evils of Caste System and its repercussion in Indian Democracy: Continuities and Changes	239
679.	RSC-679	Pravat Ranjan Sethi, Shabnam Bharati	Science and Religion: Above and Beyond Their Way of Life	239
680.	RSC-680	Umang Yadav	Sustainable Development and Constitution of India	239
681.	RSC-681	Manisha Prajapat	Art and Science: Development Process and Close Proximity with Humanity	240
682.	RSC-682	Om Prakash Barber	Environment protection and sustainable development	240
683.	RSC-683	Govind Singh Rajpal	Role of company law in sustainable development of CSR	241
684.	RSC-684	Vicente Blasco Ibañez, Sabyasachi Mishra	Shifting The Power Paradigm In La Barraca Through Nature & Its Forces, A Novel	241

685.	RSC-685	Parul Mishra	Abhijanana Shakuntalam: Correspondence to Ecological Principles	241
686.	RSC-686	Sanya Yadav	Law and Policy of Sustainable Development in International Investment Agreements to Reforms ISDS Laws in India	242
687.	RSC-687	Priti Bala Sharma	MOOCs: A Helping and Informative Tool for the Young Professionals with special reference to the Job Applications	242
688.	RSC-688	Aamir Khan Nurkhani, Sandeep Gupta	Different aspects of solar energy in India	244
689.	RSC-689	Vishal Choraria	Solar energy – applications	244
690.	RSC-690	Rubina Verma	Inculcating soft skills for Employability	244
691.	RSC-691	Asish Kumar Sharma	Scenario analysis of economics of battery storage technologies	245
692.	RSC-692	Pankaj Agarwal	Potential of renewable energy in India	245
693.	RSC-693	Sachin Bansal, Pankaj Kumar Pandey	Low cost adsorbent for dye removal from industrial effluent: A review	245
694.	RSC-694	Parveen Kumar	A study on solar photovoltaic cell models and evolutionary computational techniques	246
695.	RSC-695	Pratheek Sudhakaran, Jitendra Singh	Urban sustainability and efficiency of adaptive building envelopes through kinetic architecture	246
696.	RSC-696	Pratheek Sudhakaran, Jitendra Singh	The integration of Bio inspiration into the development of architectural design towards sustainability of the built environment	246
697.	RSC-697	Bornali Purkayastha, Shreyanshi Sharma	Solar Energy – A Journey	247

698.	RSC-698	Kamal Singh Raghuvanshi, Nitesh Sharma, Sudhanshu Singh, Amit Sharma	Rooftop hybrid solution for home automation using Solar, Nano and Micro technology	247
699.	RSC-699	Rashmi Singh, Navneet Sharma	Jacket In-Place Strength Evaluation by Optimization of Bracing Configurations	247
700.	RSC-700	Yogita Madan	A review on sustainable metal Nano catalysed organic transformations for the generation of biologically active heterocycles	247
701.	RSC-701	A. Gladius	Nuclear energy- Industrial development a Boon or Threat to Human and Economic Development from A Legal Dimension	248
702.	RSC-702	Rashmi Gupta, Ritu Gupta	Innovation of Air Dyeing changing the future of Fashion	248
703.	RSC-703	Tanushree Kain, Devendra Singh Rathore	Solar Energy Potential of Rajasthan	249
704.	RSC-704	Manjari Biswas, Jitendra Singh, Pratheek Sudhakaran	Urban Sustainability in a developing country like India	249
705.	RSC-705	Manjari Biswas, Rahul Biswas	Industry, Innovation and Infrastructure	249
706.	RSC-706	Parag Agrawal, Shubham Shrivastava	Solid Waste Utilisation in Cement Concrete Using Rubber Waste	249
707.	RSC-707	Shilpa Sood, Vivekanand Tiwari	Expansions in Structures with Integration of Vernacular Materials and Modern Materials	250
708.	RSC-708	Nayansha Srivastava, Manoj Kumar	Inculcating Soft Skills among Young Learners of Rural Areas	250
709.	RSC-709	Deepak Kachhot, Amit Sharma, Mangal Singh Sisodiya, Saurav Suman	A comprehensive review on solar water heaters	250

710.	RSC-710	Manoj Kumar	Soft Skills and Folklore	251
711.	RSC-711	Deepak Kachhot, Rishi Dewangan, Amit Sharma, Akash Neil Mallick	Next generation Solar Cells the Revolution In Solar Energy	251
712.	RSC-712	Swati Kumari	The Character of Satan in Milton's Paradise Lost: An Exemplum for Imbibing Soft Skills	251
713.	RSC-713	Noopur Mahi	Is teaching a performative art?	252
714.	RSC-714	Abhishek Annepu , G.L Saini	Role of Nanorobotics In Nanotechnology	252
715.	RSC-715	Arun Yadav	Energy Based Architecture for City of Jaipur	252
716.	RSC-716	Ashwini Tiwari, Urvi Khatri	Carbon Emission- Impacts, Mitigation Action and Plans in India	253
717.	RSC-717	Jaipal	Learning a Second Language in conventional classroom and Digital Classroom: A Study	253
718.	RSC-718	Pochiraju Sudhamayee	Indian Sustainable Architecture is shaped as a 'Circle'	253
719.	RSC-719	Nishant Saxena, Jitendra Singh	Impact of Modern Day High Rise Residential Complexes on Transition of Cultural and Social Lifestyles of Inhabitants in Context of Historical Cities- Case Study of Jaipur	254
720.	RSC-720	Bhavesh Joshi, Abhishek Sharma, Pratheek Sudhakaran, Jitendra Singh	How Nanotechnology can change concrete Industry	254

721.	RSC-721	Eshwari, Sunaina Singh Dagar	Solar Photo Voltaic Production	254
722.	RSC-722	Parth Patel	Effect of Climate Change on the rural livelihood of Rajasthan	255
723.	RSC-723	Khushbu Vishwakarma	Anti Vandalism and Architecture	255
724.	RSC-724	Arpit Samdani	The Language of Space	255
725.	RSC-725	Anmol Singh, Sanskriti Chauhan	Sustainable and Resilient Infrastructure for Jaipur	256
726.	RSC-726	Vikas Saini, Uttam Kumar Roy	Planning Strategy for the Sustainable Sports City in Rajasthan	256
727.	RSC-727	Pr. Rachana	Vernacular architecture of Kumaon Himalaya: sustainable design lessons for professionals	257
728.	RSC-728	Kirti Bala	Employability through Impressive Vocals	257
729.	RSC-729	Shahnawaz Ansari, Mayank Baghmar	Comparative Analysis of Workability of Conventional Concrete & Light Weight Concrete Mixed with Brick Aggregate	257
730.	RSC-730	Shailendra Kumar, Bhavesh Jhoshi, Anjani Kumar Shukla	Eco City Concept for Planning and Developing a City: A Case of Jaipur	258
731.	RSC-731	Sugandha Chaubey	Digital Architecture: A Sustainable Approach	258
732.	RSC-732	Hima Thaker	An Analysis of the Urban Planning Of Jaipur City	258
733.	RSC-733	Sanjay Arora	Establishing the Relevance of Soft Skills in the Changed Job Scenario	259
734.	RSC-734	Garima Singh, Amarnath Sharma	Sustainable development by an amalgam of Urban & Architectural	259

			designing (Look beyond the site & basic functionality of buildings)	
735.	RSC-735	Niyati Gupta	Social cost-benefit of the Natural and Built Heritage	260
736.	RSC-736	Manjula Arora	Education VS Employability-Need to Bridge the Skills Gap	260
737.	RSC-737	Jaivardhan Singh Rathore	Soft skills in learning French as a foreign language: The cherry on the cake	260
738.	RSC-738	Ashwani Jangir	Architecture of Physically Challenged	261
739.	RSC-739	Peeyush Jain	Automation in lighting system in a building to increase its sustainability	261
740.	RSC-740	Preeti kulhari, Vinita Agarwal	Role of soft skills in technological sector and how it gets better employability	261
741.	RSC-741	Keshav Damani	Business Intelligence	262
742.	RSC-742	Ritu Singh Bhal	Building Charisma through Soft Skills	262
743.	RSC-743	Pankaj Sharma, N. Srinivasa Reddy	Issues and Challenges in Indian Urban Transportation Sector	262
744.	RSC-744	Pankaj Sharma	A Comparable Study of Brts for Ahmedabad and Delhi	263
745.	RSC-745	Mahendra Kumar, A.K.Bhardwaj	Statistical analysis of renewable energy with special reference to solar energy in Rajasthan	263
746.	RSC-746	Jaya Srivastava	Climate responsive buildings in Avadh architecture: transformation from traditional to modern architecture	263
747.	RSC-747	Ronak Parikh, Digvijay S. Chouhan, Yash Agrawal	Performance Evolution of concrete and mortar containing plastic waste: A Review	264
748.	RSC-748	Yash Agrawal, Trilok Gupta, Ronal Parikh, Digvijay Singh Chouhan	Sustainability of concrete and structures	264

749.	RSC-749	Pramod R. Jaware	Active Listening: A Significant Soft Skill in the Organization	264

**Theme # 01: Climate Change vulnerability assessment and adaptation**

Abstract ID: RSC-001

**Intensity estimation of tropical cyclone ‘Megh’ associated with the distribution of wind shear and CAPE**

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Vertical wind shear and convective available potential energy (CAPE) are of those mainly significant parameters which affect the intensity of a tropical cyclone (TC). The TCs are categorized as having large or small ambient vertical wind shear. Highly sheared tropical storms produce larger area-averaged CAPE versus relatively un-sheared storms. The vortex-scale increase in the quantities lessens the negative impact of large vertical wind shear. The effects of wind shear on TC genesis is explored from climatological perspective. The physical process of TC genesis in wind shear is reconnoitered for Extremely Severe Tropical Cyclone Megh (2015) over the Arabian Sea with high-resolution numerical simulation using a mesoscale model in an idealized framework. The simulation study results that in terms of the formation of a closed, low-level circulation, moderate wind shear is indeed more conducive to genesis, but is also very prohibitive to further development of the cyclone. The reasons for the greater favorableness of vertical wind shear versus no wind shear, and of westerly shear versus easterly shear, are discussed briefly in the context in a reasonable sense.

Abstract ID: RSC-002

**Impact of Climate Change and Vulnerability in Livestock Sector**

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Livestock production is an important contributor to sustainable food security for many nations, particularly in low income areas and marginal habitats that are unsuitable for crop production. Climate Change in its simple meaning is a significant and lasting change in statistical distribution of weather patterns over a longer period of time. Several global studies have indicated that India is particularly vulnerable to climate change, and is likely to suffer with damage to agriculture, food and water security, human health and cattle populations. Like most other developing countries, people in India are dependent to a large extent on its natural resources for livelihood and economy. Any adverse impacts on these natural resources will have repercussion on the nation's livelihood security and economy and widen the gap between the rich and the poor. Significant progress in mitigating the environmental impacts in India will only be possible through a combination of technological measures reducing livestock emissions, improved feed stuff and balanced nutrition and manure management.

Abstract ID: RSC-003

**Aerosol characteristics in the UTLS over the Indian Summer Monsoon region during Successive and Contrasting Monsoon Season**

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Aerosols over the Indian summer monsoon (ISM) region, with large anthropogenic near-surface emissions, can be transported into the upper troposphere and lower stratosphere (UTLS) through frequent occurrences of surface deep convection during pre-monsoon and monsoon seasons. The Asian monsoon circulation offers an alternative pathway for the transport of various atmospheric species from boundary layer into the UTLS region via tropical tropopause layer through convective overshooting. This process is particularly more pronounced in the tropics due to the updraft in the Brewer-Dobson circulation. Aerosols in the UTLS have much longer residence time as compared to those in the lower troposphere, influencing atmospheric chemistry and Earth's climate with large spatial and temporal coverage. In view of the above, Cloud Aerosol Lidar and Infrared Pathfinder Satellite Observation (CALIPSO)-derived aerosol vertical profiles were studied in the UTLS over the ISM region during two successive and contrasting monsoon years (2008-2009). A total of 940 days of dataset was obtained over the study region. We

tried to emphasize the impact of different monsoonal conditions, i.e. active and drought, on aerosol characteristics in the UTLS. An enhanced aerosol layer was observed in the UTLS between 15 and 19 km altitude, in the vicinity of tropopause during both years. However, the optical characteristics of aerosol layers were found to be dissimilar during the two-contrasting consecutive summer monsoon seasons. While the depolarization ratio of enhanced aerosol layer (exceeding 0.2) during both years suggested anisotropic nature of particles, the aerosol backscatter coefficient was observed to be more intensified with a sharp peak during the active monsoon year (2008) whereas it was relatively broader with lower magnitude during a drought year (2009). The enhanced backscatter coefficient in the UTLS was found to be closely associated with the variability in tropopause height and convection during both years, which is more pronounced during the active monsoon year as compared to a drought year. Deep convection over the ISM region may inject boundary layer aerosols into the upper troposphere as evidenced from the analysis of the outgoing long-wave radiation (OLR). Our results also showed an enhanced integrated backscatter coefficient (IBC) of about 30%, which is associated with a decrease in OLR of about 7% during the active monsoon year as compared to drought year. These findings were further corroborated using NCEP-NCAR vertical velocity and HYSPLIT air-mass backward trajectory analyses.

Abstract ID: RSC-004

### **In-situ Aerosol Characteristics at an Urban Megacity over IGB: Implications to Climatic Forcing**

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There has been significant focus on aerosol studies over the Indo-Gangetic Basin (IGB) due to heavy load of various pollutants and also their impacts on regional climate system. The IGB experienced the enhancement in aerosol emissions mainly from anthropogenic sources, fossil-fuel, biofuel/biomass combustion, which along with the long-range transport of natural dust aerosols from surrounding Desert regions (mainly during summer/monsoon seasons) have led to severely turbid atmosphere over the region. As a result, they can strongly modify the regional climate through radiative forcing and changes in cloud microphysics and monsoon processes. In view of the above, aerosol scattering and absorption characteristics were investigated at an urban megacity Delhi in the western IGB for one-year period from October 2011 to September 2012 using different in-situ surface measurements. The measured mean value of scattering coefficient ( $\sigma_{sp}$ ) over the station was  $\sim 710 \pm 615 \text{ Mm}^{-1}$ , which varied from 71 to  $3014 \text{ Mm}^{-1}$  during the entire study period. It was found to be about five times higher than the absorption coefficient ( $\sigma_{abs} \sim 134 \pm 93 \text{ Mm}^{-1}$ ). Seasonally,  $\sigma_{sp}$  and  $\sigma_{abs}$  were substantially higher during the winter/post-monsoon periods as compared to summer, which also gave rise to an increase in single scattering albedo (SSA) by  $\sim 10\%$ . The magnitude of SSA estimated over the station varied from 0.68 to 0.88, with a mean value of  $0.80 \pm 0.08$ . Further, the magnitude of scattering Ångström exponent (SAE) and back-scattering Ångström exponent (BAE) showed a wide range from -1.20 to 1.57 and -1.13 to 0.87, respectively which suggests large variability in aerosol sizes and emission sources over the station. Relatively higher value of aerosol backscatter fraction (b), an indicator of particle shape, during the monsoon ( $0.25 \pm 0.10$ ) suggests more inhomogeneous scattering, associated with the coarser dust particles. On the other hand, lower value of b during winter ( $0.13 \pm 0.02$ ) is associated with more isotropic scattering due to dominance of smaller size particles. The above result is further confirmed with the estimated asymmetry parameter (AP), which exhibits opposite trend with b and was found to be relatively lower during the monsoon ( $0.38 \pm 0.16$ ) and higher during other seasons (about 0.60). The above aerosol optical parameters were used in a radiative transfer model to estimate aerosol radiative forcing over the station. A mean clear-sky radiative forcing of  $-75.3 \pm 25.3 \text{ Wm}^{-2}$  (in the range of -129.1 and  $-48.9 \text{ Wm}^{-2}$ ) was observed at the surface and  $69.0 \pm 31.5 \text{ Wm}^{-2}$  (34.5 and  $126.8 \text{ Wm}^{-2}$ ) into the atmosphere, which was found to be highly correlated with the aerosol backscatter fraction. The higher atmospheric forcing can give rise to mean atmospheric heating rate of about  $2 \text{ Kday}^{-1}$  over the station, which is quite significant and may raise several climatic issues.

Abstract ID: RSC-005

### **Evaluation of Human Thermal Comfort for Ahmedabad city using a Meteorological Approach**

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Meteorology plays a very important role in the human thermal comfort. The various anthropogenic activities have significantly altered the meteorological conditions which has adversely affected the human thermal comfort. Ahmedabad which is one of the most rapidly developing cities of India has undergone massive urbanization in the past five decades. The present study puts forward the changing urban meteorological conditions and its subsequent impact on the human thermal comfort. Using Thom Discomfort Index, which is a biometeorological index and considers ambient temperature and relative humidity, the impact of

the changing meteorological was computed for the city of Ahmedabad for 40 years during 1969-2008. The data for the study was available for every 3 hours. The Thermal Comfort analysis was done for seasonal (winter, summer, monsoon and post monsoon) and yearly basis. In the background of the industrialization and urbanization activities, the present research attempts to quantify the artificially induced climatic trends affecting the human beings.

Abstract ID: RSC-006

### **Study of frequency of Tropical Cyclones over the North Indian Ocean during 1931-2012**

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The reason for variation in frequency of tropical cyclone is climate change impact or not is a persistent myth. The present paper analyse the monthly, yearly, inter-annual, decadal and thirty yearly variation in frequencies of tropical cyclone for pre-monsoon, monsoon and post monsoon seasons over Indian ocean (Bay of Bengal and Arabian Sea). Here the direction of movement of these tropical storms before the landfall is also observe in order to understand the areas that were most probably affected by these storms. Then the decadal frequencies of direction of movement calculated and observed. In the present study data has taken from NOAA (National Oceanic and Atmospheric Administration) and IMD (Indian Meteorological department). The study over the effect of climate change on frequency of tropical cyclone reveals that the total systems of cyclonic storms formed in Bay of Bengal over these 80 years are more than Arabian Sea because it is relatively colder than Bay of Bengal. The average annual frequency of tropical cyclones in North Indian Ocean (Bay of Bengal and Arabian Sea) is about 5 (about 5-6% of global annual average) and about 80 cyclones form around the globe in the year. The frequency is more in Bay of Bengal than in the Arabian Sea, the ratio being 4:1. The monthly frequency of tropical cyclones in the north Indian Ocean display a bi-modal characteristic with a primary peak in November and secondary peak in May. The months of May- June and October- November are known to produce cyclones of severe intensity. As most of the cyclones that originate in Bay of Bengal dissipate on the land so few only reach to the Arabian Sea. The frequency of tropical cyclones shows decreasing trend in recent decades as compared to the earlier ones. The Tropical Cyclones normally move west- north-westwards or north-westwards.

Abstract ID: RSC-007

### **Climate Change Vulnerability Assessment & Adaptation**

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Climate change is alteration of natural phenomenon like precipitation, radiation, temperature, wind etc. within the natural system causing significant changes to various ecosystems and socioeconomic activities in the world for a long period of time. The climate of the region depends on the – presence of water or absence of water, reflection of Solar radiation, ability to transfer water to the atmosphere, the capacity to store heat topography, texture of the region. There are different air pollutants added to the atmosphere which influence temperature, visibility and precipitation as well as other climatic elements. The climate of the earth, particularly the mean global temperature has been changing at different time scale and these changes has directly related to the biosphere in terms of species level change or other changes. As per the IPCC report published, predicted alterations due to extreme climatic changes resulting from natural and anthropogenic activities and socioeconomic development have huge potential for disasters. A small change in climatic conditions may disturb agriculture, sea level, rainfall pattern and can cause shifting of seasons. Earth's average temperature has risen by 0.8°C over the past century, and is projected to rise more in next hundred years. Various oceans and glaciers of earth have experienced some major alterations – acidification of sea water, melting of ice caps and increasing sea level. Due to changes in precipitation pattern, severe heat waves, wind storm, excessive flood, severe drought are observed in many places. The change in climate is a slow and natural process but due to interference and mismanagement practices accelerate the rate of climate change which the world is facing as greenhouse effect, ozone layer depletion and acid rain. Assessment of vulnerability can be determined in terms of predicted impacts, risks and capacity of adaptation in a particular area due to abnormalities in climatic condition. As per the fifth assessment report of IPCC, climate change vulnerability covers a variety of concepts including sensitivity or susceptibility to cope and adapt. Adaptation related to Climate change refers to various types of adjustments in terms of ecological, economic and social parameters in response to present or predicted climatic extremities.

Abstract ID: RSC-008

### **Columnar Aerosol characteristics over a Highly Polluted Region in north India using Sun/Sky Radiometer Measurements**

Aerosols in the atmosphere come from various emission sources and have a wide range of sizes due to which they have different optical and radiative properties. Atmospheric aerosols are loaded from different natural as well as anthropogenic sources and stay suspended in the atmosphere due to negligible terminal fall velocity. Natural aerosols constitute almost ~80% of the total aerosol content in the atmosphere and play crucial role in the global climate change whereas the remaining 20% constitute aerosols from the anthropogenic sources, which creates the regional scale of climate feature. The result of the net effect of natural and anthropogenic aerosols is crucial for the climate change. Thus, it is important to improve aerosol characterization on regional basis, particularly over the region where high population is under the impact. The Indo- Gangetic Plain (IGP) is one of the densely populated and highly polluted regions in northern India. However, measurements of aerosol optical properties were carried out in an urban environment Delhi (28.7° N, 77.2° E), situated in the western IGP region using an automatic sun/sky radiometer during 2015 to understand columnar aerosol characteristics. The measurements and study about optical parameters like aerosol optical depth (AOD), single scattering albedo (SSA), asymmetry parameter (AS) and volume size distribution suggests the type of aerosols that are loaded over the region during the study period from January to December 2015.

Abstract ID: RSC-009

### **Source Apportionment of Absorbing Atmospheric Aerosol (Black Carbon) in Megacity in Delhi, India**

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Urban areas in the developing countries are major sources of carbonaceous aerosols pointing out the need for detailed assessment of the levels and source apportionment close to the source. A multi-instrument research campaign was performed in Delhi during December 2015 – February 2016 aiming at exploring the pollution levels and the source apportionment of black carbon (BC). Aethalometer measurements have been used to obtain the BC fractions related to traffic or fossil-fuel combustion ( $BC_{ff}$ ) and to wood burning ( $BC_{wb}$ ) using the “Aethalometer model” approach. Very high pollution ( $PM_{10}$ ,  $PM_{2.5}$ , CO, NO<sub>x</sub>, and O<sub>3</sub>) levels were recorded during the campaign, while the daily-mean BC mass concentrations ranged from 3.2  $\mu\text{g m}^{-3}$  to 59.9  $\mu\text{g m}^{-3}$  (mean of  $24.4 \pm 12.2 \mu\text{g m}^{-3}$ ). The daily-averaged Absorption Ångström Exponent (AAE), the  $BC_{ff}/BC$  and  $BC_{ff}/BC_{wb}$  ratios varied between 1.08 – 1.46, 0.52 – 0.91, and 1.1 – 9.9, respectively due to the changes in the BC emission rates, changes in the relative emissions from fossil fuel and wood burning sources, the mixing processes in the atmosphere and boundary-layer dynamics. The  $BC_{ff}$  and  $BC_{wb}$  concentrations are examined against pollutant gases (CO and NO<sub>x</sub>) characteristic for traffic-related and biomass-burning emissions, as well as against aerosol properties like AAE and spectral Single Scattering Albedo (SSA) confirming the dominance of  $BC_{ff}$ . A critical point in evaluating the  $BC_{ff}$  and  $BC_{wb}$  fractions via spectral Aethalometer measurements is the selection of the wavelength pair and the  $AAE_{ff}$  and  $AAE_{wb}$  values used in the algorithms. A sensitivity study by changing the wavelength pairs and AAE values used in the “Aethalometer model” is performed, revealing that the wavelength plays an important role in evaluating the BC source apportionment.

Abstract ID: RSC-010

### **Climate Change and Obligations: Analyzing the Emerging Concepts and our Duties**

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Climate change is a phenomenon which leads to gradual alteration in the usual weather of a place. It has been long witnessed since superfluity of time but has not been responded well. The purpose of this paper is to understand the concept of Climate Change and how it grew from nowhere as a non-important discourse to the most imperative in the present time. Information has been taken and noted from various books, websites, conventions, reports and the like. International obligations associated with it have been appreciated so as to associate environmental concept of Climate Change with International Commitments. The paper attempts to study how Climate Change went underway, the causes, hazards, cascading effects and legal protection for it, in the Indian context as well as Internationally. The paper further progresses to recognise the duties of people in preventing climate change. This work attempts to study and understand the most significant International Obligations on Climate change namely, UNFCCC, IPCC, Kyoto Protocol, Paris declaration and how these declarations have made this dialogue highly significant by binding the signatories to report mitigating factors of Climate change. Although, on the ground

level much revolution could not be reported due to various factors. Such factors, from high time have been the irresponsible and careless traits, possessed and exhibited by humans towards the nature or the Climate. For the theory being in force, such Protocols, agreements or other Conventions serve as idealistic approaches to ensure and assure a better earth by minimising the value of fluctuation in Climate Change. However, the true need which is the mutual cooperation of individuals still lags behind. Hence, the growing awareness in people regarding climate is gradually rising. The paper emphasises on this growing awareness, cooperation and importance of such mutual relationship between theoretical i.e. protocols and practical i.e. execution at individual level.

Abstract ID: RSC-011

**Affect of Change in Climate on Allergic Tendency in Residents of Delhi (NCR) region**

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The major changes to our world are those involving the atmosphere and the climate, including global warming induced by anthropogenic factors, with impact on the biosphere and human environment. Recent research has shown that climate change has many effects on allergens and allergic reactions and diseases in humans. Climate change results in raised temperatures and has a proportional effect on pollen production and allergen content of pollen grains. Raised temperature alters the timings and duration of pollen seasons resulting in varying climatic conditions in different and adjoining regions. This propagates a shift in micro-flora diversity introducing new species into new areas and these changes in atmospheric circulation blow pollen- and spore-containing dust to new areas, thus introducing people to allergens to which they have not been exposed previously. Thus, Climate change influences the concentrations of airborne pollutants, which alone, and in conjunction with allergens, can exacerbate asthma or other respiratory illnesses among the many allergic outcomes in human beings via an enhanced Ig E-mediated response to aeroallergens resulting in airway inflammation which could account for the increasing frequency of respiratory allergy and asthma in many subjects. Current knowledge provided by epidemiological and experimental studies on the relationship between allergic respiratory diseases, asthma and environmental factors, like meteorological variables, airborne allergens and air pollution demonstrate that urbanization; high levels of vehicle emissions and westernized lifestyle are correlated with an increased frequency of respiratory allergy, mainly in people who live in urban areas in comparison with people living in rural areas. This study needs to be undertaken to demonstrate the pathways through which climate can exert its influence on disease course and the role an individual play in exasperating or regulating the harmful effects of climate change by lifestyle modifications. In addition to the need for more research, it is imperative for public health professionals to take preventive and adaptive actions to address the onset and exacerbation of allergic diseases associated with climate variability.

Abstract ID: RSC-012

**Climate Change Impacts on Water Resources and Adaptation**

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This paper presents an overview of the impacts of climate change on water resources and adaptation options. The water resources are playing vital role in human life, production, and maintenance of the natural ecosystems. The changing climate due to rising concentration of greenhouse gases in the atmosphere can have significant impact on the water resources. The climate change is expected to raise global temperature and affect precipitation. This will influence water cycle and water availability affecting soil productivity and food production. Hence, climate change can have deep impact on the living environment essential for human life. The development should be need based in place of blind development. The adaptive measures to mitigate the climate change impacts are need of the hour.

Abstract ID: RSC-013

**Knowledge of Climate Change and its impact on Reproductive Health among young females: Northern India**

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Encompassing climate change such as increase in average global temperature (global warming); changes in pattern of rainfall and precipitation particularly over land has an impact not only on the various ecosystems found on our planet, but also on the individuals and communities. The majority of human health problems associated with climate change are not strictly related to changes in climate but the current problems exacerbated by changing weather patterns and climatic conditions. Climate change or seasonal variations may have impact on infections by affecting the pathogens, vectors, hosts and their living environment. Rising temperature will affect a pathogen's life cycle and range that enhances the rate of infections. As the planet's core temperature continues to rise, heat waves are becoming increasingly common around the world. Rainfall and humidity can also play a wide role in spreading infections. The overall health impact of a changing climate is likely to be overwhelmingly negative. Reproductive health is just as important as other aspects of the health. A woman's reproductive system can be affected by a variety of infections, such as urinary tract infections (UTI) and pelvic inflammatory disease (PID). Urinary Tract infection is the most common extra-intestinal infectious disease, more vulnerable for the women worldwide and perhaps one of the most formidable challenges in clinical practice. Developing UTIs, though, can seriously impair your reproductive health, damaging one's fertility. Urinary tract infections (UTI) are one of the most common bacterial infections and account for significant morbidity and mortality. Appropriate climate and weather conditions are required for survival and reproduction of human beings. Our study aims to analyze the effect of climate change on women's reproductive health by assessing Knowledge and perception of young female adults associated with the occurrence of UTIs affected by seasonality and climate parameters.

Abstract ID: RSC-014

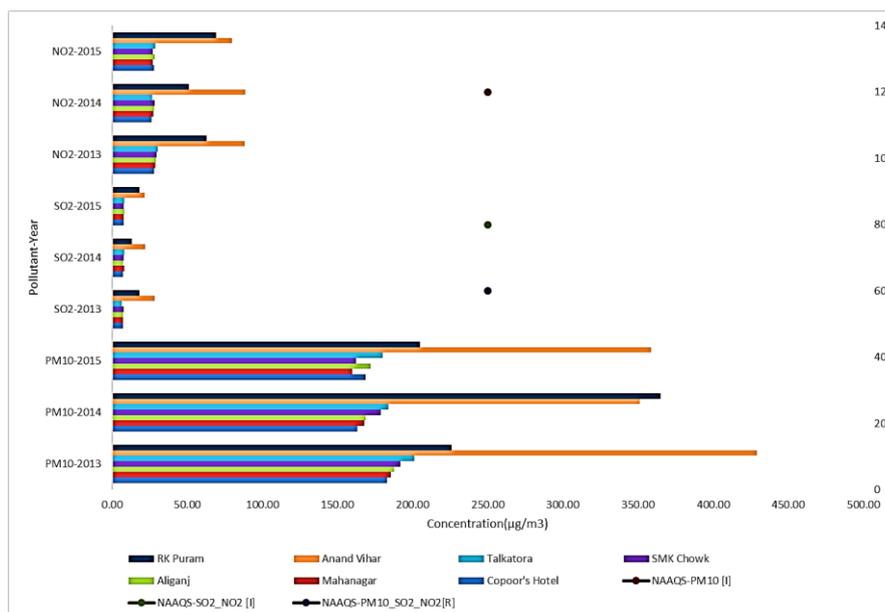
### An Assessment of Air Quality Status of two Northern Indian Cities

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In continuation of previous case study of Lucknow city (Upadhyay et al., 2016), authors carried forward this study in comparison with another North Indian city, Delhi. For this assessment data from five monitoring stations in Lucknow (Cooper's Hotel, Mahanagr, Aliganj, Talkatora, SMK Chowk) and two from Delhi (Anand Vihar and RK Puram) was considered. Commercial, residential and Industrial air quality monitoring sites were compared, studies and analyzed for PM<sub>10</sub>, NO<sub>2</sub> and SO<sub>2</sub> concentrations levels for the year 2013 to 2015. Annual averages plot of three pollutants (figure 1) shows that PM<sub>10</sub> concentrations are violated the NAAQS limit at all the study sites but comparatively higher at Talkatora, SMS chawk ranges from 159.92 µg/m<sup>3</sup> to 201.39 µg/m<sup>3</sup> in Lucknow and Anand vihar in Delhi ranges from 351.11 µg/m<sup>3</sup> to 429.15 µg/m<sup>3</sup> during 2013-2015. The concentration levels of NO<sub>2</sub> and SO<sub>2</sub> are within the permissible limit in Lucknow but comparatively higher at both sites of Delhi. However, NO<sub>2</sub> crossed the NAAQS level at Anandvihar, Delhi and maximum was recoded as 88,77 µg/m<sup>3</sup> in the year 2014. Apart from annual averages and diurnal averages, air quality data was statistically tested to understand the inter and intra city site variability. It is clearly indicated that the higher concentration levels of PM<sub>10</sub> posing threat to the ambient air quality of both the cities, however, Delhi is contributing more PM pollution than Lucknow.



**Figure 1:** Annual averages of PM<sub>10</sub>, SO<sub>2</sub> and NO<sub>2</sub> for Lucknow and Delhi during years 2013-2015.

**Reference:** Era Upadhyay, Mugdha Nayak and Jhumoor Biswas. Air Quality Status of Lucknow City, A Case Study. Special Issue -2017, "International Journal of Engineering Research & Technology", 5 (12): 69-74. 2017.

Abstract ID: RSC-015

### **Planning Strategies for Adaptation and Mitigation of Climate Change Impacts on Rainfall: Case Study of Rajasthan**

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Climate change has now become a major challenge for sustainability of humans. The affect of climate change has been observed across the globe. The major factor is the emission of Green House Gases which is the cause for climate change. Also, industrialized and developing countries like India contribute through emission of carbon dioxide gas in atmosphere resulting in climate change. This paper presents the scenario of impacts of climate change on rainfall globally and in India. Global warming is the concerned issue which is the cause of the climate change. Global warming over many decades has been linked to changes in the precipitation pattern, increase in water vapor content in atmosphere, snow cover reduction, melting of ice caps, changes in moisture content of soil and surface runoff. This paper shows the case study of Rajasthan which depicts the impacts of climate change on Rainfall in Rajasthan. Also, it is very important for the developing countries to reduce the vulnerability of their natural and socio-economic systems from projected climate change. A visible shift can be seen towards adaptation in global climate change discussions. There are different effects within and between countries due to the impact of climate change. This variability of increase and decrease in precipitation will lead to floods in some and droughts in other parts. Therefore, adaptation plays its role in absorbing the different effects of climate change and becoming less vulnerable, causing minimum destruction. Mitigation is also one of the factors to combat effects of climate change in different cities or countries accordingly. Therefore, planning strategies for adaptation and mitigation of climate change impacts on rainfall for Rajasthan state will be discussed in this paper.

Abstract ID: RSC-016

### **Climate Change and Water Issues**

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The Technical Paper addresses the issue of freshwater. Sea level rise is dealt with only insofar as it can lead to impacts on freshwater in coastal areas and beyond. Climate, freshwater, biophysical and socio-economic systems are interconnected in complex ways. Hence, a change in any one of these can induce a change in any other. Freshwater-related issues are critical in determining key regional and sectoral vulnerabilities. Therefore, the relationship between climate change and freshwater resources is of primary concern to human society and also has implications for all living species. Reflecting the focus of the literature, it deals mainly with climate change through the 21st century whilst recognising that, even if greenhouse gas concentrations were to be stabilised, warming and sea-level rise would continue for centuries.

Abstract ID: RSC-017

### **Climate change refers to the variation in Normal Weather Patterns caused due to Pollution**

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Nowadays, there are lot of industries developing time by time due to increasing of population as more people would require more products. There are lot of industries which pollute the environment. Some are Petroleum refinery, Fertilizer & Paper. There are lot of toxic and hazardous gases which are released from these industries which leads to air pollution. This air pollution is major threat to environment & is also a major source of climate change. These chemicals released from environment also leads to various disasters such as Acid Rain, Global Warming & many more. These are also major threat to environment.

Abstract ID: RSC-018

### **Effect of Climate Change on Livestock**

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Climate change is actually the most important environmental issue of any time and depends on the functioning of a natural greenhouse effect. Livestock and climate change have a close relationship. Climate effects from air temperature, humidity, wind speed and other climate factors influence animal performance (growth, milk, meat and wool production) and distribution of livestock diseases. The spatial distribution and availability of pasture and water are highly dependent on the pattern and availability of rainfall. Changes in the patterns of rainfall and ranges of temperature affect feed availability, grazing ranges, feed quality, weed, pest and disease incidence. Thus, changes in climatic factors such as temperature, precipitation and the frequency and severity of extreme events like droughts directly affected livestock yields. Climatic factors or seasonal changes greatly influence the behaviour of animals due to neuroendocrine response to climatic elements, consequently affecting production and health of animals. Reproductive functions of livestock are vulnerable to climate changes and both female and males are affected adversely. Heat stress also negatively affects reproductive function. The climate change scenario due to rise in temperature and higher intensity of radiant heat load will affect reproductive rhythm and increase the rate of development of pathogens or parasites. Climate change may also affect the abundance and distribution of the competitors, predators and parasites of vectors themselves, thus influencing patterns of disease.

Abstract ID: RSC-019

**Distribution of different Aerodynamic Size Particle in Winter Season over Ranichouri: A remote location in foothills of Himalaya**

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Current study was carried out in winter months December to March at Ranichauri (a remote location in foothills of Himalayan forest region of north India) to investigate the distribution of different aerodynamic size particle during winter season. Data was collected from Aerodynamic Particle Sizer (APS) installed at Ranichauri in 2016 December and made it operational. In this APS, the time of flight is measured to find the distribution of aerosols sized 0.5  $\mu\text{m}$  to 20  $\mu\text{m}$  by accelerating the particles between the two laser beams. APS data gives number concentration at various wavelengths (500nm to 20000nm). Spectrum analysis was carried out to determine the size distribution of aerosols during winter. Highest number concentration was observed during second week of February and followed by December, January months. Wavelengths 562nm, 649nm, 698nm, 750nm, 866nm and 1000nm were separately analysed for diurnal pattern study. Highest number concentration was observed during evening hours. Number concentrations are high in the wavelength less than 1000 nm, maximum at 562nm and decreases with the increase in wavelength in winter period. Weekday analysis shows maximum concentration on Friday and Thursday and minimum concentrations are in Sunday during the study period. Highest number concentrations are found in February month of winter season.

Abstract ID: RSC-020

**Source apportionment of equivalent Black Carbon during 2016 at Jodhpur: A desert site**

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The present work analyses the equivalent Black Carbon (eBC) data obtained using Aethalometer (AE-33) located at India Meteorological Department, Jodhpur, Rajasthan during the year 2016. The annual mean eBC concentration is 5765.77 ng.m<sup>-3</sup> and the monthly mean concentrations from January to December are 12121, 5738, 3693, 3557, 2491, 1657, 1415, 1963, 2975, 5910, 13127, 12710 ng.m<sup>-3</sup> respectively. The seasonal mean of wind speeds are 1.94, 2.02, 1.34, 1.02 m.s<sup>-1</sup> and the calm percentages are 7, 5.7, 28.7, 25.7 % of pre monsoon (MAM), monsoon (JJA), post monsoon (SON) and winter (DJF) respectively. The night time eBC concentrations are more than the day time concentrations due to the shallowness of the boundary layer and local anthropogenic activities. The Concentrated Weighted Trajectories (CWT) and Potential Source Contribution Function (PSCF) are calculated using 5-days, 1-hour interval back trajectories ending at 100m above ground level at Jodhpur station. The CWT, PSCF and directional source region analysis reveals the effect of long range transport in the winter season with a 60 % of probability of source regions from the W, NW direction of observational site. Source apportionment also carried out by assuming alpha (at 470, 950 nm wavelengths) close to 1 for anthropogenic emissions and

alpha close to 2 for biomass burning aerosols. The monthly mean biomass burning concentrations are 2330, 1136, 766, 601, 541, 288, 221, 284, 471, 831, 2582, 2481 ng.m<sup>-3</sup> from January to December respectively.

Abstract ID: RSC-021

### **Response of Himalayan Vegetation loss on Hydro-climate of the India: An RCM study**

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Numerous modelling initiatives using GCMs to study inverse snow-monsoon relationship (Dash et al., 2005, 2006, Lodh et al., 2015). But there is a dearth of studies accounting for Himalayan vegetation loss (as trees are essential to fight climate change) on Indian monsoon. Research studies in understanding vegetation loss and land degradation over Himalayas, is complicated due to data scarcity. For simulation of small-scale physical processes within the few centimetres of the boundary layer that drive the land-surface variables and for forecasting of the surface variables, regional climate modelling is scientific and analysis (numerical) tool for re-examining and providing some further insights into the impact of depletion of vegetation and Himalayan glaciers on Indian monsoon precipitation and circulation patterns. The calibrated BATS coupled three dimensional RCM, RegCM4.4 (version 4.4.5.10) of ICTP is used here to conduct the design experiments. The experiments are run continuously around the year from 00UTC of 1st October 1999 to 00UTC of 1st January 2011 using NCEP/NCAR-2 reanalysis data as boundary forcing and Reynolds weekly sea surface temperature. The baseline land use map file from the "Control" experiment is modified to represent the "Himalayan vegetation loss and land degradation" design experiment. The design experiment represents "Tundra class" of vegetation in the model land use map representing freezing temperatures and treeless landscapes over the Himalayan region, a proxy for landscape degradation over the Himalayas.

Abstract ID: RSC-022

### **Assessment of Climate Change impact of Crop Production of Banas basin using Aqua-Crop model**

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Food security plays an important role to influence the economic growth under the climate change. Some of the prominent climate change impacts are, growing deserts and increase in the magnitude of floods and droughts. Rajasthan has 10 agro climatic zones and thus has shown variability of climatic condition, Banas basin areas come under semi-arid region and cover the 13 districts of Rajasthan. There is no inter-link between Lakes, rivers and wetlands with groundwater in the Rajasthan landscape. AquaCrop is a crop water productivity model that simulates crop yield response to water in various geographical locations. In this study, AquaCrop model is used for the study of the effect of climate change on crop production; the major crops are selected (Wheat and Barley) in the Banas river basin. Both RCP4.5 and RCP8.5 scenarios are used to predict the biomass and crop yield productions over the basin. The result shows the increasing trend in the production and biomass of both RCPs scenarios. This paper shows economically feasible options to ensure food availability under climate change and recommend the formation of effective adaptation and mitigation policies and strategies to minimizing the impact of climate change on water resources and irrigation.

Abstract ID: RSC-023

### **Climate Change Vulnerability Assessment & Adaptation**

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India is faced with the challenge for sustaining rapid economic growth while addressing the threat posed by climate change. Climate change is net result of several factors and many sectors of the economy are climate sensitive. Climatic agents play a prominent role in the deterioration of building fabric, and a change in climate is expected to have a significant effect on

deterioration rate. An increase in extreme climatic events would cause rapid damage requiring replacement of whole building elements, which is more visible and frequently costlier. Climate change poses a risk to the human rights of millions of people—such as their rights to life, health, food and water. The risks are highest in developing countries, where extreme weather events, crop failures and other emergencies related to climate change are projected to occur with greater frequency. Most developing countries also lack the necessary technological and financial resources to adapt to climate change. Indeed they are already facing increased difficulties in realizing the economic, social and cultural rights of their people due to the financial, economic and food crises and growing populations.

Abstract ID: RSC-024

### **Water Management in India – Missing Links and Stepping Stones**

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The wars of the 21<sup>st</sup> century will be wars over water', these few words by the former United Nations Secretary General Boutros Ghali project the inconvenient truth regarding 'water'. Water touches every aspect of life and is one of the founding elements for any type of growth and development. As the World in general and India in particular undergo dramatic shifts caused by growing population and the subsequent urbanization which has significantly altered the 'water cycle' and especially the 'small water cycle', the assess and availability of water may be reaching a crisis level. A growing number of researches are discovering that poor water management practices are likely the major cause of a great deal of undesired climatic changes for which the green houses gases are solely blamed. Should no action be taken, there would be dire consequences which set the stage for 'water management' as a single ripe area for holistic engagement involving the masses and especially the students, academicians, scientists, businessman, policy makers, media and judiciary. The present paper attempts to peep in the present paradigm of the water management to discover the loopholes viz.-a-viz. the 'missing links' and put forward the 'stepping stones and recommendations for new water management philosophy' so that instead of acting as a catalyst for war, water could facilitate deep, holistic and sustainable human participation in earth systems.

Abstract ID: RSC-025

### **Climate Change Vulnerability Assessment of Indian Agriculture**

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Climate change is perhaps the most serious environmental threat to fight against hunger, malnutrition, disease and poverty in India. The Indian agriculture, despite making significant progress, is facing the challenges of stagnating agricultural productivity, reducing per capita land availability, deteriorating soil health and over exploitation of natural resources. Additionally, climate variability and changes are the emerging challenges being faced by this sector for ensuring national food security in both short and long terms in making agriculture sustainable and climate-resilient, appropriate adaptation and mitigation strategies have to be developed. India is an agriculture dependent country and more than two-third of its population depends on agriculture for their survival. Agriculture, the principal engine of economic growth in India, contributes to approximately 14% to India's GDP. India is a large country with a diverse climate. Diverse seasons mean diverse crops and farming systems. In India, significant negative impacts have been implied with medium-term (2010-2039) climate change, predicted to reduce yields by 4.5 to 9 percent, depending on the magnitude and distribution of warming. Since agriculture makes up roughly 16 percent of India's GDP, a 4.5 to 9% negative impact on production implies a cost of climate change to be roughly up to 1.5 percent of GDP per year. (Venkateswarlu et al. 2013). It is evident from the science of climate change and the experiences of nations and communities that adaptation actions, together with mitigation responses, are required in order to address the wide-ranging impacts of projected climate change. The assessment of climate impacts and vulnerability is one of the key component in the adaptation process. Assessing vulnerability of agriculture to climate change is therefore a pre-requisite for developing and disseminating climate-smart technologies.

Abstract ID: RSC-026

### **Role of Meteorology and Satellite Retrievals in estimating the ground particulates matter during the Pre-Monsoon period over Jaipur (India)**

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Jaipur is on the western side of Aravalli mountains and on the eastern side it is surrounded by great Thar desert. This study uses MODIS level 2.0 collection version 5.1 and AERONET Level 2.0 aerosol optical depth (AOD) and meteorological data to estimate ground-level particulate matter (PM). The observed hourly averaged PM (Both PM<sub>10</sub> and PM<sub>2.5</sub>) is taken from GRIM Aerosol Spectrometer. Statistical results show that PM<sub>10</sub> is the major pollutant in Jaipur City during the pre-monsoon season; the average concentrations of PM<sub>2.5</sub> and PM<sub>10</sub> are 35µg/m<sup>3</sup> and 110µg/m<sup>3</sup>, respectively. Over the study period (i.e. April 2012-July 2012), the average PM<sub>10</sub> and PM<sub>2.5</sub> comes in the moderately polluted category and satisfactory respectively as per the average limit of the National Ambient Air Quality Standards (NAAQS). This study is focused on PM<sub>2.5</sub> estimation using regression techniques like simple linear, multi-linear and log-linear techniques. Firstly, the independent relationship is found out between PM<sub>2.5</sub> and AERONET AOD (AERONETAOD), Temperature (T), Relative Humidity (RH) and wind speed (WS). RH and AERONETAOD were having positively correlation coefficients whereas T and WS were having negatively correlation coefficients when compared with PM<sub>2.5</sub>. Then, multilinear regression and log-linear regression techniques are used between PM and a group of variables (i.e. AOD, T, RH, WS). Log-linear regression model performed better than other models. The best model (i.e. Log-linear) is again used to estimate the PM using the Satellite AOD (MODISAOD). The estimated (AERONETAOD and MODISAOD) and observed PM comes under the satisfactory category as per the NAAQS.

Abstract ID: RSC-027

### **Coastal Vulnerability Assessment associated with Tropical Cyclones for the Indian Coast**

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Tropical cyclones are one amongst the various geo-hazards that develop over the tropical oceans causing enormous loss of life, trail of destruction and massive damages to coastal and inland infrastructure during the time of landfall and post-landfall event. In a global perspective, the Northern hemisphere accounts nearly 70% of the total number of tropical cyclones, with the Western North Pacific Ocean experiencing the highest number (31%), followed by the Eastern North Pacific Ocean (19%), the North Atlantic Ocean (16%), and the North Indian Ocean basin (4%). Tropical cyclones that form over the Bay of Bengal (average of 5 to 6 per year) region are much higher as compared to the Arabian Sea both located in the North Indian Ocean. The coastal areas in the East coast of India bordering the Bay of Bengal is densely populated and exposed to high risk and vulnerability associated with tropical cyclone induced storm surge, coastal flooding, wind gust, and intense rainfall. Based on the statistics of historical cyclone tracks it is evident that the State of Odisha experiences the highest number of tropical cyclone strikes as compared to West Bengal, Andhra Pradesh, and Tamil Nadu. Interestingly, a recent study clearly indicates that the destructive potential of tropical cyclones also expressed as Power Dissipation Index have increased about six times in the present decade as compared to the past for cyclones that form over the Bay of Bengal region. Studies also indicate that high intense cyclones are expected in a changing climate. It is a matter of serious concern, as the associated risk factor and vulnerability levels for low-lying coastal areas bordering the East coast of India will experience higher potential impact and damages from tropical cyclone strike. Recently a comprehensive dataset on various expected scenarios of storm surge and coastal inundation resulting from tropical cyclones was developed for 480 km long stretch of Odisha coast, and the pre-computed scenarios are considered quite vital for coastal zone management activity. The comprehensive dataset also contains pre-computed scenarios generated with high intense tropical cyclones expected in a climate change for the coastal belt of Odisha State. Thereafter, a comprehensive study was attempted to investigate the physical, social, economic, and environmental impacts on the overall assessment of coastal vulnerability index.

Abstract ID: RSC-028

### **C<sub>3</sub>-C<sub>4</sub> intermediate plants: Interlink between climatic adaptations from C<sub>3</sub> to C<sub>4</sub> plants**

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The C<sub>3</sub> and C<sub>4</sub> systems of CO<sub>2</sub> Assimilation are well known pathways of Photosynthesis. In these two ends, there are some other subways of photosynthesis occur in several plant species, which show may be as evolutionary links toward C<sub>3</sub> or C<sub>4</sub> system or developed as distinct adaptations or these may be considered as living fossils or evolutionary dead ends. These intermediate pathways of photosynthesis such as CAM, CAM like, C<sub>4</sub> like, C<sub>3</sub>-like, Proto- Kranz or C<sub>3</sub>-C<sub>4</sub> intermediate types help in corresponding plants to survive best in their respective environments. C<sub>3</sub> plants are well adapted for temperate climate where as C<sub>4</sub> plants are best fitted in hot tropical regions. In this review, focus is given on biochemical and molecular analysis of C<sub>3</sub>-C<sub>4</sub> intermediate plants which were diversified in climatic zones during evolution. In 21 lineages, more than 40 eudicots

and monocots species have been reported as C<sub>3</sub>-C<sub>4</sub> intermediate plants. These plants show bundle sheath cells with more centripetal chloroplast, mitochondria and peroxisomes arranged in partial or well developed Kranz system around vascular bundles. Along with intermediate CO<sub>2</sub> Compensation point ; an exclusive localization of glycine decarboxylase(GDC) multi-enzyme system in bundle sheath cells; lower sensitivity to O<sub>2</sub> And higher incorporation of C into glycine and serine, these plant show C<sub>3</sub> like RUBISCO kinetics and low activities of C<sub>4</sub> enzymes such as PEPC, PPDK (pyruvate phosphate kinase), NADP-ME (NADP malic enzyme), NAD-ME and phosphoenolpyruvate carboxykinase (PEPCK). Gene duplication followed by neofunctionalization and neofunctionalization in genome play a very important role in evolution from C<sub>3</sub> to C<sub>3</sub>-C<sub>4</sub> to C<sub>4</sub> plants. Glycine shuttle (C<sub>2</sub>- photosynthesis) play active role to concentrate CO<sub>2</sub> Around Rubisco in C<sub>3</sub>-C<sub>4</sub> intermediate plants. Gene ppca related to PEPC have spatial and an intermediate expression in C<sub>3</sub>-C<sub>4</sub> intermediate plants.

Abstract ID: RSC-029

### **Resilient Climate Adaptive Building Shells for Sustainability in Built Environment**

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Successful building design is becoming an increasingly complex task, due to a growing demand to satisfy more ambitious environmental requirements especially in a state such as Rajasthan, which is the most climate sensitive and least adaptive state of India. The application of climate adaptive building shells (CABS) has recently been put forward as a promising alternative within this strive for higher levels of sustainability in the built environment. Compared to conventional facades, CABS offer potential opportunities for energy savings as well as improvement of indoor environmental quality. By combining the complementary beneficial aspects of both active and passive building technologies into the building envelope, CABS can draw upon the concepts of adaptability, multi-ability and evolvability. The aim of this paper is to present a comprehensive insight on usage of CABS for the buildings of Rajasthan and lower down the vulnerability at the hands of climate variation due to adverse changes in temperature. It would address climate change adaptation options in the form of CABS which can be implemented on specified building types. Based on structured literature review and case studies of existing national and international buildings functioning with CABS, their use in building a sustainable environment can be analyzed. Despite the promising perspectives, it is not easy to become dependable on CABS for fighting the climatic crisis in Rajasthan. Future research needs and further challenges to be resolved and therefore identified as well.

Abstract ID: RSC-030

### **Green Office Spaces in Jaipur in Context of Climate Change Vulnerability**

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This paper focuses on Rajasthan's office market in embracing green building techniques for contributing least in climate change and also focuses on adaptation of changing climate in offices by adopting green building techniques. It provides all the necessary guidelines to the offices located in Rajasthan to revamp them into green offices. The paper focuses on how the working conditions can be improved in offices located in hot and dry regions without contributing in the change of climate, with the help of green building techniques. Design/methodology/approach - The paper begins by comparing the attitude of normal office buildings towards climate change and the attitude of a green office building towards climate change. Then it will focus on all the existing methodologies which can be adopted for converting an office into green office, including construction techniques and green materials. And the analysis will also cover the importance of green office spaces in creating a space least contributing to climate change. Practical implications - The paper provides measures to help build green offices which would contribute least or not at all towards climate change. Originality/value - This is the first paper to consider the development and scale of green offices in the context of climate change vulnerability.

Abstract ID: RSC-031

### **Aerosols and Clouds in Climate Modelling**

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An interactive chemistry general circulation model (chemgcm) has been developed where aerosol dynamics and chemistry modules are the key components. In chemgcm, chemical species are advected at each dynamical time step and evolve through chemical and physical processes that have been parameterized consistently with the meteorology. Various processes that have been included in this model are anthropogenic and biogenic emissions, over 50 gas/aqueous phase chemical reactions, advection, vertical diffusion and convection, dry deposition and wet scavenging. A size-resolved representation of aerosols undergoing coagulation, nucleation and dry and wet scavenging have been introduced for realistic simulations aerosol mass and number concentration. There are 16 prognostic tracers, viz., water vapor, liquid water, dimethyl sulfide (DMS), hydrogen sulfide (H<sub>2</sub>S), dimethyl sulphoxide (DMSO), methanesulphonic acid (MSA), sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), nitric acid (HNO<sub>3</sub>), ozone (O<sub>3</sub>), hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>), sulfate mass and number for Aitken and accumulation modes. Such a chemgcm allows two-way interactions between, clouds, tropospheric chemistry and aerosols. The sulfate aerosol formation happens due to an interactive play of model dynamics, cloud physics and chemistry. Some of the key results from simulations using this coupled climate-chemistry interactive model will be presented for winter and summer seasons. An important result is that aqueous phase reactions in cloud accounted for 71% of sulfate production rate, while only 45% of the sulfate burden in the troposphere is derived from incloud oxidation. Next, we present simulations of sulphate aerosols mass and number concentration with chemgcm during the Indian Ocean Experiment (INDOEX) Intensive Field Phase-1999 (INDOEX-IFP). From the size distribution retrieved along the cruise route during IFP-1999, we may infer that chemgcm successfully simulated the order of magnitude of aerosol number concentration. The results show southward migration of minimum concentrations that follows ITCZ (Inter Tropical Convergence Zone) migration. During INDOEX-IFP, surface concentration of sulphate at Kaashidhoo (73.46 E, 4.96 N) is in agreement within a factor of 2 to 3. The measured aerosol optical depth (AOD) from all aerosol species at KCO was 0.37±0.11 and model simulated sulphate AOD was found to lie within 0.05 to 0.11. Since sulphate accounts for 29% of the observed AOD, the predicted sulphate aods are fairly close to those measured. An important result derived from simulations is that Indian contribution to the estimated sulphate burden over India is more than 60% with values up to 40% over the Arabian Sea. The tropospheric sulfate radiative forcing (both direct and indirect) has been also been calculated in the chemgcm, and our results indicate that the change in the sulfate aerosols number concentration is negatively correlated to the indirect radiative forcing. Further, simulated annual mean direct radiative forcing ranges from -0.1 to -1.2 W/m<sup>2</sup> that indirect forcing ranges from -0.4 to -1.6 W/m<sup>2</sup>. The global annual mean direct effect is estimated as -0.48 W/m<sup>2</sup> and indirect as -0.68 W/m<sup>2</sup>. Finally, we present results on the direct radiative forcing (DRF) at top of the atmosphere for black carbon aerosols from two inventories. The estimates of DRF for GEIA and BOND inventories are respectively +0.33 W/m<sup>2</sup> and +0.14 W/m<sup>2</sup>. The disparity in the estimates appears to arise from the key differences in the two inventories.

Abstract ID: RSC-032

### **Impact of Climate Change and Role of Climate Services in Managing Climate Risks**

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Favourable meteorological conditions have led to the evolution and sustenance of living organism over the planet earth. History is full of examples where unfavourable climatic conditions have caused decay of many civilizations. Drying of river Saraswati due to climatic change led to decline of Indus valley civilization around 1800 BCE. In medieval warmer period (A.D 800 to 1300), extended dry cycles led to decline of Chaco Canyon, Angkor Vat and Mayan civilization. During 18th and 19th century, famines in India caused lakhs of deaths due to starvation and mal nutrition. In recent past recurring droughts in Sahel region of Africa have led to a large number of deaths and migrations. Any physical or chemical changes in atmosphere has direct or indirect impact on weather and climate system. While climate variability is a normal feature of earth's climate system, anthropogenic changes in the atmosphere and land use changes in recent decades have led to increase in climate extremes and variability. Impact of climate variability and climate extremes is already visible in the form of erratic monsoon, increase in heat waves, frequent droughts and floods and severe storms. Increasing frequency and severity of Heat Waves and Heavy Rainfall in recent decades is becoming cause of concern. The impact of climate variability and change on agriculture, water, health and other climate sensitive sectors is going to pose great challenge to society in the coming years. The Fifth Assessment Report (AR5) of Intergovernmental Panel on Climate Change (IPCC) is unequivocal about warming of the atmosphere and ocean system. There is general unanimity about human influence in climate change by increase in Green House Gases (GHG). Research suggests that climate change is going to increase severity of weather events in terms of heavy rainfall, extreme temperatures, intense storms, and sea level rise. It will impact the availability of fresh water, food security, as well as health, social and economic infrastructure posing serious risks only to people's safety, health, and livelihoods. Adapting to climate risk due to climate variability, extremes and change is a major challenge. Recent advances in science and technology has led to significant improvements in quality of climate information and prediction services. Climate information includes historic time-series records, near-real-time monitoring, predictive information from daily weather to seasonal to inter-annual time scales, and climate change scenarios. It covers a range of spatial scales; and can include derived variables related to impacts such as epidemic disease hazard. Weather and Climate Agencies are in position to provide climate change projections, annual and seasonal forecasts and short-range warnings, which could be used by health sector for the management of climate-related

risks to health. For this climate service providers need to work alongside user sectors such as Agriculture, Water, Health, Energy, Disaster Management etc.

Abstract ID: RSC-033

**Study of long term trends in precipitation pattern over the state of Uttarakhand**

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The long-term trends of annual precipitation pattern in the state of Uttarakhand have been presented. The daily rainfall data for 41 stations during 1961 to 2013 have been analysed for the purpose. The t-test was used to get the statistical significance at 95% level for the study of rainfall data of 53 years. The temporal as well as spatial analysis of annual total rainfall and number of rainy days (days having rainfall 2.5 mm or more) indicates that there is overall tendency of drying over the study area. About 56 % stations show decrease in rainfall while the 70% stations indicate the decrease in number of rainy days over the period. Increasing trend for 27% stations in rainfall and 12% stations for number of rainy days has been observed. The study suggests that in Uttarakhand, there is significant change in precipitation pattern leading to climate change which has significant effect on the vegetation of the state.

Abstract ID: RSC-034

**Aerosol types and their variability: Impact on climate over Indian region**

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Aerosols, the tiny atmospheric switches (Bhawar and Devara, 2010) in the atmosphere induced by both natural processes and anthropogenic activities, affect the Earth's climate altering its energy balance, cloud density (Ramanathan et al., 2001; Feingold et al., 2005) and the radiative balance of the atmosphere. The biggest uncertainty in climate change arises mainly because of our poor understanding on aerosols, their temporal, spatial distributions and associated properties (Pilinis et al., 1995). It is also well known that the sources of aerosol over Indian landmasses are highly variable and have distinct features (Verma et al., 2015). During the pre-monsoon season the northern part of India is dominated by dust loading. However, the western and eastern regions are quite different in aerosol optical/radiative properties (Gautam et al., 2011). Vertical profile data are now available through the CALIPSO (Winker et al., 2007), launched in April 2006. Hence, we use level 2 version 3.01 CALIPSO aerosol profile (APro) data for our study over Indian region. The data period considered is from June 2006- May 2016. The AOF calculated from CALIPSO are during the presence of aerosols and/or thin clouds as observed by lidar. This study provides for the first time a detailed analysis about vertical variations of different aerosol types over Indian monsoon region during the pre-monsoon, monsoon, post-monsoon and winter seasons and its impact on climate.

Abstract ID: RSC-035

**Monsoon Precipitation Forecast using a suite of Mesoscale Models**

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This study addresses multimodal superensemble (MSE) technique for Indian monsoon rainfall forecasts using a suite of mesoscale models. This technique has been demonstrated as a powerful post-processing tool for weather forecasts of several parameters (such as winds, temperature, pressure, clouds and precipitation) using suites of global models and thus to reduce systematic errors in comparison to those from individual member model forecasts. The MSE methodology essentially employs a large number of past forecasts that collectively provides statistical coefficients within the framework of a multiple linear regression based on the differences between forecast and observed meteorological parameters. In the present study, this technique is applied to a suite of mesoscale models for precipitation forecasts only since single model based forecasts were found to be somewhat less reliable. We utilize a suite of six high resolution mesoscale models obtained from WRF-ARW with different various possible combinations of microphysics and cumulus parameterizations and adopting a special rainfall data product called the "Asian Precipitation Highly-Resolved Observational Data Integration Towards Evaluation" (APHRODITE) for the training and validation phases of the MSE. One of the goals of above study was also to figure out the best combination

of physical parameterization for the Indian monsoon region. The mesoscale suite of models provides a MSE that improves upon the forecasts from its ensemble members.

Abstract ID: RSC-036

**Sustainable Development and Environment: Global Warming, Climate Change and Legal Responses**

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The economy and society is depended upon the natural resources and ecosystem services given in the environment. Therefore, Sustainable Development is a concept, which leads to sustainment of the ability of natural system while meeting human development goals. The present-day environment faces some major issues, exempli gratia, pollution, global warming, overpopulation, natural resource depletion, waste disposal, climate change, ocean acidification, etc. For the omission of above stated problems related to the environment with a preview of sustainable development, The Environment (Protection) Act, 1986 was created and is one of the major act for environment protection. Also, Water Act, 1974; Air Act, 1981; Wildlife Act, 1972 were introduced within five years of Stockholm Declaration. However, the amendments were made in the Constitution regarding the protection of the environment, such as, Article 49-A imposed a responsibility on every citizen in the form of fundamental duty, Article 51-A Clause (g) which states the duty of Indian citizen to protect and improve the natural environment, Article 14 which states the effects of petroleum industry to the environment. There are also several legal cases to support the current topic, such as, M.C. Mehta v. Union of India<sup>3</sup> (Oleum Gas Leak Case) who was single-handedly responsible for making the environmental degradation a part of public discourse, says it is vital that PILs have no ulterior motive. Also, the Khoday Distilleries Ltd v. State of Karnataka<sup>4</sup>, 19 October, 1994 based on Article 19. Over the theme, the following paper also studies about Global Warming, Climate Change and their legal responses which are shaping the 21st Century into a trauma.

Abstract ID: RSC-037

**An Impact of GPS RO Soundings for the prediction of severe weather systems**

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Global Position System (GPS) radio occultation (RO) soundings are assimilated to explore the impacts of GPS RO data on prediction of severe weather systems such as super cyclone Gonu (2007) over the northern Indian Ocean and Mei-yu frontal (2012) rainfall over Taiwan. A series of experiments were conducted using the advanced Weather Research and Forecasting (WRF) model with three dimensional variational method (3DVAR) to assimilate GPS RO data from FORMOSAT-3/COSMIC to verify the relative impact of GPS RO soundings. Significant differences in cyclone track and intensity prediction are exhibited in various assimilations. The assimilations of the RO data are found beneficial to the forecast of severe rainfall associated with Mei-yu frontal system in Taiwan.

**Theme # 02: Sustainability for genetically engineering organisms**

Abstract ID: RSC-038

**Biotechnological approach for the cloning of *Cissus quadrangularis*- a valuable medicinal plant**

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*Cissus quadrangularis* Linn. (Family Vitaceae) is an ancient valuable medicinal plant documented in Ayurveda and Siddha system of medicine for the treatment of a variety of diseases and disorders. It grows natively in hotter and dried parts of India and commonly known as the “bone setter” or “Hadjod” because of its ability to promote healing of the fractured bones. The importance of this medicinal plants brings in various challenges and opportunities associated with its large-scale production under disease free conditions. Propagation of *Cissus* is not possible through seeds as the flowers are sterile and it is propagated only through stem cuttings but it is a slow, cumbersome and highly labor-intensive procedure and is inefficient because of less number of propagules obtained and that too mainly in rainy season. In the forests also this plant is not present in bulk and over exploitation of this plant from wild has rendered the species highly vulnerable to extinction. An efficient and reproducible protocol was established for in vitro clonal propagation of *Cissus* through multiple shoot proliferation from nodal and shoot apex segments. Multiple shoot proliferation was observed on MS medium supplemented with Zeatin (ZN) (2.28 $\mu$ M-9.12 $\mu$ M) either alone or in combination with Benzyl Amino Purine (BAP) (4.4 $\mu$ M-8.8 $\mu$ M). Best results were, however, obtained on MS medium supplemented with Zn (4.56 $\mu$ M), where 10-12 shoots were obtained after 8 weeks of culturing. BAP (8.8 $\mu$ M-26.4 $\mu$ M) in combination with Kinetin (4.65 $\mu$ M) or Adenine sulphate (1.35 $\mu$ M-21.9 $\mu$ M) also exhibited the formation of multiple shoots from shoot apices. Regenerated shoots were rooted on full strength basal MS medium where long, well developed roots were formed in 100% of cultures after 3 weeks. The plantlets were acclimatized and successfully established in the field conditions.

Abstract ID: RSC-039

**Preliminary screening of ISSR primers for genetic diversity study of *tecomella undulate***

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*Tecomella undulata* (Sm.) Seem (Bignoniaceae) is an important timber yielding tree species of arid region. It is one of the co-dominant medium sized tree species in the desert forest of Rajasthan and ranked high position for its timber quality. The extent of plant genetic diversity represented in germplasm resources is useful not only in designing appropriate breeding strategies, but also in effective management of forest genetic resources. Thus, understanding of the effectiveness in differentiating DNA-based markers is an important step towards plant germplasm characterization and evaluation. Therefore, preliminary study was carried out for DNA extraction and screening of the 50 ISSR primers in order to assess the extent of genetic variability existing among the twelve natural populations of *Tecomella undulata* in Rajasthan. Modified 2% CTAB method was found suitable for the extraction of genomic DNA which was amenable for the preliminary screening of the ISSR markers. Out of the 50 primers tested, 26 primers show amplification at an annealing temperature of 50°C for 45 seconds. All of the 26 primers tested produced 100 percent polymorphic bands. Total numbers of bands produced were 2491. The highest number of polymorphic bands (149) was obtained with ISSR-11 while the lowest number (16) was obtained with primer ISSR-10. Different primers showed variation in their ability to detect polymorphism. Preliminary screened in primers will further be used for genetic diversity study of *Tecomella undulata*.

Abstract ID: RSC-040

**In vitro regeneration and establishment of suspension culture of *Tylophora indica***

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*Tylophora indica* (Burm. F.) Merrill (family: Asclepiadaceae) commonly known as ‘Antmool’ is indigenous to India and found in the sub-Himalayan tract extending from Uttar Pradesh to Meghalaya. Its shoot and leaves part contains important alkaloids i.e. tylophorine, tylophorinidine and tylophorinidine. Traditionally plant is used in asthma, bronchitis, whooping cough, dysentery, diarrhea, ulcer etc. Due to poor seed viability and germination, propagation of plant is not easy. Multiplication of this plant by stem cutting is also difficult as they fail to produce proper roots. As the plant is becoming endangered day by day, therefore, the present work deals with in vitro propagation of *Tylophora indica* taking shoot and leaf as explants. Using different concentrations and combinations of BAP and 2,4-D, the growth patterns of cell suspension cultures were examined. Vigorous

and friable callus was used for cell suspension culture. A growth rate of callus, its doubling time and growth index of suspension culture were also recorded. The main purpose of this work was optimization of conditions for callus and cell suspension culture of *Tylophora indica* for tylophorine production.

Abstract ID: RSC-041

### **Screening of plant growth promoting rhizobacteria**

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Plant Growth Promoting Rhizobacteria (PGPR) are naturally occurring diverse group of bacteria that can be used as Biofertilizers and biopesticides. They may serve as partial replacements for chemical fertilizer and pesticides as an ecofriendly and cost effective alternatives. These PGPR promote plant growth by direct and indirect mode of action. PGPR directly enhance growth of plants by producing Phytohormone, phosphates solubilization and increased iron nutrition by siderophores that is iron chelating compound. In indirect mode of action rhizobacteria promote plant growth through reduction of deleterious plant pathogenic fungi, bacteria and nematodes by antibiotic production, competition for nutrients and production of metabolites such as hydrogen cyanide and siderophores. Total 85 Soil samples were collected from agricultural and non-agricultural field of different regions of Uttar Pradesh, Himachal Pradesh and Madhya Pradesh for isolation of PGPRs. We have randomly selected 425 isolates and screened in vitro to find out efficient PGPR strains through qualitative analysis with multiple Plant Growth Promoting (PGP) traits. Total of 47 isolates were found positive for more than one PGP trait. PGPR strains with higher potential will be selected for the development of inoculants for future tests under field conditions.

Abstract ID: RSC-042

### **Nucellar embryony a boon for citrus rootstock**

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Generally angiosperms contain a single embryo per seed. However, Citrus may have multiple embryos in a seed, this characteristic of seed described as polyembryonic. Polyembryonic seed development in Citrus is one of the apomictic processes (Koltunow, 1993). Polyembryonic seed possess several non-zygotic nucellar embryos originated from maternal nucellus that surrounds the embryo sac. In nucellus tissue, somatic cells are initialized to enter into an embryonic pathway of development termed as nucellar initial cells that arise in whole nucellus tissue but most of them migrated toward micropylar end therefore in many polyembryonic Citrus cultivar nucellar embryos are found at their micropylar end. Development of nucellar embryo begins before fertilization (one week before anthesis) and growth is arrested at late globular stage without the development of endosperm (Koltunow et al., 1995) but their development does not affect sexual reproduction (Esan and Soost, 1977; Wilms et al., 1983). As a result seeds of polyembryonic genotype may contain both zygotic embryos (from fertilization); and nucellar embryos (genetically identical to maternal parent). Nucellar embryos in Citrus give rise to many nucellar seedlings which are identical to the genotype of mother parent and the trait of nucellar embryony is heritable. For Citrus, nucellar embryony is a boon for citrus rootstocks as it is able to give rise highly heterozygous but genetically identical seedlings which reduces the chance of variation in rootstock and scion performance on the other hand variations can occur if rootstocks seedlings are formed as a result of normal sexual reproduction. Nucellar embryony give rise F1 hybrid citrus rootstocks that are highly heterozygous but genetically uniform and identical to the mother tree.

Abstract ID: RSC-043

### **Non isothermal kinetic parameters and antimicrobial study of high thermal resistive synthesized o-, m-, p- chloro substituted (phenyl) maleimides homopolymers**

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Homopolymerization of monomer at ortho N-OCPMI, meta N-MCPMI, and para N-PCPMI were performed at 70°C in DMF using benzoyl peroxide as a free radical initiator. The average molecular weight of all homopolymers viz. H-OCPMI H-MCPMI and H-PCPMI by gel permeation chromatography was found to be 1806, 2464 and 4542 with PDI 1.07, 1.09 and 1.11. The controlled poly dispersity index (PDI) by conventional free radical polymerization is achieved. The thermal analyses reveal

that the initial decomposition temperatures for all types of homopolymers are close to each other. On increasing heating rates, the Activation energy ( $\Delta E^*$ ), Entropy of activation ( $\Delta S^*$ ), Enthalpy of activation ( $\Delta H^*$ ) and Gibbs free energy ( $\Delta G$ ) increases for all types of homopolymers. The homopolymer of para chloro-substituted of N-phenyl-maleimide, H-PCPMI has the highest thermal stability. All the synthesized monomers and homopolymers are found to show excellent antimicrobial activity. Activity Index is also evaluated.

Abstract ID: RSC-044

**Green synthesis of Ag NP's using by zingiber officinale plant extract and optical properties**

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Green synthesis of silver nanoparticles using Zingiber officinale extract was investigated and the effect of broth concentration in reduction mechanism and particle size is reported. The reduction of silver ( $\text{Ag}^+$ ) ions was monitored using UV-visible spectrophotometry and showed formation of AgNPs within 30 minutes. Transmission electron microscopy (TEM), scanning electron microscopy (SEM) and atomic force microscopy (AFM) analysis showed that the synthesized silver nanoparticles are varied from 12-35 nm and have the spherical shape as well as XRD investigation confirms the synthesized AgNPs crystalline phase of FCC crystal structure. From this study, it was originated that the increasing concentration as well as increases the rate of reduction but decreases the synthesized AgNPs particle size.

Abstract ID: RSC-045

**Bionics: learning science from nature to combat climate change**

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Bionics sometimes called Biomimetics or Biomimicry, basically biologically inspired engineering is defined as a "New science that studies nature's models and then imitates or takes inspiration from these designs and processes to solve human problems". Prof. Janine Benyus suggests looking to Nature as a "Model, Measure, and Mentor" and sustainability as an objective of bionics. Bionics looks to nature and natural systems for inspiration. After millions of years of tinkering, Mother Nature has worked out some effective processes. In nature, there is no such thing as waste — anything left over from one animal or plant is food for another species. Human engineers and designers often look there for solutions to modern problems. The best example of Bionics is the famous Hawa Mahal of Jaipur. This is the unique building in the world where air has been used for air-conditioning. According to the Venturi effect, if air is expanded it becomes warm and if it is compressed then becomes cooler. Same principle has been applied here. The back side of the Hawa Mahal has been designed in such a way that when air is passed it becomes compressed thus becomes cooler, so cool air flows through all the windows and makes Hawa Mahal naturally air-conditioned. Learning from it, if we design new buildings in our country we can save energy and do revolution in combating global warming due to climate change. Effectiveness of mobile health apps on forging knowledge about obesity: A content analysis.

Abstract ID: RSC-046

**Facile and Environ benign synthesis of "Pyrazolo Pyrane Derivatives" using GO Composite**

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The paper presents environmental benign facile synthesis of biologically vital heterocyclic pyrazolo pyrane, by employing the graphene oxide as catalyst. Pyranopyrazoles are fused heterocyclic compounds that possess many biological properties such as fungicidal, bactericidal, vasodilator activities and act as anticancer agents. They also find application as pharmaceuticals. Apart

from this pyrano [2,3-c] pyrazoles have been show to act as potential insecticidal and molluscicidal agents. As a result, considerable attention has been focused on the development of new methodologies. GO were synthesized by simple one-pot chemical route and well characterized by XRD,TEM,SEM and FT-IR analysis. In SEM analyses, GO sheet display a crumpled and wrinkled surface. The sheet stacked together to form a typical multi-layer structure due to presence of p-p interaction. Further, the wrinkled structure of GO sheet affords a huge surface area. TEM analyses of GO also augment the results obtain by SEM. From the FT-IR spectrum of GO the peaks at 3685,1727,1360 and 1060 cm-1of could be assigned to the –OH stretching, C=O stretching, O-H deformation and C-O stretching vibrations respectively. A broad peak at around 1200 cm-1 corresponds to C-O-C vibration. Further four absorption peaks ranging from 1445 to 1580cm-1observed due to the aromatic C=C stretching of GO sheet.

Abstract ID: RSC-047

### **Simulated Methylene Blue Dye removal using Activated Carbon: A Batch Study**

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In the present study, the simulated Methylene blue (MB) dye was removed from water using granular activated carbon as adsorbent. The effect of various operating parameters on percentage removal were studied. It was found that percentage removal shows negative effect upon increasing the feed dye concentration. It was seen that the percentage removal increases to 95% by increasing the adsorbent dose to 5 gm at constant pH, feed concentration, and contact time of 60 minute under room temperature. However, no significant increment was observed in percentage removal on increasing the adsorbent doze above 5 g. Langmuir model was seems to be well validated with experimental results. The sample dye concentration was measured by UV Spectrophotometer and adsorbent morphology was characterize by scanning electron microscope (SEM).

Abstract ID: RSC-048

### **Numerical Study of Effects of Adrenal Hormones on Lymphocytes**

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In this paper, the effects of adrenal hormones (epinephrine, norepinephrine, and cortisol) on lymphocytes are investigated via numerical simulation. These hormones are generated by psychological stress and bind on the glucocorticoid receptors expressed by lymphocytes thereby influencing immune activation, inhibition and suppression during chronic or persistent stressful conditions. A mathematical model is proposed, analysis and used for numerical experiments. By virtual of numerical experiments conducted, it is inferred that, if the secretion rate of the adrenal hormones is lower that the decay rate, the immune cells recover after some time, otherwise the immune cells are suppressed. Moreover, the spatial distribution of bound lymphocytes is prominent in areas of high concentration of adrenal hormones. Furthermore, the numerical experiments suggest that, the injection of these hormones can be of medical importance for the treatment of hyper immune response disease but caution should be taken to ensure the threshold values a not exceeded. It is recommended that, this model can be coupled with cancer or HIV models for more insight about immune activation and mobilization thereby improve the development of new antiviral drugs and vaccines.

Abstract ID: RSC-049

### **Comparative computational analysis of Synaptotagmin genes in human and plants**

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Plant consciousness is the process of bio-communication in plant cells. Neurotransmitters are commonly called brain of plants. Synaptotagmin is a gene which is master switch responsible for allowing the human brain to release the neurotransmitters. Synaptotagmin genes exist in a large family of mammals. It is an abundant synaptic vesicle protein that contains two copies of a sequence that is homologous to the regulatory region of protein kinase C. Full length cDNAs encoding human and drosophila synaptotagmins were characterized to study its structural and functional conservation in evolution. Many synaptotagmins are discovered from plants and they have been found to perform many crucial physiological roles in plants. In the present study, Synaptotagmin genes of Arabidopsis thaliana Aegilops tauschii, Brassica rapa, Brachypodium distachyon, Glycine max, Hordeum vulgare, Oryza sativa japonica, Populus trichocarpa from public sequence databases were compared with SYT gene

of human being as standard using various bioinformatics approaches like Ensembl plant, Emboss needle, ProtParam, SOPMA, Swiss model etc. Amino acid sequence comparisons indicated patterns of conservation in human being as well plant. Phylogenetic analysis showed the origin of synaptotagmins in plants which clearly indicated the evolutionary significance of SYT gene in human, animals and plant. The detailed delineation of the synaptotagmin genes presented here will allow easier identification of orthologs for other plants in future

Abstract ID: RSC-050

**Hairy root cultures: a potent approach for the production of high value Secondary metabolites**

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Hairy root, a plant disease which is a novel source for the production of valuable secondary metabolites due to its rapid growth without any phytohormone, numerous branching, and genetic and biochemical stability. Hairy roots are similar to wild type roots with regard to the differentiated morphology and biosynthetic machinery and also accumulate similar secondary metabolites. Hairy root cultures had been also tried as an experimental system to elucidate the secondary metabolite pathways. *Agrobacterium rhizogenes*, a soil bacterium, mediates the hairy root production by transferring a portion (T-DNA) of root inducing plasmid into explants of target plants. T-DNA contains oncogenes (i.e. rol A, rol B, rol C and rol D) which also gets incorporated into host nuclear genome and induces the formation of hairy roots. Since last three decades, a large number of plants including medicinal plants had been successfully transformed with *Agrobacterium rhizogenes* for the production of valuable secondary metabolites (used as pharmaceuticals, pigments and flavors) through the development of in vitro hairy roots. This review main focuses on the principle and advantages of using hairy root cultures to produce secondary metabolites and its pathway elucidation studies in various plant species.

Abstract ID: RSC-051

**In-vitro micropropagation-A significant footprint for growing opportunities of Citrus Species in Rajasthan**

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Citrus is a very important commercially significant crop where India leads in its production among many countries in the world. However, some Citrus varieties of medicinal and horticultural importance are yet to be explored and also, there are some citrus species categorized as endangered. Efforts are being made worldwide to develop strategies, methods and technology for their conservation, where in-vitro micro propagation method of plant tissue culture is playing key role in maintaining successful sustainable and commercial production of Citrus. Citrus crop not only is commercially important but contributes to the environment as it carries the capacity to hold excess storm water, reduces nutrient runoff and its participation in the production of oxygen is major. Traditional and conventional vegetative citrus plant propagation is time consuming as well as is dependent on plant material availability and the season which hinders in faster acquisition and renewal of new citrus varieties therefore tissue culture methods like micro propagation has been employed which is gaining popularity now-a-days because of much ground as it has an edge over conventional methods of vegetative propagation. The basic aim of micro propagation is to acquire genetically identical, ethnically normal, physiologically consistent and virus free seedlings on large scale production in short span of time. Few species of Citrus like Citrus reticulata, is polyembryonic in nature can be multiplied ten times through in vitro micro propagation. Fresh juice and fruits are the most significant products along with some high value products like pectin, essential oils, and dried rinds etc, which are commercially significant. Citrus demand for use as ornamental plants is also considerably increasing worldwide leading to economic development of the nation. Different protocols have been standardized to propagate citrus plantlets on commercial scale through in vitro micro propagation techniques like micro grafting and micro budding using various parameters to enhance the growth and production of dietary, medicinally and industrially important species which could further improve the economic conditions through establishment of entrepreneurs as well as ensure nutritional food security via diversification from regular agricultural practices.

Abstract ID: RSC-052

**Antimicrobial Activity of Spice Extracts against Pathogenic and Spoilage Micoorganisms**

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Spices and herbs have been used as food additives since ancient times as flavouring agents but also as natural food preservatives. Spices/herbal extracts are one of most commonly used natural traditional antimicrobial agents in foods. Various studies have been done on the antimicrobial activity of spices against various microorganisms. But few studies are available on the combined extracts of spices. The present study aimed to evaluate the antimicrobial effect of combined extracts of spices cumin and ginger, cumin and garlic, ginger and garlic, combined extracts of cumin, ginger and garlic spices against microorganisms which are *Bacillus subtilis*, *Pseudomonas aeruginosa*. It was examined by agar well diffusion method. The diameter of inhibition zones of individual extract of different spices ranging from 10 to 16.5mm. But the combined extract showed greater antimicrobial activity ranging from 11.2 to 20.1mm. Finding of our study indicates that all the different combined extracts of spices particularly cumin and garlic are rich source of natural antimicrobial compounds and enhance the shelf- life also. It is established that spices and their combined extracts can be suitable alternatives for inclusion in food conservation systems.

Abstract ID: RSC-053

### **Application of Pgprs: A Potential Eco-Friendly Approach to Enhance yield in Crops**

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Plant Growth Promoting Rhizobacteria (PGPR) act as bioinoculants, biofertilizers and biocontrol agents and thereby enhance plant growth and yield. They are preferred among available alternatives to get more produce to feed increasing population from limited agricultural land area. PGPR provide nutrients to the plant by symbiotic and non-symbiotic nitrogen fixation, production of phytohormones like indole acetic acid (IAA), cytokinins, gibberellins (GAs), solubilization of phosphate and minerals. This application of PGPR also reduces use of chemical fertilizers, which is concern of environmentalists throughout the globe. PGPR protects plant from drought, salinity and other abiotic stress by modulation in the levels of plant stress alleviating enzymes like, peroxidases (POX), super oxide dismutase (SOD), L-proline, polyphenoloxidase (PPO), etc. the majority is by production of ACC deaminase. To enhance crop yield from limited sources transgenic crops are introduced but the use is restricted due to ethical concerns. Here also applications of PGPR seem to be an efficient alternative as they can support our local crop varieties. The additional advantage will be conservation of biodiversity. The use of PGPR is an eco-friendly approach to safeguard the crop from attack of pathogens and reduced use of synthetic pesticides as they are capable to produce siderophore, HCN, antibiotics and fungal cell wall degrading enzymes. They can also induce systemic resistance in crop. Byproducts synthesized by PGPRs defend the plants from various kinds of pathogens through antagonistic interactions as biocontrol agent. Resistance-inducing and antagonistic rhizobacteria shall definitely be useful to invent new toxin with combinations of different mechanisms of action, leading to advance cropping systems.

Abstract ID: RSC-054

### **Isolate, Characterize and Expand Human Umbilical Cord Derived Mesenchymal Stem Cells: Using Explant Method**

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Background: Mesenchymal stem cells (MSCs) are multipotent stem cells that can be isolated from umbilical cords and are therapeutically used because of their ability to differentiate into various types of cells, in addition to their immunosuppressive and anti-inflammatory properties. Here, we employed a simple and economically efficient protocol to isolate MSCs from human umbilical cord tissues without using digestive enzymes. Aims & Objective: Human umbilical cord tissue has been widely used for the isolation of MSCs. This study aimed to establish a clinical grade human umbilical cord MSCs and ex vivo expansion and cryopreservation of MSCs. Materials & Methods: All samples were obtained after patients' provided informed consent (favourable ethical approval was given by the Institutional Ethics Committee (IEC)). MSCs were isolated by culturing umbilical cord pieces with FBS (Fetal Bovine Serum) and growth factors supplemented media. Expansion and proliferation kinetics of cells isolated by explant method in the presence of FBS and growth factors were measured. Results: The MSCs have been morphologically characterized with Inverted Microscope and human umbilical cord tissue derived MSCs showed typical mesenchymal morphology and a rapid growth rate. MSCs maintained morphology and self-renewal ability, with better proliferation rates for cells cultured in FBS supplement media compared to growth factors supplement media. After cryopreservation and thawing, the cells still displayed high viability. No difference was noted between cells stored using either cryopreservation technique. Surface marker characterization going on with flow cytometer. Further study will comprise the retrieval and differentiation of MSCs to neural cell differentiation. Conclusions: We here present a simple, reliable, efficient

and clinical grade method to isolate and cryopreservation of MSCs from umbilical cord tissues, and could be efficiently expanded for clinical applications.

Abstract ID: RSC-055

### **Surfactant Biomolecules Derived from Bacteria**

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Bacteria produce several compounds as secondary metabolites like antibiotics (Bacitracin, Polymixin B), antitumor agents (Pseudomonas exotoxin, diphtheria toxin, and ricin), alkaloids (benzylisoquinoline (BIAs), and others (lipid complex and protein complexes). Out of them are several compounds which shows surfactant activities. These compounds are namely rhamnolipids, lipopeptides, glycolipids, phospholipids, neutral lipids and polysaccharides-protein complex. Bacteria involved in the production of surfactant materials are Achromobacter(PS1), Bacillus (SLDB1), Ochrobactrum (GREW1), Bacillus (SB2), Bacillus subtilis (SPB1), Pseudomonas SB, Lactobacilli, Rhodococcus erythropolis M-25, Staphylococcus aureus, Klebsiella (FKOD36). These compounds are synthesised both intracellular and extracellular. Their production has been studied in the above said bacterial species. Economic feasibility, toxicity and biodegradation nature of these molecules are required to study to take them up to commercial scale production. This paper reveals present status of the surfactant molecules derived from bacteria.

Abstract ID: RSC-056

### **Estimation of iron in Multivitamin Tablets by Various Spectroscopic Methods**

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A comparative study of estimation of iron in multi vitamin tablets by various spectroscopic methods is based on the formation of  $Fe(phen)_3 + 2$  samples of different pharmaceutical industries are analysed. Iron present in multivitamin tablet are generally in the form of ferrous salt. A freshly dissolved solution of  $Fe^{2+}$  is used a reducing agent hydroquinone is also added with 1,10 phenanthroline and sodium acetate is used. This is based on optimization of phenanthroline method. The curve is found linear for concentration 5.6ml/mg to 22.4mg/ml and result is compared with the result obtained from different spectroscopies amount of iron ranging 104 to 256 mg in 335 and 586 mg of tablet.

Abstract ID: RSC-057

### **Review on immunity and immunological preparations: bacterial and viral vaccines**

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Infectious diseases are responsible for approximately 25% global mortality. There are innumerable number of diseases that are caused by bacteria and fungi. They can make humans, animals and plants sick by causing infection and diseases. Colonization of the body by various microbes results in the infectious disease. Bacteria multiply rapidly by simple cell division. Viruses can only grow and reproduce within other living things. Minor diseases caused by viruses include cold, coughs, sore throats, chicken pox. Immune response plays a vital role in protecting against infectious agents. It is a well-known fact that for all infectious diseases, the number of individuals exposed to the infection is much higher than those actually presenting with a disease. This indicates that most persons are able to destroy these microorganisms and thus prevent the progression of an infection. Antibodies on their own and in isolation are not able to destroy bacteria; they may neutralize microorganisms by preventing them from binding to the host tissue. Viruses are destroyed by means of innate immune response. In the initial phase of viral infections, controlling the infections is done with interferon's type1, macrophages and NK cells. Immunological preparations are preparations containing antibodies against infections from microorganism and are prepared usually from human plasma or serum. Vaccines are examples of immunological preparations. Vaccines derived from bacterium are called bacterial vaccines and from viruses are called viral vaccines. There is a growing appreciation for the role of vaccines in confronting the problem of immunity of humans against microbes. The most effective way to reduce diseases and deaths from infectious diseases is to vaccinate populations at risk. Unfortunately, vaccines are still missing for a number of pathogens, and some of the existing vaccines are not completely protective. For these diseases, it is of crucial importance that research and development of vaccines be a priority. The public, private and philanthropic sectors need to join forces to ensure that these new or improved vaccines are fully developed and become accessible to the populations in need as quickly as possible.

Abstract ID: RSC-058

**Antibacterial Efficacy of Alkaloids of *Anaegissus Ruteundifolia* An Indigenous Medicinal Plant Against Some Micro-Organisms**

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Antimicrobial activity of alkaloids of different parts (Root, Stem, Bark, Flower and Gum) of *Anaegissus ruteundifolia* was evaluated against seven bacteria (*Bacillus subtilis*- gram positive bacteria, *Escherichia coli*, *Raoultella planticola*, *Enterobacter aerogens*, *Proteus mirabilis*, *Klebsiella pneumoniae* and *Agrobacterium tumefaciens*- gram negative bacteria). Alkaloids extracts of all the selected plant parts were found to possess strong antimicrobial activity against these test pathogens, as revealed by Zone of Inhibition [ZOI (mm ± SD)], Activity Index (AI), Minimum inhibitory concentration [MIC (mg/ml)], Minimum bactericidal concentration [MBC (mg/ml)] and Total activity [TA (ml/gm)] of extracts against each sensitive test pathogens were also evaluated. All the pathogens were found to be sensitive against these alkaloid extracts. Alkaloid extract of the root and stem showed best activity against *Bacillus subtilis* (gram positive bacteria), ZOI (16.50±0.24 mm), AI (1.100), MIC (0.078 mg/ml) and MBC (0.157 mg/ml). Highest Total activity (456.410 ml/gm) of gum alkaloid was found against *Bacillus subtilis* (gram positive bacteria). Highest antibacterial activity shown by root and stem against *B. subtilis* as compare to the gram negative bacteria which supported the finding that plant extracts are usually more active against gram positive bacteria than gram negative bacteria. The findings of the present study suggested the exploration of alkaloid extracts of *Anaegissus ruteundifolia* for future antimicrobial drugs.

Abstract ID: RSC-059

**Identification of some Bio-Active Compounds of Methanolic Extracts of *Euphorbia Caducifolia* By Gas Chromatography-Mass Spectrometric Analysis**

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The study was carried out to find out the possible bioactive components of *Euphorbia caducifolia* using Gas chromatography-Mass spectrometry (GC-MS). All the samples were dried firstly at 60°C for 2 days in an oven after that leave it on room temperature. They were then macerated to powder form with a mixer grinder. The powder was stored in air sealed polythene bags at room temperature before extraction. The chemical compositions of the methanol extract of whole *E. caducifolia* plant were investigated using Thermo GC 1300 and “TSQ 8000” Triple quadrupole GCMSMS SYSTEM with auto sampler AI 1310 for Gas chromatography-Mass spectrometry, while the mass spectra of the compounds found in the extract was matched with the National Institute of Standards and Technology (NIST) and WILEY-8 library. 44 components of the above said plant were identified. This is the first report of identification of the bioactive constituents of long chain, branched chain hydrocarbons, alcohols, acids, ester, steroids, phenolic compounds etc. components from the methanolic extract of whole plant of *E. caducifolia* by GC-MS.

Abstract ID: RSC-060

**Use of artificial miRNA as efficient tools of manipulation for redundant silencing of transcripts in crop Brassicas**

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*B. napus* (canola) is one of the most extensively grown oilseed crop. Globally, canola oil is more preferred over rapeseed mustard due to low erucic acid and glucosinolate content. However, this crop faces major yield losses of up to 50% on field due to asynchronous shattering of pods. In view of lack of an efficient alternative strategy for curbing such yield losses, we present a proof of concept of deploying artificial miRNA technology to achieve shatter resistance in canola. Target specific redundant silencing of SHATTERPROOF1 (SHP1) and SHATTERPROOF2 (SHP2) transcripts that control valve margin formation for fruit dehiscence in *Arabidopsis* and Brassicas shall bring about pod shatter resistance in canola crops. To this effect, after surveying the inherent natural variation amongst homologs, SHP1 and SHP2 sequences were used as input sequences to predict candidate amiRNA sequences. Following this, thermodynamic interaction between predicted amiRNA sequences and SHP1/SHP2 homologs was predicted to understand target site availability and stability of interaction. The amiR-bnashp2 was predicted to effectively interact with SHP1/SHP2 homologs than amiR-bnashp1 based on TFEB. To validate

these findings, individual agro-co-infiltration assays were carried out wherein the amiRNAs were processed from miR319a precursor in vivo in *N. benthamiana*. It was found that amiR-bnashp2-mediated cleavage of SHP1 and SHP2 homologs from *B. napus*, *B. juncea* and *A. thaliana*, while amiR-bnashp1 failed to direct cleavage of these homologs. Together these results revealed that a meticulous strategy rooted in principles of amiRNA technology can be efficiently employed to achieve redundant silencing in polyploid crop species. However, an a priori knowledge on transcriptome potential of genome concerned is a prerequisite for predicting efficiency and specificity of target selection by amiRNA(s).

Abstract ID: RSC-061

**Isolation and Characterization of Medicinal Imperative Phytochemicals from stem bark of *Bombax melabaricum***

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*Bombax melabaricum* DC. (Syn. *Salmalia malabarica* DC.) is an important medicinal plant of family Bombacaceae. It is a medium sized tree and is commonly known as simul, simbal, silk-cotton tree or Indian kapok. This plant is distributed mainly in tropical areas of China and hotter part of India. It is used as folk medicine because of its demulcent, diuretics, restorative, aphrodisiac and emetic properties. The 'semul gum' is used in vata roga (disease of CNS). It is a component of "Darhamulkulatha" which is used in diarrhea, dysentery, leucorrhoea and menorrhagia as well as for arthritic conditions. Chemical investigation of the stem bark of *Bombax melabaricum* afforded lupeol (I), stigmaterol (II),  $\alpha$ -amyrin acetate (III) and trans-triacontanyl-4-hydroxy-3-methoxycinnamate (IV). Characterization of all these compounds was done on the basis of spectral studies.

Abstract ID: RSC-062

**Optimization of mycosporine like amino acids production in the halotolerant cyanobacterium *Nostoc sp* isolated from Rann of Kutch**

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Mycosporine like amino acids are novel compounds obtained from cyanobacteria experiencing high rates of insolation. These compounds confer tolerance to survive in extreme environments and are also important industrially as a source of sun screen compounds. Therefore, in the present study an attempt was made to optimize the production of mycosporine like amino acids in the halotolerant cyanobacterium *Nostoc sp* isolated from the extreme environment, Rann of Kutch by modifying the ambient physiological variables. It was also observed that the production of mycosporine like amino acids enhanced in *Nostoc sp* due to changes in the ambient cultural conditions such as salinity, pH, temperature as well as nutrient composition of the medium. The results of the present study could be exploited further to design a modified medium to augment the production of mycosporine like amino acids taking in to consideration of the cultural variables.

Abstract ID: RSC-063

**Phosphate metabolism of freshwater diazotropic cyanobacterium *Anabaena fertilissima***

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India Freshwater diazotropic cyanobacterium *Anabaena fertilissima* was grown Pi- sufficient and deficient nutrient medium. *A. fertilissima* unable to grow and synthesized chlorophyll a in Pi-deficient medium, but survive only. A uniphasic (high affinity) Pi- transporter system operated, revealing that more efficient to Pi- acquisition mechanism of *A. fertilissima*. Pi-starvation also affects the relative transcript abundance of glycolytic enzyme. To overcome Pi-deficiency, cells induced both cell-bound and cell-free alkaline phosphatase activities. The activity of cell-bound alkaline phosphatase (APase) was rapid and 5-6 times higher than that of the cell-free APase activity. Native gel electrophoresis revealed the presence of two APase activity bands for both the cell bound and cell-free APase (M.wt. 42 and 34 kDa). Metabolic process including, photosynthetic O<sub>2</sub> evolution/consumption and electron transport chain activity (ETC) also reduced in Pi-deficient conditions; photosystem II (PS II) was the most sensitive in Pi-deprived condition followed by whole chain and photosystem I (PSI). Single kinetic system mediated transport of nitrate. The K<sub>s</sub> value of *A. fertilissima* for Pi-sufficient and Pi-deficient cells showed almost identical

affinities for the substrate. Nitrate and nitrite reductase activity are significantly reduced in Pi-deprive condition. Similarly, nitrogen fixation ability inhibited 50% in the cell grown in Pi-deficient condition.

Abstract ID: RSC-064

**In Silico Analysis and Molecular Docking Studies of RH1 Drug with Up and Down Regulated Protein Kinases in Rh1 Resistance Human Breast Cancer Cell Line MDAMB231 in search of Off-Target to RH1 Drug**

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Drug target identification is an important step towards the understanding of drug activity, enhancement in the drug's therapeutic potential and its management. In the last few years a pharmacological curiosity was developed on targeted therapies as a more specific and effective way for stopping cancer progression. Parallel operations in lab experiments and computational modeling have delivered potential drug targets, improved drug candidates and therapeutic management to the market. Aziridinylquinone RH-1 is a potential novel anticancer agent which was developed to be activated by NAD (P) H: quinone oxidoreductase (NQO1) which reduces RH1 into DNA-alkylating hydroquinone and is overexpressed in many tumors. Another suggested mechanism of RH-1 toxicity is the formation of reactive oxygen species (ROS) arising from its redox cycling. In this research, we cultivated MDA-MB231 cell in the presence of RH1 to generate RH1 resistant cell line and used multiplexed kinase inhibitor beads (MIBs) and quantitative mass spectrometry analysis to compare kinase activity in parental and RH1 resistant MDAMB-231 cell line of triple negative breast cancer. Using MIB/MS data, we found that over 150 protein kinases have change in their activity, were quantitatively measured from various protein kinase families. As protein kinases are highly involved in signal cascade, signal transduction, cell proliferation signaling, apoptic process and etc. Here, we hypothesize that the observed change in kinase activity drives an offtarget mechanism for RH1 activity. It is has been already shown that kinase inhibitors Famitinib and 5- hydroxyl-defluorofamitinib (active form) can inhibit NQO1. Whereas serine-threonine kinase CK2 inhibitors and tyrosine kinase inhibitors Imatinib and Nilotinib can also inhibit to NQO2. Applying the rationale method of Computer Aided Drug Discovery (CADD) and molecular modeling, a comparative molecular docking study has been carried out between the kinase structures with their known, experimental inhibitors and RH1 drug. Kinases with no reported 3D structures were modeled, assessed and interaction were calculated with their known, experimental inhibitor and compared to RH1. Our analysis shows that up regulated protein kinase: NEK2, KIT, CDK12, TTK, NEK7, MAP2K1, BRAF and down-regulated protein kinase: CHEK1, CDK6, RPS6KA3, EPHA3, PLK1, CSNK2A1, MAPK1 show a highly similar and identical pharmacophoric interaction between RH1 and their indigenous inhibitors with comparable binding energies.

Abstract ID: RSC-065

**A critical analysis of the Convention on Biodiversity**

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The World today considers, that the Mother Earth's Biological resources are essential to the humanity's economic and social development, keeping in mind the present scenario of depleting resources, extinction of species, ozone depletion, unwarranted disasters and environmental haphazard, that shocks the consciousness of the culpability of our future at large. Such environmental impacts because of human activities, continues at an alarming rate. As a result, there is dire need and growing recognition towards Biological Diversity as a global asset of incredible value to the present and future generations. In response, the United Nations Environment Programme (UNEP) convened the Ad Hoc Working Group of Experts on Biological Diversity in November 1988 to explore the need for an. international convention on biological diversity. The Convention was opened for signature on 5 June 1992 at the United Nations Conference on Environment and Development (the Rio "Earth Summit"). It remained open for signature until 4 June 1993, by which time it had received 168 signatures. The Convention entered into force on 29 December 1993, which was 90 days after the 30th ratification. The first session of the Conference of the Parties was scheduled for 28 November – 9 December 1994 in the Bahamas. The Convention on Biological Diversity was inspired by the world community's growing commitment to sustainable development. It represents a dramatic step forward in the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of benefits arising from the use of genetic resources. The author will put forth, the paper in three stages. Stage one will propound upon the emergence of Convention on Biodiversity, its background, history, two protocols – Cartagena and Nagoya Protocol. In stage two, I will be focusing on the in situ and ex situ conventions, which resulted in concepts of "Benefit sharing", "Technology transfer", "Indigenous knowledge systems" and its practical implication, major advantages and disadvantages in today's world. Stage three will be the implementation and impacts of these concepts in India, along with the development of legal

27

jurisprudence and case laws in India on such footing. Lastly, the research will be given its rightful ending, by detailed analysis and Conclusion of the whole research study, which will be further discussed.

Abstract ID: RSC-066

**Isolation of Arsenic Resistant Bacteria from Granite Factory Soil**

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Naturally occurring elements that have a high atomic weight and density five time greater than water is considered as heavy metals. Arsenic is one such element and their multiple agricultural, medical and military applications. The extensive application of such heavy metals resulted in their wide spread distribution in the environment, thus raising concerns over their potential effects on human health and the environment. Arsenic is one of the most hazardous pollutant and a potent carcinogen. Several approaches have been tested for remediation of arsenic and bioremediation is one possible step by utilizing the arsenic resistant bacteria. The present work involves isolation of arsenic resistant microbes from soil and water collected from granite factory, Jaipur. Two bacterial strain GWW and GFS was obtained from water and soil sample respectively on nutrient agar with 20 ppm arsenic concentration. The bacterial strain was subjected to morphological and biochemical characterization. The isolates were capable of growing in broad range of arsenic concentration of 20-100 ppm. Strain GFS also shown effective growth in medium containing higher concentration of silver as well.

Abstract ID: RSC-067

**Bio-inspired built environments for Climate change: developing strategies for adaptation and mitigation**

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The Construction Industry is accountable for more than half of the energy expenditure globally, drastically causative to climate change, along with colossal carbon emissions they generate. The awareness gap that exists with respect to how emissions from built environments can be mitigated and, concurrently, how built environments and their occupants can acclimatize to shifts in micro and macro climate must be filled, linking assimilation of recognized knowledge, advanced design strategies, application of pioneering technologies and multidisciplinary investigations. In pursuit of solutions, significant lessons can be derived by looking at adaptive natural systems. Almost all living organisms develop to endure varying circumstances without depleting their resources and changing the equilibrium of their bionetwork. Considering the global climate alterations we are now facing and the impetus of these shifts, an 'adaptive' approach inspired from nature could provide a framework for built environments in the future. This paper demonstrates an analysis of diverse built environments, both urban and rural, which derives inspiration from nature as a means to develop design strategies for built environments, to either mitigate the causes of climate change or adapt to the impacts of climate change and would demonstrate the benefits and drawbacks of each approach.

Abstract ID: RSC-068

**Using biomimicry to inform Urban Infrastructure design that addresses  
21<sup>st</sup> century needs**

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The designs of society's major infrastructure systems are generally based on anthropogenic learning's and seldom encapsulate learning from nature. This results from a pervading attitude of superiority of human-designed systems, particularly since the Industrial Revolution. Problems created by such behaviours have previously not been thought to present a serious threat to humanity. However, many built environment professionals are now reconsidering the impact of such systems on the environment and their vulnerability to issues such as climate change. This paper presents an approach to delivering sustainable urban infrastructure that addresses 21st Century needs by emulating natural form, function and process - biomimicry - in infrastructure design. The analysis reveals the context for infrastructure change and the need for sustainable solutions, detailing the current inquiry into biomimicry informed the design and highlighting potential applications from the literature that demonstrate precedence for nature to inspire the design of urban infrastructure, in particular water and energy systems.

Abstract ID: RSC-069

**Experimental study of Nanofluid based Thermal Systems**

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Nanofluids have played an important role in heat transfer applications. Nanofluids are the suspension of nano sized material in the base fluid. The addition of small amounts of nano material in a base fluid increases the convective heat transfer coefficient. Experiments were carried out on Heat exchangers and Solar water heaters. It was observed that the heat transfer efficiency of a thermal systems increases from 20-38%, depending upon the type of system, selection of nano-material, concentration of nano-material in base fluid and mass flow rate. A significant increase in the heat transfer motivates the researcher to use nanofluids in various heat transfer applications like electronic heat sink, automobile radiators.

Abstract ID: RSC-070

**Management of Infectious Disease: Goat**

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Small ruminants especially goat is very important in rural economy and nutrition and has the potentially of using it as a tool for poverty reduction in India. Goat rearing inherently occurs different diseases which reduces profitability of farming by treatment costs, reducing productivity and by mortality. Infectious diseases such as peste des petits of ruminant, goat pox, contagious ecthyma, pneumonia, enterotoxaemia, tetanus, brucellosis, mastitis and metritis are common causes for goat mortality in rural areas. Gastro-intestinal nematodiasis, fascioliasis and tape worm causes less mortality but cause severe depression in the growth and reproductive rate. Lack of proper care and overall faulty husbandry practices are also responsible for higher goat mortality in the prevailing production. Infectious diseases are a global problem and considered as a major obstacle in the health and product performance of livestock specially goats. Separate sick animals from the herd and provide appropriate treatments. Remove dead animals immediately and compost or burn the carcass. Trim feet on regular basis to minimize risk of footrot or other foot deformities. Adopt mastitis control measures. Avoid handling of goats in case zoonotic disease is suspected, especially ORF, toxoplasmosis and Q fever. Feeding adequate colostrum to kids in the first 8-12 hours of birth. Disinfect the navel at birth with tincture of Iodine to reduce the risk of diseases like septicemia, polyarthritis and pneumonia. Veterinary inspection should pay attention for these all farm animals to detect the infectious diseases that may hamper the production of animals and make loss of the farmer. Government and private sectors should come forward to prevent and minimize the losses caused from the infectious disease.

Abstract ID: RSC-071

**Biological importance of ternary complex prepared from Hg(II), Amino acid and Substituted Benzazole**

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Biological important ternary complexes of the type  $[HgCl(L-L)(A-A)(H_2O)]$  and  $[Hg(L-L')(A-A)(H_2O)_2]$ , where A-A = Lysine (Lys), Alanine (Ala), L-L = 2-(2'-aminophenyl)benzazole (APBT) and L-L' = 2-(2'-hydroxyphenyl)benzazole (HPBT), 2-(2'-mercaptophenyl)benzazole (MPBT) have been synthesized. These complexes have been characterized by elemental analysis, molecular weight determination, conductivity, magnetic measurements, infrared, electronic spectral and TGA studies. On the basis of above described studies an octahedral geometry has been suggested for these complexes. All these complexes are coloured, thermally stable, monomeric and non-electrolytic in nature. The ligands and their metal complexes were tested against pathogenic fungi *Aspergillus niger* and *Fusarium oxysporum* to assess their fungicidal properties, the antifungal activity data reveals that these metal complexes are found more fungitoxic than the parent ligands.

Abstract ID: RSC-072

**A Review: Promoting plant growth effects of biofertilizer and biopesticides in agriculture with modeling technique**

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In agriculture, soil is a critical element. Healthy soil supports to growth, healthy and high yields of crops because it is the original source of nutrients, microorganisms. Repetition of crop has reduced soil nutrients and organic matter level. The equilibration in the agro-ecosystem is destroyed due to decline of soil fertility. As well as it is insufficient efforts to restore of soil fertility. Until the time it is not manage through ecological process the reduction will continue. In recent years, has been seen that the use of chemical fertilizers and pesticides are sharp increase in agriculture. That is showing negative impact on ecosystem and human health. Biofertilizers and biopesticides are better option comparison to chemical fertilizer because they containing micro-organisms such as fungi, bacteria, the plant tissues, PGPM, protozoa kingdom etc. who are non toxic, improve soil fertility, plant growth and destroy agricultural pests. At this time, crop modeling technique is very useful in agriculture because this technique estimate the effect of factors on system, the interaction of the soil-plant-atmosphere system and researcher can also find that which factor most useful in system.

Abstract ID: RSC-073

### **GM Crops: The answer to hunger?**

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The recent approval of GM (Genetically Modified) mustard by Genetic Engineering Appraisal Committee (GEAC), India sparked many controversies about its supposed impacts on environment, people, and future. Scientists and Scholars insist that GM crops are answer to food needs of the rising population in 21st century, while environmentalists, economics, and religious leaders say that GM crops are nothing but disaster disguised as messiah. It is said to be responsible for affecting natural evolution and contaminating gene pool. Economics fear that the companies which are making the GM seeds will have the monopoly over the food production in the world, also the conditions of farmers is also a concern to dwell on; this is especially a problem in country like India in which farmer suicide rates are high. Furthermore, crops containing foreign DNA can hurt 'religious' sentiments of people and raise moral questions. This review aims to discuss the impact of GM crops around the world in different societies.

Abstract ID: RSC-074

### **Morphological and Structural Studies on Bismuth Nanostructures**

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Bismuth nanostructures find usage in a number of applications like heavy metal ion detection, gas sensors etc. These applications are highly dependent on the morphology and crystal structure of these nanostructures. In the present study, Potentiostatic Electrodeposition, Galvanostatic Electrodeposition and E-Beam deposition has been used for deposition of bismuth structures. Regular nano hexagons (Thickness ~ 75nm, Edge Length ~ 600 nm) and micro hexagons (Thickness ~ 2µm, Edge Length ~ 3 µm) were obtained using potentiostatic and galvanostatic electrodeposition respectively, while random shaped nano-particles were seen in sample deposited through e-beam deposition. XRD show the presence of crystalline and rhomboheral structures of bismuth in all three samples. Thus electrodeposition resulted in symmetric structures as compared to e-beam deposition. Morphology of the structures obtained through electrodeposition, can further be tuned by varying simple parameters like deposition potential, deposition time and electrolyte concentration.

Abstract ID: RSC-075

### **Potential of Nano fluids for Enhancement in Solar conversion Efficiency and Emission Reduction of Solar Collector**

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The energy efficiency and compactness of engineering system is limited by the heat transfer properties of the conventional working fluids such as water, oil and ethylene glycol used for various applications. Nano-fluids are made by suspending ultrafine nanosize solid particles (e.g. Al<sub>2</sub>O<sub>3</sub>, copper, silver, CNT) in the base fluid, that improves the heat transfer characteristics of the basic fluid. The heat transfer enhancement is useful in improving the performance of solar energy

conversion systems that not only increases the efficiency, but also results into compactness of systems. For 10% improvement in efficiency of indirect heating type flat plate solar water heating systems using nano-fluids, size reduction of 5.66% to 16.67% has been calculated over simple flat plate solar water heater for different nano-particles and concentrations. Subsequently, for a given collector area, extra solar energy that can be captured is estimated and resulting emission reduction through avoided fossil fuel consumption has been estimated for the country.

Abstract ID: RSC-076

### **Comparison of efficacy of Sensor based Diagnostics with Current techniques for Chronic Kidney Disease (CKD)**

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Chronic kidney disease (CKD) is characterized by progressive damage of the renal parenchyma and the loss of functional nephrons, which finally lead to chronic renal failure. It is estimated that it effect 1 in every 10 adults in India. Thus, a pragmatic approach to reduce the global burden of renal and cardiovascular diseases has to be adopted. CKD is divided into 5 stages based on the severity of the disease which is determined by glomerular filtration rate (GFR). The present method for detection of CKD are GFR, ultrasound, CT scan, kidney biopsy, creatinine assay, Albumin and blood urea nitrogen estimation. All these methods are either time consuming or expensive and based one or more tests for confirmation of the disease. The greatest challenge in managing kidney disease is that many of individuals are unaware of the condition until significant damage has developed. Lack of symptoms in the early stages of the disease mean that, CKD can easily go undetected, leading to progressive damage and loss of kidney function. Ultimately, dialysis or kidney transplantation is required, which increases the risk to patients and puts a substantial burden on healthcare budgets. Late detection of kidney disease is known to increase the risk of progression to end-stage renal disease (ESRD) and/or development of CVD. Treating ESRD with dialysis or kidney transplantation is very costly. There limitations lead as to idea of, early detection of CKD which would be a huge benefit both in terms of patient outcome and healthcare cost savings. Early intervention in patients with CKD has the potential to delay, or even prevent, the development of ESRD and complications, leading to a marked impact on life expectancy, quality of life and social burden. Therefore, a simple, rapid, accurate and economical method is required for the diagnosis of CKD in early stage with high specificity. Cystatin C is a novel marker for the diagnosis of chronic kidney disease (CKD), which is particularly useful for detection in the early stages. It is a small protein that can be used for estimating glomerular filtration rate (GFR), the best indicator of kidney function, due to its continuous production in most cells of the body and the fact that it is freely filtered and absorbed by the kidney. Therefore, in CKD condition cystatin C is released in urine as it cannot absorbed by kidney. Increases in cystatin C levels are detectable much earlier in the course of CKD. In addition, as cystatin C levels of the disease are independent of gender, muscle mass or other chronic illness. Cystatin C based biosensor will be rapid, ultrasensitive and specific test for targeted biomarker in CKD which does not require sophisticated instruments and can save the kidney failure and other disorders like CVD, hypertension and diabetic.

Abstract ID: RSC-077

### **Influence of Natural Safe Rock Minerals on Soil Microbiological Parameters of Rice-Wheat Cropping System**

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Rice and wheat are the world's two most important cereal crops, contributing 45% of the digestible energy and 30% of total protein in the human diet. Rice-wheat system has also contributed immensely to make the country self-sufficient in food grains and the era of scarcity has given way to the era of problems of plenty. In spite of such a vital significance of rice-wheat cropping system in providing food security and livelihood to hundreds of millions of people around the globe, questions have arisen regarding the sustainability of this system due to various environmental, economic and management problems encountered in areas following this production system and alternative nutrient management practices required for sustainable crop production. With this background a field experiment was conducted at the ICAR-Indian Agricultural Research Institute, New Delhi, India during two seasons of 2016-17 to study the effect of Safe Rock Minerals (SRM) application on soil microbiological parameters in rice-wheat cropping system. The experiments consisted of two methods of rice and wheat establishment and different levels of SRM with mineral fertilizers and organic manure (FYM). The rice was grown in kharif season through aerobic direct seeded condition and transplanted system and during rabi season wheat was cultivated by two establishment methods viz. System of Wheat Intensification (SWI) and Conventional wheat. For crop nutrition in rice as well as wheat crops, six sub-plot treatments were included in the study. The high yielding variety of basmati rice (Pusa Basmati 1509) and wheat (HD 2967) were used in the experiment. It was concluded that soil of rice and wheat crops, revealed significant improvement in available N, P and K and microbial parameters (enzymatic activities and microbial biomass carbon) due to the

integrated application of 250 kg SRM + 100% RDF and SRM + 50% RDF (chemical) + 25% RDF (organic) and 250 kg SRM + 50% organic-FYM over the sole SRM application.

Abstract ID: RSC-078

### **Green synthesis of Silver Nanoparticles from kachri fruits against Nosocomial Infections**

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Metal nanoparticle synthesis through physical and chemical techniques has toxic effect on the environment. Thus biosynthesis of nanoparticles through green route like plants has received considerable attention in the current scenario. There has been extensive increase in nosocomial infections along with antibiotic resistance thus posing a major threat towards public health. Consequently alternative medicines using green synthesized nanoparticles have opened a new window in health management due to their eco-friendly, unique physicochemical properties and biomedical potential, fewer side effects and cost-effective curative virtues to fight against nosocomial infections. The silver and AgNPs have been used as an effective microbicide against pathogenic bacteria. Therefore an attempt was made for phytofabrication of silver nanoparticles using a simple green route using Indian Thar desert based Kachri fruits for evaluation of in vitro antibacterial efficacy against nosocomial infections causing microbes. The phytofabricated silver nanoparticles were characterized using SPR, Nanoparticle Analyzer, XRD and FTIR spectroscopy. Potent antimicrobial activity was observed by the AgNPs formulated from dried Kachri extracts against all the pathogens. Preliminary phytochemical screening revealed the presence of flavonoids, alkaloids, tannins, glycosides and saponins which probably contribute to its antimicrobial properties. The study suggests these plant derived silver nanoparticles have a wide scope in the formulation of target based drug delivery system in controlling nosocomial infections.

Abstract ID: RSC-079

### **Challenges in the Long non-coding RNA research**

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Background: Long non-coding RNAs (lncRNA) are a class of non-coding RNAs with length >200 nucleotides and were first identified using large-scale sequencing of full-length cDNA libraries in mice. Compared to their predecessors, microRNAs (miRNAs), the lncRNAs are well known but less conserved across tissues, and play an important role in regulation. Several lncRNAs have been known to play a role in wide range of diseases, viz. cancers (Beckedorff FC et al., 2013; Zhang H et al. 2013), metabolism (Losko M et al., 2016), immunomodulatory diseases (Suravajhala et al., 2015) to mention a few. They are known to be spliced or unspliced, poly or non-polyadenylated, nuclear or cytoplasmic, and are usually transcribed by RNA polymerase II and/or III (Mohanty et al., 2014). Challenges: Functional genomics of lncRNAs has opened a new possibility in identifying cause for diseases with a substantial interest in analyzing regulatory effects of genome variation but also emerged in improvement of next generation sequencing tools such as identifying functional moieties in making novel proteins (Shidhi et al. 2014). Studies on the functional characterization of lncRNAs have resulted in data on interactions with their RNA peers, DNA or proteins (Novikova et al. 2013). Although there has been an increase in evidence for the link between lncRNAs and diverse human diseases (Wapinski and Chang, 2011); there is a dearth of lncRNA-protein association studies. Additionally, existing methods do not provide theories about the possible molecular causes of such associations linking to diseases. How such regulatory interactions between classes of lncRNAs and proteins would have a significant influence on the organism and diseases remains a challenge. Conclusions: In the recent past, a high throughput computational biology is utilized in identifying function of lncRNAs. Furthermore, the role of lncRNA expression in various types of diseases and for example, oral cancers specific to Rajasthan and rare genetic disorders is relatively poorly understood which will allow us to reflect to identify them correlating with prognosis and development of markers. We would discuss the challenges in identifying the de novo mutations in a rare genetic disorder named Congenital Pouch Colon and discuss the role of lncRNA-protein interactions and regulatory relationship harbored in various diseases.

Abstract ID: RSC-080

### **Challenges towards effective Municipal Solid Waste Management in India: An Overview**

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India is the second fastest developing economy and the second most populated nation on the planet. Municipal solid waste (MSW) is by and large a blend of family and businesses deny which is produced from the living group. It generally includes degradable (paper, materials, sustenance squander), mostly degradable (wood, dispensable napkins and slop) and non-degradable materials (calfskin, plastics, elastic, metals). Fast industrialization and population blast in India has prompted relocation of individuals from towns to urban areas, which create huge amounts of municipal solid waste day by day. MSW management has risen as a major test not just as a result of the well-being and ecological concerns, yet in addition because of enormous amounts of waste produced. In India, MSW management has stayed a standout amongst the most disregarded territories of urban framework. It is seen from many research archives that most urban local bodies in India can't deal with such large amounts of MSW because of money related and institutional incapacities. CPCB with the help of NEERI has conducted MSW management survey in 59 urban areas (35 metro urban areas and 24 state capitals: 2004-05) which incorporates Jaipur as well. This infers about 57% of MSW created can be utilized reasonably either by reusing or fertilizing the soil, which is not being implemented. Nevertheless, isolation of waste, proper collection techniques, innovation for the treatment of waste are portion of the significant MSW challenges. This paper exhibits an overview of MSW management challenges in India which can help analysts to get ready with more proficient plans for reasonable management options and diminish the dumping of MSW in landfills and other expendable territories.

Abstract ID: RSC-081

### **PGPR: A tool for Sustainable Agriculture**

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In the modern era, the population explosion is adversely affecting many sectors. This includes the agriculture sector as well, which in turn governs the food security. To keep up with the nutritional requirements for this ever increasing human population, there has been an indiscriminate usage of chemical fertilizers and pesticides. This has led to various issues which includes decreased availability of soil nutrients, decrease in crop productivity, generation of agricultural runoff and leachate, etc. These issues need to be addressed with immediate effect, in order to make agricultural land viable for utilization by future generations. Consequently, this has paved way for the promising concept of "Sustainable Agriculture"; which offers a solution to aforesaid mentioned issues as well as meets the nutritional requirements, using microbes. Several investigations have discussed the role of various microbial organisms and techniques for agricultural enhancement. One such technique is use of Plant growth-promoting rhizobacteria (PGPR). PGPR augment plant growth by numerous mechanisms which include phosphate solubilization, biological nitrogen fixation, helping advantageous plant-microbe symbioses, siderophore production, demonstrating antifungal action, intervention with pathogen toxin production etc. The role of PGPR in sustainable agriculture is summarized in this review.

Abstract ID: RSC-082

### **Structural Insight into the Proteins Causing Neurological Disorders**

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The National institute of neurological disorder and stroke stated that there are more than 600 neurological disorders found in the world. The Global Burden of Disease and WHO with help of several non-governmental organisations reported the most common disorders among these include Alzheimer's disease, Spongi-Form Encephalopathies, Parkinson's Disease, Amyotrophic Lateral Disorder and Familial Amyloidotic Polyneuropathy. The Alzheimer's disease is caused by the death of brain cells and due to accumulation of  $\beta$ -amyloid ( $A\beta$ ) plaques and neurofibrillary tangles which are found in the Alzheimer patients. In Parkinson's due the  $\alpha$ -synuclein protein causes the disorder, is a neuronal protein. The secretion of  $\alpha$ -synuclein causes cellular homeostasis and neuronal death as result loss in synaptic function and neuropsychiatric problems. Amyotrophic Lateral Disorder responsible for death of neurons which controls the voluntary movement of the body. It is characterized by

the aggregation of ubiquitinated proteins as VCP, FUS and TDP-53, in affected neurons. Transmissible spongiform encephalopathy is also known as the prion disease. It affects the brain and nervous system of animals and humans; it is believed that it is caused by the abnormal growth of a cellular glycoprotein, known as the prion protein. These all four selected disease forms aggregated ubiquitinated protein in brain and researcher observed that these ubiquitinated proteins are main source of causing disease. These proteins have some structural and functional similarity, as mostly all of them are helices with sandwiched Beta sheet structure. The proteins are also involved in binding with ubiquitin protein and form aggregates. Some of them also have sites for binding to RNA and DNA. Understanding the interactive nature of these proteins can help us in designing and developing drugs apt for curing these neuronal disorders.

Abstract ID: RSC-083

### **Fluoride is harmful or beneficial: a summery on fluoride in Rajasthan**

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Fluoridation is a very common problem all over India but in Rajasthan it is up to threat level because excess of fluoride is available in drinking water. Rajasthan all 32 districts are suffered from Fluorosis diseases but 18 districts are fluoride prone areas. Fluoride is beneficial for health if the concentration of the fluoride ion (CF) in drinking water is less than 1.5 mg/L (WHO 1994). Various studies found many kinds of adverse effects of fluoride on human health. Fluoride when consumed in excess can cause several other kinds of manifestations like dental, skeletal, and non-skeletal fluorosis. Dental fluorosis produces widespread brown stains on teeth and may cause pitting. Skeletal Fluorosis causes crippling and severe pain and stiffness of the backbone and joints (Bulusu and Nawlakhe, 1992). In non skeletal fluorosis causes various disorders like Neurological, Muscular, Allergic, Gastro-intestinal, and Urinary diseases. In For removal of excess of fluoride from drinking water many adsorbents are using from previous years but along with many demerits associated with these. But still we have not got perfect method.

Abstract ID: RSC-084

### **Sustainability of genetically modified organisms**

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Genetic modification have received considerable attention in the last few decades in agricultural and biological fields as potential scaffolds for producing genetically modified organisms with wide range of applications. According to the current status, GMO deals with alteration in the genetic constitution of an organism in order to express the desired characteristics in them. Reasons and positive impacts stemming from the creation of GMOs: one being to develop crops with pest resistant traits or crops that are resistant to low cost or environmentally safer herbicides. Besides these, to improve nutritional content [e.g. Golden rice] or development of extended shelf life of fruits and vegetables [e.g. Flavr savr tomato]. The bulk of current research in GMO concerns itself with crops that kill pests by shutting off their genes (i.e. by involving RNA interference) or producing a genetically engineered gut bacterium that produces molecules which alter human metabolism to treat certain disorders. However, a steadily growing body of evidences connects GMO with health problems, environmental damage and violation of farmers and consumers rights. Regarding this topic, there is a brief overview of periodically reviewed and debated topic and their possible implications for revolutions in biological and agricultural fields, but the growing rate of evidences shows that evolutionary roles for these processes need to be seriously explored.

Abstract ID: RSC-085

### **Blue revaluation is next revolution for nutritional security in India**

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Fisheries is a sunrise sector with varied resources and potential, engaging over 14.50 million people at the primary level and many more along the value chain. The sector registered an overall annual growth rate of about 4% during the 11th Five Year Plan period. It has contributed about 0.91% to the National Gross Domestic Production (GDP) and 5.23% to the agricultural GDP (2014-15). Blue Revolution, the Neel Kranti Mission has the vision to achieve economic prosperity of the country and

the fishers and fish farmers as well as contribute towards food and nutritional security through full potential utilization of water resources for fisheries development in a sustainable manner, keeping in view the bio-security and environmental concerns. The vision of Blue revaluation is creating an enabling environment for integrated development of the full potential of fisheries of the country, along with substantially improvement in the income status of fishers and fish farmers keeping in view the sustainability, bio-security and environmental concerns. Objective of the blue revolution is to enhance the food and nutritional security of the country.

Abstract ID: RSC-086

### **3D structure modeling and analysis of Human Mucin-6 protein**

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MUC6 gene located on chromosome 11p15.5 encodes gastric mucin, Mucin-6 protein is a secreted glycoprotein that plays an essential role in epithelial cytoprotection from acid, proteases, pathogenic microorganisms and mechanical trauma in the gastrointestinal tract. Non-availability of 3-dimensional (3D) structure leads the study toward structure 3D modeling along with its interaction analysis. Mucin-6 protein with a length 2439aa and occupies a maximum homology of 41% with an occupancy of 7% of query coverage to the total query sequence length, restricts the homology modeling of entire sequence. Restriction to input query sequence length to online 3D structure prediction servers, limits the full length protein 3D structure modeling of Mucin 6. The current work is focused on 2D structure prediction and 3D structure modeling through fragment based modeling approach. Here we have fragmented the protein into multiple short fragments and 3D structure are modelled using De-novo, Fold based and Threading based methods and simulated using NAMD and VMD.

Abstract ID: RSC-087

### **Influence of heavy metal stress response on plant secondary metabolites**

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The objective of this review is to comprehend the impact of heavy metals in promoting the production of secondary metabolites in plants. The occurrence of heavy metal pollution on this planet is caused due to various residential and industrial activities of humans. Nonetheless this causes a stress on all living beings. Although trace metal quantities help the plant in growth and development, however beyond a certain limit it leads to metal stress. Secondary metabolites are a noteworthy factor responsible for the adaptation of plants to the environment. Accumulation of such metabolites often occurs in plants subjected to stresses, to overcome such stress conditions. Plants adjust to metal stress by altering their metabolism including the production of secondary metabolites in plant tissues. Studies have been conducted on the oxidative stress exerted by the metals on plants. The investigations on the role of metal stress leading to change in rhizospheric microflora had also been carried out. However, further investigations are needed to ascertain the mechanisms of the stress response.

Abstract ID: RSC-088

### **Recent advancement and challenge in next generation sequencing technology**

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Next-generation sequencing (NGS) technologies have progressive high-throughput rapidly personalized into various aspect of translational research. Sequencing technologies have been comprehensively applied in an assortment of traditions such as whole genome sequencing, target sequencing, gene expression profiling, chromatin immunoprecipitation sequencing, and small RNA sequencing. In order to make sense of the large datasets generated by NGS, there is a crucial need for computational algorithms and software capable of performing large scale informational integration. Cross disciplinary tools such as pathway network analysis and graph theory will be useful to model regulatory networks and interactions associated with translational research. However, the massive amount of data generated by NGS represents a great challenge. The overarching importance of bioinformatics in the clinical implementation of NGS is emphasized. This review discusses the NGS technologies and

available applications, presents guidelines for data processing pipelines, and makes suggestions for selecting suitable tools in genomics, transcriptomics and small RNA research.

Abstract ID: RSC-089

**Bacterial-Fungal Interactions: Hyphens between Agricultural, Clinical, Environmental, and Food Microbiologists**

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Historically, the classical separation of microbiological research between bacteriologists and mycologists has led to the study of bacteria and fungi in axenic settings. This compartmentalization has overlooked the fact that in many environments, bacteria and fungi coexist and interact. Furthermore, these bacterial-fungal interactions (BFIs) often have important ramifications for the biology of the interacting partners. In recent years, research in this area has developed significantly in both breadth and depth. Contemporary studies have revealed that fungi and bacteria often form physically and metabolically interdependent consortia that harbor properties distinct from those of their single components. These reports have also highlighted the multiple practical relevancies of these interactions. To an exceptionally diverse variety of fields, including agriculture, forestry, environmental protection, food processing, biotechnology, medicine, and dentistry. At the same time, technological developments look to be set to transform our ability to address these problems through science. So far, soil, plant, food, and animal bacteriologists and mycologists have neglected each other's research fields; we hope that this poster presentation will contribute to closer collaborations between them.

Abstract ID: RSC-090

**Utilizing Community Radio Stations as an ICT tool for empowerment of rural masses**

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Community radio is comparatively new concept in Indian context which is introduced by the government of India more than a decade ago and has been serving the poor and marginalized masses since then. This medium has very crucial role to play in development of the poor by strengthening the extension and communication system of the country. Tabing (2002) defined community radio station as "one that is operated in the community, for the community, about the community and by the community." The community radio stations with the help of the community members generate need based, location and cultural specific developmental programmes. Participation of the community members in programme development and other operational aspects is the essence of the community radio stations, which makes it unique in itself and helps in sensitization of the community regarding their own developmental issues. The marginalized and poor rural masses have a platform in the form of community radio station to express their views and convey their grievances on different socio, economic, political, cultural and environmental issues which affect their lives directly. Additionally this ICT tool facilitates the community to maintain and expand their traditional values and beliefs to the younger generation. Community radio can provide a platform to popularize the traditional agricultural practices which can help in achieving the target of sustainable agriculture. Different target groups like farmers, women, children, marginalized and poor people, irrespective of their age and socio-economic status, can be addressed simultaneously only through this medium. Need based programmes relevant to a community are being broadcasted by this medium in the local language which overcomes the barrier of illiteracy and it has comparatively cheap and has less technical, network and power problems, which makes it ideal medium for the rural poor and illiterate masses. At present there are 201 operational community radio stations all over the country serving the rural and urban communities. The future of India depends on how effectively this medium would be utilized for upbringing the poor and marginalized section of the society. Establishing more and more community radio stations all over the country and ensuring peoples' participation in development, broadcasting and evaluation of the programmes becomes very necessary to achieve the intended target of being a developed country.

Abstract ID: RSC-091

**Bio-Medical Waste Management**

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The management of biomedical waste is subject of important concern for public and also infection control specialist. As everyone knows that several types of health care activities produces various types of hazardous and contagious materials. Although we all know that in some manner it is harmful to public health, yet very recently people and government became aware about its proper management and disposal in India. Unscientific disposal of biomedical waste may cause transmission of communicable disease spreading through air, water and direct human contact by means of blood and infectious body fluids. These can be responsible for spread of hepatitis B, C and E and even AIDS within a community. Hence, proper handling, treatment and disposal of biomedical waste are important parts of healthcare infection control program. Appropriate management of biomedical waste is thus an important part of environmental health protection and it should become an integral feature of health care services. This review paper discuss about how to treat and dispose the biomedical waste.

Abstract ID: RSC-092

**Evaluation of total nitrite and pro-inflammatory cytokines in plasma: Potential prognostic biomarker for early onset of sepsis**

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Sepsis is a deleterious, non-resolving host inflammatory response to infection which may leads to organ dysfunction and results in mortality. In this study, we measured different cytokines level and their correlation with total nitrite. This study was carried out on 50 critically ill patients admitted in the intensive care unit (ICU). Blood samples were collected from 50 patients and 30 healthy volunteers. Total nitrite level were measured and it was significantly high in the sepsis patients ( $87.73 \pm 9.83 \mu\text{mol/l}$ ) compared to control subjects ( $9.38 \pm 8.59 \mu\text{mol/l}$ ). In the sepsis patients, Pearson correlation analysis identified linear correlation between increase in total nitrite content and severity of sepsis assessed by SOFA and APACHE II scores. Cytokines levels in plasma were also measured by ELISA as an indicator of sepsis and correlation to their clinical and laboratory findings. Levels of pro-inflammatory cytokines (TNF- $\alpha$ , IFN- $\gamma$ , IL-8, and IL-1 $\beta$ ) were found to be significantly augmented in sepsis (158.748, 140.433, 130.888 and 151.774 respectively) as compared to control (5.03, 4.29, 3.39 and 3.78 pg/ml respectively) subjects. Increased total nitrite levels in blood plasma in early stage of sepsis were correlated with different pro-inflammatory cytokines. Our findings suggest that there is direct indication of increased nitrite content with inflammation and cytokines content may be used as a marker for early prediction of sepsis.

Abstract ID: RSC-093

**Mitigation measures of tropospheric ozone**

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Ozone, typically present in the stratosphere is of known importance as it protects us from the harmful UV radiations incoming on the Earth's surface from the sun. However, due to the changing climatic conditions, the presence of ozone is also found in the upper tropospheric layer of atmosphere, where it mainly acts as a critical secondary air pollutant and is found to be phytotoxic. Microclimatic conditions and presence of ozone precursors like oxides of nitrogen (NO<sub>x</sub>), methane (CH<sub>4</sub>), carbon monoxide (CO), volatile organic compounds (VOCs) and non-methane hydrocarbons together result in photochemical reactions under sunlight (430 nm) and lead to ozone creation in the troposphere. This ozone, being phytotoxic in nature, has been reported to affect agricultural productivity where the plant yield and nutritional values are degraded. Over the Indian subcontinent, it has been observed that, during the summers and winters the ozone concentration increases in the troposphere, while during the monsoons, the ozone concentration decreases comparatively. Studies related to yield measurements are generally conducted in open top chambers (OTCs) from which it is observed that high ozone concentration has direct effects on carbon uptake, assimilation and utilization in plants by affecting stomatal conductance and primary metabolism. Studies are being carried out on Ethylene diurea (EDU), which is seen as an antiozonant in plants. Also, the experiments should be carried out by FACE (Free Air Concentration Enrichment) technique which has its own pros over the OTC technique. This indicates us to incline towards the pressing need of developing new ozone resistant plant varieties, as a protective measure so that the food supply chain does not get hampered.

Abstract ID: RSC-094

**Studies of phytoplankton diversity of a polluted water body**

M. Chhabra, M D Mukherji

Phytoplankton is regarded as a sensitive and rapidly reacting indicator of changes in hydro-chemical characteristics. Since planktons respond very quickly to change in nutrients, therefore plankton profile can be used for assessment of pollution. The present study was designed to monitor variations in phytoplankton composition and diversity of a polluted water body. A total of 21 species were observed during the entire study period. The phytoplankton was represented by four dominant groups viz. Cyanophyceae, Chlorophyceae, Bacillariophyceae and Euglenophyceae. The species distribution observed in different groups was Cyanophyceae (10), Chlorophyceae (4), Bacillariophyceae (5) and Euglenophyceae (2).

Abstract ID: RSC-095

**Classification of length normalized UTRs of mRNA in human genome by applying various machine learning approach**

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Un-Translated Regions also abbreviated as UTRs are genomic sequences which contains the information from DNA to RNA. The RNA is further pre-processed and trimmed even though these sequences are protected and transferred to cytoplasm for protein synthesis. UTRs does not participate in translation does not form protein but have good capabilities to control the whole translation process. The classification of UTRs is an important task by which we can help in determining the binding of miRNAs to the UTR sites, as most of them are working on conserved sequences. In plants miRNA binds to conserved parts but in animal they do not follow the concept of complementarity and have different binding behaviour. MiRNAs are interacting at both 5' and 3' UTRs but gives preference to 3'UTR. This study was carried out to decipher the reason behind how miRNA classifies UTRs to interacts. To find roots of UTR classification by miRNA we used various classification algorithms on various UTR features extracted from UTR data. We found that each algorithm is having capabilities to classify UTRs at different accuracy level. The accuracy depends on the method used for the classification i.e. statistical, clustering and tree based. The input data taken for the study has equal length (200-210 nucleotide). In our results it is observed that tree based algorithms like random forest are most capable to classify the UTR with ROC (Receiver Operator Characteristic) area of 0.9780 whereas clustering based algorithm like classification by cluttering have lower ROC plot 0.7070. PCA data does not changes the accuracy whereas is observed to reduce the ROC area. Hence, we conclude that the length does not play a key role in classification of UTRs few features of UTRs are playing major in their classification and hence also influences the miRNA interactions.

Abstract ID: RSC-096

**Assessment of Biodiversity in Kumbalgarh Wildlife Sanctuary:  
A Conservation Perspective**

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This study basically refers to conservation of biodiversity and its sustainable use. This would help to know the actual biodiversity surviving in this area. Species inventories are the largest part of assessment and are of value in the selection of protected and threatened areas and of ecologically and economically sensitive areas. This Biodiversity assessment was carried out using well accepted scientific methods like plots, point count, area search, perambulation, opportunistic survey in addition to line, belt and vehicle transect. Overall biodiversity assessment resulted in 603 species of higher plants, 52 species of lower plant, 93 species of butterflies, 12 of spiders, 12 species of amphibians, 38 species of reptile, 258 species of birds and 39 species of mammals in Kumbhalgarh. This sanctuary harbors 24 species of higher plants, five species of reptiles, nine species of birds and six species of mammals of conservation significance. The study revealed that few species that was very abundant 25 years back showed a decline in their population due to various anthropogenic threats including illegal cutting, lopping, over-grazing, browsing, hunting, forest fire and encroachment of forest land for agriculture. The conservation action plan involved selection of Focal Target like ecological system, ecological communities and species for which threats were identified and conservation action to mitigate the threats were framed. Further, conservation actions for the villages inside and outside the area, identification of what need to be done in terms of research and monitoring along with systematic monitoring protocol for specific sites, species, disturbance and interventions are also outlined.

Abstract ID: RSC-097

### **Synthesis of ZnO Nanoparticles by Hydrothermal Method and Optical Properties**

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Synthesis of ZnO nanoparticles by hydrothermal method at 90°C temperature. This study reports on Zinc oxide (ZnO) nanoparticles prepared using zinc nitrate hexahydrate ( $Zn(NO_3)_2 \cdot 6H_2O$ ) and sodium hydroxide (NaOH) as the starting precursors in the molar ratio's of 1:2 through the hydrothermal method. The synthesized ZnO nanoparticles was monitored using UV-DRS, Transmission electron microscopy (TEM), scanning electron microscopy (SEM) analysis showed that the synthesized ZnO nanoparticle are around 15-30 nm and have the spherical shape as well as XRD study confirms the synthesized ZnO NPs crystalline phase of FCC crystal structure. From this study, it was originate that the increasing NaOH concentration as well as increases the rate of reduction but decreases the synthesized ZnO particle size.

Abstract ID: RSC-098

### **Oilgae production from Algal Biomass**

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Oil recovered from algae is referred to as Oilgae. Oilgae has attracted major interest as a sustainable source for biodiesel production on a commercial scale. However, implementation of biodiesel production from algae depends on the efficient source and the amount of oil recovered. Therefore, in this study, we have planned to use halophilic algae (algae that requires a salty environment for sustenance) for oilgae production. After collecting halophilic algae from Sambhar Lake, Sambhar, Rajasthan, it was processed in different ways for oilgae recovery in order to optimize the oil production. Soxhlet extraction was used for oilgae recovery and in this process hexane and mixture of chloroform & methanol were used as solvent. Recovered oil was characterized for the functional groups by FTIR analysis.

Abstract ID: RSC-099

### **Isolation of nematodes from soil of Achrol village, Jaipur**

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Soil health is the most important factor which need to be considered for improving the plant growth. Plant-parasitic nematodes cause damage to plant roots, resulting in root systems which are less able to take up nutrients and water. Therefore, it is necessary to eradicate the nematodes from the soil. In order to achieve the goal, in the first step, nematodes were isolated from soil. For this purpose, soil samples were collected from village Achrol, near Jaipur, Rajasthan. Then, soil was kept in Baermann Funnel Apparatus for 48 hrs for the isolation of nematodes. Baermann Funnel Apparatus is used to extract nematodes from a soil sample or plant material. A muslin bag containing the sample is submerged in water in a funnel sealed at the lower end by a rubber tube and clip. Being heavier than water, the nematodes pass through the muslin and sink to the bottom. After about 48 hours they can be collected by drawing off the water. The efficiency of the device is increased by gentle warming which immobilizes the nematodes. The Baermann funnel method also gave clear samples and easy to conduct. After the isolation, we see the morphology and arrangement of nematodes under microspore. Nematodes are non-segmented worms typically 1/500 of an inch (50 µm) in diameter and 1/20 of an inch (1 mm) in length. Comparing the morphological features, presence of nematodes in the soil is confirmed.

Abstract ID: RSC-100

### **Isolation of Tar ball degrading yeast strain**

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Intentional or accidental discharge of petroleum or its related products in the ocean produce adverse effect not only on living beings but also on non-living beings. Occasionally, the discharged petroleum picks up the solids during the weathering process and form tar balls. These tar balls varies in density and therefore, these can settle down at the bottom of the ocean or float and travel long distances by the water currents. These accumulate at the sea shore and produces adverse effects on the living beings. Thus, remediation of these hydrocarbons is of utmost importance. Bioremediation is a non-invasive and cost effective technique for the cleanup of these petroleum containing tar balls. In this study, we have isolated tar ball degrading yeast from the soil and investigated their ability to degrade tar balls. The tar ball degrading yeast cultures were isolated by plating 0.1ml soil suspension on the surface of basal mineral salt medium along with the tar ball sample. Isolates were selected and cultivated in DS media with 0.75% NaCl. After 4 days of incubation at 30 °C, tar ball degrading yeast isolates were transferred to the fresh media for obtaining pure culture. Further, the strain was sent for sequencing. Tar ball degradation was assessed by FTIR analysis. In this way, tar ball degrading yeast was isolated. In future, this strain can be used for the degradation of tar balls for cleaning up the ocean.

Abstract ID: RSC-101

### **Application of Natural and Modified Bagasse for removal of dyes**

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Water is one of the most important resource for the survival of living beings. But today, this important resource is on the verge of extinction. Pollution and dumping of waste has led to the excessive contamination of fresh water. Industrial waste specifically effluents are posing a major threat to water bodies. Many efforts have been made for the treatment of these effluents, in order to make water safe for consumption. Most of these methods, are not feasible due to various reasons such as economic and toxicity concerns. Therefore, in the present approach, bagasse was collected and used in natural form and modified form both directly and in the form of activated carbon is used to test its rate of adsorption. The activated carbon made from the sugarcane bagasse by using acid treatment followed by heat treatment at high temperature in muffle furnace. This protocol was followed until the activated carbon of similar characteristics was obtained. The bagasse based activated carbon and raw bagasse was then used to treat different dyes containing water samples. It was used to treat dye containing solution in different conditions such as different temperature, pH and concentration. Results of the study reveals that modified bagasse is more effective than natural bagasse in removing the dyes from the water.

Abstract ID: RSC-102

### **Degradation of hydrocarbon from polluted soil using *Candida tropicalis***

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Hydrocarbons from various industrial sources are released in the environment and causing soil and water pollution. Many problems arise due to the increase discharge of hydrocarbon and its products. Soils polluted with hydrocarbons differ from unpolluted soils because spilled oil on land prevents water absorption by the soil, and spills on agricultural locations or grasslands exert adverse effects on plants' life, growth and development. There is need to treat these soils so as to satisfy the food requirement of the ever increasing world population. Therefore, bioremediation is a cost-effective method of soil remediation which uses microorganisms for the treatment of polluted soils. In the present study, the soil polluted with hydrocarbon is used for treatment. Therefore, the soil was artificially contaminated with the hydrocarbon so that it can be treated at laboratory scale. Soil samples were inoculated with *Candida tropicalis* MYA 3404 and degradation of hydrocarbon was assessed using FTIR. Data were correlated with the growth of *Candida tropicalis* MYA 3404. Withdrawal of the samples was done after every 7 days till 21 days. Withdrawal done on 21st day was found to be the most effective in reducing the hydrocarbon content. Microbial growth was also found to be very high at 21st day. This shows that the *Candida tropicalis* MYA 3404 is very effective in utilizing hydrocarbons as a source of carbon for their growth.

Abstract ID: RSC-103

### **Effect of Paper and Cardboard Industrial effluents on the growth of *Cicer arietinum* seedlings**

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Water and soil pollution due to industrial activities poses a great health hazard to human, animals and plants with local, regional and global implications. Pollution has adverse effects on land, water and its biotic and abiotic components. The various industries situated nearby water bodies which are posing negative effects on soil and water bodies. Irrigation of agricultural fields with effluent may further aggravate the problems. In the present study, paper and cardboard industrial effluent was collected from Sanganer area and used for the analysed their effect on seedlings of *Cicer arietinum*. The growth of seedlings was observed daily and length of shoot and root was recorded. Root and shoot growth was analysed by Image J software. Besides, genotoxicity assay was performed using Ames test. Although shoot and root growth was enhanced by effluents with respect to control, yet seedlings were found to be mutagenic. This shows that mutagenicity of the effluent can be transferred to the plant. Therefore, it is necessary to treat the effluents before discharge and use them for agricultural purposes.

Abstract ID: RSC-104

### **Sustainable development by Handmade paper making**

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The rapid growth of globalization and thus increasing the need of society both economically and environmentally are putting ever increasing demand on the forest based industry. Presently studies have been conducted on the tremendous possibilities of hand-made paper making in India as an appropriate sustainable production system. In India hand-made paper making was established and being practiced by "kagazi" community in Rajasthan, Uttar Pradesh and Andhra Pradesh. These industries uses different types of raw materials for handmade paper making such as waste products of textile industry, different bast fibres which are provincial and recycled secondary fibres, several kinds of non-woody ligno-cellulosic by-product have been investigated by researchers. In search of this ankar plant (*Calotropis procera*) in desert area of Rajasthan is proved to be very effective. Jute, bhimal and banana stem can also be used for which different enzymes and process like bio-bleaching, bio-pulping and bio-retting is required. The studies revealed that *Datura Stramonium* stalks have an optimistic potential to use in papermaking. Also most of the industries are using hosiery waste or cotton rags (high content of cellulose and lignin absent) for paper making. The recently developed process of recycling shredded currency waste through bio-enzymatic pulping produces quality paper. These papers can be utilized for making strong carry bags which substitute polythene these hand-made paper have quality and shows better strength isotropy than mill paper.

Abstract ID: RSC-105

### **Using photoautotrophic microbes to increase efficiency of solar energy utilization**

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The earth receives solar energy at a rate of 120,000TW in an overall well-distributed fashion. The overall annual energy consumption of the world is around 15TW. Pertaining to its wide and open accessibility, solar energy is one of the major candidates in the race for adopting a better, renewable, and eco-friendly source of power. A lot of countries have already begun or have pledged to introduce massive solar panel farms in order to meet their country's electricity supplies. The amount of solar energy available for conversion into electrical energy is high, but two points hinder the process: a) low efficiency rate of energy absorption and conversion by solar panels, and b) the intensity of sunlight falling on the earth's surface is dilute. A lot of research work has been carried out in the past fifty years in order to tap into this vast natural resource and major advancements have been made in the past few years, yet, a gap exists in the proper and efficient utilization of solar energy. In this paper, we have discussed how the photosynthetic apparatus of chlorophyll and carotenoids present in phototrophic bacteria, such as cyanobacteria (*Synechococcus* and *Synechocystis*), and algae, such as kelp and *Chlorella vulgaris*, can be utilized to increase the efficiency of sunlight absorption in solar panels with certain genetic engineering and nanobiotechnology interventions. For the last decade, interest in such BPV (Biophotovoltaic) devices has increased manifolds and extensive studies in the research area are now underway.

Abstract ID: RSC-106

### **Molecular Bacteria-Fungi Interactions: Effects on Environment, Food, and Medicine**

Shobhit Vaishnav, Lokesh Tiwari, Ankit Shakyawal, S L Kothari, Desh Deepak Singh

The discovery of penicillin is one of the first documented observations of an interaction between bacteria and fungi mediated by small molecules. Historically molecular intergeneric interactions were regarded mainly as growth-inhibiting interactions; however, modern research revealed that microbial cross talk forms an integral part of our environment and covers various aspects beyond simple antibiosis. There are instances in which natural products alter phenotypes and developmental processes, such as sporulation or biofilm formation, and serve as virulence factors in symbiotic and pathogenic associations involving additional partners. Specialized mutualistic relationships have evolved in which a host organism harbors a symbiont to make use of its chemical synthesis capabilities to combat competitors or to maintain a certain lifestyle. The growing number of studies published in the past few years that report discoveries in this field points to an exciting emerging area of research. Our increasing understanding of the complex networks in microbial ecology will not only help us understand fundamental biological processes but also lead to the discovery of new virulence factors and drug candidates. This topic highlights recent contributions to the understanding of bacteria-fungi interactions mediated by secondary metabolites that occur in the environment and affect medicine and biotechnology.

Abstract ID: RSC-107

**Effective waste water treatment and fluoride adsorption from fresh water using nanoparticles-enriched filter systems**

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The underground water bodies in over half the districts of the state of Rajasthan have a significantly higher concentration of fluoride than the WHO standard of 1.5 mg/L. The intake of such fluoride-rich water over a course of time puts a huge portion of the population of the state at a risk of mottled enamel, osteoporosis, skeletal fluorosis, and growth retardation. On the other hand, the industrialization of several areas of the state has also led to an increase in the efflux of waste water into the surrounding areas. This has led to an increase in the levels of heavy metals and organic pollutants in the surrounding water bodies and soil, which makes the water and soil unfit for any other purposes. Taking into account the above problems, our review focuses on two aspects of water treatment using nanoparticles-based interventions: a) Getting rid of heavy metals, organic pollutants, and biological contaminants from waste water, and b) Reduction in fluoride levels of fresh water used for daily routine purposes. To tackle the first problem, we hypothesise a Copper-Iron-Charcoal based system: copper and iron nanoparticles have shown a high affinity for heavy metals, such as, Arsenic and Mercury, and can be used to chelate these out of waste waters. Iron nanoparticles have also shown antimicrobial properties. The combination of the two nanoparticles on a nitrocellulose membrane, along with a layer of activated charcoal, which removes organic pollutants, makes this approach significantly better in cost and effectiveness than the already existent waste water treatment approaches.

Abstract ID: RSC-108

**Prediction of homologous genes using Multiple Sequence Alignment and Hidden Markov Model by RNASeq transcripts**

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Bioinformatics Infrastructure Facility The number of eukaryotic genomes sequenced are increasing at fast pace. To keep them easily available for study there is a need to develop some procedure which can efficiently generate species specific gene finders automatically. Using biological databases we can easily search for any human gene and its homologue. But plant biologist encounter problems in detecting homologous genes since plant genomes are vast with numerous variety and species. Using RNASeq platform both gene expression analysis and sequencing can be done simultaneously. It is easy to retrieve sequences of mRNA transcripts from RNASeq data, which can be converted into putative proteins. Protein sequences provide better understanding of evolutionary signature than DNA sequences because of degeneracy in the genetic code. So, using RNASeq, if we have sequences of candidate proteins for related varieties and species, we can easily detect their counterpart in newly sequenced species. This type of modelling can be employed using computational method like Hidden Markov Models(HMM). Multiple sequence alignment provides all the parameters to run a HMM models. Present study is an application of HMMs for homologous gene finding by pattern recognition in newly sequenced plant genomes. We demonstrate the success of a novel method of incorporating RNASeq data into HMM gene prediction. Online tools Usegalaxy.org, TransDecoder-3.0.1, HMMER-3.1b2 and Mega (Molecular Evolutionary Genetics Analysis) were used in the present study. These are freely available and

suitable for incorporation into gene prediction pipeline. We have used this pipeline to find homologous genes in soybean and maize, same method can be applied for any newly sequenced plant genome also.

Abstract ID: RSC-109

**Morphophysiological parameters associated with allelopathic potential of rice genotypes for sustainable weed management**

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Rice production suffers a major setback through weed pressure worldwide. The present investigation was carried out to analyse the rice plant's characteristic traits associated with the competitive ability of rice genotypes against weeds. The experiment was conducted for two years in a split-plot design with the weedy and weed-free treatments in the main plot and ten rice genotypes as the sub-plot treatment. Results indicated that rice genotypes showed variable competitiveness against weeds. Among the ten genotypes used, highest Weed suppressive ability (WSA) was found higher in Govind and UPR 2962-6-2-1. Results indicated that rice genotypes showed variable competitiveness against weeds. The competitive ability of these genotypes could be attributed to TDM at 30 and 45 DAT, yield parameters such as biological yield, grain yield, spikelets/panicle and filled grains/panicle; physiological growth parameters such as LAI, leaf area, and biochemical parameters such as shoot N-content, and total chlorophyll content. Concentration of Phenolic acids detected through HPLC, was also found higher in most of the competitive genotypes. The competitive ability of these genotypes could be attributed to increased rate of biomass production during early vegetative stage and reproductive stages growth parameters like leaf area index, tiller number, and plant height and biochemical parameters such chlorophyll content can be standardized and used as indicators for high weed suppressive ability of the crop. Identification and development of competitive rice genotypes against weeds which may be an attractive, cost-effective and safe approach for sustaining rice productivity

Abstract ID: RSC-110

**Stem cells and their Potential Therapeutic Applications**

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The unique properties of stem cells like self-renewal, potency and capability to differentiate into any of the body tissue recommends their versatile uses in biomedical applications. These can be divided into embryonic and nonembryonic or adult stem cells based on their source. Ethical issues related to the use of embryonic stem cells limits their uses, however umbilical cord, amniotic fluid, adipose tissue might be a good alternative for treatment of various diseases. This review gives a brief outlook on the use of embryonic and nonembryonic stem cells in the cure of various diseases and their clinical applications.

Abstract ID: RSC-111

**Phytochemical analysis and assessment of in vitro antibacterial activity of *Tinospora cordifolia***

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Medicinal plants were the "backbone" of traditional medicine, which means more than 3.3 billion people in the less developed countries utilize medicinal plants on a regular basis. *Tinospora cordifolia* is one of the important medicinal plants. It is widely used in folk and ayurvedic systems of medicine. *Tinospora cordifolia* plant belonging to the family menispermaceae is common shrub in the Himalayas and tropical region of India. In this study, the stem part of was successively extracted by Soxhlet assembly using various solvents like water, ethanol, methanol, chloroform and petroleum ether. Phytochemical analysis of *T.cordifolia* stem was performed and active compound found were alkaloids, flavanoids, terpenoids. Screening of extract was performed for their antibacterial activity against three different pathogenic bacteria *E. Coli*, *S. Aureus* and *K. Aerogens* by Disc diffusion method. The ethanol extract of *T. Cordifolia* showed activity against tested bacteria.

Abstract ID: RSC-112

### **Acute Grain Overload in a Goat**

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A 3-year-old buck had accidentally ingested about 3 kgs of rice grain and showed clinical signs like dull and depression, distension of rumen, muco-purulent nasal discharge, dyspnea, sunken eyes and diarrhea. According to history and clinical signs the case was diagnosed as acute grain overload (acidosis). Therapeutic measures employed to reverse the condition by administration of oral (10%) and parenteral (7.5%) hypertonic sodium bicarbonate, rigorous fluid therapy as well as supportive medications including corticosteroid for preventing shock, antihistaminic parentally and intraruminally, liver extract with B-complex vitamins, calcium borogluconate, thiamine hydrochloride and ruminal synbiotics. The animal recovered after 3 days treatment.

Abstract ID: RSC-113

### **Avian Electrocutation Mitigation: Preventive Measures and Suggestions**

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Avian electrocutation due to power lines is a worldwide occurrence. However, the causes inducing such occurrences and effectiveness of mitigation practices are least reported. In the Indian context, work done towards avian electrocutation mitigation is least amongst the biodiversity conservation measures towards avifauna. Some of the measures which had been tried to be implemented in our country are: re-routing powerlines from key bird areas, attaching bird diverters to the powerlines, burying powerline cable lines underground in areas used intensively by birds, powerlines are not to be located in Important Bird Areas (ibas) such as water bodies and forest areas. However, all these measures have not been significant in reducing the avian mortality, due to powerline electrocutation. In this review, certain measures are suggested for declining the avian electrocutation.

Abstract ID: RSC-114

### **Nanoparticles as Potential candidates for targeted drug delivery**

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Nanoparticles have received much attention in today's era due to their versatile applications in various fields including the biomedical research. The unique physicochemical properties of these nanoparticles like small size, customized surface, improved solubility, and multi-functionality permits them to interact with complex cellular functions. Targeted drug delivery, can be defined as the method of providing medications or treatment to patient in such a way that it increases the drug concentration at specific site in comparison to other. Nanoparticles when injected by targeted drug delivery increase the therapeutic level inside the body as compared to conventional targeted drug delivery. The aim of this review is to provide an insight of various nanoparticles used in treating numerous diseases with focus on their specific target sites.

Abstract ID: RSC-115

### **Docking simulation study for Curcumin and its derivatives/analogues against Parkinson's Disease by targeting Nrf2 Protein**

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Parkinson's disease (PD) is an age-associated neurodegenerative disease clinically characterized as a movement disorder. Currently most of the therapeutic approaches used for the treatment of Parkinson's disease are aimed at replenishing the striatal dopamine. Curcumin and its derivatives/analogues interact with the residues in the Neh6 domain of Nrf2. Hence, the interaction of curcumin with Nrf2 in Neh6 domain could hinder the phosphorylation of DSGIS motif and consequently prevent the

degradation of Nrf2 by ubiquitin ligase. The results suggest that these derivatives of curcumin will be used as lead for the development of future drugs against Parkinson's Disease.

Abstract ID: RSC-116

**New approaches of elicitation towards enhancing the production of secondary plant metabolites**

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Plant secondary metabolites are rich sources of bioactive constituents and play a key role in major industries including pharmaceutical, food agrochemical fragrances and cosmetics. Tissue culture has been largely used over the years for the large-scale production of these commercially important compounds. The process of artificially enhancing these secondary metabolites for plant survival, efficacy and competitiveness is called elicitation. Broadly classified into abiotic and biotic elicitors, these compounds have been studied for the synthesis of specific secondary metabolites. The effects of these elicitors on secondary metabolite production in plant tissue cultures are dependent on the specific secondary metabolite in study. New approaches have been brought to light, where different modes, concentration and combination of elicitors are combined to determine their effects on secondary metabolite production. Many biotechnological approaches exist but elicitation is highly regarded as the most practically feasible strategy for enhancing the production of secondary metabolites. The high cost of production and lack of knowledge of the biosynthetic pathway of these metabolites are some of the major factors responsible for the low commercial success of industrially produced secondary metabolites. This paper categorizes various types of elicitors that have shown promising results and highlights recent approaches of elicitation and its effect on enhancing secondary metabolites that are of industrial value.

Abstract ID: RSC-117

**Production of Bio-fertilizer using Bio-wastes**

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India is an agricultural country and adopting different ways to increase the production. However, the continuous and excessive use of synthetic fertilizers is causing accumulation of chemicals in soil and in plant parts. This accumulation could lead to soil infertility, an important limiting constraint in crop yield in a developing nation. Hence, maintaining the soil quality can reduce several problems of land degradation, soil infertility and rapidly decreasing production levels of crop that occur in large parts of the world demanding the basic principles of good farming practice. Bio-fertilizers may replace synthetic fertilizers. Bio-fertilizers are preparations containing cells of various beneficial strains of microorganisms. They not only behave as soil conditioner but also, increases the availability of nutrients to plant thus, increasing the plant growth. The present study was carried out to achieve two major objectives: to develop a simple and cost-effective method to produce bio-fertilizers using bio-wastes. Secondly, to determine the effect of fertilizers and dosage on selected physical and chemical soil properties and plant yield. There were four types of bio-wastes used in this study from which the biofertilizers were prepared. These were food waste, fruit waste, agricultural waste, and mixture food, fruit, and agricultural wastes. The production and parameters were compared with a control which was a prepared bio-fertilizer from market (rich in rhizobium). Further, we have checked and compared the physical, chemical, and biological parameters and determined the micro-organisms properties in the prepared bio-fertilizers. All the prepared bio-fertilizers were more effective than control.

Abstract ID: RSC-118

**Alternative Use of Rice Stubble to Generate Electricity**

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Crop stubble burning is a major cause of air pollution in Punjab. However, several initiatives for its proper management have been taken up by various departments and institutions of the Punjab government but still air pollution level is increasing.

Instead of burning the crop residue, it can be used in other ways, which are beneficial to humanity. Keeping in view the increasing problems associated with the crop stubble burning in the state of Punjab, we have taken some steps towards exploring alternative uses of straw instead of burning. This study is an attempt to outline alternative use like use of rice straw for generation of electricity through microbial fuel cell. With the help of this crop stubble, electricity can be produced and it can be used as a sustainable source of energy in the remote areas. It is also focused on suggesting policies to the government so that air pollution can be minimized in affected areas.

Abstract ID: RSC-119

### **Changes in the Nutritional Values of Maize due to Environmental Pollution**

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Maize (*Zea mays*) is third most produced cereal crop in the world. Maize is a high source of nutrition. Quality of maize is greatly being affected due to environmental pollution and the accumulation of heavy metals. Quality of *Zea Mays* is analyzed by the help of estimation of nutritional components present like carbohydrates, starch, proteins and oil. Heavy metals like lead, mercury, chromium, arsenic, etc get accumulated in maize accessions and cause environmental hazards by hindering maize quality and lowering of nutritional components. Samples of two different areas are collected, one farmland using organic fertilizers and another farmland located near Jaipur-Delhi highway. Different methods are used to calculate the differences in the nutritional components of both the samples collected. Carbohydrates content are estimated by the help of phenol sulphuric acid method, starch by iodine test, protein by Bradford method and oil by soxhlet method. Comparison is made between the results of both the samples and the differences can give the amount of effect pollution caused to the maize samples. The result of the experiment concluded that the sample from farmland near the highway had nutritional components lower than that from the samples collected from organic farmland.

Abstract ID: RSC-120

### **Air Quality Data Analysis by Using SAS**

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This paper is a case study to explore the analytical and reporting capabilities of Statistical Analysis System (SAS) Visual Analytics to perform data exploration, determine order patterns and trends, and create data visualizations to generate extensive dashboard reports using the open source air pollution data of Jaipur available from the Central Pollution Control Board (<http://www.cpcb.nic.in>). Particulate air pollutant data (PM10 & PM2.5) was analyzed by using SAS. The SAS Visual Analytics web-based interface leveraged to explore patterns in the pollutant data to obtain insightful information. SAS Visual data builder was used to summarize data, join datasets and enhance the predictive power within the data. SAS Visual Analytics explorer was used to explore data, to create calculated data items, aggregated measures, define geography items. Visualizations such as charts, bar graphs, geo maps, tree maps, correlation matrices and other graphs i.e. Averages (Min, Max), Regression, Correlation, etc. Will be created to graphically visualize pollutant information contaminating the environment; hierarchies will be derived from date, time items and across geographies to allow rolling up the data, and these data will be shown at the time of poster presentation. Mainly, this paper will attempt to demonstrate use of SAS Visual Analytics to determine impact of pollution on the environment over time using various visualizations and graphs.

Abstract ID: RSC-121

### **Clino-sero-prevalence study of Japanese encephalitis virus infection in Uttar Pradesh**

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Japanese encephalitis virus (JEV) is a member of the family Flaviviridae belonging to the genus *Flavivirus* with mosquito-borne or tick-borne characteristics. It produces a spectrum of illness causing low mortality but high morbidity in humans. Individuals with JEV infection have a history of mosquito exposure in an endemic area. The prodromal period is characterized by fever, headache, nausea, diarrhea, vomiting, and myalgia, ataxia, weakness, and movement disorders. Therefore, this study was undertaken to highlight important clinical observations of JE virus, their serological characteristics, to rule out the early detection of the viral diseases so that appropriate management may be undertaken to the reduce long-lasting consequences in

health. Overall, the diagnosis of Japanese encephalitis may be supported by a capture immunoassay methodology demonstrating igm antibody in the CSF. Igm capture enzyme-linked immunoassay (ELISA) of serum or CSF is the standard diagnostic test for Japanese encephalitis. JEV infection cases are being reported from whole of the country. Absence of any pathogenic feature and significance of JEV infection control necessitate continuous sero-surveillance for appropriate patient management. The clinical and laboratory details of cases will be discussed in the presentation.

Abstract ID: RSC-122

### **Nanotech Revolution in Food Industries**

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Over the past few decades, the evolution of a number of new science disciplines and technologies has revolutionised the food sector. Most notable among these are biotechnology, cognitive sciences, information technology (IT) and, more recently, nanotechnology, which is a broad interdisciplinary area of research, development and industrial activity that involves the manufacture, processing and application of materials that have dimensions of the order of 100 nanometers (nm) or less. The applications of nanotechnology in the food sector are only new emergent, but they are predicted to grow rapidly in the coming years. Many of the world's largest food companies are reported to have been actively exploring the potential of nanotechnology for use in food packaging, antimicrobial coating and supplement delivery system. Nanotechnology in recent years has developed into a wide-ranging, multibillion-dollar global industry. The global market impact of nanotechnology is widely expected to reach 1 trillion US\$ by 2015, with approximately 2 million workers. The nanofood sector (the term refers to the use of nanotechnology techniques, materials or tools for production, processing or packaging of food) is currently led by USA, followed by Japan and China. Nanotechnology can be applied in all phases of the food cycle "from farm to fork". There are many nanomaterials which are used for different food applications on industrial scale. Titanium dioxide having a particle size of less than 100 nm is widely used as food additive and antimicrobial agent for food packaging and storage containers. Silver nanoparticles are used as antimicrobial agents in food packaging, storage containers, chopping boards and refrigerators and also as health supplement. Zinc and zinc oxide are used as nutritional additives and also as antimicrobial agents in food packaging. Silicon dioxide and carbon Nanoparticles are used as food additives and for food packaging. Platinum and gold nano-wires are used as biosensors to improve the food analysis. The rapid proliferation of nanotechnologies in a wide range of consumer products has also raised a number of safety, environmental, ethical, policy and regulatory issues. The main concerns stem from the lack of knowledge with regard to the interactions of nano-sized materials at the molecular or physiological levels and their potential effects and impacts on consumer's health and the environment. The nanotechnology-derived foods are also new to consumers and it remains unclear how public perception, attitudes, choice and acceptance will impact the future of such applications in the food sector. It is, therefore, important that an appraisal of potential consumer safety and regulatory implications is carried out in the face of actual or potential applications of nanotechnology in the food sector.

Abstract ID: RSC-123

### **Moving towards sustainable energy production using biorefinery methods**

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With the steady consumption of fossil fuel resources in the worldwide extension, the transformation of cellulose into biofuels pulls in significant considerations, since it is the most abundant and sustainable polysaccharide on the earth. Lignocellulosic biomass, for example, farming or agricultural products (as forestry residues, field crops), industrial productions constitute sustainable and bottomless assets with incredible potential for a low-cost and particularly supportable bioconversion to esteem included bioproducts. Therefore, numerous natural powers and chemicals that can be generated from lignocellulosic biomass can decrease ozone-harming substance outflows, upgrade vitality security, enhance the economy, reducing solid waste disposal problem, and enhance air quality. Rice straw is an often deserted yield in Asia and is even burnt categorizing it as a mere waste product. This in return contaminates the air. In nature, just higher growths like fungi have created biochemical frameworks to debase the lignocellulose complex. In this manner, the common procedures happening amid contagious wood corruption might be used for mechanical purposes that has an incredible potential for cellulose-delivering and wood-processing businesses and in addition for high esteem included transformation of lignocellulosic squander materials in Biorefineries. Moreover, new ideas have been proposed to empower the general objective of cost diminishment in addition to the application of rice straw for generating biofuel.

Abstract ID: RSC-124

**Effect of human hair hydrolysate on the agronomic growth parameters of *Gossypium arboreum* in field conditions**

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India is an agriculture based country and agriculture plays an important role in covering the food supplies for growing human population. The increased crop production largely relies on the type of fertilizers used to supplement essential nutrients for plants, which has also led to an increasing dependence on chemical fertilizers. The over exploitation of chemical fertilisers during several last decades has led to groundwater pollution. So, there is a growing demand of natural biological based organic fertilizers alternative to agro-chemicals and the search to explore the waste materials as new resources to develop biofertilizers is need of the hour. Human hairs are considered as of no use in most societies and therefore are found in the municipal waste in urban and rural areas around the world. Human hair is rich source of nitrogen-containing (~16%) organic material predominantly made up of keratin proteins. An industrial effort has been made by Floritech Organo Industries, Nagpur with the expertise and technical training of MGIRI, Wardha to develop systems which utilize this waste material as a resource. The chemical hydrolysis of waste human hairs at high temperatures in acidic solutions leads to a solution consisting of amino acids, which act as a liquid fertilizer after neutralization. The developed formulation of human hairs was procured and analysed for its efficacy in field trails of *Gossypium arboreum* (cotton). The cotton crop was grown in 404 m<sup>2</sup> plots (0.1 acre) at village Chautala in Dabwali, District Sirsa (Haryana) during Kharif 2017. The test plot was given the foliar spray of hair hydrolysate (having approx. 8% (v/v) nitrogen and diluted 1:200 with water) 45 days after germination of the seeds followed by three more sprays each after the interval of 15 days. The control plot was also mantined with foliar spray of water only. The trail results showed 15% increase in the chlorophyll content of the treated plants. There was increase in the plant height by 20% as compared to non- treated plants. The foliar spray also reduced the formation of immature balls on the treated plants by 20% and the weight of picked bolls per plant increased by 21% with enhanced fibre quality. The higher number of bolls per plant was significantly higher as compared to non-treated plants. Overall the results indicated that the fertilization of the cotton plants with hair hydrolysate fertilizer showed a positive effect on all early growth parameters i.e. Height of the plant, biomass accumulation, chlorophyll content, numbers of leaves, ball setting and yield.

Abstract ID: RSC-125

**Goat milk soap: An emerging product for healthy skin**

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Goat milk soap is wonderful for people with dry or sensitive skin, or conditions such as eczema and psoriasis. It is also perfect for healthy skin that wants to stay that way. Unprocessed, raw goat milk freshly obtained from the farm contains a lot of benefits. It contains alpha-hydroxy acids, vitamins, cream and minerals. Alpha-hydroxy acids such as lactic acid which remove dead skin cells from skin's surface because they break down the bonds that hold the dead skin cells together. Removing dead skin cells helps many skin conditions by removing irritation. Vitamins particularly Vitamin A is necessary to repair damaged skin tissue, and maintain healthy skin and reduce lines and wrinkles, control acne, and provide some psoriasis relief. The cream helps to boost the moisturizing quality of goat milk soaps and it is important for keeping skin naturally moisturized. Goat milk contains important minerals for the skin such as selenium. Selenium is believed by scientists to have an important role in preventing skin cancer. Selenium can also help to prevent skin damage from excessive time in the sun. Goat milk soap helps in balancing the pH level of our body perfectly. It has been found that goat milk contains a fatty acid named caprylic acid, which lowers the pH balance of the soap and makes it almost similar to that of the human body. As a result, our skin can absorb most of the nutrients from the soap and prevent the attack of germs successfully.

Abstract ID: RSC-126

**Green and Biogenic generation of silver nanoparticles using an indigeneous weed**

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Increasing interest in biomimetic nanoparticles synthesis finds wide spectral applications due to magnetic, catalytic and spectral properties. Especially it opens up an arena of research in medicine, diagnosis, and therapeutics. The present study demonstrates the efficacy of monodispersed isotropic Ag nanoparticles generated using an indigenous weed *Iris kashmiriana* (Baker) extract.

The kinetics of nanoparticles formation using aqueous extract was recorded using UV-visible spectroscopy. Synthesized nanoparticles were explored with electron micrographs (SEM, Hr-SEM & TEM), XRD, and FTIR techniques. The recorded UV-visible spectra confirmed the formation of nanoparticles. Electron micrographs revealed the presence of predominantly spherical morphology of size ranging 5–50 nm. X-ray diffractograms confirmed crystallinity and FTIR spectral records confirmed the possible biomolecules responsible for reduction–cum–stabilization of NPs. The present study demonstrates for the first time to fabrication and to determine the potential of biogenic monodispersed nanoparticles formation using an indigenous weed *Iris kashmiriana* (Baker) extract. The distinguishing feature of the present study is that, on one hand it enables the fabrication nanoparticles with a non-hazardous, energy-frugal, and cost effective method, and on the other hand the study enables gainful utilization of the weed by enhancing the utility value of each plant manifold, which is otherwise not only worthless but is rich in biomolecules of pharmaceutical value. The future perspective of the present report extends to demonstrate the proof–of–concept on anti-microbial and anti-inflammatory response using rat model.

Abstract ID: RSC-127

### **Goat Milk and Human Health**

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Various goat products, including liquid, fermented, frozen, condensed, and dehydrated milk products, are produced in many countries. Cheese is the most important goat dairy product, traded in large quantities among and within nations. There is high variation in nutritional, chemical, and rheological compositions between and within goat products, due to the multiplicity of manufacturing procedures, localities, animals, and management factors. Technological advances are required for a uniform supply of goat products. Some of the health benefits of goat milk include its ability to reduce inflammation, optimize digestion, improve bioavailability of nutrients, strengthen bones boost heart health, increase immunity, increase your metabolism prevent toxins from accumulating in the body, protect against weight loss and benefit the overall environment. The impressive health benefits of goat milk and the recent research into its positive effects on the human body have made it a very popular choice in recent years. Consumer education, identification of proper distribution and marketing channels, and development of specialty-type goat products are crucial for development of a sustainable and profitable dairy goat industry. Although supports from government, industry and academia are crucial for the survival and sustainability of the dairy goat industry, research supports from such entities have been modest due to its relatively low level of contribution to the overall agricultural production in the United States and some other countries.

Abstract ID: RSC-128

### **Goat Milk Nutritious Alternate of Cow Milk**

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Goat milk and its products have very important aspects like feeding more starving and malnourished people in the developing world than from cow milk; treating people afflicted with cow milk allergies and gastro-intestinal disorders and filling the gastronomic needs of connoisseur consumers, which is a growing market share in many developed countries. Very much improvement in milk yield and lactation length of dairy goats, especially in developing countries must be accomplished through better education/extension, feeding and genetics. which abound in trade publications and the popular press. Goats have many unique differences in anatomy, physiology and product biochemistry from sheep and cattle, which support the contention of many unique qualities of dairy goat products for human nutrition. A few countries like France have pioneered a very well-organized industry of goat milk production, processing, marketing, promotion and research, which has created a strong consumer clientele like in no other country, but deserves very much to be copied for the general benefit to human nutrition and goat milk producers. The physiological and biochemical facts of the unique qualities of goat milk are just barely known and little exploited, especially not the high levels in goat milk of short and medium chain fatty acids, which have recognized medical values for many disorders and diseases of people. The new concept of tailor making foods to better fit human needs has not been applied to goat milk and its products so far, otherwise the enrichment of short and medium chain fatty acids in goat butter, and their greater concentration compared to cow butter, could have become a valued consumer item. Also revisions to human dietary recommendations towards admitting the health benefits of some essential fats support the idea of promoting goat butter. While goat yoghurt, goat cheeses and goat milk powder are widely appreciated around the world.

Abstract ID: RSC-129

**Genetically Modified Organisms and Its Role as a Future Food**Aarti Sharma, Rajesh Kumar Kesharwani, Sandeep Tripathi, Manisha Choudhary,  
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Genetic engineering is an advanced technique by which genetically modified organisms (GMOs) had been developed. GMOs has distinct advantages as well as disadvantages too. India is a growing country (in aspect of population) and food is the basic need of all. Genetically Modified Crops (GMCs) offers many advantages with respect to quality and yield with lesser use of pesticide and herbicides. However non-governmental organization and general public opposing the development and application of GMOs because the nature is destroying by converting genes (natural characters). So many health issues and environmental issues concerning the GMOs. After negotiation, genetic engineering is accepted conditionally, the inserted genes and its products need to be assessed before releasing in nature with certain precautions. In many countries of world, like in European Union's GM food is still undesirable. So many techniques and research are on progress to make betterment of GMOs and its detection method. USA is the largest producer of GMOs followed by India, China, Argentina, South Africa etc. The present data provides a brief overview on GMOs and its potential role which will be helpful to solve food scarcity in future.

Abstract ID: RSC-13

**Designing tight inhibitors against important protein drug target of multidrug resistant pathogenic bacteria  
Enterococcus faecalis**

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Enterococcus faecalis (Ef) is a multidrug resistant pathogenic bacteria associated with hospital acquired infections. It causes serious infections in humans, particularly in the nosocomial environment, where the naturally high levels of antibiotic resistance found in Ef contribute to its pathogenicity. Ef is resistant to many commonly used antibiotics such as aminoglycosides, aztreonam, cephalosporins, clindamycin, the semisynthetic penicillins, nafcillin and oxacillin, and trimethoprim-sulfamethoxazole, etc. Ef can cause endocarditis and septicemia, urinary tract infections, meningitis, and other infections in humans. The ability of Ef to adhere to and build up biofilms on medical devices is thought to add to its pathogenesis. This bacterium possesses a variety of resistance mechanisms which makes it more difficult to control the bacterium with conventional drugs, and, so far no effective drug treatment is available against it. Rational structure based drug design works on understanding of the three dimensional structure of the biological target. Three dimensional structures are solved using methods such as x-ray crystallography or NMR spectroscopy. After solving the structure of the target protein, compounds that are likely to bind with high affinity to the protein are designed and structure of the target protein in complex with the compound is solved and analyzed. As it is becoming difficult to treat infections caused by Ef, there is an urgent need to develop drugs that inhibits the proteins which are necessary for the survival of the bacterium. In this regard we have cloned, expressed and purified novel protein drug target from Ef. Further the purified protein was biochemically characterized and structural studies were performed. These studies will assist in better understanding of biosynthetic pathways and structural components involved. Structure determination of such important protein drug targets will help us to design new drugs against Ef.

Abstract ID: RSC-131

**Role of Active Nitrogen Molecules and Myeloperoxidase Activity as a Marker of Inflammation in Sepsis**

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Sepsis is the leading causes of morbidity and mortality worldwide of blood stream infection. Therefore, biomarkers that might better inform clinicians treating such patients are sorely needed. Neutrophils are the most abundant leukocytes present in the blood and act as a first line of defense against microbes as they play crucial roles in innate immune responses. High availability of active nitrogen molecules (Nitrite/ nitrate) and myeloperoxidase (MPO) enzymes are often noticed at the site of inflammation/ infection produced by neutrophils. Present work has been planned to detect the role of active nitrogen molecules and MPO enzymes in the sepsis. In this study, blood samples were collected from 21 critically ill patients admitted in ICU and from 12 healthy relatives accompanying the patients. Plasma MPO enzyme activity was determined by o-dianisidine-H<sub>2</sub>O<sub>2</sub>

method and nitrite molecules was determined by Griess diazotization reaction method. High levels of nitrite (mean level  $88.47 \pm 10.56 \mu\text{mol/l}$ ) and MPO enzymes (mean level  $2.031 \pm 1.047 \text{ nmol/minutes/mg protein}$ ) were observed in sepsis patients as compared to control subjects (mean level  $11.34 \pm 5.50 \mu\text{mol/l}$  and  $7.71 \pm 0.773 \text{ nmol/minutes/mg protein}$ ). This suggests the neutrophils status and its functioning toward the use of increased plasma levels of MPO enzyme activity and nitrogen molecules as a marker of inflammation in sepsis.

Abstract ID: RSC-132

### **Can an egg white 'constituent' be a solution for sustainable survival?**

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A member of Orthomyxoviridae, influenza virus is the causative Agent of respiratory tract illness and is prevalently seasonal. Four types of influenza viruses: A, B, C and D have been discovered with type A being further categorized based on two surface structural proteins of the virus. Non-structural proteins (NSP) form an integral part of the viral proteomics and constitute the main machinery for virus replication and maturation. There are five classes of NSP namely NSP1-5. NSP2 has been associated with protease like activity in addition to NTase, RTase and helix destabilizing activities in different viruses. As NSP2 plays vital role in viral maturation restricting the activity would prevent the maturation of virus and thus spread of infection. With this paper, we have explored the interaction of small 13 Kd inhibitor with NSP2 protease domain in silico and studied the binding kinetics of the interaction thus presented.

Abstract ID: RSC-133

### **Pyrolysis of Jatropha residue cake**

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Due to depletion of fossil fuels and the increase in environmental pollution concern, there is a need to advance the technologies and hunt for other renewable and environmental friendly energy sources. Biomass energy is derived from the thermo-chemical conversion of plant sources, such as wood from natural forests, waste from agricultural and forestry processes and industrial, human or animal wastes. By nature that all biomass ultimately converted to its molecules with the release of heat (Sheth & Babu, 2009). The biomass is a major source of energy to human being and is presently estimated to contribute of the order of 10%-14% of the world's power supply (Guo, 2004). The thermo-chemical conversion of biomass (pyrolysis, gasification, combustion) is one of the promising routes among the renewable energy options of future energy. The biomass gasification technology is an attractive route for the production of fuel gases from biomass. By gasification, solid biomass is converted into a combustible gas mixture normally called "Producer Gas". Whereas the pyrolysis process consists of the thermal degradation of the biomass feedstock, in the absence of oxygen/air, leading to the formation of solid (charcoal), liquid (tar and other organics) and gaseous products (Babu & Chaurasia, 2003). In the present study, the deoiled cake of Jatropha is considered as a biomass. Jatropha plant has potential as a renewable energy crop as its oil upgraded via transesterification to conventional biodiesel. Extraction of Jatropha oil results in residue cake that is needed to be disposed. Generally, collection and disposal of residues are becoming more difficult and expensive and may create environmental problems if not properly done (Sricharoenchaikul & Atong, 2009). Pyrolysis process has its own advantages in comparison to the gasification, as it produces a variety of chemicals by limited degrading and later process completely breakdown the biomass into permanent gases. The abundance of lingo-cellulosic waste and high recoverable yield of liquid product from biomass pyrolysis presents an attractive process alternative. The products of pyrolysis i.e. gas, liquid, and char, and their relative proportions depends heavily on the pyrolysis method and process conditions. In the present study, Jatropha de-oiled residue cake is taken as a biomass and pyrolyzed in a fixed bed reactor in a Nitrogen environment. The products of the pyrolysis are liquid pyrolytic oil, solid char and gaseous mixture. The pyrolytic-oil is recovered by passing the pyrolytic vapors exiting the pyrolysis reactor through the condenser. The uncondensed gas is blown off and the solid char is collected from the pyrolyser as a residue. The reduction in the biomass weight is continuously monitored and recorded using weighing balance interfaced with a computer. Various operating parameters such as heating rate, inert gas flow rate, particle size of biomass are varied to study their effects on the pyrolytic behavior of biomass. The yields of solid char, liquid bio-oil and gases are reported for different operating conditions. The optimum operating conditions leading to maximum bio-oil yield are found out and reported in the present study."

Abstract ID: RSC-134

### **Review: Modelling and Simulation of Pyrolysis of Deoiled Cake**

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The life of the conventional fossil fuel has become limited in the present era, where the use of energy and their source has been growing faster than the world population. The worldwide researchers are working to develop economical, energy-efficient processes and resources for production of fuels in recent years. Bio-energy is now accepted as having the potential to provide the major part of the projected renewable energy provisions of the future. Though there are conversion processes like pyrolysis, gasification and combustion. Pyrolysis method has been receiving great attention as a promising technology for producing char, bio-oil and gas. Pyrolysis is a thermal decomposition process which is carried out in the absence of air at high temperatures. The reaction products vary based on the feedstock characteristics like cellulosic and lignin content and operating parameters such as temperature, heating rate, residence time, catalyst and biomass type. These reaction leads to gaseous products like H<sub>2</sub>O, H<sub>2</sub>, CO, CO<sub>2</sub>, CH<sub>4</sub>, C<sub>2</sub>H<sub>4</sub> etc. The liquid products from the pyrolysis reaction gives a complex mixture of aldehydes, ketones, aromatics, aliphatic, phenols, alcohol and some organic compounds which together constitute bio-oil or tar. This review outlines the various issues pertaining to the understanding and modelling of the complex process of pyrolysis.

Abstract ID: RSC-135

### **Non-coding slippery sequences: its role in regulation of plant gene regulation**

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Previously dismissed as “junk DNA”, it is the non-coding regions of the genome that are responsible for regulation, facilitating complex temporal and spatial gene expression. One of such slippery sequences often called as simple sequence repeats (SSRs), are frequently found in the 5' flanks of genes and have recently been implicated to have a role in regulation of plant gene expression. In our study, In-silico analysis of the *C. roseus* transcriptome revealed preferential distribution SSRs in the 5' planks of genes. The most abundant was trinucleotide repeats (AAG/CTT) followed by the dinucleotide repeats (AG/CT). Further, investigation revealed that 5'-flanks of Tryptophan decarboxylase (Tdc) gene harbours CT/AG type of repeats and were investigated for its role in regulation of gene expression. Our study demonstrated that not only does the length of (CT)<sub>n</sub>-SSRs influences the promoter activity, but the presence of SSRs per se in the 5'-UTR significantly enhances the level of gene expression. We termed this phenomenon as “microsatellite mediated enhancement” (MME) of gene expression. At translational level, coding-slippery sequences are able to program elongating ribosomes to slip from one reading frame to another thereby producing two (or more) different proteins from one mRNA. While on the other hand, non-coding sequences can have potential to code for a short peptide, such as up-stream open reading frame (uORF) and have been recently implicated in regulation of gene expression in response to different external and internal clue. Currently, we are working on ribosome profiling for the identification of role of non-coding slippery sequence in translational control of gene function in chickpea root-nodule symbiosis and nitrogen fixation. In this study, we have identified stages of chickpea root-nodule symbiosis, wherein global gene expression might be regulated primarily, at the level of translation. Further, sample was subjected to nuclease treatment and library was prepared for sequencing. Information obtained through this approach might play a vital role in generation of chickpea with enhanced efficacy and efficiency of root-nodule symbiosis and nitrogen fixation.

Abstract ID: RSC-136

### **Diversified Utility of Goat Hair**

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Goats are valuable not just for their milk and meat. Or for their ability to help renew grasslands and control weeds. Or even for their ability to be friendly and gentle around children. Goats can also be valuable for their hair. Cashmere goats produce cashmere and Angora goats produce mohair. Mohair is used in sweaters, scarves, coats and other clothing. The hair and wool were originally used together, but more recently the wool has been combed out for separate use. Cashmere, one of the two major goat fibres used in textiles, is the very fine under wool from a double coat of this type. It is combed from the coat of central Asiatic goats during the spring moult. The other major goat fibre is mohair grown by a specific breed, the Angora,

which originated in Turkey. The Angora breed has a single coat of long, lustrous and relatively coarse, but non-hairy fibres. Mohair is therefore quite distinct from cashmere, and since Angora goats, like sheep, have almost lost the primitive tendency to moult, the fibre is harvested by shearing. Mohair is also used in floor rugs and carpets and things like doll hair. Goat Hair is soft and natural, which is typically ideal for washes and blending. The mops have a large round and full bodied domed end, made with Goat Hair, large colour carrying capacity for washes, backgrounds etc. used for varnishing and glazing etc.

Abstract ID: RSC-137

### **By-Products of Goat Milk and Its Healthier Aspects**

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Goat milk has played a very important role in health and nutrition of young and elderly. Goat milk has also been known for its beneficial and therapeutic effects on the people who have cow milk allergy. These nutritional, health and therapeutic benefits enlighten the potentials and values of goat milk and its specialty products. Goat milk whey has higher levels of alpha lactalbumin, but is often discarded, or given to animals as nutritional supplement, and little information on it is available. Goat milk may be fortified with minerals, vitamins, and others additives and may be reduced in fat. However, presently there are many products prepared from goat milk whey; among them are flavoured whey beverage, tablets (chewable), whey protein concentrate, and athletic supplements. The chemical characteristics of goat milk can be used to manufacture a wide variety of products, including fermented products such as cheese, buttermilk or yogurt, frozen products such as ice cream or frozen yogurt, butter, condensed/dried products, sweets and candies. In addition, other specialty products such as soap for skin care and other cosmetic products made from goat milk recently have gained a further attention. In some countries, customers can find breakfast cereals with goat milk, and baby food and sweet and salty pies made from goat milk and cheese.

Abstract ID: RSC-138

### **Orchiectomy in bilateral cryptorchid buck under spinal anaesthesia**

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An apparently healthy bilateral cryptorchid buck was admitted to clinics with the history of urine squirting and self-drinking of urine. The owner wanted the castration of the animal to get rid from this vice and also to obtain the body weight of the animal. On clinical examination of scrotal region both the testes were found absent and the scrotum was bifid. On deep palpation against the body wall the testes could not be located beneath the skin surface and thus it was diagnosed that both testes had not descended from the abdominal cavity. Laparotomy was done through right paramedian ventral approach and orchietomy performed by surgically removing of both the testes located in the abdominal cavity. The surgery was performed under spinal anaesthesia with administration of 1.5 ml 2% Lignocaine HCL in the sub-arachnoid space at lumbo-sacral junction. Morphometric measurements of surgically removed testes revealed the 87.50 mm circumference of mid portion, 105.00 mm longitudinal periphery, 43.75 mm length and 37.50 mm breadth of testes. Two weeks after orchietomy, the laparotomy surgical wound was found completely healed and also the owner reported that animal had left the vice of urine squirting and drinking.

Abstract ID: RSC-139

### **Optimization of factors influencing genetic transformation in Indian cultivars of Barley**

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Barley (*Hordeum vulgare* L.) is one of the four major crops in the world after maize, wheat and rice. It is well adapted to semi-arid conditions. Apart from the traditional uses (malting and animal feed) barley also provides nutritive health foods and dietary supplements. In the present scenario where changing climate and scarcity of food for increasing population is posing great threat; development of efficient genetic transformation systems for further improvement of Barley germplasm will be of critical value. Genetic transformation parameters were standardized for Indian winter Barley cultivar BL-2 via both microprojectile bombardment and Agrobacterium mediated genetic transformation using immature embryos as explants. Agrobacterium tumefaciens strain EHA 105 harboring the plasmids pCNL-56 was used to optimize several parameters affecting Agrobacterium-mediated gene delivery. Addition of acetosyringone in the infection and co-cultivation media, surfactants in the infection medium and antinecrotic treatment of explants were advantageous and resulted in increase in transformation

efficiency. The plasmid DNA isolated from pCAMBIA1381 harboring hptII gene as selectable marker and gusA gene as reporter were used for particle bombardment mediated transformation of immature embryos and regeneration of transgenic plants. Transformation experiments were carried out using different parameters and optimum conditions for DNA delivery was standardized. The integration of hptII and gus genes via particle gun bombardment and nptII and gus genes via Agrobacterium mediated transformation were confirmed with PCR amplification of respective genes from putative transformants and Southern blot hybridization using PCR amplified DIG labeled hptII gene and npt II genes as probes. PCR analysis with hptII and npt II gene specific primers indicated the presence of transgene in T1 generation plants. Various factors significantly affecting the transformation efficiency in Indian barley cultivars will be presented.

Abstract ID: RSC-140

### **Plant Based epigenetic modulators: A knowledge discovery report**

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To find plant based biomolecules that have been reported to modulate epigenetic state of biological systems. We applied knowledge discovery in database (KDD) on PUBMED database. For aggregation of information and discovery of association rules, we used text mining techniques. At present, based on total 432 PUBMED abstracts, we aggregated information about total 1200 biomolecules from nine categories of biomolecules (crude extracts, metabolites, lipid, nucleotide, proteins, lipids, glycolipids, plant based secondary molecular nanoparticles, and green chemistry products) from 120 plant species reported for epigenetic effects in 31 biological species, 8 epigenetic marks, 1232 genes, 7 epigenetic measurement methods, and 5 epigenetic engineering methods. We discovered six association rules that have shown 90% co-occurrence for a plant based epigenetic modulator and DNA methylation genes. The study aggregated current state of knowledge about plant based epigenetic modulators and discovered valid association rules from a public literature database. In future, we will use these association rules in machine learning algorithms to predict epigenetic effects of plant based biomolecules. Upon full completion of the project, the research will be useful for epigenetic based bio-engineering.

Abstract ID: RSC-141

### **On a theory discussing the foundation of life**

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Origin of life is one of the biggest unsolved mystery mankind has struggled to understand from centuries. There are many theories which attempt to explain life origin, but the most accepted is 'Theory of Chemical Evolution' which accounts the origin of life on this planet in terms of spontaneous chemical reactions and evolution of organic chemicals. Miller-Urey experiment of 1953 had successfully shown the synthesis of 20 amino acids during early Earth conditions. But no living cell is ever produced in any laboratory experiment. Here we have discussed the origin of life from the perspective of physics and formation of life according to thermodynamic laws. Also, to explain the genesis of life like properties (such as self-replication, reproduction, and growth) in non-living matter in terms of energy dissipation and entropy of the system. We also address the possibility of any type of extra-terrestrial life outside our home planet and techniques to develop life on other habitable zone planets by the knowledge of processes indulged in origin of life.

Abstract ID: RSC-142

### **Pediatric Wilms Tumor: Contemporary Prognosis and Future Reflections**

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Almost 4-5% of pediatric malignant tumors come under Wilms tumor or nearly almost 450 new cases are observed every year in the United States, with same frequency in boys and girls. The incidence is fairly uniform throughout the world, being somewhat more common in black children and less common in Asian compared with white children. The mean age at presentation is 3 years for sporadic and 2 years for hereditary cases. Diagnosis for children with Wilms tumor (WT) Dramatically improved during the last three decades, National Wilms, Tumor Study Group (NWTG), International Society of Pediatric Oncology (SIOP), and cancer of children of the United Kingdom Study Group (UKCCSG) conducted sequential

studies WT will have treatment results for children Reviewed in light of long-term follow-up action. Area for Future check will be identified. More than 70% of children with stage IV, favorable histology (FH) Wilms tumor will be relapse-free survivors 16 years after diagnosis. Successful treatment generally includes whole lung radiation therapy and doxorubicin. Such therapy associated with adverse, long-term effects, including impaired pulmonary function, congestive heart failure, and second malignant neoplasms, especially breast cancer. Wilms tumor is associated with several genetic syndromes that can affect the clinical presentation. The WAGR syndrome, consisting of Wilms tumor, aniridia, genitourinary (GU) anomalies, and developmental retardation, results from germline inheritance of a deletion at chromosome 11p13 that involves the WT1 gene and neighboring genes that affect eye and cognitive development.

Abstract ID: RSC-143

### **Impending A New Epoch in Duchenne Muscular Dystrophy (DMD) Treatment**

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Duchenne muscular dystrophy (DMD) is a disorder related to X-chromosomes that alters 1 in 3500-5600 males which are newly born. Basically illustrated due to the protein known as dystrophin in muscle tissue , that causes continuous catastrophe till death in the 3 decagon of life .The one and only treatment till now which is efficient in lagging the evolution of this ailment is known as corticosteroids, that has been delineated to boost tendon vitality in randomised composed analysis. Persisting researches have indicated that they delay walking time and impede the progress of breathing dysfunction, expounded scoliosis and cardiomyopathy. Various possible drugs are being presently inspected Genetic analysis comprising infusion of the gene dystrophin via a vector, has been confirmed efficient in animals but not in human . Presently under clinical analysis a drug known as Ataluren or a type of molecule which attached with ribosomes and grants the infusion of the amino acid in the immature exon skipping and codon termination, that attaches with RNA and eliminates particular sites of RNA grafting, generating dystrophin that is functional but smaller. Analysis soliciting to inflect alternative muscular protein, mentioned as utrophin and myostatin, that reduces manifestation .

Abstract ID: RSC-144

### **Common Diseases in Goat and its Management and Control**

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Generally goats are resistant to many diseases. Even when we rear more number of animals in one place and if there is insufficiency of pasture facilities, this type of intensive system of rearing leads to spread of many diseases. This causes reduced production potential and more mortality which in turn causes economic losses to the farmers. Hence early identification of diseases in goat and its prevention is most important. The goat can suffers with various diseases, which may be caused by bacteria, viruses, parasites and other non-infectious agents. The identification of the goat diseases only based on the clinical symptoms is most difficult, as many diseases resemble one another. The important clinical symptoms of common diseases are given, only to help the farmers to detect the sick goat at the earliest stage. The farmers may take some steps, to prevent further deterioration in the condition of the animal, until it is brought under the supervision of a veterinarian. It is observed that the seriousness can be prevented or minimized if timely preventive health measures have been adopted in goat farming.

Abstract ID: RSC-145

### **Zoonotic Diseases in Goat**

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Zoonotic diseases have always been important. However they are even more important now as the number of emerging diseases with zoonotic implications are increasing rapidly. Veterinarians have an important role to play in controlling these diseases and in advising people about the real risks that zoonosis causes to man. Zoonotic diseases can be bacterial, viral, fungal, protozoal and parasitic in origin. Veterinarians are uniquely qualified to advise on prevention and reduce the chances of transmission to humans by proper education and management techniques. Veterinarians have a duty of care to general populace, the owners and cares of the animals concerned, their own staff, and of- course to themselves. Understanding the distribution of common zoonotic diseases, their modes of transmission to humans, how to make a clinical & laboratory diagnosis of them and how to preventive them would be of utmost importance specially in India where major portion of the rural population is in close contact with domestic animals and where unhygienic living conditions, lack of education, poor personal hygiene, poor

veterinary and public health services, poverty and malnourishment contribute to dissemination of these diseases. Some very simple measures can be taken to protect our-self, our family and our staff from zoonotic diseases viz. never drink unpasteurized goat's milk, never eat uncooked goat's meat, never cuddle goats or give newly born kids mouth to mouth resuscitation, always wash hands before and after handling goats, remove dirty clothes before entering the kitchen, pay particular attention to the hygiene of children etc.

Abstract ID: RSC-146

### **Dendrimer- Based Drug Delivery System- Focus on Indian Visceral Leishmaniasis**

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Leishmaniasis: a vector borne disease has a worldwide existence. It present mainly in four forms: visceral leishmaniasis, Cutaneous Leishmaniasis, Muco cutaneous Leishmaniasis and Post Kala-Azar Dermal leishmaniasis (PKDL). In India Visceral leishmaniasis is a most existence type of leishmaniasis. Visceral leishmaniasis is also known as Kala-Azar, Black Fever, Dumdum Fever, Bardwan Fever, Sarkari Bimari etc. Visceral Leishmaniasis is caused by protozoa species haemoflagellate leishmaniasis donovani and transmitted by the bite of sand flies of Phlebotomus genus. Visceral leishmaniasis affects various age groups. Approximate 10k morbidity with 1k mortality occurs annually due to visceral leishmaniasis in India. Fast urbanization, poverty, improper sanitation, lack of knowledge about prevention and individual risk factor like HIV, malnutrition and genetic susceptibility is the major source of visceral leishmaniasis existence in India. Approximate 90% cases of Indian visceral leishmaniasis are comes from Bihar. Available treatment modalities have limitations like serious side effects, non oral solubility, high cost and long hospitalization due to this a favorable treatment option for visceral leishmaniasis is still out of range of a common man. Dendrimer is a new generation artificial polymeric macromolecules constructed in step-by-step fashion using repetitive chemistry. Dendrimer have number of applications in several pharmaceutical fields such as enhancing the solubility of poorly soluble drug, enhancing the delivery of DNA, and as carrier for the development of novel drug delivery systems. The present research emphasizes on the development of a conjugate of Dendrimer with non oral soluble drug for the purpose of oral solubility enhancement and then use for the treatment of visceral leishmaniasis.

Abstract ID: RSC-147

### **Impact of Genetically Engineered crops on Agri-Products sustainability in India: Challenges, action and expectation**

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With the advent of recombinant DNA technology in agriculture the crop improvement entered a new realm. Recombinant DNA Technology has seen as a potent tool for enhancing a crop productivity and food quality and therapeutic medicines productions. These agriculture advancement are important for maintaining the global production of sufficient agri-based products in sustainable manner to face with globally increasing human population. Recently, Indian farmers have planted 11.6 million hectares Bt cotton and produced 6.51 million tonnes of cotton fiber, which is 95% of the total 12.2 million hectares of cotton in the country. Resistance to herbicides insects and viruses have been genetically engineered into a few crops globally like corn, cotton and soybean. The transgenic plants reduce pesticides application so that they are suitable for organic farming. Scientists have traditionally cultivated fields to disrupt weeds to reduce its ability to absorb water. The introduction of genetic engineering (GE) technology in agriculture could affect labour dynamics, farm structure & community viability, but the extent of the social effects of GE crops are poorly understood because there has been little research on GE crops till date. Public and private research organizations should allocate sufficient resources to monitor and assess the substantial environmental, economic and social effects of current and emerging agricultural technology. Furthermore, Support should be focused on expanding the preview of GE technology in transgenic crops development. The information presented in this review addresses questions about the recent advances on Genetically Engineered Crops. No single technology can solve all the problems, but a combination of transgenic technology, organic farming, marker assisted breeding and traditional practices would markedly improve crop yields.

Abstract ID: RSC-148

### **A Review on Plastic Waste Management in India**

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Synthetic and conventional plastics (petro-based) are non-biodegradable in nature, it remains in the dump-yards/ landfills for several years, if not collected properly. The plastic waste become a danger and concern for our environment. Therefore, the government of India has made Plastic Waste Management Rules 2016 to combat these problems. If these rules are well understood and implemented, then it can lead to environmentally sustainable development of our country. This study is focused on the kit prepared for the report of implementation of these rules. The report of implementation of these rules has been submitted in the year 2015-16 to the central pollution control board. Majority of the state are following the rules and have also adopted various technologies for environmentally sound management of plastic waste. If these rules are well understood and implemented in all over the nation, then it can lead to environmentally sustainable development of our country. This report will give the insight for plastic waste management in India. According to the report few States/UTs namely: Goa, Chhattisgarh, Gujarat, Odisha and Tamil Nadu are transporting their plastic waste to cement plants for co processing. Besides, few other States/UTs namely: Nagaland, Tamil Nadu and West Bengal are using plastic waste for polymer bitumen road construction. Finally, this paper will help us to get an insight of the current scenario of plastic waste management in our country and will also aid in improving and achieving environmentally sustainable development with the help of the parameters involved in suggested tool kit.

Abstract ID: RSC-149

### **Dengue and its effect on Human Health**

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Organization recommends prevention of many life threatening diseases and dengue is the most prevalent spread through the world via mosquito borne viral disease (specifically flavivirus). It is mainly epidemic in the areas of tropical and sub-tropical continents of the world. It needs urgent attention of scientific community to make a worldwide program or systematics strategy, which aimed with the increasing capacity of surveillance and effective response, general awareness in society together with the reduced disease burden. Early diagnosis has to be advocated together with drug and vaccine designing program, which can help to control dengue in the future.

Abstract ID: RSC-150

### **Assessment of Functional EST-SSR Markers (Sugarcane) in Cross-Species Transferability, Genetic Diversity among Poaceae Plants, and Bulk Segregation Analysis**

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Expressed sequence tags (ESTs) are important resource for gene discovery, gene expression, gene regulation, molecular marker development, and comparative genomics. We procured 10000 ESTs and analyzed 267 EST-SSRs markers through computational approach. The average density was one SSR/10.45 kb or 6.4% frequency, wherein trinucleotide repeats (66.74%) were the most abundant followed by di- (26.10%), tetra- (4.67%), penta- (1.5%), and hexanucleotide (1.2%) repeats. Functional annotations were carried and after-effect newly developed 63 EST-SSRs were used for cross transferability, genetic diversity, and bulk segregation analysis (BSA). Out of 63 EST-SSRs, 42 markers were identified owing to their expansion genetics across 20 different plants which amplified 519 alleles at 180 loci with an average of 2.88 alleles/locus and the polymorphic information content (PIC) ranged from 0.51 to 0.93 with an average of 0.83. The cross transferability ranged from 25% for wheat to 97.22% for *Schlerostachya*, with an average of 55.86%, and genetic relationships were established based on diversification among them. Moreover, 10 EST-SSRs were recognized as important markers between bulks of pooled DNA of sugarcane cultivars through BSA. This study highlights the employability of the markers in transferability and genetic diversity in grass species, and is distinguishing sugarcane bulks.

Abstract ID: RSC-151

### **Effect of Micro-Environment on Bioaerosol Count**

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Bioaerosol count at a place varies with different factors like seasonal pattern, human density, their daily based activities and indoor-outdoor air exchange rate. Occurrence and diversity of microbes and their propagation depends directly on the microenvironment of specific emitting sites which act in a complex and interdependent manner. The aim of present study is to monitor bioaerosol level fortnightly at four outdoor sites of different land-use configuration (Vegetated site, Library, Health centre and a Residential colony) using Anderson six-stage cascade impactor. The bacterial and fungal counts were measured separately using different culture media. It was noted that the ambient concentration of bioaerosols of all the land use based monitoring sites were different due to their micro-climatic variations. The maximum bacterial count was observed at the outdoor site of health centre ( $4036 \pm 440.5$  CFU/m<sup>3</sup>) followed by residential colony ( $2188.4 \pm 182.2$  CFU/m<sup>3</sup>), library ( $780 \pm 56.24$  CFU/m<sup>3</sup>) and minimum at vegetated site ( $529 \pm 20.42$  CFU/m<sup>3</sup>). Maximum count of aerosolised fungi was observed at the vegetated site ( $2429 \pm 353.12$  CFU/m<sup>3</sup>) and health centre ( $2188 \pm 254.45$  CFU/m<sup>3</sup>) followed by library ( $586 \pm 37.23$  CFU/m<sup>3</sup>) and residential colony ( $531 \pm 26.35$  CFU/m<sup>3</sup>). The present study authenticated that the bioaerosol level substantially vary between the emitting sources within the same eco-geographical area. The classification of emitting sites can be done on the basis of human occupancy and their activities, presence of vegetation and type of waste generation and management practices, which ultimately reflects the sources, ingression, diffusion and ecological niche of microbes in an environment.

Abstract ID: RSC-152

### **A review on Indoor air pollution and its associated health risk**

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Indoor air pollution is one of the major health risks to the public life, human spend most of the time (about 90%) of their lives in enclosed spaces like houses, offices, commuting vehicles etc. Built environments are complex ecosystems (Brooks at al., 1991) where diverse indoor pollutants regularly emitted (both chemical and biological in nature) from different sources like fuel combustion, building materials, furniture's and from central heating and cooling system (Rintala et al., 2008; Amend et al., 2010). Beside this, modernization in our construction technology lead us to use more synthetic material to make our building more trendy, comfortable and comparatively cheaper during investment. Worldwide indoor air pollution and its associated health risk have been studied by several researchers from different disciplines. To find out international status of the information on the theme of indoor air pollution and its health effect, the search engines like Scopus (352 Research papers), PubMed (75 Research papers), JStor (73 research papers) were used and retrieved information in the form of published/reviewed papers. In global scale, result categorically documented availability (last 25 years) of manuscripts in developed country where lots of work has been done on Sick Building Syndrome (SBS) and also in human health. In between the year 2011-2014, maximum research works were reported either from US or from EU, but in developing countries where indoor air pollution is one of the major urban health risk still not properly addressed. Indoor environments are the major emitting sites of complex biological and chemical pollutants and the occupants of those building regularly face adverse health effects (Chan et al., 2016) due to the exposures of indoor bio-allergen or chemical pollutants and also responsible for acute and chronic respiratory dysfunctions. Regular identification of local source of pollutants and innovative preventive measures for the improvement of such risky environmental conditions is need of the hour along with maintenance of minimum ventilation per person i.e, 10L/ min (globally recommended value) to avoid exacerbation of SBS symptoms (Sundel et al., 2011).

Abstract ID: RSC-153

### **Association and validation of spot blotch resistance and leaf tip necrosis at molecular level in advanced breeding lines**

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Leaf rust and spot blotch are among the most important diseases of wheat causing substantial yield losses to several parts of the world. The studies at phenotypic level suggests that not only multifungal resistant gene Lr34 but also spot blotch disease resistance is associated with leaf tip necrosis (LTN). This question has not been tested at molecular level and if so, the reports were very limited and not cross validated in different genetic backgrounds. A total of 87 near isogenic lines (NILs) segregating for Lr34 gene were evaluated for spot blotch resistance and genotyped with the molecular markers linked to spot blotch resistant QTL Qsb.bhu-7D located on chromosome 7DS. Out of 14 markers located on chromosome 7D in the Sb1 gene region, four markers segregated in the Jupateco population. Our results indicates that the Lr34, Yr18 and spot blotch resistant QTL lies in the same chromosomal region and there is strong linkage between them. Hence, the linked markers may be used to select both for Lr34 and spot blotch resistant lines.

Abstract ID: RSC-154

**Health Risks of Genetically Modified Crops as Food and Feed for Human and Livestocks**

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Genetically modified crops are those engineered through transfer of genetic material from one organism into another to create specific traits, such as making a plant resistant to herbicides, or enabling them to repel insects. GM plants are of recent research interest due to the fact that pros and cons of GM crops application remain still unanswered. After the emergence of first generation of GM crops, two major aspects that have been concerned include the risk to the environment and risk to human health. Variants of research have been performed in order to explore new avenues with the production of second generation of GM crops which holds improved benefits to consumers. Some of it comprises development of modified starch in rice, potato and maize; modified fatty-acid content in field tests; drought and salinity tolerance in cereals in lab scale studies. In addition, pest-resistance GM papaya is being developed in Taiwan and drought-resistance GM rice being developed in China. We also observe that there are efforts being made on resistance to viruses and bacterial blight in Cassava, one of the most important food crops in Africa and South East Asia. Cassava is relatively easy to grow. Nevertheless, its roots had lower protein level and were deficient in micronutrients like iron and vitamin A. And also harvested roots, had potentiality to produce toxic level of cyanogens which are harmful to human. Thus breakthrough research had contributed to these GMO applications on cassava would either increase its productivity or reduce the harmful toxic substance. In an review of 19 studies states that commercialized GM crops like soy and maize that are used as mammals fed, had already in our food and feed chain found consistent toxic effects on the liver and kidneys. There is more than a casual association between GM foods and adverse health effects. In an another study on GM corn and fertility there was a significant decrease in offspring over time and significantly lower litter weight in mice fed GM corn.

Abstract ID: RSC-155

**A Comprehensive Study on Cloud Computing**

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Cloud computing is becoming an increasingly popular enterprise model in which computing resources are made available on-demand to the user as needed. The unique value proposition of cloud computing creates new opportunities to align IT and business goals. Cloud computing use the internet technologies for delivery of IT-Enabled capabilities 'as a service' to any needed users i.e. through cloud computing we can access anything that we want from anywhere to any computer without worrying about anything like about their storage, cost, management and so on. In this paper I provide a comprehensive study on the motivation factors of adopting cloud computing, review the several cloud deployment and service models. It also explore certain benefits of cloud computing over traditional IT service environment-including scalability, flexibility, reduced capital and higher resource utilization are considered as adoption reasons for cloud computing environment. I also include security, privacy, and internet dependency and availability as avoidance issues. The later includes vertical scalability as technical challenge in cloud environment.

Abstract ID: RSC-156

**Comparative study of two component system (TCS) in legumes:  
An evolutionary perspective**Manish Tiwari, Sabhyata Bhatia  
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Root nodulation is a mode of symbiotic association, which harbours bacteria and perform the mechanism of nitrogen fixation. Several studies have been carried out on the root nodule formation; it is clearly observed that cytokinin has very important role in nodulation. Previous findings revealed that cytokinin helps in cortical cell proliferation. The gain of function mutation of cytokinin receptor gene results in nodule initiation in legumes root even absence of rhizobia and loss of function mutation of these receptors are associated with no nodule like structure although the rhizobia present in the root cortical cells. Cytokinin application also induced the expression of early nodulin gene and leads to formation of false nodules. Two component system (TCS) is mainly responsible for cytokinin signaling, which comprises of sensor histidine kinases (HKs), histidine phosphotransfer proteins (HPs), and response regulators (RRs) and it would be very interesting to investigate their roles in

59

cytokinin mediated nodulation in chickpea. In this aspect we have conducted an exhaustive genome wide search of TCS family members in the chickpea and in other legumes, barrel medic and pigeon pea genome. Analysis of TCS members, conserved domains, their phylogenetic relationships and evolutionary aspect of these protein-coding genes was thoroughly carried out. Furthermore, the transcription levels of TCS genes in various tissues, organs and different nodule developmental stages were further analyzed to obtain insight into the functions of these genes. Earlier investigations showed that false nodules were formed by exogenous cytokinin treatment at a particular concentration and similar results were replicated in chickpea. Nonetheless, gene expression patterns during environmental stresses (cold, drought and high salinity) were also investigated. Our systematic analyses provide insights into the characterization of the TCS genes in legumes, their connection with root nodule formation and basis for further functional studies of such genes.

Abstract ID: RSC-157

**Desert Medicinal Plants: Development of natural products regime for  
Urinary tract infection**

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Urinary tract infections are a serious public health problem affecting millions of people each year. The spread of multi drug resistance has become a global threat. 1 in 5 women will develop UTIs in their lifetime. The four most common nosocomial infections are urinary tract infections, surgical wound infection, pneumonia, and primary bloodstream infection. UTI is an important cause of childhood morbidity. The most common bacterial strains that cause UTIs include *Escherichia coli*, *Staphylococcus saprophyticus*, *Klebsiella*, *Enterococci* bacteria, and *Proteus mirabilis*. Rare bacterial causes of UTIs include *Ureaplasma urealyticum* and *Mycoplasma hominis* and some of the fungi like *Candida albicans* are responsible. Although antibiotics are the first treatment choice for urinary tract infections, But Allopathic medicines have serious side effects on health. Some of the existing antibiotic drugs like Bactrim, Amoxicillin, Ampicilin, sulphamethoxazole, and Ciprofloxacin etc. may cause number of problems in future as they kill bacteria indiscriminately throughout the body, when taken repeatedly they make the immune system weaker instead to give strength. Plants have recently received more attention because of the increasing prevalence of antibiotic-resistant bacteria. The escalating costs of antibiotic treatment, and unsatisfactory therapeutic alternatives for recurrent UTIs. Discovery of new anti-microbial compounds from herbal remedies which will assist in the development of new preparations for infectious disease like urinary tract infection cases is quite prevalent, particularly in rural areas. This has triggered an interest in finding for new anti-microbial agents which are possess to anti-bacterial, anti-fungal, anti-diabetic, anti-oxidant, anti-nonceptive and shows anti-inflammatory activity. The aim of the work is to determine the anti-bacterial against isolates of various bacteria responsible of urinary tract infection. Rajasthan is having a commendable knowledge of the medicinal values of plants those grow around them. The vast majority is still untouched and waiting to be explored for their bioactive constituents. There is an ongoing effort to screen plants medicinally in different regions of Rajasthan.

Abstract ID: RSC-158

**Evaluation of potential health effects on human due to exposure to criteria air pollutants: A critical review**

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The ultimate purpose of this work is to develop a quantitative understanding of the current state of knowledge about potential health effects with respect to the dose-response relationship between exposure to criteria air pollutants and health effects drawn from the bulk of evidence in the peer reviewed scientific literature. The present review is based on drawn from around one-hundred fifty scientific research papers of impact factor ranging 1.56 to 44.40 (2017). Analysis of this study has involved exposures to criteria air pollutants like SO<sub>2</sub>, NO<sub>2</sub>, CO and PM etc. via inhalation which to imitate the expected route of exposure of the humans. Present work also includes a critical assessment of the technical quality of each scientific paper with consideration of experimental design, conduct and reporting. It is focused on the effects of epidemiological studies on associations of pollutant concentrations and human health. The majority of the evidence from the scientific literature reviewed refers to effects on the respiratory system, cardiovascular, inflammatory and blood effecting diseases. A large number of studies investigated effects on hyper susceptible subjects and stimulated diseases such as asthma, chronic obstructive pulmonary disease, allergic rhinitis, Alzheimer's, Diabetes, Atherosclerosis, Thrombosis etc. Figure 1 depicts the review discussion based on effects of pollutants and the changes occurring in the sensitive diseases belongs to CVD, COPD and asthma-allergy.

Keywords: Criteria air pollutants, exposure, disease and human health.

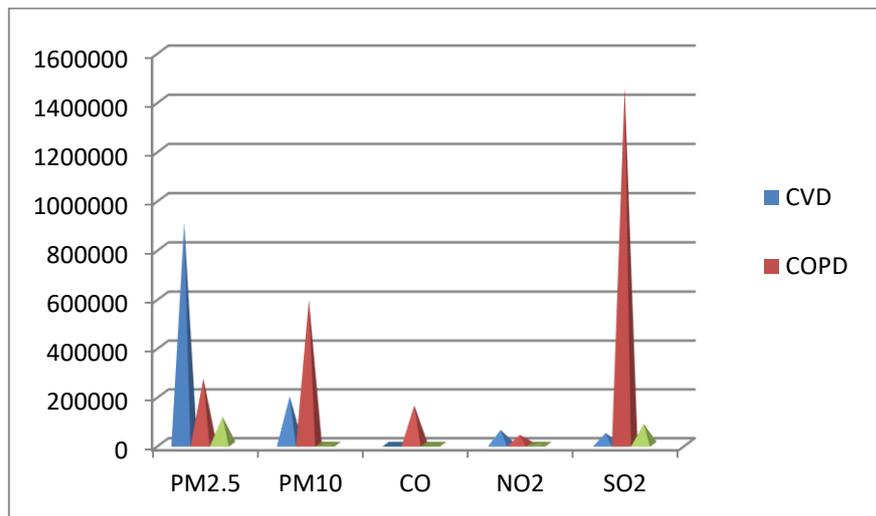


Figure 1: Pollutants vs Diseases

Abstract ID: RSC-159

### Decolourisation of Congo Red from the wastewater using Natural Plant Fibers

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The textile dyeing industry consumes large volumes of water and produces high quantity of wastewater from different processes in dyeing and finishing processes producing effluents such as dyes which are toxic in nature and are non-biodegradable. Congo red is an azo dye which is water-soluble, yielding a red colloidal solution; its solubility is greater in organic solvents. As it possess carcinogenic and mutagenic properties so it is necessary that it should be removed from the waterbodies. Waste fibres have been used as an alternative method for the removal of the Congo red dye and decolourisation of wastewater. Fibres are treated with NaOH and the properties of untreated and treated fibres are compared and their effectiveness has been investigated in this study.

Abstract ID: RSC-160

### Utilizing the mapping and transcriptomics approaches for identification and characterization of genes involved in chickpea seed development

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Chickpea (*Cicer arietinum* L.) is one of the most important food legume crops in the world especially for human consumption as its seeds provide good sources of protein, carbohydrate and minerals. The importance of chickpea seeds in global food as well as nutritional security therefore necessitates genetic and genomics studies especially related to seed development in order to improve seed yield as this is a major target of chickpea breeding. Thus two approaches were used to delineate the candidate genes involved in chickpea seed development. In the first part, a high-throughput genotyping by sequencing (GBS) method was used to identify QTLs related to seed traits. Analysis of the genomic sequence corresponding to identified QTLs led to the identification of 101 putative candidate genes. In the second part, storage and maturation phase was targeted to explore the dynamics of chickpea seed development. Seed storage proteins (SSPs), the major ingredient affecting the nutritional quality of seeds are synthesized and accumulate during storage phase of seed development by the orchestrated action of several transcription factors (TFs). Regardless of the extensive studies, this obscure regulatory assembly needs further clarification in many crop plants including chickpea. Therefore, genes encoding SSPs and members of the B3 protein family have been identified from chickpea and characterized at molecular level. In order to understand the synthesis and accumulation of SSPs in chickpea seeds, we aimed to characterize CarABI3, gene that co-expresses with SSP genes to regulate this process. The

observations we have compiled in this study could further be leveraged to understand various other facets of seed development in chickpea. These may encompass nutritional and yield properties of chickpea seeds for their manipulation and use in various plant breeding programs.

Abstract ID: RSC-161

### **Allelopathic effect of aqueous extract of *Chenopodium album* induce salt stress tolerance in Wheat Seedlings**

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Allelopathy is the type of interaction where two organisms interact with each other in positive or negative manner and are secondary metabolites mediated. Varieties of crops and weeds have been reported to possess allelopathic effect on growth of other plant species. To replace the harsh effect of the fertilizers in the agricultural field, use of the biostimulants is rapidly being used. Plant-biostimulants are substances and materials when applied to plants, seeds in have the can modify physiological processes of plants in a way that it helps in growth, development and/or stress tolerance response. So, allelochemicals when applied to the low concentration can have stimulation effect on growth and development of plants. Therefore, to elucidate the effect of aqueous extract of *Chenopodium album*, four different concentrations (10 mg/mL, 25 mg/mL, 50 mg/mL and 100 mg/mL along with Control) of root and buds of *Chenopodium album* were tested on wheat seedling. Parameters like root length, shoot length, wet weight and dry weight of wheat seedling were measured and found to have growth stimulating effect on wheat seedlings. Bud extract showed increase in seedling height from 19.74 cm (control) to 22.41 cm (100mg), with maximum effect in shoot length. This was followed by increase in wet weight and dry weight. Root extract showed increase in seedling height from 21.87 cm (control) to 25.1 cm (100mg), along with wet weight and dry weight. Growth stimulating concentration was further used for analysis of growth and development of plants grown under salt stress conditions. Two salt concentration are used in this study, 50mM and 150mM and four antioxidants activity, Catalase, Ascorbate Peroxidase, Guaiacol Peroxidase and Superoxide dismutase were analyzed. Effect of *Chenopodium* extract with two different salt stress leads to greater activity of the above said four enzymes on wheat seedling as compared to untreated control. Result of our study suggest that, these extract can be used as increasing the salinity stress of wheat seedling and can help in fighting abiotic stress tolerance.

Abstract ID: RSC-162

### **Elucidating the role of temperature and salt stress on stability of silver nanoparticles from fungi *Penicillium chrysogenum***

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Fungi have been explored as new nano factories in the recent past as mycosynthesis employs simple steps, easy downstream processing and eco friendly approach. Silver nanoparticles (AgNPs) have been extensively studied because they have known antimicrobial and anti-biofilm activity. Additionally, stability of AgNPs is influential in various biological conditions which determine experimental results. It has been well reported that proteins secreted by fungi are crucial for bioreduction, capping process and particle stability. So far, little is known about the stability of AgNPs in their suspension form. Therefore the present study has been designed to examine the role of key experimental parameters like temperature and salt stress on the stability of AgNPs synthesized from fungi *Penicillium chrysogenum* (Genbank Accession no.-KR809598.1). UV-Visible spectroscopy and Transmission electron microscopy (TEM) has been carried out to study synthesis and size of AgNPs respectively. Stability of AgNPs in suspension over a period of 4 weeks was investigated under variable temperature (28oC-70oC) and sodium chloride (120-480mM) concentration. The protein content in fungal cell free filtrate used for synthesis was calculated by taking absorbance at 280 and 750nm. Change in color from colorless to dark brown and characteristic surface plasmon resonance peak at 430 nm suggested AgNPs synthesis. TEM study revealed polydispersed particles with size range 40-60nm. Furthermore mycogenic AgNPs were found to be stable at wide range of temperature as demonstrated by spectrophotometry. However AgNPs showed unstable behavior when exposed to increasing salt stress which may be due to destabilization of protein corona around mycogenic AgNPs.

Abstract ID: RSC-163

**Phytochemical screening of various extract of seed and bark plant part in ficus religiosa and effect of solvent selection on yield of crude extract**

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Plants are important sources of medicines as they produce phytochemicals as a part of their normal metabolic activities. Phytochemicals are naturally occurring in the medicinal plants that have defense mechanism and protect from various diseases. These phytochemicals can be refined to produce drugs. Ficus religiosa is an Indian medicinal plant belongs to Moraceae family used in Ayurvedic treatment for various diseases. Bark and seed part of Ficus religiosa have been effective in gastric ulcers, asthma, diarrhoea and many skin diseases. This study is designed to explore the effects of four different solvents, aqueous, methanol, acetone and chloroform on Soxhlet extraction of seed and bark part of Ficus religiosa and their final percentage yield. The study also evaluated the presence of various phytochemicals viz., Tannins, Phlobatannins, Saponins, Flavonoids, Alkaloids, Quinones, Coumarins, Terpenoids and Cardiac glycosides in all four extracts of bark and seed of Ficus religiosa. The results of Soxhlet study suggest that methanolic extract of bark produces maximum % yield of crude extract i.e. 18% followed by bark aqueous with 7% yield. Study of phytochemical screening revealed the high occurrence of terpenoid, alkaloid, cardiac glycosides and tannin in bark plant part whereas tannin, saponin, quinones and terpenoid in seed plant part. Presence of tannin and terpenoid proves its antioxidant, anticonvulsant and anti-inflammatory property. Saponin is helpful in lowering blood cholesterol and quinones act as antitumor and antimicrobial agents. These results may be helpful for the rational use of this plant in the modern system of health care.

Abstract ID: RSC-164

**Performance Evaluation of Vermifiltration technology for Co-treatment of Organic Fraction of Municipal Solid Waste and Domestic Sewage**

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Currently, sewage sludge treatment and disposal represents a rising challenge for wastewater treatment plants (WWTPs) because of economic, environmental, and regulation factors, and its costs account for about half of the total operation costs of the WWTPs. In addition, solid waste management has become an issue of increasing global concern as population continues to rise and consumption patterns change. Thus, opting for an innovative, low cost and highly effective integrated technology is the need of the hour. Vermifiltration adapts traditional vermicomposting into a passive wastewater treatment process, and it has been established as a promising alternative technology for combined treatment of solid waste and wastewater. The aim of the present study is to explore the treatment efficiency of a field scale vermifilter (VF) during the combined treatment of organic fraction of municipal solid waste (OFMSW) and domestic wastewater. The treatment process due to earthworms neutralizes the slightly acidic sewage water to the pH value of 6.9-7.1. The result of the study revealed the removal of COD<sub>tot</sub> (85-86%), BOD<sub>5</sub> (84-87%), and coliforms (99%), and also increase in nitrate nitrogen (172.5%) and total phosphorus (161%) subsequently in treated effluent along with nutrient enhancement in solid waste samples. There is no sludge formation in the process and is also odor-free. The resulting vermi-filtered effluent is clean and clear like water to be reused for irrigation. Overall, the results of the study promised vermifiltration to be a novel, promising, and effective approach that has a built-in pathogen removal mechanism that excludes the requirement of a separate disinfection facility for waste treatment.

Abstract ID: RSC-165

**Effect of Leachate on Groundwater Quality in Jaipur City**

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Contamination of groundwater due to leachates has become a serious issue in environment , health of people and social wellbeing. The current research examined the level of groundwater contamination due to leachate near a municipal dumping site in Langadiyawas ,Jaipur, Rajasthan . The water quality parameters (physiochemical and heavy metal) of groundwater were analyzed . The mean concentration of measured parameters such as pH, electrical conductivity, COD, BOD, total hardness, chloride,etc. were compared to Indian Standard of Drinking water and WHO. The observed results showed significant impact of natural attenuation of leachate on groundwater resource and some of the parameters were exceeding the permissible limits such as BOD -220mg/litre, COD-236.66mg/litre , total hardness –1665.33mg/litre and chloride -2891.12mg/litre .Since water is an essential factor for survival of all living form , initiative needs to be taken for sustainable development. Therefore this research recommends a proper maintenance of landfill site that would adequate the protection of groundwater and the population of that area.

**Theme # 03: Digital India for Sustainability**

Abstract ID: RSC-166

**BER analysis of WCDMA system using MUD-MRC technique for different modulation**

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The performance of WCDMA system is degraded with various factors such as fading, multiple-access interference (MAI) and scattering. Multiuser detection (MUD) and antenna diversity techniques are used to overcome MAI and fading either individually or jointly. In this paper combination of MUD and Maximum Ratio Combining (MRC) is used to overcome these problems and analyze the performance of the number of users using MUD-MRC technique.

Abstract ID: RSC-167

**Power Saver for Industries & Commercial Establishments**

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The paper is designed to reduce the power loss in industries by power factor compensation through a number of shunt capacitors. This results in reduction in amount of electrical bill for industries and commercial establishments. Power factor is defined as the ratio of real power to apparent power. This definition is often mathematically represented as KW/KVA, where the numerator is the active (real) power and the denominator is the (active + reactive) or apparent power. Reactive power is the non-working power generated by the magnetic and inductive loads, to generate magnetic flux. The increase in reactive power increases the apparent power, so the power factor also decreases. Having low power factor, the industry needs more energy to meet its demand, so the efficiency decreases. In this proposed system the time lag between the zero voltage pulse and zero current pulse duly generated by suitable operational amplifier circuits in comparator mode are fed to two interrupt pins of the microcontroller. Microcontroller displays the power loss due to the inductive load on the LCD. The program takes over to actuate appropriate number of relays at its output to bring shunt capacitors into the load circuit to get zero power loss. The 8 bit microcontroller used in the project belongs to 8051 family.

Abstract ID: RSC-168

**Clustering and Data Aggregation Technique in Wireless Sensor Networks**

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Current research trends in wireless sensor network mainly focuses on optimization of energy because of the nature of field deployment of sensor nodes. Balanced energy, link traffic and handling of different types of data have been achieved by sectoring and ring. This paper presents a robust and dynamic data aggregation technique in order to prolong the life of sensor networks. Clustering and data aggregation techniques focuses on two main issues: dynamic aggregation to handle event triggered priority data, and robustness in the form of less energy consumption, redundancy and link traffic control.

Abstract ID: RSC-169

**Design and Analysis of low power flip flops using mcml tri-state buffers**

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This paper presents the design of flip flops using low power MCML tri-state buffers. The proposed flip flops consume less power than the normal flip flops because tri-state buffers help in achieving low power by turning the output to a high-impedance state. In this paper, detailed study of MCML circuits is presented along with the design of tri-state inverter and MCML tri-state buffer circuits. Using these basic circuits, the four basic flip flops designed. All the proposed schematics are designed using TANNER EDA's S-EDIT tool, simulated using T-SPICE and the results are viewed through W-EDIT. A detailed analysis of

the average power consumption of the circuit and input-output delays was carried out. The paper is concluded with the future scope of this technology.

Abstract ID: RSC-170

### **Colour Modification for Vision Defects**

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Colour-blindness is the inability to distinguish the differences between certain colours. This condition results from an absence of colour-sensitive pigment in the cone cells of the retina, the nerve layer at the back of the eye. Most colour vision problems are inherited and are present at birth. Approximately 1 out of 12 males and 1 out of 20 women are colour blind. Dichromacy is a general term for a person's lack of ability to perceive one of the three wavelength groups perceptible to non-colour blind persons. The three types of receptor cones in the normal human eye are often referred to as red, green, and blue (RGB). Three types of complete dichromacy exist. Protanopia is an absence of red cones, deuteranopia is an absence of green cones, and tritanopia is an absence of blue cones. In this paper, it is suggesting a method to modify images for a deuteranopia vision deficiency. The paper suggests a method to create a mask which shows only red colour in an image and then uses a simple technique to modify all the red pixels such that the image is modified to create an unambiguous picture for the viewers. The perceptible colours are not customized so that the image is as close to reality as possible.

Abstract ID: RSC-171

### **Home automation using android phone over Bluetooth**

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The past decade has seen significant advancement in the field of consumer electronics. Various 'intelligent' appliances such as cellular phones, air-conditioners, home security devices, home theaters, etc. are set to realize the concept of a smart home. They have given rise to a Personal Area Network in home environment, where all these appliances can be interconnected and monitored using a single controller. Busy families and individuals with physical limitation represent an attractive market for home automation and networking. A wireless home network that does not incur additional costs of wiring would be desirable. Bluetooth technology, which has emerged in late 1990s, is an ideal solution for this purpose. Home automation involves introducing a degree of computerized or automatic control to certain electrical systems in a building. These include lighting, temperature Control etc. Although automation today is not a new thing but most advanced home automation systems in existence today require a big and expensive change of infrastructure. We have proposed an automation system that can control appliances like TVs, Fan, Tube lights from an android mobile using Bluetooth. In this a low cost secure cell phone based, flexible automation system is introduced. Devices are connected to the microcontroller based switching circuit. This paper demonstrates a simple home automation system which contains a remote mobile host controller and several client modules (home appliances). The client modules communicate with the host controller through a wireless device such as a Bluetooth enabled mobile phone, in this case, an android based Smart phone.

Abstract ID: RSC-172

### **Sensors to monitor Crop Physiology and Crop Production**

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Agriculture plays an indispensable role in Indian economy. Precision agriculture is the way to enhance crop production by monitoring large fields with ease and in a short time by the use of sensors. These agricultural machines improve crop farming at a high level. Sensors are used to monitor nutrients in soil, relative humidity, temperature, transpiration, and to assess microbial attack. In present study, certain sensors as optical hand-held crop sensor green seeker, IR sensor for temperature, Tensiometer sensors, dry and wet bulb thermometer sensors were used in orchards at the Institute to judge crop health. Green seeker gives values of NDVI (Normalized Difference Vegetation Index) which is used to interpret crop parameters as crop yield on the basis of nitrogen of leaves and biomass accumulation. Tensiometer sensors are used to determine water potential of soil and soil moisture tension. These observations will be handy to decide optimal watering cycle for different fruit plants. IR sensors measure soil temperature as well as plant temperature that give useful data regarding root growth and evapo-

transpiration from soil and leaf surfaces. Plants selected as study material were pomegranate (*Punica granatum*), guava (*Psidium guava*), apple (*Pyrus malus*), falsa (*Grewia asiatica*), brinjal (*Solanum melongena*). This study will help in developing a correlation between temperature and NDVI, biomass and NDVI, soil temperature and soil tension for beneficially using in understanding plant growth dynamics

Abstract ID: RSC-173

**Credibility of social media in Bollywood films: A comparative study on selected films**

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Social media is a means of communication outlet. It is a rising trend in the world today. People belonging to different age groups and sectors make use of the social media platforms like Facebook, Whatsapp, Instagram either for personal use or for professional purposes. Earlier, when movies were released the only source of acclaiming publicity was the word of mouth, print media and some kind of electronic source like radio or television but today with the advent of new media the task of film publicity and hype has become a lot easier and demands more of creative touch. This paper aims at establishing the role social media plays in the field of film publicity, promotion and how the reviews of the latest movies released on such platforms gather user's attention and worthiness. This paper will undergo the observational method to substantiate the significant role of social media in this sphere of film puffery and try to measure its engagement. The researchers will take a comparative study of four Bollywood budget movies and their engagement to justify the opinions updated on social media with the content of the movies.

Abstract ID: RSC-174

**Social Media Paralyzing the health culture of the society: An analysis on the use of Facebook and Instagram**

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An old saying goes "Health is Wealth" and according to the latest trend, social media happens to be our audio-visual newspaper. Over past couple of years, efforts have been made to establish a link between social media and its impact on health. According to the use of new media report almost 73% of the youth are addicted to the use of social networking sites. The research paper will analyse the impact of social media in health culture in our routine life. The use of social media among youth is increasing day by day. The age group of 13-17 years stay online all day long to keep connected to the virtual world. Globally the Instagram has 400 million users out of which 60 million users are from India and out of 2 billion Facebook users; 195 million users are Indians, overtaking USA by 4 million subscribers in 2017. The current statistics shows how the social media has reigned the life of the people and is a cause of growing concern to maintain our physical and mental stability. This paper aims to explore the relationship between the social media and mental health. The objective of this paper is to understand: The peer pressure factors that compel us to use social media. · The impact of social media on our mental stability.

Abstract ID: RSC-175

**Fake news and Social Media: Case studies of some popular fake news of Facebook and Whatsapp**

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Fake news is any piece of information that has been fabricated and has no factual basis of its own. It is a growing cause of concern in the modern world. The concept of fake news is not new though fake news travels fast in digital media. It began in the era of newspaper and has reached its peak in the recent years after the emergence of internet. Fake news has become a profitable venture. According to a report, 62% of US adults get news on social media and the most popular fake news stories are most widely shared on Facebook. There are several websites that have been launched with the sole motive of spreading such false information like The Onion, American News and The Borowitz Report etc. People who are in support of spreading fake news tend to do so because such findings can go viral on the platform of social media and can pull relevant attention. In last few years number of fake news got circulated in social media and became viral. People used to believe it. The facebook posts and its engagement as well as whatsapp reach testifies the fact.

Abstract ID: RSC-176

### **Health Communication in the era of New Media Technology: A study**

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The world is shrunk into a small village rightly called as global village by Marshall McLuhan. It is all possible due to new media technology, especially the internet, which has connected people, crossing all geographical and psychological barriers. New media technology has almost taken over all other forms of communication due to its reach and speed, providing them a common platform to share their views and opinions. The paradigm shift from traditional to modern media and then to new media was a slow process that took decades to reach to the existing position. Due to change in communication technology from traditional to modern to new media, there was a change in the communication strategies also. The earlier communication strategies were based more on interpersonal communication, which later on shifted to mass communication due to emergence of modern means of communication. Different government and non-government departments or agencies started employing mass media like radio, television and newspapers as modes of communication to reach the target audience. Once new media technology came into existence, the modus operandi of various departments, government or non-government, shifted, thereby, paving way for the new communication strategies which were based on internet and information technology devices. Information was disseminated through emails, SMS, MMS, web portals, websites, Social Networking Sites like Facebook, Twitter and the latest ones are messenger applications like Whatsapp, IMO etc. But in spite of the achievements of new media technology, there are certain areas where new media technology has not been able to access or produce much impact and traditional means of communication are still being followed. Health communication is one such area where traditional forms of communication are still being employed to reach people and spread awareness about health issues. In rural areas especially, the health department prefers to employ the old methods of communication to educate people as certain personal and intimate issues are involved. The role of ASHA workers, ANMs and health activists are commendable in terms of reaching people but all these people employ traditional forms of communication to reach people. Interpersonal communication is still the most effective mode of communication in health departments especially in villages where people prefer health advisories through interpersonal means only. Poverty, illiteracy and lack of infrastructure are some factors which keep new media from making any dent in these areas. The present study is an attempt to look into the role of interpersonal communication in this digitalised era in the field of rural development.

Abstract ID: RSC-177

### **Emerging trends of Science & Technology in an Event Management**

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Most often event management is a part of mass communication studies. Mass Communication is the most ambitious course on the planet. In two years they try and cover media studies, journalism, advertising, audio visual or film studies, events and public relations. There are accredited courses in Europe and USA that specifically cover only event technology, while in India we think that by doing a mass communication degree we are limiting our options. There are very few parents who are thrilled at the prospect of their children pursuing a career in live events. Job satisfaction, global travel prospects and attractive pay scales are some aspects that placate their taut nerves somewhat, but that too takes a few years to take shape. Event agencies, with a turnover of about 100 odd crores or so, pale in comparison to large MNCs with turnovers running into a few thousand crores. Nor are the fruits of our efforts easily available on the public domain for all to see. It is not like a television commercial, that one can catch some 5 times a day. So anyone on the outside of the industry thinks they can safely assume that however broad the definition of 'doing well' may be, event management doesn't fit the bill!

Abstract ID: RSC-178

### **Credibility issues on Social Media, Authenticity of the sources – An analytical study**

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Media plays a decisive and pivotal role in the contemporary society. Social media has brought revolutionary changes around the world. It has changed the way people think, react, talk and connect with others. It has become a most important medium of communication and also a source of disseminating information. Be it a simple chat, social networking, election campaign,

social movement, Online activism, business, entrepreneurship, education, social welfare, global level projects of social awareness, social media has changed everything. Social media is a universal platform available to all using the internet, where people can communicate with their fellow beings, discuss problems and their possible outcomes, explore any topic, or subjects that might evoke public interest. Its viral nature makes it fastest medium of communication but the bombardment of information, overflow of content, multiples sources of information has filled the social media websites with ghost content and fake news. But it is of great concern that how people evaluate the information on social media and how they judge the credibility of this information. Shaping crisis of legitimacy and sensationalism is the emerging trend in contemporary media. The digitalization of journalism is becoming the latest trend setter in the modern world. Traditional media is seen taking a backseat as the era of online journalism is spreading its wings, effecting the modern generation along with the other generations. Along with the digitalization comes the issue of credibility of social media and the level to which the authenticity of online news and social media can be predicted. Social media is the strongest media available to the common man to make their presence felt and voice heard. Future journalism belongs to digital media but the growing number of fake news and trolls reduces the credibility of social media. With the passing days, the credibility of media organizations is going down along with the transparency in journalism.

Abstract ID: RSC-179

### **Design and control of a Rhinestone planting machine using image processing for application in textile industry**

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Rhinestones are decorative items that are glued on a fabric in a fashionable order so as to make the final product attractive. This is usually done by hand which is highly tedious and time consuming. This paper describes the design of a machine which is capable of sticking rhinestones on a fabric according to a decorative design which is already embroidered on the fabric. Various design aspects and a complete methodology of the process is presented and possible applications of machine learning and Internet of Things have been discussed. The paper suggests a novel approach to this very specific problem, where image processing algorithms along with various control techniques are employed to determine the placement of rhinestones over the pre-existing thread-embroidery design and hence it complements the already existing machinery and software used in the industry and simply extends its ability by automating one more step of the long chain of processes of cloth manufacturing.

Abstract ID: RSC-180

### **Into brainwaves to: Decode brain for better algorithm**

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Super robots always in demand to advanced technology. It can be well defined that an idol robot is none other than a human, which performs action by collective control of sensors (receptors) and a main circuit board (brain) which is actually a network of wires (nerves) called neurons in biological terms. Creating efficient robots needs excellent algorithms which can be achieved by decoding human brain and nerves. Brain waves are like theory of universe which is yet to be discovered and explored. This paper gives insight of brain waves in relation with electronic systems, method to measure brain waves and using them in brain controlled systems, alteration of brain state with various neurostimulator therapies like transcranial direct current stimulations, stimulation of brain waves using ancient meditation techniques etc. Brainwaves are generally classified into five types of waves Alpha, Beta, Gamma, Delta and Theta, corresponding to their frequencies which are generally produced depending upon the various states of mind and these are measured using electroencephalogram which generally measures the voltage over the different regions of the scalp produced by ionic potentials within the neurons hence can be utilized to make system monitoring various mind positions which can be further used in making automation systems like driverless vehicle. EEG is a non-invasive method of measuring brainwaves. It is also found that brain waves can be trained and altered to move cursor on screen which can be further used to develop automatic brain controlled vehicle by working with mu rhythms, the sensory motor rhythm. This paper suggests using an improvised electronic circuit of EEG device which can be cost effective and be used for better researches in the field of brainwaves.

Abstract ID: RSC-181

### **Energy harvesting from walking**

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This paper presents a proposal for clean energy generation through piezoelectric cells that convert mechanical energy through the deformation of the material into electrical energy to recharge and power portable devices. This paper presents a proposal for capturing mechanical energy used daily by the entire population and the movement of the walk, where a pressure is generated on floor which is being transformed into deformation and the mechanical energy required for piezoelectric cells generate electricity. The energy generated by a piezoelectric single cell is relatively small, necessitating the use of multiple cells in a small contact area to increase the power generated by the system. This project is to design a slope of aset institute that able to generate electricity during walking. For this project I was mainly focus on design of cell arrangement in order to provide best output. The treatment of the signal generated by the cells is accomplished with piezoelectric rectification and filtering stages where the signal pulse generated is converted continuously being stored in capacitors. This project describes the use of piezo electric materials in order to harvest renewable energy from natural resources for generating and accumulating energy thereby taking care of environmental pollution which is a case of concern at global level. This project also represents a footstep of piezoelectric energy harvesting model which is cost effective and easy to implement. Ends up presenting a prototype mounted on a wooden block to carry out tests and measurements of the system in order to ascertain the capacity to generate electricity from the piezoelectric effect.

Abstract ID: RSC-182

### **Subjugation of Health applications and its Acquiescence among Smart Phone Users**

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Media and technology is moving at an exponential and extra ordinary pace. Today people have unparalled access to health care information via web and it had surely continued to augment to be mobile with the help of smart phones and tablets. Mobile health applications can propagate prevention of diseases and promotion of health among the populaces. Mobile health applications technologies may assist the people in improving the efficiency of their vigour. Hence, these mobile applications are expected to play an important role in health care. The study is based on a survey done among Chennaites related to the usage of health applications. The present study attempts to investigate the awareness of various health applications among the people. It identifies which health applications are used commonly by the smart phone users and it also reveals about the behaviour of the people after using the health applications in respect to their health. It accomplishes about their acquirement of the knowledge about the health applications which profusely bring a societal change.

Abstract ID: RSC-183

### **Effectiveness of mobile health apps on Forging Knowledge about obesity: A content analysis**

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Due to over adoption of mobile and internet in this technologically well-developed society, much information in the field of health, wellness and fitness are now more accessible to the public. Mobile health apps play a vital role for people of all age groups to know about common diseases and their symptoms, medicines use and side effects, diet plans and calculate BMI to keep them fit.

Abstract ID: RSC-184

### **A Review on super High frequency Microstrip Patch antenna**

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Digital communication is become widely accepted in every field because of its extremely promising features such as low profile, ease to install, reconfigurable, miniaturized structure etc. An extensive comparison s is being made in this paper among

various possible compact antennas which is operating of Super High Frequency range (SHF) of application. When designing is done on such high frequency application important parameters of antenna should be considered carefully. Fabrication process also makes the difference among various SHF application antennas as we increase the range of frequency by 10 GHz, performance of conventional easily available material such as FR-4 becomes insignificant for fabrication. So this also becomes barrier in designing of microstrip patch antenna on this range of applications.

Abstract ID: RSC-185

### **A review on wearable/textile Microstrip patch antenna**

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Antenna is the most important part of wireless communication technology. Due to rapid development of antenna it's now exploring in a new form of E-textile or wearable antenna. This wearable antenna is basically used for medical purpose, mobile communication, and navigation and defence applications. These textile antennas forming interface between, man and machine as a wearing cloths. In textile antenna fabrics used as the substrate, patch and ground. The low dielectric constant of fabrics helps to reduce the surface wave losses and ultimately improves the bandwidth for communication.

Abstract ID: RSC-186

### **Synthetic Strategy and Characterization of IPMCO complexes of Cu<sup>+2</sup>, Ni<sup>+2</sup> and Co<sup>+2</sup>**

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The complexes of Cu<sup>+2</sup>, Ni<sup>+2</sup> and Co<sup>+2</sup> with terpenoids derivatives (L) have been prepared. The reaction of Cu<sup>+2</sup>, Ni<sup>+2</sup> and Co<sup>+2</sup> with terpenoids derivatives were carried out in stoichiometry. For this purpose essential oils were obtained from plants. Essential oil which is called volatile oil, these were obtained from various plant materials just like flowers, seeds, buds, barks, twigs, herbs roots, fruits, and wood, are natural aromatic and complex oily liquid and composed maximum of terpenes, in comparison to some other nonterpene component. The complexes were studied on the basis of physico-chemical and spectral data and stability of these complexes was evaluated by following techniques -1. conductometry, 2. Potentiometry 3. Spectral studies of complexes 4. Elemental analysis 5. Magnetic susceptibility measurements.

Abstract ID: RSC-187

### **Six sigma and its tool to improve quality**

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Lean manufacturing and six sigma methodologies have been widely used in a large number of companies worldwide. However, many companies have found it difficult to successfully implement and sustain lean manufacturing and six sigmas. the success factors were identified by comparative examination of lean manufacturing versus six sigmas. It was found that for organizations that have successfully implemented six sigma, skills and expertise ranked highest in importance. In contrast, for organizations that have successfully implemented lean manufacturing, employee involvement and culture change ranked highest. Six Sigma is a business strategy that helps organizations to improve organizational efficiencies and customer satisfaction; it decreases operating costs and increases profits. the link between Six Sigma and organizational performance can be explained and developed by integrating organizational knowledge creation processes. Lean manufacturing and six sigma use DMAIC improvement cycle. The implementation of the model is organized into three steps. (a) Define and Measure, (b) Analyze and Improve, (c) Control. Therefore, organizations can identify how their capabilities and resources can be utilized to accomplish the critical success factors for the implementation of lean manufacturing and six sigmas.

Abstract ID: RSC-188

**Synthesis of Hg(II) complexes with 2-substituted benzothiazoles and glycine and valine based ligands having antifungal and antibacterial activities**

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We carried out an efficient and facile synthesis of Hg(II) complexes with heterocyclic ligands based on 2-substituted benzothiazole moieties, 2-(2'-hydroxynaphthyl) benzothiazole, 2-(2'-hydroxyphenyl)benzothiazole, and 2-(2'-mercaptophenyl) benzothiazole, and amino acids, glycine and valine are reported and also examined for antifungal and antibacterial activities. Ligands and complexes were characterized by FTIR, H1NMR, and elemental analysis.

Abstract ID: RSC-189

**Radiation processed sodium alginate enhances Plant Growth, Physiological activities essential oil content and yield of mentha piperita l.**

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*Mentha piperita* L. (family-Lamiaceae), also known as peppermint is a popular herb that is used in cosmeceuticals, personal hygiene products, foods and pharmaceutical products because of its medicinal flavoring and fragrance properties. Hence, escalated oil yield in mentha is desirable. Recently a new agro-technique of using oligomers, obtained by irradiating natural polysaccharides (alginate, carrageenan and chitosan) to improve yields is being adopted. Aqueous solutions of these oligomers act as plant promoters when applied to plants. Gel-Permeation-Chromatography of sodium alginate was performed after irradiating it using Co-60 gamma rays at 520 KGy. An experiment was conducted to study the effect of foliar application of different concentrations of irradiated sodium alginate on growth characteristics, physiological and biochemical attributes and essential oil yield and composition of the plant. In total five spray treatments were applied at ten days interval and plants were harvested 120 days after sowing. The EO of *Mentha* leaves was extracted through steam-distillation and analyzed using gas chromatography. Treatment with 80 mg L<sup>-1</sup> showed the highest value for most of the parameters studied. As compared to the control, application of 80 mg L<sup>-1</sup> of ISA increased the plant height by 25.7 %, plant fresh weight by 33.8 %, plant dry weight by 36.5% and leaf-area by 16.9%, the total chlorophyll content by 23.7 %, content of carotenoids by 23.2 %, 26.9 % increase in CA activity and 28.1 % increase in NR activity at 120 DAP. It maximally augmented the essential oil content (24.8%) and yield (63.1%), menthol and menthone content (2.2 & 25.5 %) and yield (67.3 & 115.4 %) respectively as compared to control.

Abstract ID: RSC-190

**Wimax based meta material antenna on IE3D using Lithography**

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Meta material is an artificially designed structure found not to have properties available in nature. They usually gain their properties from structures rather than composition. It provides solutions to all its antenna parameters for the disadvantages found in commercial patch antennas. The WiMax frequency band designated for India is 2.3 - 2.5 - 3.3 - 3.5 - 5.8 GHz. Hence, the arrayed Meta Material antenna comes into picture. In this paper we intend to design an arrayed based Meta material antenna for WiMax application on the IE3D simulator and check all concerned parameters in ways to differentiate it with commercial antennas. After simulation, we aim to practically fabricate it through lithography, test its antenna parameters and finally its application as a Transmitter.

Abstract ID: RSC-191

**Analytic solution of Fractional Differential Equation associated with RLC electrical circuit**

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In this paper, we obtain the solution of a fractional differential equation associated with a RLC electrical circuit with order  $1 < \alpha \leq 2$  and  $1 < \beta \leq 1$ . The solution is derived by the application of the Sumudu transform. The results are obtained in compact and elegant forms in terms of the generalized Mittag-Leffler function, which are suitable for numerical computation.

Abstract ID: RSC-192

### **Bianchi type V cosmological models with modified Chaplygin Gas**

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The spatially homogeneous and totally anisotropic Bianchi type-V space-time cosmological models with modified Chaplygin gas having the equation of state  $p = A\rho - B\rho^\alpha$ , where  $A$ ,  $\alpha$  and  $B$  are positive constants, have been investigated. It has been shown that the equation of state for such modified model is valid from the radiation era to the  $\Lambda$ CDM. Cosmological models admitting both power-law and exponential expansions are explored here. The exact solutions to the corresponding field equations are obtained. The state finder, which is the cosmological diagnostic pair  $r$ ,  $s$  has been adopted to characterize different phases of the universe. The physical and geometrical properties of the corresponding cosmological models have been discussed. The observational constraints, the hubble parameter  $H(z)$ , the deceleration parameter  $q$ , the jerk parameter  $j$ , the snap parameter  $s$  and the lerk parameter  $l$  have been investigated. We note some new and interesting cosmological solutions relevant for model building including present accelerating phase.

Abstract ID: RSC-193

### **Solution of Partial Differential Equations by Elzaki transform**

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In this paper, we introduce a computational algorithm for solving partial differential equations with constants coefficients by using the modified versions of Laplace and Sumudu transforms which is called Elzaki transform. The Elzaki transform, whose fundamental properties are presented in this paper. Illustrative examples are presented to illustrate the effectiveness of its applicability.

Abstract ID: RSC-194

### **Utilization of bauxide ore for development of submerged arc welding basic flux**

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The study emphasis on the utilization of bauxite ore for preparing submerged arc welding flux which consist of some of industrial contents such as  $Al_2O_3$ ,  $Fe_2O_3$ ,  $TiO_2$ ,  $SiO_2$ ,  $CaO$ ,  $MnO$ ,  $SiO_2$ . Four fluxes was developed with varying percentage of bauxite. Among these fluxes flux 1 (basicity 1.35) found to be best flux due to its weld running behavior, slag detachability, micro hardness, impact value result. The hardness value (HV) of the fluxes was varying from 179.5 to 217.15 at a load of 1000gm respectively.

Abstract ID: RSC-195

### **Mechanical alloying of Mg-Ti-x (Nb/Zr/Sc) with nano synthesis for Hydrogen Storage Application**

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The present research is focused on storing hydrogen in more effective and economical manner. The present work is completely experimental work comprising of mechanical ball milling, XRD machine, Scanning electron microscope (SEM), Transmission electron microscope (TEM) and impedance testing. The scope of this work is to understand the electrochemical behavior of nano-structure particle of magnesium, titanium based alloy through mechanical alloying technique. Also, evaluation of electrochemical properties of nano structure MgTi-based hydrogen storage alloys synthesized by mechanical alloying for hydrogen storage application is performed. This technique is very accurate and creates a fresh surface to detect and enhances the opportunity for hydrogen insertion into the metal electrode. Results of SEM and XRD analysis reveal that the clear presence of alloying compounds like Sc, Nb, Zr. Also TEM image indicates a grain size of 30–50 nm for alloy compounds and also confirms the nano-structure. The charge/discharge behaviour of the Mg<sub>67</sub>Ti<sub>33</sub> based alloy by impedance analysis shows the hydrogen absorption/desorption behaviour. It is also thus clear that from the above work, resistance value has been increased with addition of alloying compounds, which indicates alloying is advantageous for the charge-transfer reaction at the electrode/electrolyte interface.

Abstract ID: RSC-196

**Nonlinear Dynamic System and Programmable Hardware for next generation  
Wireless Networks**

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Many real world systems show complex nonlinear characteristics and cannot be considered satisfactorily using linear systems theory. A chaos system which is a nonlinear dynamic system which provides more realistic applications in today's world. This paper addresses a review of various applications using chaotic system like chaotic shift keying, spreading code and in multiplexing techniques. And it is seen that these chaotic shift keying and chaotic spreading code gives better results than other modulation schemes and other spreading codes. And also some programmable hardware for 4G-5G applications in next generation wireless networks are also discussed in this paper.

Abstract ID: RSC-197

**Recent advances in Nature Inspired Algorithms: A survey**

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The Nature inspired algorithms are inspired by some intelligent behaviour of natural agents and very popular among researchers who are working in field of computational intelligence and optimization. Nature inspired algorithms are very successful in each and every field of optimization. These algorithms can be classified in different categories like Bio inspired algorithms, Physics and Chemistry based algorithms, and Swarm based algorithms. This paper presents a state of art survey of recently developed nature inspired algorithms. This study includes basics of these algorithms and their applications. This paper also compare these algorithm based on their performance in terms of reliability, efficiency and robustness.

Abstract ID: RSC-198

**Improved Differential Evolution algorithm**

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Differential Evolution (DE) is arguably one of the most influential and flexible evolutionary optimizers for the continuous parameter spaces in current era. Researchers are increasingly working to improving the solution search capacity of the DE algorithm. The DE algorithm has been applied to several real world engineering optimization problems and proved an efficient strategy in the field of evolutionary optimization algorithms. But like other evolutionary algorithms DE also inherits some drawbacks. In DE, the variation in solutions during the solution search process is controlled by two significant control parameters, namely scale factor (F) and crossover probability (CR). This paper proposed a new variant of DE named as improved DE (iDE). The proposed algorithm tested over a set of 15 bench mark problem in order to prove its superiority over other competitive algorithms.

Abstract ID: RSC-199

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### **Survey on Particle Swarm Optimization algorithm**

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In today's world, finding a feasible solution for combinatorial problems becoming a crucial task. The main objective of this paper is to analyze and comprehend different nature based algorithms enabling to find optimal solution. Bacterial Foraging Algorithm (BFOA), firefly algorithm, Ant Colony Optimization (ACO), bee colony optimization, cuckoo optimization etc. Which have been used in power load balancing, cost estimating, optimal routing, color segmentation were discussed. This paper also highlights the constraints and convergence properties of each algorithm to solve certain problems encountered in various fields of application. Ant colony algorithms were successful in finding solutions within 1% of known optimal solutions. Optimal solution was found in BFOA by adjusting chemo taxis step size. Also, this paper analyzes results of various research works done in numerous fields using the swarm intelligence techniques. During last few decades researchers and young scientists have presented different versions of PSO approach. Scientists have successfully solved several real life, industrial, insurance and other marketing problems with the help of these versions. In this article a review of several hybrid versions of PSO have been presented.

Abstract ID: RSC-200

#### **Power generation in New India- A pilot study**

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The demand for electricity in India is increasing day by day. The sources like fossil fuels (i.e. Petroleum, Natural gas and Coal) and other conventional sources are on the verge of depletion. The conventional sources will not be able to fulfil the increasing demand of electric energy in coming future. Generation of electricity from conventional sources of energy causes pollution, whereas with the help of non-conventional sources of energy this can be minimized. The non-conventional methods of power generation in India such as solar cells, solar power generation, wind power generation, geothermal energy generation, tidal power generation, bio-fuels, etc. Presently in India the scope for generating electricity with the help of solar energy, is gaining the attention of the many researchers. Solar energy is the best source of cheap and clean energy. India receives solar radiation throughout the year due to its geographical location amounting to an average solar irradiance of 5.6 kW/ hour/ day. In this study the feasibility of non-conventional sources over conventional ones was investigated and it was found that non-conventional sources are more promising but dependency on conventional sources can be reduced considerably over a period of time.

Abstract ID: RSC-201

#### **A study on Hospital Information System**

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Information system has become important not only in management firms but also in healthcare sector because of its imperative usage as in its effective use and maintenance which causes any process to run smoothly and handling of data in impressive manner. Hospital Information System (HIS) comes into the picture as result of the diverging implications of Information System in various areas. HIS has substantial role to play because the healthcare facilities have to be increased on technological front and automation techniques are proving to be quite helpful in upgrading the administration process to run smoothly and at the same time integrating clinical, operational, financial, technical and database information altogether. The assistance of Hospital Information System allows the employees to do their job more effectively because the data management process becomes easier in the sense to record and retrieve information anytime. A computer system is basic requirement of HIS along with various software so that it can address the need of departments like nursing, pharmacy, radiology and pathology collaborating with administration department. The hospitals that are operating HIS have access to quick and reliable information of patients' records illustrating details about their demographics, gender, age, medical history etc. By a simple process of retrieving the data, they receive important data pertaining to hospital accounts and finance systems, diet of patients, and even the distribution of medications from the pharmacy department. Accessing these vital details helps them in monitoring

the drug usage and the effectiveness of the same. Hospital Information Systems overall is the need of the hour for developing country like India and its astounding response in AIIMS, New Delhi proves this.

Abstract ID: RSC-202

**Technology Driven Interdisciplinary approach to utilize Natural Resource (water) at optimum level in Smart Home Gar#den**

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All of we know that natural resource conservation and utilization became very important nowadays. We are talking about the “water” which is very important resource for human being and agriculture also. We are observing monsoon’s nature is irregular and due to this irregularity ground water level also decreasing. We have to take care of this situation by preventing unnecessary utilization of the water. We have proposed a novel approach in which main emphasis is on saving and controlling the unnecessary utilization of water. In agriculture or garden though either sprinkler or drip irrigation is used to control the utilization of water still optimum level is not achieved. We are observing sprinkler are spraying the water but in an inefficient way i.e. equal surface area is not covered and because of this few region will remain wet and other may be dry. In drip irrigation though drips are used still it cannot control the water utilization at optimum level. What we wish to suggest is that drips are good, but if the particular region holds good moisture level then also it will be irrigated. Proposed system will prove unnecessary utilization of water can be avoided as moisture sensors to be used to sense the moisture from the soil. As per the requirement only that region where moisture level is low, it will be immediately irrigated by using solenoid valves. Along with this proposed system have few more added advantages like identifying pH of the soil, field capacity analysis, and best water utilization for the plants, storing all the parameters like temperature, humidity, moisture and pH for later analysis.

Abstract ID: RSC-203

**A Review on synthesis, characterization and biological activity of Schiff base and with its Iron complexes**

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The Schiff base, strong candidate in medicinal field as a drug because they exhibit activity against various microorganisms such as bacteria, fungi and cancer cells etc. Schiff base (C=N double bond) is synthesized by the reaction of amine and carbonyl compound (aldehydes or ketone). Schiff base are multilateral ligand and offer a resilient series of ligand, who capable to coordinate with different metals. The coordination of metal with Schiff base enhances the biological activity of Schiff bases. The Schiff base complexes show high biological activity like antibacterial, antifungal, antiviral and antioxidant, cytotoxic, and anticancer including DNA damage activity etc. These synthesized Schiff base and metal complexes, characterized by various spectroscopic and analytical techniques. At present time, these complexes are highly demanding in medicinal field due to its effective activity against cancer and microorganisms. This review mainly aims to provide an extensive overview of the various methods used for the preparation of Schiff bases and Schiff base metal complexes, characterization with their biological activities.

Abstract ID: RSC-204

**Engaging social media for health communication in Rajasthan: Approaches & result**

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Advancement in digital media and communications technology have generated considerable optimism on the role of social media in achieving developmental and public health outcomes globally. The unprecedented availability of digital devices and platforms has also prompted different development institutions to design and implement a range of social media interventions for social and behavior change. In my research I would examine how social media are transforming health communication in Rajasthan state (India). My study demonstrates the existences of an avalanche of intervention using different mobile devices and mobilization approaches in addressing multiple health issues. Communication is central to public health delivery and advances in digital health and communication technology hold significant prospects for addressing major public health and

development issues confronting the continent. Such optimism is grounded in increasing levels of internet penetration as well as intrinsic characteristics of social media. M-Health now a day becomes important practice for common mass. This interventions target different population groups and are not limited to young people who are considered as the major users and consumers of social media content. However my study cautions against “New Media Utopianism” or “Social media centralism” because technology is a tool of development not an end in itself. It recommends strategies for effective development of social media in health communication.

Abstract ID: RSC-205

### **Nanotoxicological effects of Silver Nanoparticles**

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Nanotechnology is a branch which connects every corner of science. The chemistry of biological system can also be altered by introducing the synthesized nanoparticles. Characteristics of any material in nano range change its property. They can easily reach inside the sensitive mammalian cells of liver, lung, brain by the means of inhalation or injection and due to the larger surface area of the nanoparticles the cellular interaction is easy to achieve. The studied nanoparticles were analysed upon fibroblasts and macrophages whereas, they were tested upon human PC3 epithelial cells also but they all didn't show a similar pattern. Surface modification has also been done with various compounds such as metalates which says that the properties of nanoparticles can be enhanced but they might be having some adverse effects. These particles possess the ability to deliver the drugs and can heal the wounds but the generation of unusual toxic compounds within the cells makes it less possible. Studies on bacterial and human cells illustrate some diverse behaviors of nanoparticles. The cellular reactions in which these particles take part in may affect up to the genetic level. The modified surface of nanoparticles holds them towards stability however silver being a noble metal cause damageable effects. Thus, makes it important to study.

Abstract ID: RSC-206

### **L 1 -convergence of certain trigonometric series with complex coefficients**

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In the present paper we consider trigonometric series with complex coefficients and study the L 1-convergence of its r-th derivative using complex form of modified sums introduced by Rees and Stanojević and by Kumari and Ram under the class of coefficients  $C * r \cap (BV) m r$ . Such results were earlier proved by Tomovski by taking the modified sums of Rees and Stanojević in particular but we have shown that the results can be proved by taking the modified sums of Rees and Stanojević and by Kumari and Ram simultaneously. Moreover, our results generalise the corresponding theorems proved by authors like Stanojević and Tomovski.

Abstract ID: RSC-207

### **A systematic literature review and analysis on Software Quality Prediction**

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Software Quality is the combination of various attributes like reusability, reliability etc. Maintainability and Testability are the crucial parameters for the process of quality assurance. The meaning of Software Quality cannot be completed without including security, reliability and functionality etc. That is the ultimate perspective of this article. This article defines the meaning and characteristics of software quality and its scope and essential relationship with other attributes as it is pre-requisite Quality Assurance. This article also identifies the methodological and procedural perspectives of Software Quality Assurance. Discussing various software quality assurance models like ISO/IEC-9126, McCall. Testability plays a critical role for Software Quality Assurance and according to the literature survey this article also briefly discusses important parts of Testability and its techniques.

Abstract ID: RSC-208

**Pre-processing of speech signal in Malayalam Language: A comprehensive review on Windowing and Filtering**

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Speech is a one dimensional quasi non-stationary signal which is differentiated by phonemes and governed by the rules of a spoken language. The first and the most crucial stage of speech processing is pre-processing of the analog signal obtained by recording. The various techniques involved in doing so are sampling, windowing, framing, filtering, zero-crossing, denoising, amplification etc. In this paper we are focusing on various windowing and filtering techniques applied to speech signal in Malayalam. The process of windowing will help us to distinguish between the phonemes and syllable more precisely and the filtering will help in identification of formant frequencies for further analysis.

Abstract ID: RSC-209

**A study on the Credibility of Social Media in Movie Promotion**

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Information in social media acts like a forest fire and reach out to the maximum population in minimum time. It is a platform that connects people to exchange ideas, share information and mobilize resources. The craze of social media is prevalent among the users, cutting across the different age groups. There has been a significant increase in the use of social media with the introduction of new applications and electronics devices. We have seen the advantages of social media in spreading information within a short span of time. In last one decade, the film industry has been involved in promoting their products to the target audience through social media. Earlier, the publicity was limited to print media and certain electronics media like TV and Radio. The information about a movie available in social media helps the viewer to get familiar with the details. The increased popularity of social media is a major consideration of film publicity. More than the budget, the film publicity is likely to get the attention of its fan. In this context, this paper has taken the example of the film, Dangal and Sultan which created an interactive platform in social media. Films are bringing people together and sharing ideas through comments. Earlier it had depended on the print and electronic media like radio and television and now with new media, it includes merchandising, advertising campaigns and interviews with the key people associated with the film, such as actors, director, producer etc. Social media has a vital impact on film going audiences. They look for new content on each social site. Movie name, story, shooting location, dates of shooting, actor and actress's wardrobe and behind the camera scenes and images not only help in engaging audience but it's also a good way of doing promos of the movies. The idea behind the publicity through new media is to generate interest and raise curiosity among the audiences and it is the best way to create awareness before the movie releases. Teaser and song clips have a big role to increase maximum anxiety among the people in social network. Likes, comment, comment section's reply creates a buzz about the movie. Audience interaction through a live show, using questions during film trailer, offering them to get opportunity to meet with the star by giving the correct answer is considered as the way of film publicity.

Abstract ID: RSC-210

**Digitization of warli folk art for sustainable growth of Rural Artisans**

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India had always been known as the land that portrayed cultural and traditional vibrancy through its conventional arts and crafts. The folk and tribal arts of India are very ethnic and simple, and yet colourful and vibrant enough to speak volumes about the rich heritage. History has always been a source of inspiration for contemporary designers and artists. The contemporary style mostly rely on country's rich heritage, be it monumental design or folk paintings, it can spark to the designer's creative urge. In the present times of competitive market, the designers need to adapt modern practices to keep the art, design and motifs alive. Designs used in warli paintings are extremely simple yet trendy and can be adapted in wide arena to enhance tribal rich heritage. Researcher has digitized the adapted motifs from classical warli paintings using specialized computer software, reflecting the fusion of modern technology with tribal art. This has enhanced the library of folk art patterns to give fresh trendy look. Adapting ethnic folk-art of warli in contemporary form using CAD technology can open the avenues for the young

artisans and designers to fulfil the ever changing demands of consumers especially for those who hunt for the ethnic motifs and designs in their attire and other textile products and to preserve these designs by developing a repository, which could be accessed as and when needed. Further, the developed customized software on warli folk art unfolds lots of potential for these warli artisans to capture the market. This customized software will provide at a glance the customers an idea about the application of Warli craft motifs in different colourway, placement & usage on different textile products. Thus diversified uses of Warli craft will be possible in a much shorter time. It will also facilitate them in outsourcing business in the form of the design ideas & product development. Today there is a need to educate & train these Warli artists to help them in broadening their palette for paintings created outside the traditional context in which Warli art emerged and sustained to cater to the new demands of new market for commercial gain.

Abstract ID: RSC-211

**Application of PLC & SCADA to increase the efficiency by the automation of a casting process**

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Industrial Automation has revolutionized the world of manufacturing. Casting is one of the major process for the production of mechanical components, needs to be optimized to the full extent for quality and rapid manufacturing. In most of the Indian Casting units, the level of automation is very low or no automation prevails. In this paper, we will discuss a complete itemized process for casting industries, which will result in increasing the efficiency of the entire manufacturing process by reducing time and enhancing the quality of cast obtained. PLC (Programmable Logic Controller) is the main controlling and a consoling unit of the plant. PLC interfaces all the inputs and outputs of the plant. Monitoring of the entire plant can be done by SCADA (Supervisory Control and Data Acquisition), which results in identifying the smallest of the defects during the working of the plant.

Abstract ID: RSC-212

**Synthesis and characterization of Mn ferrite by chemical co-precipitation method**

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Cubic structured Mn ferrite nanoparticles were synthesised by chemical co-precipitation method at room temperature. The characterization studies of Mn ferrite were conducted by X-Ray Diffraction (XRD) and Transmission Electron Microscopy (TEM). The average particle sizes of Mn ferrite nanoparticles were determined by TEM and they had good agreement with XRD results. The ultrafine powder of MnFe<sub>2</sub>O<sub>4</sub> nanoparticles was pressed to design pellet of 12mm diameter and 4mm thickness. Magnetic properties of Mn ferrite were demonstrated by Vibrating sample magnetometer (VSM).

Abstract ID: RSC-213

**Comprehensive analysis of latest Metaheuristic Algorithms**

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A major thrust in algorithmic development is the design of algorithmic models to solve increasingly complex problems. Enormous successes have been achieved through the modelling of biological and natural intelligence, resulting in so-called "intelligent systems". These intelligent algorithms include artificial neural networks, artificial immune systems, fuzzy systems and metaheuristic algorithms. Over the last few decades a number of metaheuristic algorithms have been introduced and applied on various problems of different domains. The ability of metaheuristic algorithms to solve and give near optimal solutions to the problems of versatile domain without in-depth details and definition of the problems, provides an edge over traditional techniques. This paper provides comprehensive details of recently introduced metaheuristic algorithms in order to analyse them.

Abstract ID: RSC-214

**Fusion of S4R monomeric units in the formation of D4R cubans versus polymers in Zinc Organo-Phosphates**

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Aryl phosphates (X-dippH<sub>2</sub>, X = Cl, Br, I) react with zinc acetate in presence of N-donor ligand to yield zinc phosphate clusters [Zn(X-dipp)(collidine)]<sub>4</sub> (X = Cl, Br, I) and [Zn(X-dipp)(2-apy)]<sub>4</sub>.2MeOH (X = Cl, Br, I), respectively. Single crystal X-ray diffraction studies reveal that collidine and 2-apy capped zinc phosphates exist as discrete tetrameric zinc phosphate molecules having a cubane shaped D4R core. In contrast, when the same reaction is carried out in the presence of 4-cyanopyridine (4-CNpy), polymeric zinc phosphates {[Zn<sub>4</sub>(X-dipp)<sub>4</sub>(4-CNpy)<sub>2</sub>(MeOH)<sub>2</sub>].2H<sub>2</sub>O}<sub>n</sub> (X = Cl, Br, I) have been isolated. Compounds are square-wave shaped one-dimensional polymers made up edge-fused S4R repeating units. The common structural motif found in the cubanes and polymers is a S4R building block, which presumably undergoes further fusion (face to face and edge to edge) because of the coordinative unsaturation at zinc and the simultaneous presence of free P=O.

Abstract ID: RSC-215

**Design of algorithm to determine Nitrogen need using leaf colour chart of wheat in Rajasthan perspective.**

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Fertilization plays important role in successful crop yield. Nitrogen, Phosphorus and Potassium are major fertilizers required by any crop. Nitrogen is responsible for adequate growth of crop just as if protein is required for a human body. Wheat is one of the major crops of Rajasthan like Barley, Mustard and Bajra. In this paper, we have designed Java based algorithm that will exhibit the user about the need of nitrogen based on Leaf Colour Chart. This research work would be helpful for farmers and agriculture scientists.

Abstract ID: RSC-216

**From Monolith to microservice**

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A monolith application is generally considered as a single unit. Enterprise application are built in three parts: A client site user interface, a database and a server side application. The client side user interface is used for user interaction, the database is for data storage and server side application will handle the request sent by user, execute domain logic, retrieve or update data from the database and populate views to send back to the user. This sever side application is monolith. All logic for handling a request runs in a single process. Any changes required will result in a new server-side application. We can horizontally scale the monolith application by running many instances behind the load balancer. Monolith applications are successful but as more applications are deployed on cloud it creates frustration among people. This is due to tight coupling. If a small change is required in a part of application, it leads to entire rebuild and deploy of entire monolith. Scaling requires scaling of entire application rather than parts of it that require greater resources. These frustrations have led to the microservice architectural style: building applications as suites of services. As well as the fact that services are independently deployable and scalable, each service also provides a firm module boundary, even allowing for different services to be written in different programming languages. They can also be managed by different teams. This paper describes the complete journey from a monolith generation to microservice era.

Abstract ID: RSC-217

**Exploring asynchronous Differential Evolution**

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From two decades Differential Evolution (DE) is being employed for solving various engineering problems because of its efficacy and simplicity. The strength of DE algorithm is exploitation of the knowledge. Asynchronous Differential Evolution (ADE) is a variant of DE in which the population is updated as soon as a vector with better fitness is found hence leading to stronger exploration. The ADE algorithm is efficient to solve possible nonlinear and non-differentiable global optimization problems. This paper presents an overview of the working of DE and ADE. It also discusses various studies focused on ADE and major variants of ADE introduced over time.

Abstract ID: RSC-218

### **Features Extraction and classification for off-line Signature Verification**

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The aim of this paper is to develop a new algorithm for off-line signature verification and derive a description of the signatures that is useful for quality verification. The Finally, the classification is done with the help of Euclidean distance. In this work individual threshold is calculated for both vertical splitting and horizontal splitting. The effectiveness of the proposed work has been shown with the help of two parameters: False Acceptance Rate (FAR) and False Rejection Rate (FRR) compared with the existing techniques. Proposed approach includes three main phases: Pre-processing, feature extraction and classification. Initially the signature image undergoes noise reduction, cell segmentation, and standardization under pre-processing. In the second phase, the result from Pre-processing are processed through a geometric centre based feature extraction technique to extract geometric features. This technique is totally depended on two set of points in 2D plane. Both the sets have number of feature points. These points are used to represent the stroke distribution of pixels. Geometric Centre based method is used to calculate the value of these feature points, where vertical and horizontal splitting has been used to retrieve the feature points.

Abstract ID: RSC-219

### **Multitask network cascades via deep learning techniques for instance aware semantic segmentation**

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Semantic segmentation area is a vital role for computer vision group and machine learning classifiers. A rapid growth in the applications like autonomous driving, human-machine interaction, indoor navigation, reality systems, computational photography, image search engines etc., gives in the development of effective and standardized segmentation mechanisms. This demand gives rise to improve in the deep learning techniques in the field of computer vision group, semantic segmentation and complete scene understanding. This research provides an analysis on deep learning methods for Semantic Segmentation applied to several application areas. Initially we discussed about the background concept semantic segmentation via deep learning in particularly with field of neural networks. Afterwards, deep learning methods are analyzed to achieve the Semantic segmentation result. In the end we have mentioned the important future works in the area of Semantic segmentation through deep learning methods.

Abstract ID: RSC-220

### **Multilevel Image Segmentation using firefly algorithm and entropy function**

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Image segmentation is an important step in the domain of image processing in which we segment the image into several parts which carry certain type of information for the user. Image segmentation is very difficult step in the processing of the image which aims at extracting the information from image. Clustering is used to segment the image. Clustering algorithms are part of data mining algorithm that groups the data into various number of given clusters. All the data points in one cluster have similar properties based on which they are clustered i.e. each cluster has minimum difference between its points and maximum difference from other cluster data points. The proposed algorithm uses k-mean algorithm and firefly to cluster image pixels into k cluster for segmentation. Since k-mean clustering algorithm is gets trapped in local optima it is optimized using firefly algorithm. Swarm intelligence based algorithms forms the basis of the firefly algorithm which has several application and used to solve optimization problems. Firefly algorithm has been applied in many research and optimization areas. Firefly algorithm

and its hybridized version have been used to solve various problems successfully. To apply firefly algorithm to wide areas of problem the firefly algorithm must be modified or integrated with other algorithms. Presently metaheuristic nature of algorithm plays an important role and current optimization algorithm include this nature and are very efficient in solving NP-hard problems.

Abstract ID: RSC-221

### **Digital image watermarking using SVD and PCA in YCBR color space**

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A digital image watermarking technique is proposed to hide the relevant information in color digital images. The image is converted from RGB color space to YCbCr color space. This enables the algorithm to exploit characteristics of the Human Visual System (HVS) for embedding the watermark. The scheme embeds the watermark information utilizing wavelets transforms and Singular Value Decomposition (SVD) for this purpose. It uses a Quick Response (QR) code as the watermark. The QR code is a robust code from which embedded information can be extracted even if the retrieved QR code image is distorted. Thus the proposed technique employs a judicious combination of different algorithmic ideas including altered YCbCr color space, transformation into wavelet domain, SVD for selection of places to embed and QR codes for enhanced robustness. The watermarking scheme proposed is robust against various signal processing attacks (e.g. filtering, compression, noise addition etc.) as well as geometric attacks (e.g. rotation, cropping etc.). Computational experiments on a variety of cover images show that embedding QR code is more effective than the other watermarks in terms of better information carrying capacity, robustness and imperceptibility. The proposed scheme is novel and effective as it simultaneously provides advantages of each of the individual elements combined in this approach.

Abstract ID: RSC-222

### **Comparative analysis of SLM & PTS techniques for P.A.P.R. reduction in OFDM**

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In the wireless broadband communication systems these days, Orthogonal Frequency Division Multiplexing (OFDM) is a very promising technique. The properties of the OFDM are Capability to handle very strong echoes and less nonlinear distortion. It is a kind of Multi carrier modulation technique which is having a high channel fading robustness, also having a high spectral density. One of the major disadvantage of OFDM signal is high peak to average power ratio (PAPR). When the OFDM signal is passed through the non-linear amplifier, the signal results in out of band radiation and band distortion. This paper generates an idea about comparison of PAPR reduction techniques. Selective mapping (SLM) and partial transmit scheme (PTS) are studied here for the comparison in the general terms of Complementary Cumulative Distribution Function (CCDF).

Abstract ID: RSC-223

### **Solution of Ordinary Differential Equations with Variable Coefficients using Elzaki Transform**

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In this paper, we introduce a computational algorithm for solving ordinary differential equations with variable coefficients by using the modified versions of Laplace and Sumudu transforms which is called Elzaki transform. The Elzaki transform, whose fundamental properties are presented in this paper. Illustrative examples are presented to illustrate the effectiveness of its applicability.

Abstract ID: RSC-224

### **Study of different methods to Control Congestion using Routing Protocols in Wireless Sensor Networks**

Prachi Sharma

A Wireless Sensor Network (WSN) usually consists of various autonomous sensors to monitor physical or environmental conditions such as pressure, temperature, humidity, sound etc. and passes their data to the main station through a shared medium. It is a set of sensors scattered in an area which consists of tens to thousands of sensor nodes with one or more sink nodes. Since mobile nodes use a battery or some energy sources that need recharging and replacement frequently, which is not feasible in some dangerous areas where human reach is not possible. Thus energy conservation is required to increase the network lifetime. As lots of energy is dissipated in sending and receiving data through sensor nodes. Congestion is a major factor that affects energy conservation to a large extent. Congestion in WSN is generally caused by the simultaneous transmission of packets or information through several nodes to a sink node resulting in the loss of packets. These lost packets have to be retransmitted that results in decreasing the energy efficiency of the network and reduces network lifetime, thus affecting the overall network performance. An effective transport protocol is needed to detect and control congestion and make the network energy efficient, thus increasing the network lifetime to maintain the quality of service and to achieve higher throughput. This paper presents a survey on different techniques and routing protocols that are used in WSNs to detect and avoid congestion in the network and make the network energy efficient. The results of comprehensive study of congestion mitigation techniques and routing protocols have shown in terms of packet delivery ratio and energy consumption using Network Simulator.

Abstract ID: RSC-225

### **Multipurpose Boiler**

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As we can see that many industries using commercial boilers on large scale as per their requirement but when steam is generated during their respective processes, a large amount of heat gets wasted and many harmful gases get dissolved in environment which further occur problem for environment like global warming. So keeping this in mind i.e., wasted energy and those harmful gases should be utilized in some or other ways to increase the efficiency of the boiler compared to other normal boilers with less fuel consumption. In this journey a boiler came into the picture which is multipurpose boiler. The multipurpose boiler is capable enough to produce steam and electricity with the help of turbines and generators. Other than this our objective is to provide hot water and high temperature steam which makes our boiler as multipurpose boiler. As the multipurpose boiler is energy saver, we can also use this boiler in energy deficient places.

Abstract ID: RSC-226

### **Design & development of Smart Terrain wheel chair for the handicapped**

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Limited mobility is something that affects approximately 7.6 million Indians. Approximately 1.2 million are using wheelchairs or scooters of some kind to enhance mobility. Everyday obstacles present a challenge to those in a wheelchair. Also, outdoor environments such as campsites, lakes, or even grass fields provide additional challenges for those with limited mobility. This project helps us to provide a solution the limitations faced by those using wheelchairs. The wheels and tires of the wheelchair allow navigation through most terrains such as grass, gravel, and sand, but in some cases the wheels get stuck in muddy as well as rocky terrain, so we have come up with a new concept of adding tracks to the wheelchair in spite of just wheels. Because of adding tracks the wheelchair cannot just drive through any terrain, but can also climb stairs. Furthermore, as the wheelchair climbs or descends a hill or a staircase it becomes unstable and the user risks tipping the wheelchair causing injury or even death. Thus the terrain electronic wheelchair uses a gyroscope to determine its angle of inclination and depending on user interface choices will display the angle or raise the seat with linear actuators to keep the seat level, but the cost of gyroscope is too high which becomes uneconomic to use as our aim is to build an inexpensive terrain electronic wheelchair so, we do the adjustment by hand controlled joystick. This will keep the center of gravity towards the front of the chair when going up a hill and towards the back of the chair when going down a hill. This enhanced stability will give the user the confidence and ability to go places where most traditional wheelchairs cannot. The chair has the ability to level at up to 45 degree and can provide a manual lift of 6 inches.

Abstract ID: RSC-227

### **Study and analysis of Ultralow Power logic gates**

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In IC technology, logic gates are integrated in such manner so that power dissipation will be less. The execution of all the basic logic gates is offered using 180nm CMOS technology with a very low voltage of 0.7V. Preferably logic family should not dissipate power, have zero propagation delay, controlled rise and fall times with noise immunity. CMOS total power dissipation depends upon two power i.e. dynamic power and static power. As these both power depends upon VDD, if supply voltage is reduced the total power can be decreases. The attractive characteristics of CMOS are its robustness with respect to voltage and size scaling. Due to this desirable characteristics of CMOS when it is implemented in the area of VLSI design, hence there is always a trade-off between area, power dissipation and speed of operation. The main purpose of this paper is to implement all the basic logic gates by utilizing the property of voltage and gate size scaling of CMOS with ultra-low power dissipation without affecting the operation of the basic gates.

Abstract ID: RSC-228

### **A study of emission free high power electric vehicles**

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The challenge of meeting high growing energy demands along with conserving the environment has pushed all the scholars, scientists, researchers and students to develop techniques and invent ways that can prove to be beneficial to all. Pollution from vehicles is one factor which can be worked upon to achieve our target. Electric vehicles can be made to run on high power batteries rather than fuel cells. Although charging of these batteries may take very long time but by using wireless charging methods, the user can “charge while driving”. Thus, at feasible and affordable cost, an efficient large scale system can be build reducing the carbon emissions in the imminent future.

Abstract ID: RSC-229

### **Extended study and analysis on fabrication of ka-band space travelling wave tube**

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The CW-Travelling wave tube is highly effective and extensively used for satellite communication systems. There are three major components in TWT are electron gun assembly, slow wave structure & collector region. Copper made multistage collector is used to recover large portion of energy. Ka-band space tube TWT is designed for a certain band of frequency (26-40 GHz) under the challenging fabrication and designing steps to maintain all parameters to stabilize better output requirement. All assemblies are to be brazed in furnaces using Cu-Au alloys, after that checked for leak rate from helium gas detector. It should maintained less than 10-11 torr litre/sec. Electron gun testing on a vacuum chamber under UHV process at high temperature 550°C for more than 100hr. in ultimate vacuum inside the tube assembly ~10-10 torr for better and efficient result.

Abstract ID: RSC-230

### **Application of TiO<sub>2</sub> nanofluids for Solar Thermal Systems**

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Nano-fluids are the suspension of nanomaterials in base fluid and exhibit superior thermo physical properties than the base fluid. This article investigates the feasibility of nanofluid in solar thermal systems. The shortage of conventional fuels motivated the researchers to use non-conventional sources of energy such as Solar energy. Major design modifications are not practically feasible in existing solar water heaters. The efficiency of solar water heater can be increased by increasing the heat absorption capacity of working fluid. TiO<sub>2</sub> nanofluid was taken for study and its effectiveness on the efficiency of flat plate solar water heater is used. Significant changes were observed by increasing the concentration of nanofluid and mass flow rate.

Abstract ID: RSC-231

### **Science & Technology for sustainable development of state of Rajasthan**

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Rajasthan is located on the north-western side of our country India, which is also known as the land of the 'RAJA MAHARAJAS'. It comprises most of the wide and inhospitable in nature but the up liftmen and the prosperity in the state of Rajasthan is very remarkable in our country India. Discussing about the improvements and the growth of the state it has really made a tremendous development we can find out that development in terms of technology, infrastructure, culture, education, health and in many more aspects. We are standing at the edge of the global transformation; International community like UN has put their huge efforts and set a bunch of goals that aims to build a more prosperous, more equal, and more secure world by the end of the year 2030. State Government are a crucial driving force they flagship many programmes such as the Swachh Bharat, Make in India, Skill India, Digital India and many more. Our nation plays an important role in shaping the sustainable development many agendas many programmes has been initiated and launched to make and to give India a better position. Sustainable development is the development that meets the actual needs of the present without compromising the needs of the future generation. So, we have to make such a development so that our demands and necessities get's fulfilled and we can save the resources for our future generation. So to do this and keeping this in mind we have to use the resources in a very judicious and unobtrusive manner. Sustainable development not only means a successive development but to use it in a proper manner. Environmental Sustainability is to conserve natural resources and to develop alternate source of power while reducing pollution and harm to environment. Many projects have initiated for the environmental sustainability that includes replanting forest, preventing wetlands and protecting natural areas from resource harvesting. Right to wholesome environment is a fundamental right protected under article 21 of the Indian constitution of India; development comes through industrialisation, which turns the main factor behind the degradation of environment and deforestation. To resolve these, experts throughout the world wide have come up with a doctrine called 'Sustainable Development'. Talking about the responsibilities of the Corporate, it is the concept whereby companies targeted the social and the environmental developments they took it as their responsibilities as the environment are the gifts by our almighty. It is the duty of all to protect the environment and to maintain the ecological balance in the society.

Abstract ID: RSC-232

### **Review on brain tumor detection using Segmentation Techniques**

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Engineers have been progressively developing the tools to detect the tumours and process the medical images. The conventional method for classification of brain MRI images classification and brain tumour detection is human inspection. Tissues in brain are the most complicated tissues of the human body. In presence of various medical imaging techniques, Magnetic Resonance Imaging (MRI) is the dominant in the area of diagnosing the brain. Medical image segmentation is the most powerful tool for detection of tumors. Brain tumor is the collection of abnormal cells progressively growing in the brain. Brain tumor is classified into two: cancerous and non-cancerous tumors. Segmentation is a division or partition of the digital images into the various segments process. The purpose of segmentation is to simplify the representation of the image which will be clearer and easier to analyze for further processes. MATLAB is the matrix laboratory. It is used in image processing and signal processing. It is the 4th generation language. So many mathematical expressions on an array are in-build and can be made in matlab. We use matlab for this project since it is very efficient for image processing. It is more accurate and easy to implement. Various image segmentation algorithms are tested in matlab and based on those results we will find out which algorithm is best in detection of tumor shape size and location in brain.

Abstract ID: RSC-233

### **Pragmatic Amplification of Vortex Structural Geometry: A Review**

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Sustainability which once was a story in a nutshell but is now a topic in the air, a topic of concern. Sustainable development talks about the development but with a clause the resources are non-renewable and we need to preserve them as well as search for effective and economical resources and the technology to drive them. The results came up in the form of solar power

generation and wind energy power. The focus of this review paper is on the concept of wind power energy using Bladeless Wind power generation; a new technology which has gained in its momentum in the market of sustainable development. The Vortex which is a Bladeless Wind power generation Technology when compared with the traditional vertical Wind mill design proved to be many steps ahead in the race based on the factors like no ecological losses (killing of birds), improved power generation efficiency, economical and reduced land area requirement.

Abstract ID: RSC-234

### **Continuous speech recognition of Telugu language**

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Speech is the communication mode for humans. The same speech will be the interface between human and machine. Recognition of speech has many applications in the real time world. The speech recognition is done on symbols, characters, digits, isolated words, sentences and continuous speech. This research deals with recognition of speech for continuous speech of a medium vocabulary. This also specifies the flow of recognition of speech for speaker dependant and speaker independent models. The various parameters considered and the techniques used for design of Telugu speech recognition system are discussed with the appropriate relations. The advanced algorithms with suitable combinations are designed. The factors like signal to noise ratio, efficiency and accuracy are generated. Feature extraction techniques like MFCC combined AC-MFCC are used and DNN classifier is used for recognition of data.

Abstract ID: RSC-235

### **Self-reported satisfaction with Amplification Devices among older adults in Indian context**

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Hearing loss is one among the major chronic condition among older adults. According to a study done by Mahroof et al., 2017, reported 13.8% of the older adults has significant hearing loss in India. Among amplification devices, hearing aids are the major management option used by those with permanent sensorineural hearing loss. Previous literature has also reported that hearing aids are known to reduce negative consequence of hearing impairment (Stark & Hickson, 2004). Earlier studies have also reported hearing impairment in older adults can cause negative consequences on emotional, cognitive and social function (Huang & Tang, 2010; Lin et al., 2011). Even though, hearing impairment is highly prevalent in older adults and can be successfully managed by hearing aids, the acceptance and use of hearing aid is still poor. Previous researchers reported that a large portion of older adults who could benefit from hearing aid do not wear them (Smeeth et al., 2002; Smits et al., 2006). Literature from western countries showed many subjects provided with hearing aids are not satisfied and do not use it regularly (Smeeth et al., 2002). There is a dearth of literature regarding satisfaction from the hearing aids among older adults hearing aid users in India. The present study aimed to investigate satisfaction (positive effect, service and cost, negative features and personal image) among older adults hearing aid users of India.

Abstract ID: RSC-236

### **Digital media literacy and Indian diaspora in UAE: Exploring a framework on a communication campaign**

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The digital media technologies, especially the social media, has become an essential part of the everyday life of Indian Diaspora in UAE (United Arab Emirates), which has close to two million members. The potential for a mediated social life and entertainment made social media popular even among the semi-skilled and unskilled laborers in Indian Diaspora. However, drawing from a field work conducted among the Diasporic Indians in UAE in July 2016, the authors of this paper argue, a significant amount of the members in Indian Diaspora, especially among the working class, lacks an understanding of the potential consequences of many of their activities using social media. Important among them is the latter's ignorance on the strict cyber laws in UAE. Many Indians who were sentenced for a period of ten to twenty years for cases like blasphemy stand as a proof to the magnitude of this issue. Given this background, the proposed paper strives to answer the following questions: what are the potential areas that need to be included while developing a communication campaign targeting Indian Diaspora in UAE, how and

what ways such a campaign can be structured and implemented, how the existing literature on digital media literacy can guide and inform such a campaign. This article draws from following combination of methodologies and methods to answer the aforementioned questions. It includes a Netnography to be conducted on four online communities where Diasporic members actively take part, a content analysis will be conducted on media coverage of cybercrimes where Indian Diasporic members involved, semi structured interviews with six people respectively from both Indian Diasporic members in UAE and those who are working in the area of cyber law in UAE and a field work conducted among the Diasporic Inidans in UAE in July 2016.

Abstract ID: RSC-237

### **Rubcerete: Scrap tires as concrete aggregate**

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The number of automobiles is increasing in India increasing the demand of new and replacement tires. While talking about sustainability it is a great issue of concern on the way to utilize and dump the scrap or used tires. A portion of the present uses for utilized tires in India incorporate tire rethreading applications, tire derived fuel for making blocks, making belts for running shafts and making gaskets. This utilizes only a fraction percentage of total tire waste whereas burning tires as a fuel for bricks and concrete kilns has been banned as it causes air pollution in large extent. Moreover, the shortage and accessibility at sensible rates of sand and aggregate are presently offering uneasiness to the construction industries. Over years, deforestation and extraction of common aggregates from stream beds, lakes, and other water bodies have brought about enormous ecological issues. Therefore the best way to overcome these two problems is to use discarded tyre rubber as aggregate in concrete in place of sand in appropriate ratio. The rubcrete provides up to 40% increased workability to concrete and helps to make light weight concrete. The review paper focuses on the use of rubberized concrete mixture to replace conventional partial or completely natural aggregates and its use in concrete mix in engineering applications for construction of non-structural applications.

Abstract ID: RSC-238

### **A comparative study on Tensile Strength of coir and banana Fibre-latex composite**

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In this paper, the study is carried out on two latex based composites of two well-known natural fibres - banana & coir. Both banana & coir fibre are most widely used for many of the products like mats, fancy items, picture frames, hand bags, belts etc. Latex when mixed with these natural fibres we can clearly see the difference in their tensile strength, elongation as well in tear resistance which will in turn will help in improvement of the products made. Here a comparative study of tensile strength between coir and banana fibre latex composite is carried out. The graphical representation of tensile properties of both coir fibre–latex composite and banana fibre–latex composite is drawn. The study is carried out in room temperature with 50% humidity and the width of the sample is kept 3.00mm for better results. The tensile strength was studied by UTM (ASTM D412). From the result, it has been concluded that the tensile strength of banana fibre-latex is more than that of sample coir fibre-latex.

Abstract ID: RSC-239

### **Microwave slotted waveguide antenna design: A review**

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Microwave Slotted Waveguides are used for Electromagnetic waves Transmission. High Gain and Mechanical Robustness of Slotted Waveguide Antenna makes it very useful for Radar Application. Slotted Waveguide Antennas are good alternative to planar arrays. Lots of work have been done for the design of Planar arrays but very few are available for Slotted Waveguide. Research on different slotted waveguide antennas are observed in this paper. This procedure determines length, width & inclination of the slots along with the length of waveguide. Ansys HFSS Software will be used for the design calculations and to generate the slots needed. A prototype microwave slotted waveguide antenna will be fabricated and tested to get the design results in accordance with the simulation. The aim of this paper is to provide objective of SIW Technology.

Abstract ID: RSC-240

**Role of technology advancement leading to Sustainable Development**

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The role of science, technology and innovation inspire early twenty-first century global challenges. On the one hand, since the illumination, technology, especially science-based technology, has offered the promise of a better world through the eradication of illness and substance improvements to standards of living. On the other hand, resource extraction, emissions of dangerous materials, and pollution of air, water, and soil have created conditions for unparalleled environmental catastrophe and have already caused irreversible damage to the biosphere. Questions about the role of technology become even more urgent. There is a great dependence on technology to solve environmental problems around the world today, because of an almost universal disinclination by governments and those who advise them to make the social and political changes that would be necessary to reduce growth in production and consumption. A common response to the litany of problems attributed to technologies is to argue that the problem is not so much in the technology but in how it is used or abused. Technologies themselves only become environmentally harmful if they are not applied with due sensitivity to the environment. Another reaction is to argue that technologies often have unexpected side-effects or second-order consequences that were not originally designed into the technology. Commoner points out those plastics do not degrade in the environment because they were designed to be persistent; similarly, fertilisers were designed to add nitrogen to the soil, so it is not an accident that they add to the nitrogen reaching the waterways. Part of the problem, he argues, is that technologists make their aims too narrow; they seldom aim to protect the environment. He argues that technology can be successful in the ecosystem "if its aims are directed toward the system as a whole rather than at some apparently accessible part". The British economist E. F. Schumacher, who talked about 'intermediate technology' in his book *Small is Beautiful: A Study of Economics as if People Mattered*. He was principally concerned with development in low-income countries, and recommended a technology that was aimed at helping the poor in these countries to do what they were already doing in a better way. Yet the sorts of technological changes that would be necessary to keep up with and deactivate the growing environmental damage caused by increases in production and consumption would have to be somewhat affected. Sustainable development policies seek to change the nature of economic growth rather than limit it. They are premised on the belief that continual growth in a finite world is possible through the powers of technology, which will enable us to find new sources or provide alternatives if a particular resource appears to be running out. Otherwise, technology will help us use and reuse what we have left in the most efficient manner.

Abstract ID: RSC-241

**Map matching algorithm for real time trajectory computation on road network**

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A map matching algorithm is used for finding the position of vehicles on road/highways. It has played an important role in different applications like intelligent transport management and traffic flow analysis for the real-time approach. Researchers provide the different map- matching algorithms for the different problem such as complicated road network data, filtering approach, probabilistic approach etc. This paper describes the limitations of the existing map- matching algorithm, including a notable feature for segment-based map-matching algorithm for immediate navigation application for point to curve navigation on each segment of road networks.

Abstract ID: RSC-242

**Password optimization techniques in 3d world**

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3D password is a multi-factor authentication scheme. The user login by navigating through a 3D environment. Collected user action and interactions in the virtual environment construct the 3D password. The proposed system is a multi-factor authentication scheme that combines the benefits of various authentication schemes. Users are provided the flexibility to choose between application of 3D password by being just recall based, recognition based, and token based, biometric based. Biometric authentication is a type of authentication which is hard to spoof or forge. Biometric identifiers are mainly characterized as physiological and behavioral characteristics. The most common biometric technique is fingerprints where fingerprints are stored in database initially and are compared whenever a user try to authenticate to provide access. Pass face is one of the recognition

based authentication technique where a user is provided with an image which is a grid of nine faces. User has to select particular face from a grid and reproduce or recognize the same during the authentication. This technique is said to be easy to work as people can recall human faces easily then other images Recall based technique is a sequence of invariant points of object. There are two type of recall based techniques.

Abstract ID: RSC-243

### **Nanotech enhanced synbiotics: An approach to augment human health**

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Recent metagenomic scrutiny of the human gut microbiota has led to the discovery of nearly 3.3 million microbial genes present in the tissues in the entire human body with a rapid expansion in the various evidences revealing their numerous beneficial roles in human health and disease. Perturbation of the intestinal microbiota may lead to chronic diseases. The food supplements: prebiotics, probiotics and synbiotics termed as functional foods have been verified to alter, transform and reinstate the pre-existing intestinal flora. They also facilitate smooth functions of the intestinal environment. Probiotics are live microorganisms that promote health benefits upon consumption, while prebiotics are non-digestible food ingredients that selectively fuel the growth of favourable microorganisms in the gastrointestinal tract. Amalgamation of prebiotics and probiotics with a synergy between them is referred to as synbiotics. Encapsulation of probiotic bacteria within prebiotics helps to protect them and enhance their survival rate while passing the gastrointestinal tract. Present study has focused on functions and roles of probiotics, prebiotics and synbiotics in human health. It is the advent of nanomedicine that confers it to be appropriate to forge a union with the known practices of these supplements for creating an optimal environment within the gastrointestinal tract and thus is considered to be the most valuable approach.

Abstract ID: RSC-244

### **Optimization of hybrid energy system to electrify an educational institute using HOMER**

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This paper presents an optimization model of hybrid energy system for electrification of a part of an educational institute located in Jaipur, Rajasthan in India. The hybrid system can utilize the resources as biomass, wind, solar and electrical supply from the grid. A hybrid system can comprise more than one renewable energy source such as solar photo voltaic, wind turbine and micro hydro-electric plant. The necessity of development of a hybrid renewable energy system is intermittent nature of these resources and their availability. For this paper, electric load estimation is done according to IEC standards. For optimization of RES solar PV, small wind turbine and battery bank is chosen as major components. Various sensitivity analysis and simulations are done to optimize system by the help of optimization software Hybrid Optimization Model for Electric Renewable (HOMER). The optimization tool HOMER optimized the system in constrained of various costs of system, percentage of renewable energy uses, carbon emission and electrical load requirement throughout the year.

Abstract ID: RSC-245

### **A short review on delay tolerant network**

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DTN (Delay Tolerant Network) is supposed to be one of the effective methods for such inoperable circumstances. However, when DTN is applied for vehicle-to-vehicle communication in local areas, there are some problems such as message delivery rate and latency because there are fewer roads, cars, and pedestrians than in urban areas. In this paper, we introduced DTN with directional antenna control for IEEE802.11a/b/g/n based wireless cars, and the simulation is held by the map of a Japanese coastal town that was severely damaged by the East Japan Great Earthquake have been reviewed and the future studies of DTN for vehicle to- vehicle communication based Disaster Information Network System in local areas are also discussed.

Abstract ID: RSC-246

**Requirement of engaging social media for health communication: A case study on Rashtriya bal swasthya karyakram (RDSK) in district early intervention centre (DEIC), Jajpur district in the state of Odisha (India)**

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The health issues that continue to plague Odisha underline the need for revamping the existing system. There have been gaps between the planning and implementation of various health programmes in the state because of poor communication. Concerted efforts by the government, NGOs, the media and civil society are needed to strategise and implement plans for health-related issues. In this context it is important to state that today social media is a growing and changing communication tool, underutilized within the global health and development sector. In settings with minimal human and financial resources, social media gives implementers the ability to reach a large number of people over a broad geographic area. It allows the user to share information through multiple channels, easily reaching and engaging diverse audiences. People of all demographics are adopting these technologies whether on their computers or through mobile devices, and they are increasingly using these social media for health-related issues. Although social media have considerable potential as tools for health promotion and education, these media, like traditional health promotion media, require careful application and may not always achieve their desired outcomes. This paper summarizes current evidence and understanding of using social media for health promotion in the state of Odisha. More important, it discusses the need for evaluating the effectiveness of various forms of social media and incorporating outcomes research and theory in the design of health promotion programs for social media. This paper is a review using a systematic approach. A systematic search of the literature was conducted using electronic databases and manual searches to locate peer-reviewed studies, media reports and Government health reports published between January 2010 and August 2017.

Abstract ID: RSC-247

**Technology and learning- An augmentation of employability related language learning techniques**

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The origin of the communication can be traced back to the times when sign language was per dominant means of communicating. A complete circle of communication can be outlined with speech around 200,000 years ago; symbols 30,000 years ago and writing almost 7,000 years ago. Advancement of the intelligence fostered humans to master an effective and cogent way of communicating. The FOXP2 genes which appeared in homo sapiens about 200,000 years ago were largely responsible for developing the art of communication. This opened the gates for human beings to interact with the milieu and conduct himself socially. Today, the floodgates of technology have brought in an alliance between effective learning and teaching. This, in turn, has felicitated an interface with the corporate world too. The development in the fast technological world offers a great deal of variety to choose from and improve upon one's learning skills. Amongst many others, e-learning is the heart of the development. In fact, this form of learning has paved way for multiple forms of innovative ways of imparting and gaining knowledge. The main focus of the paper would be on certain important forms of e-learning which has changed the format of the educational world altogether and subsequently reduced the procrastination. It will target to speak about various features, phenomena, tools, techniques and collaborative social interaction associated with it.

Abstract ID: RSC-248

**Application of PLC & SCADA to increase the efficiency by the automation of a Casting Process**

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Industrial Automation has revolutionized the world of manufacturing. Casting is one of the major process for the production of mechanical components, needs to be optimized to the full extent for quality and rapid manufacturing. In most of the Indian Casting units, the level of automation is very low or no automation prevails. In this paper, we will discuss a complete itemized process for casting industries, which will result in increasing the efficiency of the entire manufacturing process by reducing

91

time and enhancing the quality of cast obtained. PLC (Programmable Logic Controller) is the main controlling and a consoling unit of the plant. PLC interfaces all the inputs and outputs of the plant. Monitoring of the entire plant can be done by SCADA (Supervisory Control and Data Acquisition), which results in identifying the smallest of the defects during the working of the plant.

Abstract ID: RSC-249

### **Role of media in kulbhushan jadhav case in context to India- Pakistan relations**

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After going through the entire research, I hereby conclude with a few arguments and findings. As I proposed my topic 'Role of media in Kulbhushan Jadhav case in context to India- Pakistan relations', I have explained the complete Kulbhushan Jadhav case and have focused on all the ups and downs that the case has gone through. The case has re-opened the delicate wounds of India-Pakistan relations as it led to ICJ after 18 years. The role of media has been explained in the findings section, clearing the arguments and justifications given by the diplomats of both the countries throughout the case and the response of media to them. According to me, Iran on the other hand could have played a better role in the case but due to its personal opinion of managing relations with both India and Pakistan, it decided to stay back and watch as India approached ICJ for a solution.

Abstract ID: RSC-250

### **Energy audit: Reduction of electricity consumption in academic building**

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For any developing country's energy economy is played a vital role in all developing sectors and the demand of electricity is continuously increasing day by day. So besides installation of new power plant to fulfil the demand of energy in terms of electricity, the one more solution may be decrease the electricity consumption by installation of new technology equipment's. Regarding this an energy audit is conducted in an academic building and it is found that energy consumption can be reduced by installation of new sensors at various positions in building without any change in existing building model. Through audit it is found that by installation of IR sensors electricity consumption can be reduced by 10% than the current electricity consumption.

Abstract ID: RSC-251

### **Sustainable development in context of right to life**

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This academic research talks about the relationship between Sustainable Development and the Constitution of India. The study talks about the Sustainable Development as a major principle of Human Development and it maintains the ability of the natural systems to provide natural resources and services essential for the humans or other organisms to sustain life. This was the basic concept of the UN'S conference on Environment and Development which took place in Rio De Janerio in 1992. This was the first attempt to spread awareness on the sustainable pattern of development. The study also throws light on the issue that Environment and life are correlated. In the long evolution of human race, we have reached a stage where through science and technology everything can be achieved at a rapid pace. There is plenty of evidence around us of the human caused destruction and harm to the natural resources without which it is difficult to sustain life in the earth in our near future, as a result of which human mankind is directly hampering their major fundamental right i.e. Right To Life and in Indian Context this is one of the most important Fundamental Right provided to the its citizens under the article 21 of Indian Constitution. The research paper also discuss about the agendas of sustainable development in brief. It seeks plan of action for people, planet and prosperity, universal peace and larger freedom. We recognise that eradicating poverty in all its forms and dimensions, including extreme poverty, is the greatest global challenge and an indispensable requirement for sustainable development. From the perspective of the planet this concept is determined to protect the planet from degradation and support the needs of the present and preserve for the future generation. But at the same time the concept of sustainable development has also faced the grounds of criticism as well, the implementation of the concept of sustainable development has not been radically successful to make it a pivotal moment in resolving global problems, and taking the modern world out of the current civilization crisis. Almost twenty years have passed since modern global institutions officially set out on the course towards sustainable development, and no single economic,

environmental or social policy model has been elaborated. Global Problems have only accumulated. Therefore, the imbalance which has emerged out in the society due to the harmful activities performed by the humans should be taken care with the help of the provisions mentioned in the Constitution of India.

Abstract ID: RSC-252

### **Cuticular wax: A source of Biochemical Marker for varied applications**

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The cuticular layer covers the outer surface of plants which acts as a first line of defense between plants and environment. The cuticular wax layer plays many key roles in life of plant like protection of plants from pathogens, UV radiations and loss of water. This wax is composed of alcohols, esters, alkanes and alkenes mainly. Besides, this wax has other organic compounds; some of them are responsible for the pathogen specific infection. The wax quality is influenced by several factors like genotype, temperature, light and biotic and/or abiotic stress. Wide diversity in the composition of cuticular wax among plant genera and species has been reported. GCMS based several studies reveals that certain compounds (alcohols) are present in cuticular wax of one species and absent in other. Similarly within genera also variation in wax has been reported. This variation offers us natural variable compounds of different use. Out of these compounds, some may be used to distinguish one genera from other. These compounds can be used to find out adulteration in leaf based ayurvedic preparations, if such studies are carried out in medicinally important plants, where leaf has the active principles.

Abstract ID: RSC-253

### **Exponentiated generalized Lindley Distribution**

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The Lindley distribution is important for studying stress–strength reliability modeling. In this paper, we introduce a new model of Lindley distribution referred to as the Exponentiated Generalized Lindley distribution with three parameters which offers a more flexible model for modeling lifetime data. We provide a comprehensive mathematical treatment of this distribution. We derive the expressions for the density function, distribution function, hazard rate function, moment generating function and  $r^{\text{th}}$  moment. Distribution of order statistics for derived distribution are also obtained. We discuss estimation of the parameters by method of maximum likelihood estimation.

Abstract ID: RSC-254

### **Content based image retrieval using Genetic algorithm based on Relevance Feedback**

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In this paper, a Content-Based Image Retrieval (CBIR) System, called AIRS (Amity Image Retrieval System) is presented. A query image is passed to AIRS and AIRS retrieves the images similar to the query image from a database of more than 10,000 images. Standard MPEG-7 image descriptors are used as image features to retrieve images similar to the query image. Euclidian distance is used for distance measure. Further, user perception is included by using the relevance feedback and genetic algorithm is used to optimise the feature of images selected by the user.

Abstract ID: RSC-255

### **Definite integrals of generalized certain class of incomplete elliptic integrals pertaining to function**

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Elliptic-type integral have their great importance and potential in various problems of physics and technology which can be used in fracture mechanics. A large number of works contains lots of number of general families of elliptic-type integrals and indeed also many definite integrals of such families with respect to their modulus (or complementary modulus) are known to arise naturally. By these and many other potential avenues of their applications, our aim here is to give a systematic account of the theory of a certain family of generalized incomplete elliptic integrals in a unique and generalized manner. The results established in this paper are of manifold generality and basic in nature. By making use of the familiar Riemann-Liouville fractional differ integral operators, we establish many explicit hypergeometric representations and apply these representation in deriving several definite integrals pertaining to their, not only with respect to the modulus (or complementary modulus), but also with respect to the amplitude of generalized incomplete elliptic integrals involved therein.

Abstract ID: RSC-256

**Analytical solution of Nonlinear Fractional Diffusion equation by Q- Homotopy method**

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In the present paper, we define fractional non-linear diffusion equation, and use an efficient approach based on the q-homotopy analysis transform method (q-HATM) to solve the nonlinear heat equation within local fractional derivative. The fractional-order heat equations derivatives are considered in Caputo sense in this paper. We discuss the three cases of fractional non-linear diffusion equation, fractional heat equation, slow diffusion equation and fast diffusion equation. Numerical examples are also given to illustrate the accuracy and stability of this method. The derived results are demonstrated graphically as well.

Abstract ID: RSC-257

**Wear prediction of brake friction material  $Si_3N_4$  /  $SiC_2Ti_3$  and stability analysis of break squeal by considering contact pressure - temperature effects using the fem**

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This paper is about wear prediction of brake friction materials in brake disc unit. The newly manufactured unworn silicon based ceramic matrix composite brake friction disc pads are tested under different speeds and different durations of brake application, for prediction of wear on worn-out surfaces. The wear prediction is done on existing as well as on modified brake friction materials to optimize best results. By considering real surface topography of silicon based CMC brake friction materials, a detailed 3- dimensional finite element model of real brake disc assembly is developed for analysis. For wear prediction, the analysis is done for static contact pressure distribution, height distribution and surface topography of the friction materials.

Abstract ID: RSC-258

**Assessing different biomarkers in cyanobacteria in response to change in their habitat due to pesticide exposure**

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It has become a common practice these days to use synthetic pesticide in the agricultural fields to protect food crops from undesirable weeds and pests. Rice or paddy is acknowledged as one of the main staple food not only for the Indian population but for more than 2.5 billion people worldwide. However, the application of pesticide to the target plants is a matter of concern as these pesticides have serious undesirable effects on non-target organisms including many beneficial microorganisms such as cyanobacteria. Cyanobacteria are an important component of prokaryotic microbial population fixing carbon and nitrogen in wetland soils, especially in rice paddy fields. The present study deals with significant changes observed in cell morphology and other biochemical machinery of selected cyanobacterial strains as their bio metabolic expressions or biomarkers of Oxidative stress. When cyanobacterial media/habitat containing axenic culture of cyanobacterial strains were exposed to selected pesticide doses during the course of this research, many untoward changes in the population of cyanobacterial strains were observed. Cyanobacteria developed these changes in order to avert pesticide induced oxidative stress developed due to ROS formation. Some of the noted biomarkers are ROS, MDA, EL, DNA necrosis etc.

Abstract ID: RSC-259

**Synthesis and characterisation of herbal lipstick -a revolution step towards cosmetics**

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Now a day's cosmetics become a part of daily life and such products use is increasing and choice of colour, texture lusture is becoming wider and lipstick plays an important role in cosmetics this can be observed by the fact that lipstick is marked with more than hundred shades and colours satisfying the demand of today's consumer. In October 2007, the Campaign for Safe Cosmetics (CSC) reported finding lead in a small selection of lipsticks on the market. Companies are not adding lead to lipsticks by choice but lead in lipstick is as an impurity and by some natural ingredients we can eliminate that impurity. As lipstick is the key of cosmetics this data is presenting to form a herbal lipstick using natural ingredients such that impact on human health can be reduce and formation of a side effect free lipstick.

Abstract ID: RSC-260

**Tourism promotional videos: A comparative study between Rajasthan and Madhya Pradesh**

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Tourism plays a vital role in state's employment, income and in economic development. It not only portrays the culture of the state but also promotes it. Advertising and marketing are the major aspects responsible for the promotion of tourism. The extension in social media marketing has increased the number of tourists in India. India is the second largest tourism market after China in Asia. India has been evolved as the tourist destination in last few years. The use of platforms like twitter, facebook, instagram, YouTube has become the centre for seeking the attention of the tourist worldwide. Social media is a platform through which we can communicate and connect to many at a time. It acts as a medium to convey information to bunch of people in a rustic, easier and compatible way. The use of social media is continuously increasing and it's role has been evolved by the years. Earlier, the marketing of tourism was based on the principle of 'Word of Mouth' and the tourism guides, magazines, travel agencies were the preferred source for making plans for vacation. But now social media has emerged as a bizarre medium for marketing and promotion of tourism. Rajasthan and Madhya Pradesh are the hub of domestic as well as international tourists. This research focuses on the recent advertisement made by both the states and highlights the promotional strategies used by them. These two states were always been the tourist spot but they have gained more popularity through social media and have allured the tourist from all over the world. Ogilvy and Mather is the company behind both Madhya Pradesh and Rajasthan tourism latest advertisement. The recent advertisement made by Rajasthan tourism depicts the different aspect of the state where they have portrayed the concept of finding something mysteriously beautiful. Whereas in mp tourism advertisement, animation with background score of a children voice is illustrated which is meant to expound the tagline "MP mei dil hua bache sa". This research is based on the analysis of the videos made by Madhya Pradesh and Rajasthan tourism. It also showcases the use and effect of social media like twitter, instagram, facebook, YouTube over the tourism promotion. The study is mainly reliable on the secondary data found on the topic. The tourism sector contributes well in the GDP of India and the commercials has always served as the magnificent source for attracting the tourists from all over the world.

Abstract ID: RSC-261

**An evaluation and investigation on quality models of Open Source Software**

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Open source software is the computer software that has a source code accessible to the general public for use as is or with changes. This product commonly does not require a license fee. There are open source software applications for a wide range of employments, for example, office automation, website architecture, content administration, working frameworks, and correspondences. Different OSS (Open Source Software) are being changed and received into software products with their own particular quality level. Be that as it may, it is hard to estimate the nature of an OSS before utilize and to choose the best possible one. These troubles originate from OSS highlights, for example, an absence of bug data, unknown development schedules and variable documentations. Traditional software unwavering quality models are not sufficient to evaluate the

dependability of a product framework in which an OSS is being adopted as a new add-on feature because the OSS can be modified while Commercial off-The- Shelf (COTS) software can't. Open source software focusing on the same or comparable applications is regular these days. This makes choosing a tricky task. Quality is one factor that can be considered while selecting among relative open source software. So as to quantify quality in software, quality models can be used. The aim of this paper in this way is to examine the characteristic features, unique strong point, and constraints of existing open source quality models. Furthermore, we compare the models based on some selected attributes.

Abstract ID: RSC-262

### **Synthesis of polymeric Nano composite and their Crystallographic characterization**

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Large volumes of industrial engineering materials containing dielectric properties are produced from various industries such as electrical, electronics, energy, chemical etc. Among the methods opted by these industries, are use of Titanium Dioxide (TiO<sub>2</sub>), doping of Barium Titanate (BaTiO<sub>3</sub>) and various types of polymers. We have used physiochemical approaches for composites preparation. It may also call as Sol Gel Method or Solvent Cast Method. These methods allow activation of doped materials to base substrate such as Glass, Quartz and ITO which are more suitable for such kind of applications. In our research work, we have used Poly Methyl Metha Acrylate (PMMA). Most of the experiments were performed using PMMA/Chloroform and light temperature as promoter. Composites supported on various substrate with different TiO<sub>2</sub> (0.5 to 1.0 gm wt) and different BaTiO<sub>3</sub> contents (0 to 50 wt %) were prepared. Their phases were analyzed with X-ray diffraction (XRD). The XRD graph of varying wt % of BaTiO<sub>3</sub> show the incremental growth in the intensity (a.u.) values as the wt % increases. Also the peaks are getting dominant over 2θ values. Therefore, addition of BaTiO<sub>3</sub> was found to increase the activity of this kind of nano composites structure and enhance the stability of the film.

Abstract ID: RSC-263

### **Nanotechnology – “The next big thing is really small”**

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Imagine the chips embedded in the human body reporting every body movement and just waiting to strike at those nasty bacterial invaders, clothing smart enough to monitor our health and save us from environmental hazards, huge buildings and machines having the capability to repair and adjust themselves to the vagaries of the environment, or a regular wristwatch doubling up as a supercomputer. Thanks to “Nanotechnology”, all of these wonders, and many more, are possible. Scientific discoveries and inventions have in fact propelled man to challenge new frontiers. And with his superior brain, man has been able to deliver most of these goodies. Nanotechnology is one such technological wonders that we are experiencing now. Scientists and engineers are working round the clock to achieve breakthroughs that could possibly be the answer to human misery. This project mainly contains about the Nanotechnology and its various applications. And this tells about the history of Nanotechnology and its necessity. This also depicts how it will improve our lives and about the application in wide range. Nanoscience is concerned with nanomaterials, i.e. materials that are at least one of the dimensions of about 1 to 10 nanometers. The word “nano” comes from Greek word “nanos” meaning dwarf. The term nano is the factor 10<sup>-9</sup> or one billionth. Just to get a feeling of the size, we note the diameter of one hydrogen atom is 0.1nm. Five atoms of carbon would occupy a space about 1 nanometer wide. It would take 5 million carbon atoms to make a dot as big as the period at the end of this sentence.

Abstract ID: RSC-264

### **Growth morphology of zinc oxide nano-structures: nano-wall to nano-rod**

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ZnO is an n- type semiconductor of direct band gap of ~ (3.3 – 3.5) eV exhibits a wurtzite crystal structure. ZnO thin films appeared to be transparent to the visible light and also having excellent chemical and thermal stability. Piezo and pyroelectric behaviors are the unique property of ZnO materials. ZnO materials have unintentional vacancy and stoichiometry issues, which

are in general limiting/controlling its electronic performances. This material is widely used in optoelectronic applications such as blue light LED, UV laser etc. In addition, it is one of the most potential candidates for the sensing layer of different gas sensors. Due to its piezoelectric properties and bio-degradability, it is capable to be utilized in ceramics industry as well as in biomedicine. Moreover, ZnO is classified with the potential applications in the fields of nanotechnology as it may occur in 1D (nanorods, needles, and wires), 2D (nano-sheet, pellets) and 3D (nano-flower) nano-structures. Various low dimensional ZnO based nano-structures have been grown by different growth techniques such as spin pyrolysis, sol-gel, sputtering etc. Controlled growth of ZnO based nano-structures, starting from a vertical nano-wall surface morphology to laterally grown nano-rods/wires, by systematically varying the oxidation temperature of the thin Zn films have been reported within this work. The Zn films were deposited on glass and silicon substrates using a vacuum assisted thermal evaporation technique. Afterwards, the as-grown thin Zn films were thermally oxidized using furnace annealing in air ambient at different temperature ranging from (200 – 700) °C in a precisely controlled manner. The structure, morphology and chemical properties of the ZnO films were investigated using various surface characterization techniques such as X-ray diffraction (XRD), scanning electron microscopy (SEM), X-ray photoemission spectroscopy (XPS) and Raman spectroscopy. SEM results show a vertical growth morphology of ZnO nano-wall/sheet structures at relatively lower temperature whereas a transition from vertical to lateral growth morphology of 2D layered growth has been observed at about 450°C. However, about 650°C, another morphological transition from 2D lateral to 1D nano-wires growth starts to appear. The XRD results show a crystalline growth of ZnO with preferred crystallographic orientations, depending on the oxidation temperature. Both results are complementary to each other. Finally, Raman spectroscopy and XPS results provide the materials chemistry as well as the oxidation states ZnO materials.

Abstract ID: RSC-265

### **Electrical transport in ion conducting polymer Nanocomposites**

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Two types of composite polymer films were prepared by dissolving (i) Mg<sub>2</sub>SO<sub>4</sub> and (ii) Li<sub>2</sub>SO<sub>4</sub> in polyvinyl alcohol (PVA) matrix. Preliminary studies suggest that salt cations contribute to electrical transport. In case of PVA: [Mg<sub>2</sub>SO<sub>4</sub>], upto 10 wt % of salt could be dissolved in the polymer matrix of PVA. Whereas, in case of PVA: [Li<sub>2</sub>SO<sub>4</sub>], composite can be formed with ~ 20 wt % of salt. Composite films are essentially crystal in nature. Conductivity enhances with salt addition notably.

Abstract ID: RSC-266

### **Preliminary studies on the dark matter**

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This paper follows “THE DARK MATTER”; the existence of Dark Matter is one of the largest unanswered questions in cosmology. Dark Matter is a hypothetical type of matter distinct from baryonic matter. It has never been directly detected; however, its existence would explain a number of astronomical observations. The standard model of cosmology indicates that the universe contains 4.9% ordinary matter and 95.1% dark matter and dark energy. Dark Matter interacts with Dark Matter and other Matter via the gravitational field. Dark matter is thought to exist of two elementary particles (i) the neutralino and (ii) the axion (However, neither the neutralino nor the axion has been detected). The neutralino is theorized to be 1-1000 times more massive (1-1000 GeV) than a proton. In this we will include topics like (i) the early history of dark matter research (ii) Big Bang Cosmology and (iii) baryonic and non-baryonic dark matter. Things we know about dark matter is that (i) something is there (ii) It interacts with gravity and (iii) There is a lot of it.

Abstract ID: RSC-267

**Nanotribology-a review of importance of nanomaterials to minimize the wear-& tear losses in various fields**

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In the present paper, we have critically discussed the role of nano materials in science, technology and engineering and mathematical domains. With the help of literature review done so far, we have summarized the following salient features such as, history of nano materials, wear and tear, and their consequences as losses. With the help of data collected by us through various academics, industrial and other groups, we have concluded that optimized role of various kinds of nano materials; will minimize the problems of wear and tear, i.e. called Nanotribology.

Abstract ID: RSC-268

**Physical properties of ferrites in relation to their Insulation cables construction**

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The present invention features a new insulating material useful in the fabrication of cable wires. The invention relates to the shielding materials and core materials used in the wires and cables, In the recent times the ferrites particles have been dispersed with polymer matrices for providing the conducting material with good electrical properties. When ferrites are mixed with polymers the mixture produced is used as shield layer as well in cable or wire construction. Ferrites are magnetic insulator having ferromagnetic properties with high resistance. The primary material in ferrites is normally of iron oxide with impurities of magnetic insulator oxides added Soft ferrite materials were suitable for the common iron powder cores but having complex nature. By interchanging Ferro ions in the ferrite structure by other metal ions brings unwanted electrical current within the crystals. In this paper the various ferrites material used in polymer matrix has been discussed according to their properties and applications.

Abstract ID: RSC-269

**The clinical case for proton beam therapy**

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Over the past 20 years, several proton beam treatment programs have been implemented throughout the United States. Increasingly, the number of new programs under development is growing. Proton beam therapy has the potential for improving tumor control and survival through dose escalation. It also has potential for reducing harm to normal organs through dose reduction. However, proton beam therapy is more costly than conventional x-ray therapy. This increased cost may be offset by improved function, improved quality of life, and reduced costs related to treating the late effects of therapy. Clinical research opportunities are abundant to determine which patients will gain the most benefit from proton beam therapy. We review the clinical case for proton beam therapy.

Abstract ID: RSC-270

**Physics of the Dark Universe**

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Only 5% of the universe is made of ordinary matter such as atoms which make stars, planets, and us. The rest of the universe is dark and unknown, composed of dark matter and dark energy. Invisible dark matter makes up 27% of the universe, and we

don't know its nature yet. In the early 1990s, one thing was fairly certain about the expansion of the universe. It might have enough energy density to stop its expansion and re-collapse, it might have so little energy density that it would never stop expanding, but gravity was certain to slow the expansion as time went on. Granted, the slowing had not been observed, but, theoretically, the universe had to slow. The universe is full of matter and the attractive force of gravity pulls all matter together. Then came 1998 and the Hubble Space Telescope (HST) observations of very distant supernovae that showed that, a long time ago, the universe was actually expanding more slowly than it is today. So the expansion of the universe has not been slowing due to gravity, as everyone thought, it has been accelerating. No one expected this, no one knew how to explain it. But something was causing it. Currently many experiments around the world are searching for dark matter and we hope that in the near future we will solve the mystery of dark matter and understand its properties.

Abstract ID: RSC-271

**Reduction of fossil fuel in thermal power plant by adding renewable energy sources using soft computing techniques**

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The present paper demonstrates the experimental studies on economic load dispatch by using various kinds of soft computing techniques such as cuckoo search and harmony search algorithm. Economic load dispatch plays an important role in power systems. With the help of literature review by various research and industrial groups, we made an experimental design on MATLAB. Experimental (simulated) results on this software show the optimal solution of economic load dispatch near the load. In this paper we assumed renewable energy source is located near the load. So we can neglect the transmission line losses.

Abstract ID: RSC-272

**Development of bio-compatibles conductive ink for bio and nano-Electronics applications with their rheological properties**

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The current work experimentally demonstrates how the bio-compatible fluidic ink can be developed with the help of silk cocoon (*Bombyx Mori*). The main advancement of using silk cocoon is the wide range of variety and their existence in nature. By adopting the simple nature's way or natural activities, we tried to mimic nature inspired experimental design. The developed fibres are of maximum bio-compatibility with the human being. The overall samples lie within the range of few micro liters and the particle are of nano to micro ranged, that's why called as nano- and micro-fluidics. The rheological properties on various concentration of solution have been calculated by using simple viscometer.

Abstract ID: RSC-273

**3d printed water sensor & water pollution**

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Over two thirds of Earth's surface is covered by water; less than a third is taken by the land. As Earth's population continues to grow, people are putting ever increasing pressure on the planet's water resource. In a sense, our ocean, rivers, inland waters are "squeezed" by human activities, not so they take up less room, but so their quality is reduced. Poorer water quality means water pollution. The online and accurate monitoring of drinking water supply networks is critically in demand to rapidly detect the accidental or deliberate contamination of drinking water. At present, miniaturized water quality monitoring sensors developed in the laboratories are usually tested under ambient pressure and steady-state flow conditions; however, in Water

Distribution Systems (WDS), both the pressure and the flowrate fluctuate. In this paper, an interface is designed and fabricated using additive manufacturing or 3D printing technology material extrusion (Trade Name: fused deposition modeling, FDM) and material jetting to provide a conduit for miniaturized sensors for continuous online water quality monitoring. The interface is designed to meet two main criteria: low pressure at the inlet of the sensors and a low flowrate to minimize the water bled (leakage), despite varying pressure from WDS. To meet the above criteria, a two-dimensional computational fluid dynamics model was used to optimize the geometry of the channel. The 3D printed interface, with the embedded miniaturized pH and conductivity sensors, was then tested at different temperatures and flowrates. The results show that the response of the pH sensor is independent of the flowrate and temperature. As for the conductivity sensor, the flowrate and temperature affect only the readings at a very low conductivity (4  $\mu\text{S/cm}$ ) and high flowrates (30 mL/min), and a very high conductivity (460  $\mu\text{S/cm}$ ), respectively.

Abstract ID: RSC-274

### **Electrical Characterization of $\text{Mg}_2\text{SO}_4$ -PVA and $\text{Li}_2\text{SO}_4$ -PVA Polymer Salt Composite Electrolytes**

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Two types of composite polymer films were prepared by dissolving (i)  $\text{Mg}_2\text{SO}_4$  and (ii)  $\text{Li}_2\text{SO}_4$  in polyvinyl alcohol (PVA) matrix. Preliminary studies suggest that salt cations contribute to electrical transport. In case of PVA:[ $\text{Mg}_2\text{SO}_4$ ], upto 10 wt % of salt could be dissolved in the polymer matrix of PVA. Whereas, in case of PVA:[ $\text{Li}_2\text{SO}_4$ ], composite can be formed with ~ 20 wt % of salt. Composite films are essentially crystal in nature. Conductivity enhances with salt addition notably.

Abstract ID: RSC-275

### **Bayesian approach for uncertainty analysis of an urban water system**

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In urban water system to support decisions about design and alternative management strategies mathematical models are commonly used. Uncertainty analysis has received considerable attention in hydrology during last decades. For a realistic estimation of the uncertainties in the urban water system is necessary to confidence model parameters in modelling. Applications dealing with urban water system are very limited. This paper explores Bayesian approach for uncertainty analysis to quantify reliability of urban water system model simulations. The applications of Bayesian approach for uncertainties are widely used for highly urbanized catchment which demonstrated the methodology. The maximum likelihood solutions are determined using the uncertainty analysis model produced runoff simulations as compared to traditional calibration method. In this paper, an application of Monte Carlo Markov chain sampling method for calibration of parameter is presented. The objective of this study is to examine the efficiency of a proper Bayesian approach for uncertainty analysis.

Abstract ID: RSC-276

### **Android as a Server Platform**

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The number of application and smartphone users are increasing fastly. Smartphones have functionality like computers, hardware resources like CPU's, memory and batteries are still limited. To solve this resource problem, many researchers have proposed architectures to use server resources in the cloud for mobile devices. In this paper, I propose a conceptual architecture of Android as a Server Platform, which enables multiple user Android applications on cloud server via network and backup and restore approach for mobile devices, which helps to reduce the effort in saving and restoring personal data. There are two more features of Android which are useful to make a server platform, i.e. Android is an open source product and runs on an

x86 CPU. Another feature is that the capability of sharing information in mobile devices among a group of selected persons. This can be useful in many situations e.g., creating a business mobile network between a group of people.

Abstract ID: RSC-277

**A review on dynamic routing of Ad hoc On-Demand Distance Vector protocol in MANET**

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An ad-hoc network is build up from the co-operative engagement of an accumulation of wireless mobile nodes and is capable of operating without the support of any fixed infrastructure. A routing protocol has the ability to provide optimal communication for such a dynamic self-starting network which must be capable of unicast, broadcast, and multicast routing protocol. An efficient dynamic routing is a challenge in such a network. To develop on-demand routing protocol an ad hoc network have been widely utilized due to its effectiveness and efficiency. So far, much work has been done on routing in ad hoc networks. Since mobile ad hoc networks change their topology frequently, routing in such networks is a challenging task. This paper deals with the significance of Ad hoc On-Demand Distance Vector (AODV) routing protocol, Load Balancing AODV, Modified AODV, Adaptive Secure AODV.

Abstract ID: RSC-278

**Comparative study of various augmentation methods in ConvNets**

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Image augmentation is a technique to improve training data and reduce the over-fitting in Convolutional Neural Networks (ConvNets) by augmenting the training data. In this paper, we will study and compare various changes and improvements in a ConvNet model which we can bring with the help of Image Augmentation.

Abstract ID: RSC-279

**Utilization of industrial waste –a green concept for smart city**

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Natural resources are depleting worldwide while the by-products from the industries are increasing substantially. Waste materials coming out of industry nowadays is posing a great environmental problem in disposing them into the air, water and on the land. The aim of this paper is to provide the utilization of industrial waste in Construction industry. It is an effort to try to develop the awareness & importance of the industrial waste management in an effective manner. Today the approach of world is to utilize the by-products of one industry for raw material of another industry as a solution for the industrial waste without affecting the environment. Waste material is the material unused, unwanted and rejected as worthless into the environment in our society as whole. The output of these waste materials in India are more than double the production of cement and other construction material used in all the civil engineering activities. So, use of waste materials not only to make the cement concrete (generally used in all the construction activities) less expensive, but to provide a blend of tailored properties of waste materials and Portland cements suitable for specified purpose. With proper utilization of these materials in construction industry as well as in making its use in different activities will greatly help the society to have a better and pleasant environment will leads to the build the smart city. Recycling of waste construction materials saves natural resources, saves energy, reduces solid waste, reduces air and water pollutants and reduces greenhouse gases. The construction industry can start being aware of and take advantage of the benefits of using waste and recycled materials. Studies have investigated the use of acceptable waste, recycled and reusable materials and methods. The use of swine manure, animal fat, silica fume, roofing shingles, empty palm fruit bunch, citrus peels, cement kiln dust, fly ash, foundry sand, slag, glass, plastic, carpet, tire scraps, asphalt pavement and concrete aggregate in construction is becoming increasingly popular due to the shortage and increasing cost of raw materials. So using these waste materials will give economical solution for building the smart city by preventing the environment and natural resources.

Abstract ID: RSC-280

**Map Matching Algorithm for real time trajectory computation on road network**

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A map matching algorithm is used for finding the position of vehicles on road/highways. It has played an important role in different applications like intelligent transport management and traffic flow analysis for the real - time approach. Researchers provide the different map- matching algorithms for the different problem such as complicated road network data, filtering approach, probabilistic approach etc. This paper describes the limitations of the existing map- matching algorithm, including a notable feature for segment based map-matching algorithm for immediate navigation application for point to curve navigation on each segment of road networks.

Abstract ID: RSC-281

**Chemical Characteristics of PM<sub>2.5</sub> and PM<sub>10</sub> at Alaknanda Valley Srinagar in the central Himalaya Region, India**

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Measurements of fine particle (PM<sub>2.5</sub>) and inhalable particles (PM<sub>10</sub>) were collected in the premises of H.N.B. Garhwal University, Srinagar (Garhwal), Uttarakhand, which is situated at Alaknanda Valley (between 30013'7" N latitude and 78046'56" E longitude; 560 m above msl) in the heart of Garhwal region during Dec. 2015 to Dec. 2016. The University is 132 km away from Haridwar on Haridwar - Badrinath Highway in the central Himalayan region. Collected samples were analyzed major chemical species as anions (F<sup>-</sup>, Cl<sup>-</sup>, SO<sub>4</sub><sup>2-</sup> and NO<sub>3</sub><sup>-</sup>) by chromatograph and cations (Na<sup>+</sup>, K<sup>+</sup>, NH<sub>4</sub><sup>+</sup>, Ca<sup>2+</sup> and Mg<sup>2+</sup>) by atomic absorbance spectrophotometer. The concentrations of PM<sub>2.5</sub> and PM<sub>10</sub> were 75.6 ± 27.8 and 107.6 ± 20.9 µg m<sup>-3</sup> during the study period. The measured chemical species were found a large variability in the different season due to the impact of emissions and meteorological parameters. The measured water-soluble (WS) chemical species of PM<sub>2.5</sub> and PM<sub>10</sub> were 54% (41.2 µg m<sup>-3</sup>) and 67% (72.2 µg m<sup>-3</sup>) during the study period. Large fractions of the unanalyzed portion in PMs were carbonaceous aerosols and/ or secondary aerosols. Higher concentrations WS species were during the winter season followed by summer, monsoon and post-monsoon seasons. A significant correlation (p < 0.01) among NH<sub>4</sub><sup>+</sup> and Cl<sup>-</sup>, SO<sub>4</sub><sup>2-</sup>, NO<sub>3</sub><sup>-</sup> of PM<sub>10</sub> and PM<sub>2.5</sub>, respectively and 30 indicates the presence of ammonium salts [NH<sub>4</sub>Cl, (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub>, NH<sub>4</sub>HSO<sub>4</sub> and NH<sub>4</sub>NO<sub>3</sub>]. Neutralization of acidic species due to cations was estimated and found that NH<sub>4</sub><sup>+</sup> play a crucial role in neutralization in the winter season, however, the contrary feature was observed in the summer season where Ca<sup>2+</sup> was responsible for the neutralization of acidic components in the PMs samples which were transported from the inland region during summer. Principal Component Analysis shows that secondary aerosol, biomass burning, and soil-driven dust were the possible sources of the measured species. Cluster analysis was performed for the source region and it was observed that the continental landmasses of Afghanistan (summer season) and Western region of Pakistan, marine region and adjoining states of Uttarakhand could be the cause of higher PM<sub>2.5</sub> and PM<sub>10</sub> over the study region.

Abstract ID: RSC-282

**Ethical Issues in using the Social Media Analytics**

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Social Media users are increasing at an unprecedented rate and this has opened up new vistas for consumer centered online marketing. Businesses are relying upon social media to explore new customers as well as to strengthen their bonds with the existing customers. Social Media Marketing not only helps in creating specifically targeted campaigns, they also offer a budget specific option to cater to different business needs. Correspondingly, Social Media Marketing is emerging as a vital marketing tool for the companies in different sectors. Data on the social media is being extracted and analysed by the companies by different methods, for specific purposes. If used appropriately, social media can reinforce trust between the public. Inappropriate use on the other hand may generate distrust. Social media covers a wide range of sites and platforms, often with very diverse uses, available data, multiple privacy settings, and multiple possible modes of access and analysis. This brings with it a series of ethical challenges. In this research paper, we present the background and present scenario on the Ethical dilemmas faced today in the area of online social networking. Issues related to their impact on unethical usage of online social

networks in business industry have also been outlined. It also provides an overview of the distinct challenges as obstacles in meeting the ethical standards in this technical ecosystem.

Abstract ID: RSC-283

### **A Performance Evaluation of Tuning Methods of PID Controller**

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The feature of Proportional- Integral -Derivative (PID) controllers to compensate various industrial processes has led to their widespread recognition in industrial applications. There are many methods for tuning a PID controller. The aim of this paper is to depict the time domain specification with performance indices glance at diverse PID tuning methods, with comparison of accuracy and effectiveness. In this Paper with an electric furnace temperature control is selected for study. The performance of PID tuning techniques is analyzed and compared on the basis of time domain specifications with performance indices. Design of PID controller is implemented in MATLAB/Simulink, compares and verifies different controllers using proposed methods.

Abstract ID: RSC-284

### **Security attacks intrusions for wireless and wimax network**

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In this paper we mainly consider the security issues points of Wi-Fi network that how the hacker can hack our Wi-Fi network which can be risky to us. What types of attack are there in the Wi-Fi networks. We also provide some basic idea about the algorithm that is used in encrypting the data for Wi-Fi network. We mainly focus over all these issues and the we provide some basic point by which we can easily secure our Wi-Fi network and by these precautions we can be secure from hackers.

Abstract ID: RSC-285

### **Software Defined Networking – Imposed Security measures over vulnerable threats and attacks**

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Software Defined Networking, a new attempt in addressing the existing challenges in the legacy network architecture, is lime-lighted due to its simplified approach in managing the networks and its capability of programmability. In progressing with Software Defined Networks implementation, Security remains a high priority focus. The advantage of Software Defined Networking itself opens a wide ground in posing new security threats and challenges. Focusing on the security of the Software Defined Networks is a prime factor as it reflects on the growth of SDN Technology implementation. This paper focuses on the various existing security solutions available for Software defined Networking and the real challenge in securing the SDN Networks providing the researchers a paved platform to work on further securing the networks. This paper is designed with an Introduction on Software Defined Networking, its architecture, the available security solutions for the network, the leveraging threats and type of attack possibilities in SDN. This paper concludes with the requirements of security factors and schemes in SDN.

Abstract ID: RSC-286

### **Inclusion and Range Testing of a Scaling Factor in Firefly Algorithm**

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Firefly Algorithm (FFA) is a population based nature inspired algorithm. It is inspired by the light emitting and attracting properties of fireflies. Algorithm models search agents as fireflies, each with a light intensity proportional to the value of the

objective function. A firefly is attracted towards another brighter firefly. It has out-performed many existing optimization algorithm in terms of convergence speed and robustness. Many modified versions have been proposed in the literature to further enhance efficiency of the algorithm. This paper first explains the basic steps of the algorithm and then proposes a modified version. It introduces the inclusion of a scaling factor and examines its effects over a range of its values. This range is used to vary the degrees of exploration and exploitation of the search. The range of scaling factor has been tested on a test bed containing ten popular and diverse functions.

Abstract ID: RSC-287

### **A Review of Parameter Based Modification in Firefly Algorithm**

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Firefly algorithm (FFA) is a nature inspired swarm intelligence method for optimization. It is inspired by the attracting behavior of fireflies where each firefly is attracted by another brighter firefly. This attraction is affected by factors like the mutual distance, intensity of the attracting firefly, and environmental conditions. Since its introduction in 2008 many researchers have proposed modified versions of FFA and have applied it on a number of complex and multimodal applications. This paper first presents the introduction of nature inspired optimization methods, and then it provides the major steps of FFA's working. Then it proposes a review of the literature available on firefly algorithm and its modified versions. This review concentrates on the parameter being modified and suitability of the resultant modified version.

Abstract ID: RSC-288

### **Present Status and Challenges in Quantum Computing**

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Classical computers have been developing since 1800s. They have revolutionized the human life immensely. These computers store information and compute in the form of binary values of voltage i.e. high or low. Advance research is being carried out to find out a more efficient and capable way of computing. One of them is using quantum mechanical phenomenon known as quantum computing. Quantum computing uses quantum bits known as qubits. Qubits store a relative probability of having 0 or 1. Though a fully functional quantum computer is not yet in existence but it shows high potential for a new revolution in digital computing. This paper first explains the basics of quantum computing, and then it provides the present status of the work done in the field. In the end, it provides the challenges to be faced in the field.

Abstract ID: RSC-289

### **Layout Design and Fabrication of Multilayer LTCC Micro-spiral**

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In the current developments, inductors of high Q-factor are gaining a lot of importance. The current study focuses on the micro-spiral inductors with cavity at the centre of it. A cavity is used in order to enhance the Q-factor of the inductor. The micro-spiral inductors design and fabrication is based on low-temperature co-fired ceramics (LTCC) technology guidelines. The micro-spirals have large number of turns going into the different layers of LTCC to obtain high inductance of inductor.

Abstract ID: RSC-290

### **Single Feed Multi-Slotted Bow Tie Antenna for Multi-Band Applications**

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This paper investigates a new approach for the design of a multi-resonant multi-slotted bowtie antenna. Several techniques were attempted to obtain one antenna which is operational in the 1, 3, 5 and 7 GHz bands corresponding

to many wireless applications. The idea of creating different slot configurations on different parts of a single antenna is the basic principle. The size of the proposed antenna fabricated on a 0.035 mm-thick FR4 substrate with a dielectric constant of 4.2 without considering the ground plane size is only 20 × 20 mm<sup>2</sup>.

Abstract ID: RSC-291

**Planner Circular monopole Ultrawideband antenna with triple band notched characteristics for Bluetooth, UWB and Ku band applications**

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The paper presents the simple circular monopole antenna designed on FR-4 Substrate and with PEC as patch and ground. The compact antenna of size 40 x 50 x 1.6mm<sup>2</sup> acquires the wide bandwidth in triple bands. The achieved triple band return loss is in the range from 1.8GHz- 11.9 GHz and 12.2-20GHz which includes Bluetooth range (2.4 GHz), UWB (3.1-10.6GHz) range and Ku band (12-18GHz). The antenna performance is enhanced by etching a linear rectangular three slots in patch for band notch in the antenna return loss bandwidth. The three notches are created are centered at 3.5 GHz, 5.5GHz and 7.4 GHz by slot 1, slot 2 and slot 3 respectively. Hence, the frequency rejections are achieved for WiMAX, WLAN and satellite communication. The simple circular monopole patch and linear slots of rectangular shapes makes antenna geometry very simple and compact. The antenna has maximum gain of 3.1 dBi at 3.1GHz and gain is below 1dBi at the notch bands. The positive gain, wide bandwidth and frequency rejection at the three bands makes an antenna suitable for Bluetooth, UWB and Ku band applications.

Abstract ID: RSC-292

**Hexagonal Fractal Patch Antenna for WiMAX and Satellite Communication**

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A hexagonal micro strip fractal patch antenna is presented. Two iterations are applied on simple hexagon structure to get fractal design. Here self-similarity fractal design is used for multi band applications. The designed antenna operates at 5.25 GHz (4.63 to 8.48 GHz) band and 14.49 GHz (12.85-16.58GHz) with subsequent reflection coefficient -43.52 dB and -22.92 dB. This antenna can be used for WiMAX (5.2-5.8GHz) and for satellite communication-Ku band (12-18 GHz). This antenna achieves 73.3% bandwidth at 5.25 GHz. The antenna have VSWR<2 for 4.63 to 8.48 GHz and 12.85-16.58GHz band. The antenna structure has been designed and analysed by using CST microwave studio software.

Abstract ID: RSC-293

**Some new Contiguous Functions Relations for Hyper Geometric Series due to Gauss**

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Contiguous relations for hypergeometric series contain an enormous amount of hidden information. Applications of contiguous relations range from the evaluation of hypergeometric series to the derivation of summation and transformation formulas for such series. In this paper, Some new contiguous function relations are established.

Abstract ID: RSC-294

**Natural Transformation of Exton's triple Hypergeometric series**

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Natural Transformation is generalized form of Laplace Transformation. Exton define 20 different Triple series as Here we drive Natural Transformation of some series was given by Exton. Here discuss their reducible cases also.

Abstract ID: RSC-295

**Some new results closely related Gauss's second theorem for hypergeometric function**

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In 1994, Lavoie et. El. Derived 11 results closely related Gauss's second summation theorem of hypergeometric function. the applications of these results are wide in area of hypergeometric function. In this present research, we derive two new results closely related Gauss's second summation theorem

Abstract ID: RSC-296

**A note on contiguous Kummer's theorem for the Gaussian hypergeometric function**

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In 1992, Rathie et.al. derived the 11 contiguous results to the Kummer's theorem for gaussian hypergeometric function. These results are interesting and useful in the theory of hypergeometric function. In this present note we derive the two results contiguous to Kummers's theorem, but different from Rathie et.al

Abstract ID: RSC-297

**Particle Size Distribution in the atmospheric dust collected during the winter and spring seasons over Manipal Campus, West coast of India**

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The particle size of dust and its composition strongly control the radiative heat balance of earth. Movement of atmospheric particles depends on the size and density and wind pattern. Dry soil easily generates mineral aerosol to the atmosphere and play important role in human health, wealth, climate and biogeochemical cycle. Depending on particle size and its composition, the residence times of particles vary. Seasonal study of the particle size distributions in the ambient atmosphere over Manipal suggest that the particle size drastically reduces from coarse mode to finer fraction from spring to the winter season. Large size particles generally concentrated in the lower elevation in the atmospheric column and their contents increase during the dry winter season than summer monsoon seasons in dry condition. These indications suggest that the particles during winter are much contaminated as derived predominantly from anthropogenic activity as those during the origin from natural processes. Alternatively, the particle during the summer seasons scavenged by the rain, thereby cleaning the atmosphere, however, added to the terrestrial environment.

Abstract ID: RSC-298

**A Review on Photovoltaic cell and its applications for Future Prospective**

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Photovoltaic cell uses sunlight to produce electrical energy. The phenomenon of energy conversion through solar cell started at the end of eighteenth century. At that time the solar cell was coated with selenium and a thin layer of gold. The main advancement in solar cell was started in 1954 with the help of semiconductor. Nowadays, polymers materials are used to develop Photo voltaic cell. Solar cell is one of the fastest growing renewable energy among others and it is expected that it will play a major role in the future global electricity generation. In this paper we have discussed the basic principle of solar cell generation, recent advancements, efficiencies comparison and recent application of solar cell in space application to provide an intense review about photovoltaic cell.

Abstract ID: RSC-299

**Satellite based technique for forecasting and tracking of evolution of cloud clusters**

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India Meteorological Department New Delhi MCS (Mesoscale convective Systems) are responsible for rainfall sometimes heavy showers, lightning, thunder, hail storm, dust storm, squalls, and strong winds over Indian subcontinent region. They are also responsible for other extreme weather condition and having lot of consequences and disasters like floods, agriculture waste etc. These systems are not forecasted well because of the absence of mesoscales observational network over Indian region. To monitor these convective cells over the broader region weather satellite is the only way (INSAT-3D or Kalpana1). So there is need to develop algorithm for the satellite based nowcasting technique for better nowcasting on the broader region. Satellite tool is a satellite based nowcasting algorithm based upon the extrapolation technique that allows for the tracking of MCS radiative and morphological properties and forecasts the evolution of these physical properties (based on cloud-top brightness temperature) up to 360 min, using infrared satellite imagery. The Infrared imagery (TIR1) of the weather satellite has been broadly used to study the behaviour of the cloud system associated with deep convection. The main advantage of this approach is that for most of the globe the best statistics can only be obtained from satellite observations. Such a satellite survey would provide the statistics of MCSs covering the range of meteorological conditions needed to generalized the result and on the other hand only satellite observations can cover the very large range of space and time scale. This tool is based on the technique "ForTraCC" developed by Brazilian scientist Dr. Daniel Vila and also locally developed algorithm "Floodfill". It utilizes the INSAT-3D satellite data of TIR1 (10.8  $\mu\text{m}$ ) channel and creates nowcast up to 360 minutes.

Abstract ID: RSC-300

**A Novel System to Communicate between Devices in a Wireless Network within Macro-Cell Using mmWave and Exploiting Spatial Reuse**

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In this era of technical evolution, large scale demand and use of wireless mobile communication is drawing attention of academic's researchers as well as the industries. The exponential growth of mobile data network traffic, here 4g plays an important role. 60GHz radio frequencies, up to 7GHz bandwidth are allocated worldwide for license free. With the help of unlicensed frequency bandwidth of mm Wave of 60 MHz band, many giga- bytes per second can be transmitted. Communication can be done between the nodes with the spectrums of micro frequencies available in plenty which provided cost effective communication with high capacity backhaul. Wireless backhaul is one of the emerging options for small cells as it provides a less expensive and easy-to-deploy over fiber cables. There are multitudes of bands (e.g. spatial multiplexing, LOS/NLOS etc.) That needs to be smartly used to connect to the small cell for communication. Candidate bands include: sub-6 GHz band that is useful in non-line-of-sight (NLOS) scenarios, microwave band (642 GHz) that are used in point-to-point line-of-sight (LOS) scenarios, and mm Wave bands (e.g. 60, 70 and 80 GHz) that are mostly being commercially used in LOS scenarios. In many deployment topologies, it is more profitable to use aggregator nodes, located at the roof tops of tall buildings near small cells. This paper proposes development of new protocol for communication between devices. The protocol provisions concurrent transmission in minimum frequency to the greater extent. Further to enhance the efficiency of network, performance analysis and different parameters will be calculated.

Abstract ID: RSC-301

**Behavioral Evaluation of Data center energy efficient resource scheduling**

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Cloud computing technology makes use of huge data centres that have various issues, for example, large energy consumption measures, the distribution of a lot of heat and methane, carbon dioxide etc. Green processing turned out to be a change from Common cloud technology with energy efficiency, security and the environment in nature. These use four virtual round robin machine scheduling calculations using host agent, round robin using VMs agent, green scheduler, green VM scheduler only to estimate energy usage, improving energy saving parameters, for example, adding to energy task Completed, Task declined by DC and failed server activity.

Abstract ID: RSC-302

**Erosion analysis of Aramid Fiber Epoxy Composite and Determination of physical properties**

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One of the most common problems encountered in industries is wear. Industries like thermal power plants, mining, hydropower plants, food processing industries etc. are most affected in which a solid liquid mixture is transported through pipes and pumps. Similar erosion is found in tidal turbine blades which on interaction with sea water and slurry undergo large surface erosion. The current material used in construction of turbine blades is glass fibre composite. Kevlar, an aramid fiber with strength of about twice that of glass fibre and relative density less than that can be used instead of glass fibre. Therefore light weight construction of blades and high strength to weight ratio can be achieved. Kevlar fibre epoxy composite was prepared using VARTM technique and tested for erosion by slurry jet erosion tester. Analysis of experimental data was done by Taguchi Design of Experiments and ANOVA techniques. Therefore, this paper aims to find erosion rates and the most significant parameters that causes least erosion for better life of blades.

Abstract ID: RSC-303

**Night Vision Technology**

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Night vision technology, by definition, literally allows one to see in the dark. Originally developed for military use, it has provided the United States with a strategic military advantage, the value of which can be measured in lives. Federal and state agencies now routinely utilize the technology for site security, surveillance as well as search and night vision equipment has evolved from bulky optical instruments in lightweight goggles through the advancement of image intensification technology. The answer is most definitely yes. With the proper night-vision equipment, you can see a person standing over 200 yards (183 m) away on a moonless, cloudy night! Night vision can work in two very different ways, depending on the technology used.

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**Electronic Word of Mouth**

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As technology are improving day by day. Everything in this world is taking a new face changing by the expert minds. Our engineers and scientists are continuing work on the adapting new things so that they can bring a big change in facilities provided to people. In this paper two studies of literature are addressed which shows the connection between traditional WOM and eWOM. These are connected with each other with different viewpoints. These are based on different concepts. As the time is changed so the world is changing from the traditional to modern outlook. This new outlook also shows the differences and links between these two concepts WOM and eWOM. Literature shows the separation between these two phenomena. The eWOM communication is the platform for people which approach the views of people. It gives new ideas and change in opinion by investigation of reviews. It includes the different ways of opinion by online communication, from the websites. People take interest in opinions or views of others by eWOM to filter their views about that particular thing. However eWOM is contributing much more to result an outcome of the literature. The review of eWOM is explaining the nature of different communication platforms of investigation and gives a details review of eWOM marketing and highlighting possible action for future research in this field. eWOM is beneficial for every generation and has become a new communication brand which provides the information and idea about the research and changed the position of the context.

Abstract ID: RSC-305

**Annihilator domination Number of Cartesian Product of paths**

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An annihilator dominating set (ADS) is a representative technique for finding the induced subgraph of a graph which can help to isolate the vertices. A dominating set  $D$  of graph  $G = (V, E)$  is called ADS if induced subgraph of  $\langle (V(G) - D) \rangle$  contains only isolated vertices. The annihilator domination number of  $G$ , denoted by  $\gamma_a(G)$  is the minimum cardinality of ADS. The Cartesian product of two graphs  $G$  and  $H$  signified by  $GH$  is a graph with vertex set  $V(GH) = V(G) \times V(H)$  and  $(g_1, h_1)(g_2, h_2) \in E(GH)$  if and only if  $(g_1 = g_2 \text{ and } h_1 h_2 \in E(H))$  or  $(g_1 g_2 \in E(G) \text{ and } h_1 = h_2)$ . In this paper, we deduce exact values of annihilator domination number of Cartesian product of  $P_m$  and  $P_n$ ,  $m, n \geq 2$ . Further, we investigate few outcomes between annihilator domination number of Cartesian product of path graphs.

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### Sky X Technology

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Satellites are attractive option for carrying internet and other IP traffic to many locations across the globe where terrestrial options are limited or [censored] prohibitive. But data networking on satellite is faced with overcoming the large latency and high bit error rate typical of satellite communications as well as the asymmetric bandwidth design of most satellite network. Satellites are ideal for providing internet and private network access over long distance and to remote locations. However the internet protocols are not optimized for satellite conditions. So the throughput over the satellite networks is restricted to only a fraction of available bandwidth, the leading suppliers of TCP/IP to the computer industry have overcome their limitations with the development of the Sky X product family.

Abstract ID: RSC-307

### Ingestible Origami Robot

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The work presents an origami inspired ingestible, controllable, biodegradable robot which can carry out various clinical procedure inside the body. As it will prove to be an asset in the medical field, this introduces a fast and low-cost fabrication method to modern, real world, robotics applications. This foldable origami robot enters the body in the form of a capsule made of ice through the esophagus which can locomote to a desired location, the sheets that unfolds are biocompatible and biodegradable. This device contains a magnet allowing it to be controlled by external magnetic field.

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### Smart Charger

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Sometime, at night when you sleep and you forget your smart phone in charging. Might be in morning you find that its battery was damaged or your mobile battery loses its life. So in that case our smart charger will work. Smart charger automatically off the charging when your phone is full charged. Its Works same as, you control your phone by your laptop, in the same way you can control your charger by your Smartphone (Automatically).

Abstract ID: RSC-309

### Holographic Technology

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Holography is a method of producing a three-dimensional (3-D) image of an object. The image which it brings to life is known as a hologram ( from a Greek word meaning "whole picture"). Unlike a two- dimensional picture, a hologram allows a person to look "around" and "behind" its subject. Holography is a technique that enables a light field, which is generally the product

of a light source scattered off objects, to be recorded and later reconstructed when the original light field is no longer present, due to the absence of the original objects.[24] Holography can be thought of as somewhat similar to sound recording, whereby a sound field created by vibrating matter like musical instruments or vocal cords, is encoded in such a way that it can be reproduced later, without the presence of the original vibrating matter. Holography was developed by Hungarian-British physicist Dennis Gabor in 1940s who was awarded the Nobel Prize in Physics in 1971 "for his invention and development of the holographic method". This technology got improved in 1960s with the invention of LASER. Thus, by using the principles of reflection, refraction etc. we can create a 3-D image of an object which can be recorded and hence can be played later on. This technology can we used in Communication sector like Holographic video call.

Abstract ID: RSC-310

### **Lilypad Arduino Based Led Embedded Duplex Security Vest**

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The number of people who commute by bicycle and enjoy leisure activities with bicycle has been increasing significantly. Due to increase in pollution these days a lot commuters have switched over to bicycles for an eco-friendly way of travelling. But, dozens of people have their lives because of bicycle accidents. It has become a social issue. This proposal implements special components such as Lily Pad Arduino main board and FTDI basic breakout in order to prevent a bicycle accident. The jacket indicator for a motorcycle or bicycle provides a light indication to other motorists. An indication pattern is attached to the garment of the rider. The indication pattern has at least three banks of LED arrays connected to the Arduino lily pad. This jacket helps to reduce the bicycle accidents especially at night time when the cycle is least visible in the dark hours. This jacket can be of great use for riders of non-enclosed vehicles like bicycles, roller blades, skate boards, etc.

Abstract ID: RSC-311

### **Smart City Program Rajasthan: A critical Overview of Implementation**

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This paper examines the implementation of the Smart City Program by the Ministry of Housing and Urban Affairs, Government of India in Rajasthan to elucidate perspectives of different stakeholders regarding success of this program and its outcomes, especially in the context of the common man. The research debates upon the credibility of the principles the 'Smart City' is based upon and explores the three pillars of sustainable architecture-social, economic and environmental development. This is attempted through a critical analysis of the program and allocation of projects in different cities as well as the development philosophy of each of the 4 designated 'Smart Cities' in Rajasthan- Ajmer, Kota, Jaipur, and Udaipur. Perception of different stakeholders are gathered through open-ended unstructured interview. It is very clearly found out that, there is a huge gap in the understanding of the concept of smart cities and to some extent, apprehensions on the political fallout of these initiatives. This concluded that a participative approach by implementation of projects will help in creating smart and sustainable cities and thus, be able to fulfil the requirements of sustainable development goals (SDGs).

Abstract ID: RSC-312

### **Design & Development of Smart Terrain Wheelchair for The Handicapped**

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Limited mobility is something that affects approximately 7.6 million Indians. Approximately 1.2 million are using wheelchairs or scooters of some kind to enhance mobility. Everyday obstacles present a challenge to those in a wheelchair. Also, outdoor environments such as farms, picnic spots, off-roading or even grass fields provide additional challenges for those with limited mobility. This project helps us to provide a solution the limitations faced by those using wheelchairs. The wheels and tires of the wheelchair allow navigation through most terrains such as grass, gravel, and sand, but in some cases the wheels get stuck in muddy as well as rocky terrain, so we have come up with a new concept of adding tracks to the wheelchair in-spite of just

wheels. Because of adding tracks the wheelchair cannot just drive through any terrain, but can also climb stairs. The chair has the ability to level at up to 45 degrees and can provide a manual lift of 6 inches.

Abstract ID: RSC-313

### **Smart Grid**

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The development and implementation of a smart grid for power supply is one of the pressing issues in modern energy economy, given high national priority and massive investments, although the entire subject is still in its infancy stage. The smart grid delivers electricity from producers to consumers using two-way digital technology, and allows control of appliances in the consumers' houses and of machines in factories to save energy, while reducing costs and increasing reliability and transparency. A smart grid includes an intelligent monitoring system that keeps track of all the electricity that flows in the system. It could incorporate the use of super-conducting transmission lines to reduce losses, as well as the ability to integrate electricity from alternative sources such as solar and wind.

Abstract ID: RSC-314

### **Experimental analysis for machining of titanium alloy through grinding wheel**

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Present paper reveals the capability of grinding wheel while the machining of hard and tough materials like Titanium alloy (Ti6Al4V). This material is hard to machining and required significant amount of specific cutting energy to convert in desired shape and size. Due to the uniqueness in the micro-chemistry or metrological properties of the titanium alloy, it passes the special ability in Weight-strength ratio and shows the ability to withstand under the extreme and unfavourable conditions. Since Titanium alloy is tough and rigid hence machining of such material produces the larger amount of forces consequently which leads the high specific energy in removing the defined layer of material. The grinding of titanium alloy through the conventional grinding wheel Al2O3 give the satisfactory results in economical perspective of tool life. In present paper the investigator employed the aluminium oxide tool, and got the remarkable results in context to low specific cutting energy which consequently increased overall Productivity. In present paper the researcher set a trade mark between grinding parameters to obtained the optimize value of specific cutting energy.

Abstract ID: RSC-315

### **Ontology of XSS Vulnerabilities and its Detection Using XENOTIX Framework plus Prevention**

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Web technologies are framed for the purpose of catering the need of iniquitousness. There is no doubt that web applications are providing number of advantages to the masses, but everything comes with certain vulnerabilities. Exploitation of these vulnerabilities can change the game completely by providing fatal results, instead of giving fruitful results. Cross site scripting attack is also a result of mishandling of vulnerabilities located in web applications. In this paper, XENOTIX framework from OWASP has been used for the detection of cross site scripting attack and practices to curb XSS are discussed.

Abstract ID: RSC-316

### **Future of VLSI Design: The FinFET Logic Circuits**

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It has been almost a decade since FinFET devices were introduced to full production; they allowed scaling below 20 nm, thus helping to extend Moore's law by a precious decade with another decade likely in the future when scaling to 5 nm and below. Due to superior electrical parameters and unique structure, these 3-D transistors offer significant performance improvements and power reduction compared to planar CMOS devices. As we are entering into the sub-10 nm era, FinFETs have become dominant in most of the high-end products; as the transition from planar to FinFET technologies is still ongoing, it is important for digital circuit designers to understand the challenges and opportunities brought in by the new technology characteristics. In this paper, we study these aspects from the device to the circuit level, and we make detailed comparisons FinFET circuit design techniques. In the simulations we used both state-of-art industry-standard models for current nodes, and also predictive models for future nodes. Our study shows that besides the performance and power benefits, FinFET devices show significant reduction of extremely low leakage, and many of the electrical characteristics are close to ideal as in old long-channel technology nodes; FinFETs seem to have put scaling back on track! However, the combination of the new device structures, double/multi-patterning, many more complex rules, and unique thermal/reliability behaviors are creating new technical challenges. Moving forward, FinFETs still offer a bright future and are an indispensable technology for a wide range of applications from high-end performance-critical computing to energy-constraint mobile applications and smart Internet-of-Things (IoT) devices

Abstract ID: RSC-317

### **Blue Brain Technology**

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In the present scenario scientist are in aiming to convert human brain into machine i.e. they are in research to make an artificial brain that has the ability to think, react, to make choice, keep anything in memory and make any decisions without efforts. So even after the death of the body the virtual brain will act as a human and we will not lose the knowledge, intelligence, personalities, feelings and memories of that man which will later be used for the development of the human society. IBM is presently in research to make a virtual brain, called "Blue brain". In the event that conceivable, this would be the first virtual brain of the world. A Virtual machine is one that can work as, an exceptionally suitable utilization of an Artificial Intelligence human brain. The four major motivations driving the Blue Brain Technology are treatment of brain breakdown, logical interest about cognizance and human personality, a base up approach towards building thinking machine and databases of all neuroscientific examine comes about and related past stories.

Abstract ID: RSC-318

### **Communication Duration between LEO Satellite and Ground Stations**

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Communication via satellite begins when the satellite is positioned in the desired orbital position. Ground stations can communicate with LEO (Low Earth Orbiting) satellites only when the satellite is in their visibility region. The visibility region is in fact the horizon plane. Practical horizon differs from the ideal one because of natural barriers and too high buildings in urban areas. The duration of the visibility and so the communication duration varies for each satellite pass at the ground station, specifically for LEO satellites which do move too fast over the Earth. This paper discusses the satellites motion, the difference in between ideal and practical horizon, further the variations of the communication duration between the ground station and LEO satellites. Main objective is considering practical horizon plane and improving communication duration.

Abstract ID: RSC-319

### **Embedded System**

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In the era of the Super-computer, Embedded Systems and Robotics are playing quite a powerful role in the world of Electronics. As the Embedded systems and Robotics go hand in hand, which is why it is at most important to understand the concept of Micro Controllers. The Industrial training at HP enterprise, Gurgaon, introduced me to the world of micro controllers (AVR). I acquired practical knowledge on how to make, design, simulate electrical circuits and to transform simulated circuit into real

time operational circuits e.g. custom DB. Here the most basic form of robotic is an line follower which not only have sensors like humans but also makes human like decision regarding it motions. From the theoretical idea to a practical design it was fun to understand these transformations and how a simple idea can be changed into living object was quite an experience for me . Such a simple example thus justifies the relevance of the scheme in equipping students with sound technical skills to thrive in the real world. Also In the end I would like to briefly thanks Mr. Ravi sir for his guidance. Without his counsel it would have been impossible to complete my projects.

Abstract ID: RSC-320

### **Integration of optimized DSR routing protocol in mobile ad-hoc network**

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A Mobile Ad hoc Network (MANET) is a group of movable hosts with wireless network interfaces that structure a temporary network without the support of any permanent infrastructure or central administration. A MANET is also referred as an infrastructure less network because the mobile nodes in the network dynamically locate paths among themselves to transfer packets provisionally. Due to the dynamic network topology in ad hoc network nodes are exchanging plenty of routing packets for creating communication which intern increase network overhead and also increase collision in network. This brings about the matter of security in an ad hoc network. Security is core concern in routing protocol of MANET and affects the performance. Here, a innovative request forwarding mechanism is proposed in which source node generates route request packet and broadcast packet to other neighbor nodes to locate destination by implementing black hole attack.

Abstract ID: RSC-321

### **A Study of Dynamic Discovery Service Protocols**

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In this paper the study of Jini and Service Location Protocols of Dynamic Discovery Service is studied. This paper outlines the initiatives focused on discussing and understanding these two DDS protocols on the basis of their common features. The study is structured by taking various features as the base for this comparison. Service Location Protocol (SLP) and Jini are discussed briefly in this paper.

Abstract ID: RSC-322

### **Making smart city in Rajasthan, challenges and opportunities in Jaipur city**

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This paper contends a new definition of smart city that can suit the cultural and socio-economic fabric of cities of Rajasthan. It discusses the key highlights of Smart cities mission of Government of India & addresses the issues related to adaptation of its guidelines & recommendations to develop a comprehensive smart city plan for the city of Jaipur. The concept of Smart city cannot be based on universal values and standards, even though in theoretical perspective it leads to a common conclusion of developing a sustainable and productive physical, social and economic environment but at implementation level it differs from place to place as per local conditions such as climate, needs of the people, their cultural & aspirational values, etc. Climatic adversities of Rajasthan pose a plethora of challenges in front of planners and policymakers. Water scarcity has always been a major issue in Rajasthan and it has severely affected the overall growth and development of the state. Issues related to urban poverty, low level of literacy, malnutrition, the absence of organized economic and industrial activities that can produce the adequate amount of job opportunities, overcrowding of historical core of the cities, unauthorized developments in urban fringes are some of the major issues of urban centers of Rajasthan. In the context of Rajasthan, a Smart city should be an inclusive city that can address multifaceted issues right from the provisions of basic amenities to urban poor to that of equipping our young generation with updated skills and with capacities to serve in the global markets. A comprehensive Smart city plan can provide solutions to create inclusive cities that provide jobs, livelihoods, local economic dynamism, environmental sustainability and venues for cultural expressions to its inhabitants by applying the smart technological solutions.

Abstract ID: RSC-323

**Variational Iteration method for solving Burger's Equations in Two Dimension**

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To overcome the complications originating during computation of Adomian polynomials we apply He's variational iteration method in the current research paper. By applying variational iteration method the explanation of Burger's equation in two dimension and Burger's equations with variable boundary condition are obtained precisely. On comparing with Adomian decomposition method the result indicates that the variational iteration method is more effectual than the later.

Abstract ID: RSC-324

**Solution of the Boussinesq-Burgers' Equation by method of lines**

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In the field of Computational Techniques in Electromagnetic a semi-analytical process called The Method of Lines (MOL) is pretty well discussed with experts in the field. The quantum of the procedure has increased exponentially over the period of last few years. But unfortunately, there is no study material of research paper which help to introduce the method to a beginner. The current research paper explains the relevance of MOL in solving Boussinesq-Burgers' Equation.

Abstract ID: RSC-325

**A combined propotion of linear discriminant analysis with Baye's theorem**

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Linear Discriminant Analysis easily handles the case where the within-class frequencies are unequal and their performances have been examined on randomly generated test data. This method maximizes the ratio of between-class variance to the within-class variance in any data set thereby guaranteeing maximal separability. The use of Linear Discriminant Analysis for data classification is applied to classification problem in speech recognition. We decided to implement an algorithm for LDA in hopes of providing better classification compared to Principal Components Analysis. Linear discriminant analysis (LDA) is a generalization of Fisher's linear discriminant, a method used in statistics, pattern recognition and machine learning to find a linear combination of features that characterizes or separates two or more classes of objects or events. The resulting combination may be used as a linear classifier, or, more commonly, for dimensionality reduction before later classification.

Abstract ID: RSC-326

**Research on Software Security Testing: Problems and Prospects**

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Although, writing secure code is at the heart of computing security, but, unfortunately traditional software engineering textbooks failed to provide adequate methods and techniques for students and software engineers to bring security engineering approaches to software development process generating secure software as well as correct software. A formal approach to security in the software life cycle is essential to protect corporate resources. However, little thought has been given to this aspect of software development. Traditionally, software security has been treated as an afterthought leading to a cycle of 'problem and prospects. Due to its criticality, security should be integrated as a formal approach in the software life cycle. Both a software security checklist and assessment tools should be incorporated into this life cycle process. Software security testing is an important means to ensure software security and trustiness. This paper first mainly discusses the definition and classification of software security testing, and investigates methods and tools of software security testing. Finally, the paper

points out future focus and development directions of software security testing technology. Systematic security testing approaches should be seamlessly incorporated into software engineering curricula and software development process.

Abstract ID: RSC-327

### **An Analysis of Data Mining by Log Files**

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Most of the search engine now uses the technology which uses search experience of engine which contains knowledge of result of the past queries. This can be achieved by query log files which have complete log of a particular user or session. A query log or log of queries, typically, contains information about information seekers, queries, clicked results, etc. From the information of query log, required knowledge can be extracted to improve the quality of effectiveness and efficiency of their system. Different servers or application might use different formats of log files. Generally, IP address, date and time of the request, result for the request (with code), size of transaction, protocol of request, request description, browser and operating system which is used by the user are main parameters of every request that get into the record of the log file. This paper presents general overview of data mining of log files. Which contains knowledge of result of the past queries. This can be achieved by query log files which have complete log of a user or session. A query log or log of queries, typically, contains information about information seekers, queries, clicked results, etc. From the information of query log, required knowledge can be extracted to improve the quality of effectiveness and efficiency of their system. Different servers or application might use different formats of log files. Generally, IP address, date and time of the request, result for the request (with code), size of transaction, protocol of request, request description, browser and operating system which is used by the user are main parameters of every request that get into the record of the log file. This paper presents general overview of data mining of log files.

Abstract ID: RSC-328

### **A note on contiguous relation for the basic hyper geometric series**

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Basic hyper geometric series is emerging field and wide applications in the field of various applied and engineering Sciences, contiguous relation for basic hyper geometric series play a vital role in the theory of basic hyper geometric function. So, it is important to obtain new contiguous relation for basic hyper geometric series. In the present note we derive sixty-six new contiguous relations for basic hyper geometric series.

Abstract ID: RSC-329

### **Gender differences in Facebook use and gratifications among college going youth of Gujarat**

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The usage of Facebook, the most popular social networking site in the world, has been a topic of interest for researchers worldwide. These communication scholars have studied the Facebook usage from various angles such as quantity of usage, users' characteristics, and activities performed on Facebook. Gender differences in Facebook usage was also an attraction for scholarly works. The literature in this area is not widely available in Indian context. Little literature can be found related to the gender differences in terms of gratifications sought from using Facebook. Therefore, this study explores the differences among the college going Indian boys and girls in terms of their Facebook usage and the gratifications they seek from Facebook use. The present study is a part of the larger study. It was conducted in the four major cities of Gujarat – Ahmedabad, Vadodara, Surat and Rajkot. We recruited the respondents after their informed consent. An online survey was designed and administered to them. We received total 1392 completed responses. Facebook use was measured with the variables such as – time spent, activities performed on Facebook, number of friends and so forth. A 20-item scale was administered as a part of the questionnaire to measure the gratifications. This scale was developed based on the qualitative study and it was refined after administering it twice to the respondents. All the 1392 responses received will be analysed to address the objectives of the study.

Abstract ID: RSC-330

**Role of Security Metrics in Evaluation of Software Security: SDLC Perspective**

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Security has been a concern since the very inspection of software for various commercial and non-commercial fields. Security is a non-functional aspect and its quantification is necessary to determine its level of implementation. While developing software, security should be dealt with from the first phase of its development i.e., the requirements engineering phase of software development life cycle. To clearly identify and define the security requirements, its measurement becomes necessary so that the development team especially the security team can gauge an overall idea of its implementation. Security metrics proves to be a very reliable way of measuring, quantifying and identifying the security level and subsequent requirements of security in a software while it is in the initial stages of development. This paper highlights the important of role of security metrics in evaluation of software security during the development phase of the said software. It also presents the future research directions which can be carried by researchers in this field.

Abstract ID: RSC-331

**An Analysis of the Significance of Social Media in Influencing Political Engagement and Civic Participation**

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Active involvement of civil society makes the political system work more efficiently and promptly. The concept of political participation and civic engagement has undergone massive change in the digital age where social media has emerged as one of the most influential platforms. Social networking sites are no more limited as a platform to socialize rather their roles in a democratic system has moved far beyond its conceptual definition. Internet technology, especially through social media, has facilitated deeper connectivity and autonomy to its users transforming traditional media into 'prosumers' and enabling them to generate and consume the content at the same time. To a significantly large population on earth, Digital media tops the list of information medium and there have been remarkable number of instances wherein Digital media has emerged as change agent and led the civic revolutions. Digital media acts as a motivational agent to promote civic engagement in an effective manner and inspires citizenry to get engaged in the political process. The concept of 'political engagement' starts with the interest or knowledge about the political issues and civic matters. It further extends in the form of development of belief, attitudes, feelings, actions or behavior. On the other hand, 'political participation' means participatory behavior of civic population. Engagement and Participation in terms of politics are correlated and interdependent. The traditional thought of political participation includes four quadrants each focusing on understanding of issues of political importance, ability to express and form decision independently; attaining knowledge and motivation to hold discussion on political issues and transforming the thoughts and opinions into legitimate fruitful influencing political environment in a long-lasting manner. New wave media has changed the paradigm of media landscape & content consumption habits of media users. In this backdrop, it is of obvious importance that a systematic & nuanced understanding of the civic engagement in the digital era is developed to be able to ensure the richer and effective flow of information. Referencing the Indian Lok Sabha Elections 2014 and Presidential Elections in USA in 2016; this research article analyses the significance of social media as a tool for political propaganda whilst attempting to study its role in motivating people to participate in the political processes.

Abstract ID: RSC-332

**Rodon: An Autotropic approach for the purification of water**

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Background: Water is and has always been a very important component of the nature. This very component could sustain as well as take life at will. Also is regarded as the greatest forces of nature. Today water happens to be the most easily and also the most vastly polluted elements of the water. Hence as a result a huge demand for water is now being created. This again is forcing humanity to sort for new and much efficient ways to utilize the remaining one percentage of fresh water. To counter act the rising demand for usable fresh water for human consumption as stated above, Rodon is a brand-new approach for the purification of water. Unlike conventional filtering unit setup across the globe the Rodon is a completely eco-friendly, cost

efficient and a natural approach to purify fresh water for further consumption. The Rodon happens to be manmade collection or an arrangement where plants indigenous to the state of Rajasthan and from another parts India. The primary aim is not only to purify water but is also to establish a self-sustaining habitat of various flora and fauna. Through various tests we have found that the fresh waters of Rajasthan are quite high in salt as well as fluoride concentration. As a result conservation is becoming a necessity. For our research, we taken various species of plants the prickly pear cactus (*Opuntia ficus-indica*) uses mucilage (a gum) to store water internally. Halophytihis research aims to find out the ability of water lilies (*Salvinia molesta*), wood lettuce (*Pistia stratiotes*), and water hyacinth (*Eichhornia crassipes*) to decrease the content of water level. This research used experimental methods and the initial content of heavy metals mercury (Hg) by using 0.02 mg/L, 0.06 mg/L, and 0.1 mg/L.c plants are, then, the flora of saline environments. The physiology of halophytes, with its focus on adaptations enabling these fascinating plants to live in challenging environments that the vast majority of species cannot inhabit. *Sarcocornia*, *Tecticornia medusa*, *Arabidopsis thaliana*, *Eutrema parvulum*, which are all salt tolerant. They can alternatively be used in the filtration process. Also, the ability of water lilies (*Salvinia molesta*), wood lettuce (*Pistia stratiotes*), and water hyacinth (*Eichhornia crassipes*) to decrease the mercury content of water level is also used. The experimental methods and the initial content of heavy metals mercury (Hg) by using 0.02 mg/L, 0.06 mg/L, and 0.1 mg/L(refreq). Purification was then later seen. Conclusion: All these plants listed above have been tested under various conditions which are artificially stimulated. Through proper testing we concluded that they have the ability to purify water as a result all these plants can be collectively used to create a self-sustaining natural habitat which can serve as a reserve for wildlife and also purify the incoming water of various salt or heavy metals or halogen concentrations the water coming out of the system will be purified to great extents.

Abstract ID: RSC-333

### **An Approach of Mining Data Sets Using B-Trees**

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Association rule mining, a standout amongst the most imperative and very much inquired about strategies of data mining. It plans to extricate fascinating correlation, frequent patterns, associations or casual structures among sets of things in the exchange databases or other information storehouses. Be that as it may, no technique has been appeared to have the capacity to deal with information streams, as no strategy is sufficiently versatile to deal with the high rate which stream information touch base at. All the more as of late, they have gotten consideration from the information mining group and strategies have been characterized to naturally remove and keep up steady standards from numerical databases. In this paper, we consequently propose a unique way to deal with dig information streams for Affiliation run mining. Our strategy depends on B-Trees and FP development keeping in mind the end goal to accelerate the procedure. B-Trees are utilized to store definitely known for request to keep up the knowledge over time and give a quick approach to dispose of non-applicable data while FP growth.

Abstract ID: RSC-334

### **Adsorption Characteristics of Cu<sup>+2</sup> on Modified Zeolite from Industrial Wastewater**

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Various technologies exist for the removal of such metals. Precipitation, Ion-exchange, phytoextraction, ultra-filtration, membrane separation and adsorption are the usual methods for the removal of heavy metals ions from aqueous solutions. Due to its simplicity and easy operational conditions, adsorption is a widely used process. In this study Modified Zeolite was used for adsorption of cu<sup>+2</sup> from industrial waste water in batch and column mode. The effect of ph (2-5), adsorbent dosage (10-50g/l) and contact time (50-500 min) were investigated. The equilibrium for adsorption was established in 450 min, during which ph was 6 and adsorbent dosage was 25 g/l. After achieving the equilibrium removal efficiency of cu<sup>+2</sup> was 98.5%. The experimental data were well fitted with Langmuir adsorption Isotherm and pseudo second-order kinetics.

Abstract ID: RSC-335

### **Smart House (IOT)**

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Artificial Intelligence provides us the framework to go real-time decision and automation for Internet of Things (iot). The Smart house known as Home automation, with the use of new technology, to make the domestic activities more convenient, comfortable, secure and economical. Arduino boards are able to read analog or digital input signals from different sensors and turn it into an output such as activating a motor, turning LED on/off, connect to the cloud and many other actions. You can control your board functions by sending a set of instructions to the microcontroller on the board via Arduino IDE (referred to as uploading software).

Abstract ID: RSC-336

### **Is Google a Complete Teacher?**

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Good, bad or indifferent, if you are not investing in new technology, you are going to be left behind. These words of Phillip Green show what technology means to the future and the betterment of past and creating of present. We live in an era where everything has technology embedded in it; from the communication to the transports, from the searching to the cooking. Imagining a present without the technology is close to impossible. Google.com is one of the same technologies which was started with the idea of putting all the knowledge of everyone in everyone's hands. The passing of time has made it a place where you can know everything; from the working of human heart to the history of earth. This huge ocean of knowledge pulls the information thirsty students of present. Studies show that the Google server handles 62 thousand searches every second. This shows how dependent we are on this website. Everybody has been at that point of life where no means of finding the answer to their questions works and so the last hope they have is google.com. Google is a place where the students come to find answers too many questions but still when it comes to the understanding of something there is always a guide needed. The guide help student channel their knowledge and also explains things in the required pace. Having a guide gives the student an interactive session of leaning which increases the understanding. Yes it is possible that the teacher uses Google or any other source to gain information but when it comes to being the only source then Google is not enough. It can give you all the information but it cannot give you what a teacher can give you.

Abstract ID: RSC-337

### **5G Cellular Technology**

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We all know about the generations of mobile networks there are total 4 generation i.e. 1G, 2G, 3G, 4G. Nowadays all wireless industry Are busy with 4G network. After 4G networks we have to start to build a block of 5G Wireless network .5G stands for fifth generation of mobile network technology. In the world of telecommunication, day by day there is an improved performance in mobile networks. This changes our life day by day according to the user point the difference between other generation and 5g network must be other than maximum throughput, it includes low battery consumption, and high security 5G networks provide affordable broadband wireless connectivity. This paper shows the network architecture of 5G technology. There are some features which are including in 5g network i.e. It supports voip so user can experience high level call volume and data share and the next big feature of 5g network is that user can connect with multiple wireless technology simultaneously and according to their need they can switch between networks. A 5g network also includes the services like document and e transaction, etc.

Abstract ID: RSC-338

### **Data Logger System for weather Monitoring**

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The design and development of microcontroller based data logger for weather monitoring is useful to analyse the environmental parameters like temperature and relative humidity. Temperature and relative humidity measurement and monitoring are very useful for the purpose of analysis. The temperature and relative humidity sensors convert the temperature and relative humidity to analog signal. These analog signals are then applied to microcontroller based data logger system for storage purpose. The data is then transferred to computer through RS232 standard serial port. The user interface program will handle the data transfer between the data logger and computer as well as allow the user to input important parameters such as sampling interval and

starting data and time for the logging operation. A real-time clock is also interfaced to retrieve data in case of power failure. The system can be operated both real time and offline. The focus of the design is on portability and low power consumption system. Atmega321 microcontroller is used as the central control unit for the data flow coordination. In this paper, we have discussed the design of Microcontroller based data logger system for weather monitoring. System design in such a way, the data may store in secure digital card for further analysis.

Abstract ID: RSC-339

### **Smart Village: A Practical Approach Towards Creating an Economically Self-Sustainable Village in Rajasthan**

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After Independence, every union government has attempted the uphill task of accommodating 17.5% of world's population into 2.4% of the land. Starting from Pt. Nehru's dream city Chandigarh to Sh. Narendra Modi's concept of Smart Cities, which aims to improve the quality of life of the urban population. But before talking about the viability of Smart Cities, we need to introspect that have we completely overlooked the potential of smart villages? Though the Govt. has taken certain measures of creating smart villages, their magnitude is nowhere near the magnitude of smart city initiative. We cannot afford to create an environment where urban parts would be the obvious choice for a better living standard. By ignoring the potential of smart villages for smart cities, we are actually planning to open the floodgates of migrations. If we look at Jaipur, it has a population of 3 Million and the census 2001 estimates a 'floating population' of 10 percent. Today, the migration component of Jaipur stands at 9.5 Lakh although the exact numbers cannot be determined cent percent. It is observed that the major growth within the region is that of the City itself, followed by growth in the villages. Towns show a relatively lower percentage of growth, which indicates the migration towards Jaipur city. According to the JDA Master Plan 2025, the increase in population due to migration is expected to reach 50% by 2025.

Hence, by developing a model city and ignoring its nearby settlements, we are inviting waves of migration, which will not only make the villages empty and soulless but ultimately it will defeat the purpose of a smart city as well. Even after 7 decades, we are nowhere near any replicable models. A valid argument for that can be the diverse nature of different regions of India. The official website of Smart City initiative itself states that "There is no universally accepted definition of a smart city." Which clearly means that the conceptualization of "smart" varies from region to region. The objective of this paper is to outline the meaning of a smart village, summarize the issues and challenges of creating economically self-sustainable Smart Village in Rajasthan and to find possible solutions to it.

Abstract ID: RSC-340

### **The Transition to Electric: Scope and Viability in the Indian Sector**

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Behind pessimistic expectations regarding the future of the climate, substantial attitude changes can be observed in all sectors of every country. The Indian Government's ambitious targets for mitigating climate change in the country is well known. The Government's National Electric Mobility Mission Plan wants annual sales of electric and hybrid cars to hit the 6 million to 7 million mark by 2020 and all-electric sales by 2030. With careful planning and implementation, there is no doubt that this will be more or less achieved. But it cannot be disregarded that all these renewable technologies also have a serious impact on the environment. The well-known particulars about these technologies are that even production to deployment has adverse carbon footprints and energy-intensive issues. Designing, deployment, production under current technologies all have serious impacts to the environment. Though in the longer run, these renewable enterprises will benefit one and all. Thus, we showcase with various data sources and modelling/ statistical measures, that indeed this vehicular transition will have better outcomes including the impact of old technologies. This communication acting as a policy framework, analyzing developments in policies and a conceptual exploration of key challenges of India, related to innovation for this transition, has been implemented herein to benefit one and all. This paper attempts to serve the sectors of handling and mitigating climate change in socio-technical, energy, economic sectors through a future plan and whitepaper.

Abstract ID: RSC-341

### **Wireless Sensor Networks: Bridging the gap between physical and digital world**

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Jaipur Technology advancement has front to a digital revolution and digital system has become an expected part of modern life and continued existence. This digital power is now deployed for yet another bigger deal in the form of wireless sensor networks (WSNs). Wireless sensor networks represent a new paradigm shift in ad hoc networks. In addition to ad hoc deployment and wireless communication capabilities sensor nodes use on board sensing and processing to sense (or detect) application specified events of interest. WSNs are considered a sufficient solution for environmental monitoring and surveillance application where the substantial presence of human is almost impossible of very costly are providing a bridge between physical and digital world. A network formed by large number of in expenses, low energy devices (sensors) is deployed in a area to be monitored and the data is gathered in other location to prompt any action if required. In the last few years the rapid growth of monitoring and surveillance application has stimulated the study and deployment of systems based on WSNs. In this paper we have discussed the most imperative issues that arises in the discussion. However, it is still very early in the lifetime of such system and many stimulating and difficult research lie ahead before this becomes realty in the paper some of these challenges and research area in WSN are highlighted. The paper also characterizes a brief survey of various efficient protocols designed in the field. The paper is concluded by highlighting future work and open research issues.

Abstract ID: RSC-342

### **Game Play implementation through Artificial Intelligence**

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Game playing is a prevalent area in artificial intelligence. AI algorithms successfully play many different games are commonly capable of solving other complex problems as well. AI has produced an algorithm enabling a computer to play two-person, non-cooperative, zero-sum and perfect information games such as checkers and chess. AI with game theory and determines ways for a computer to play multi-player games. AI provided a high-visibility platform for game playing. It is important to note, however, that the performance of the human expert and the AI game-playing program reflect qualitatively different processes. Such knowledge allows the human expert to generate a few promising moves for each game situation. As the computational speed of modern computers increases, the contest of knowledge and speed is bend more and more towards the computers favor, accounting for recent victory like Deep Blue's win over Gary Kasparov.

Abstract ID: RSC-343

### **Java Rmi & Corba A Comparatively study on Distributed Object Technology.**

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An emerging trend in the Signal and Image Processing (SIP) community is the appearance of middleware and middleware standards that can be readily exploited for distributed computing applications by the SIP community. The three middleware standards we have selected all have certain commonalities. All are based around the concept of a client application using the services available on a remote machine, or server. A remote executable object that implements one or more exposed interfaces provides these services. The object's interface represents a contract between the client and the server. This interface is written as a Java interface for Java RMI, in IDL for CORBA, and in WSDL for web services. In the latter two cases, the more generic descriptions can be translated into specific language implementations, although a standard translation of WSDL into a wide variety of languages is still being developed. All three technologies also contain the notion that a client application need not know the exact network location of an object prior to runtime.

Abstract ID: RSC-344

### **Extreme Black carbon loading at elevated levels over Hyderabad during the northeast monsoon than during pre-monsoon and southwest monsoon periods**

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Vertical profiles of black carbon (BC) measurements (Aircraft observations) during the northeast monsoon month of November (1st, 2nd, 3rd, 8th and 9th) 2011 were conducted over Hyderabad, one of the most polluted and the fifth largest city in India. The population of the city and surrounding regions according to 2010 census is 5.3 million inhabitants with a 18% decadal growth. The measurements were made as a part of the Cloud Aerosol Interaction and precipitation Enhancement Experiment (CAIPEEX) undertaken by the Indian Institute of Tropical Meteorology, Pune, which aims to study and understand the interactions between aerosols, and clouds that influence the precipitation mechanism. A twin engine Piper Cheyenne N361 JC pressurized aircraft from Southern Ogallala Aquifer Rainfall (SOAR) Program, TX, USA was employed for observations. Aircraft flights were carried out covering the area from 16° N to 19° N latitudes and 77° E to 79° E longitudes over HYD and from 11° N to 13° N latitudes reaching a maximum altitude of about 5 km. The aircraft made several ascents and descents to penetrate the clouds during the course of each flight, as the chief objective of the mission was to study the cloud micro- physics and aerosol–cloud interactions. We present here the observations on vertical profiles of BC which were carried out for a period of 5 days (1st, 2nd, 3rd, 8th and 9th November 2011). BC observations were carried out using an Aethalometer (Magee Sci. Inc., USA, AE-42) that was located in an unpressurized part of the aircraft. The sampling inlet of the Aethalometer was connected by using a 1.5 m long polyurethane tube (a non-conductive tubing to minimize the particle losses) to the common isokinetic Brechtel double diffuser inlet that was mounted on the pressurized part of the aircraft facing the airflow through a manifold within the fuselage. The flow rate of the air sampling was 6.5 l per minute and the observations were taken at one-minute interval. The instrument was powered with an additional external battery for power back up. The results presented here are the first of the kind, in the sense that aerial measurements during the northeast monsoon have not been reported earlier. The results show a significant increase in the BC loading over Hyderabad during northeast monsoon than as compared to the BC loading during the pre-monsoon and monsoon periods. Prior studies of mapping the vertical BC profiles by Moorthy et al, 2004 during the pre-monsoon monsoon of February 2004 reports the BC to be 0.80ng/m<sup>3</sup> at 2.2 Km and the study by Babu et al, 2010 reports BC to be at 900ng/m<sup>3</sup> at 2.2 km during the pre-monsoon months of April 2006. As per our knowledge no aerial experiment to map the vertical BC variability during the northeast monsoon were ever conducted. Our measurements show the mean values of BC at 2.5 Km to be 2500ng/m<sup>3</sup> and 1300ng/m<sup>3</sup> at 5km altitude. Further detailed analysis of the results is underway.

Abstract ID: RSC-345

### **A Critical Approach to Cyber-Crime Laws**

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With the global connectivity on hands, we are not only at ease of doing anything but it is also posing threat on us. Cyber-crime held up with usage of computer device and network are one of the major potential peril of data safety as well as security. Phishing scams, Cyber stalking, Computer viruses, Data theft are some major crimes happening these days. In order to cope up with this, we have pre-defined laid out rules and regulations for cyber-crimes aimed at reducing these risks and protection of rights of the people. The detection and prosecution of cyber-crimes is different from the normal ones and it includes technical barriers which are to be solved through expertise. In the era of cloud computing and digitization we see that hacking is no longer something complex to be understood instead even it is broadly diffused into two segments. Increasing cyber terrorism, cyber security threat and ransom ware attacks like the recent Wanna Cry and Fireball have proved that we need more stringent security systems as well as cyber laws and their execution to deal with different level of crimes advancing each and every day.

Abstract ID: RSC-346

### **A Scenario of Smart City Traffic Management System using Wireless Sensor Network**

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Now a day, the common trends followed by each and every city in the country that number of things are managed smartly. This phenomenal term is known as Smart City, in which things are managed using wireless sensor network. In the Smart City number of vehicles has increased exponentially and cities having the bad Road conditions and capacity. Transportation system not deployed equally according to the capacity of the road due to this road jamming and traffic-related pollution increased that is an indirect effect of social and the financial loss of the city. Similarly, the electricity problem, the water problem is managed by the wireless sensor network. Wireless sensor network is deployed as congestion detection and congestion avoidance of traffic. it is very easily implemented and a fast way to transfer information from source to destination, control by the commonplace or distributed places. Wireless sensor network is a less expensive compared to another network implementation, less maintenance cost. There is some significant research works done on the traffic management system using wireless sensor

network to avoid traffic congestion, resolved by ensuring the priority in case of emergency and reduce the average waiting time of the vehicles at the traffic light crossing. in this paper presents Scenario of Smart City in which the traffic management scheme deployed for reducing traffic congestion and average waiting time of vehicles.

Abstract ID: RSC-347

### Smart Parking

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In recent times the concept of smart cities has gained grate popularity. Thanks to the evolution of Internet of things the idea of smart city now seems to be achievable. Consistent efforts are being made in the field of IoT in order to maximize the productivity and reliability of urban infrastructure. Problems such as, traffic congestion, limited car parking facilities and road safety are being addressed by IoT. In this paper, we present an IoT based cloud integrated smart parking system. The proposed Smart Parking system consists of an on-site deployment of an IoT module that is used to monitor and signalize the state of availability of each single parking space. A mobile application is also provided that allows an end user to check the availability of parking space and book a parking slot accordingly. The paper also describes a high-level view of the system architecture. Towards the end, the paper discusses the working of the system in form of a use case that proves the correctness of the proposed model.

Abstract ID: RSC-348

### A Novel Approach of Resource Sharing by maintaining adequate Privacy within Limited Proximity using Peer-to-Peer (P2P) Networks

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In recent scenario people are looking for fast and frequent content sharing services through networking with the motive of no internet connection and no compulsion of server oriented architecture. In this regards Peer-to-Peer (P2P) plays a very important role which is server free architecture used mainly in resource sharing among several users. In P2P every node (designated as peer) work as a server (when proving the resources to other nodes) and consecutively as client (when receiving the data or resources from other node). In this paper we are going to propose a limited proximity model based on P2P for content sharing. This P2P oriented file transferring solution enables users to share files with other users in a secure and a faster way. The data of Peers are located in two different repositories one represents for direct sharable contents and another deals in specific resources which is controlled, receiving host should ask for the permission from content owner while retrieving the file. This enables users to restrict the outflow of files. The main advantage of this solution is that there is no need of an Internet connection and a Centralized Server for resource sharing and also there is very openness in resource downloading under public repository and some authorization is also required regarding specific resources transferring which maintain privacy. This solution is very easy and useful for mobile users in terms of files downloading and simultaneously secure too during content transferring.

Abstract ID: RSC-349

### Paper Battery

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The Batteries form a significant part of many electronics devices. Typical electrochemical batteries or cells convert chemical energy into electrical energy. Batteries based on the charge ability are classified into primary and secondary cells. Secondary cells are widely used because of their rechargeable nature. Presently, battery takes up a huge amount of space and contributes to a large part of the devices weight. There is strong recent interest ultrathin, flexible, safe energy storage devices to meet the various design and power needs of modern gadgets. New research suggests that carbon nano tube may eventually provide the best hope of implementing the flexible batteries which can shrink our gadgets even more. The paper batteries could meet the energy demands of the next generation gadgets. A paper battery is flexible, ultrathin energy storage and production device formed by combining carbon nano tube with a conventional sheet of cellulose based paper. A paper battery act as both a high energy battery and super capacitor, combining two components that are separate in traditional electronics. This combination allows the battery to provide both long term, steady power production and bursts of energy. Non-toxic, flexible paper batteries

have the potential to power the next generation of electronics, medical devices and hybrid vehicles, allowing for radical new designs and medical technologies.

Abstract ID: RSC-350

### **Need of Software Testing in different area of computer Science**

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Software Testing is necessary because we all make mistakes. Some of those mistakes are unimportant, but some of them are expensive or dangerous. We need to check everything and anything we produce because things can always go wrong – humans make mistakes all the time. Since we assume that our work may have mistaken, hence we all need to check our own work. However, some mistakes come from bad assumptions and blind spots, so we might make the same mistakes when we check our own work as we made when we did it. So we may not notice the flaws in what we have done. Ideally, we should get someone else to check our work because another person is more likely to spot the flaws. There are several reasons which clearly tells us as why Software Testing is important and what are the major things that we should consider while testing of any product or application.

Abstract ID: RSC-351

### **Flitration Technique used to detect the Spam Mail**

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An emerging trend in the Signal and Image Processing (SIP) community is the appearance of middleware and middleware standards that can be readily exploited for distributed computing applications by the SIP community. The three middleware standards we have the three middleware standards we have selected all have certain commonalities. All are based around the concept of a client application using the services available on a remote machine, or server. A remote executable object that implements one or more exposed interfaces provides these services. The object's interface represents a contract between the client and the server. This interface is written as a Java interface for Java RMI, in IDL for CORBA, and in WSDL for web services. In the latter two cases, the more generic descriptions can be translated into specific language implementations, although a standard translation of WSDL into a wide variety of languages is still being developed. All three technologies also contain the notion that a client application need not know the exact network location of an object prior to runtime.

Abstract ID: RSC-352

### **Review on Holography**

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Holography was invented by Dennis Gabor in 1947, he came up with the theory of holography while working to improve the resolution of an electron microscope. Holography is a technique using laser and photographic plates to produce three dimensional images. Holography has 3 things similar to photography: it uses light energy; it employs a light-sensitive surface; and the outcome is a visible image. The resulting three dimensional images created as a result are called holograms. The term hologram was derived from the Greek words "holo", which means "whole" and "gramma", which means "message". Holography has been a research area for a long time for researchers, which is very interesting and challenging for the researchers. Researchers are trying to implement this technology of creating holograms in various fields and industries trying to take the current computers, smart phones, televisions and other technologies to another level where a person is able to witness, touch and operate real 3D images and 3D videos rather than what we see now on the computer devices. This technology will make the digital world look more realistic, more productive, entertaining, very informative and more user friendly. This research paper focuses on the generic details, principles, concepts and theory of the holography.

Abstract ID: RSC-353

### **Indian Regional Navigation Satellite (IRNSS)**

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The system was developed partly because access to foreign government-controlled global navigation satellite system is not guaranteed in hostile situations, which happened to the Indian military in 1999 when it was dependent on American Global Positioning System (GPS) during the Kargil war. The Indian government approved the project in May 2006. As part of the project, the Indian Space Research Organisation (ISRO) opened a new satellite navigation center with the campus of ISRO Deep Space Network (DSN) at Byalalu, in Karnataka on 28 May 2013. The total cost of project is expected to be 1420 crore rupees (US \$221 million). The INDIAN REGIONAL NAVIGATIONAL SATELLITE SYSTEM (IRNSS) with an operational name of NAVIC is an autonomous regional satellite navigation system, that provides accurate real time positioning and timing services. It covers India and region extending 1,500 km around it, with plans for further extension. The system at present consist of a constellation of 7 satellites, with two additional satellites on ground as stand-by. An Extended Service Area lies between primary service area and area enclosed by rectangle from Latitude 30 deg South to 50 deg North, Longitude 30 deg East to 130 deg East. IRNSS provides Standard Positioning Service (SPS) and Restricted Services (RS).

Abstract ID: RSC-354

### **Ratio of Gamma and Lindley Random Variables**

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The distribution of ratio of random variables are of interest in problem in many areas of econometrics, biological and physical sciences, classification, ranking, selection and have been extensively studied by many researchers. In this paper, the exact distribution of the ratio  $|X/Y|$  are derived. In this ratio X and Y are Gamma and Lindley random variables respectively distributed independently of each other. The associated pdf, cdf and moments have been given in terms of different special functions for the distribution of the ratio  $|X/Y|$ . The plots are provided for different combinations of parameters for derived pdf, cdf, hazard rate function and survival function. We also use the method of least square to estimate the unknown parameters.

Abstract ID: RSC-355

### **Cloud Storage**

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Cloud storage is a model of data storage in which the digital data is stored in logical pools, the physical storage spans multiple servers (and often locations), and the physical environment is typically owned and managed by a hosting company. It has been great development in cloud computing since past few years. Cloud storage can provide the benefits of greater accessibility and reliability; rapid deployment; strong protection for data backup, archival and disaster recovery purposes; and lower overall storage costs as a result of not having to purchase, manage and maintain expensive hardware. There are many benefits to using cloud storage, however, cloud storage does have the potential for security and compliance concerns that are not associated with traditional storage systems. Cloud storage works through data center virtualization, providing end users and applications with a virtual storage architecture that is scalable according to application requirements. When delivered through a public service provider, cloud storage is known as utility storage. Private cloud storage provides the same scalability, flexibility and storage mechanism with restricted or non-public access.

Abstract ID: RSC-356

### **Streaming Media**

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The term "streaming" was first used for tape drives made by Data Electronics Inc. for drives meant to slowly ramp up and run for the entire track; the slow ramp times resulted in lower drive costs, making a more competitive product. "Streaming" was applied in the early 1990s as a better description for video on demand on IP networks; at the time such video was usually referred to as "store and forward video", which was misleading nomenclature Major streaming video and streaming media technologies include Real System G2 from Real Network, Microsoft Windows Media Technologies and VDO. Microsoft's

approach uses the standard MPEG compression algorithm for video. The other approaches use proprietary algorithms. Microsoft's technology offers streaming audio at up to 96 Kbps and streaming video at up to 8 Mbps. However, for most Web users, the streaming video will be limited to the data rates of the connection (for example, up to 128 Kbps with an ISDN connection).

Abstract ID: RSC-357

### Poster on Cassini-Huygens inter-planetary Mission

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The Cassini–Huygens mission, commonly called Cassini, was a collaboration between NASA, the European Space Agency (ESA), and the Italian Space Agency (ASI) to send a probe to study the planet Saturn and its system, including its rings and natural satellites. The Flagship-class unmanned robotic spacecraft comprised both NASA's Cassini probe, and ESA's Huygens lander which would be landed on Saturn's largest moon, Titan. Cassini was the fourth space probe to visit Saturn and the first to enter its orbit. The craft were named after astronomer Giovanni Cassini and astronomer Christiaan Huygens. Cassini was a mission of thrilling exploration. Launched on Oct. 15, 1997, Original mission was planned to last for four years, from June 2004 to May 2008. The mission was extended for another two years until September 2010, branded the Cassini Equinox Mission. The mission was extended a second and final time with the Cassini Solstice Mission, lasting another seven years until September 15, 2017, on which date Cassini was de-orbited to burn up in Saturn's upper atmosphere. The Huygens module traveled with Cassini until its separation from the probe on December 25, 2004; it was landed by parachute on Titan on January 14, 2005. It returned data to Earth for around 90 minutes, using the orbiter as a relay. This was the first landing ever accomplished in the outer Solar System and the first landing on a moon other than our own. At the end of its mission, the Cassini spacecraft executed the ""Grand Finale"" of its mission: a number of risky passes through the gaps between Saturn and Saturn's inner rings. The purpose of this phase was to maximize Cassini's scientific outcome before the spacecraft was disposed. The spacecraft entered orbit around Saturn on June 30, 2004 (PDT), carrying the European Huygens probe. Its key discoveries included the global ocean with indications of hydrothermal activity within Enceladus, and liquid methane season Titan. And although the spacecraft may be gone, its enormous collection of data about Saturn – the giant planet itself, its magnetosphere, rings and moons — will continue to yield new discoveries for decades.

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### Article on Cloud Computing

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Cloud computing is a new form of Internet based computing that provides shared computer processing resources and data to computers and other devices on demand. It is a model for enabling ubiquitous, on-demand access to a shared pool of configurable computing resources (e.g., computer networks, servers, storage, applications and services).

Abstract ID: RSC-359

### Crawling Html/XML Data

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Web crawler is a program that acts as an automated script which browses through the internet in a systematic way. The web crawler looks at the keywords in the pages, the kind of content each page has and the links, before returning the information to the search engine. This process is known as Web crawling. The page you need is indexed by a software known as web crawler. A web crawler gathers pages from the web and then, indexes them in a methodical and automated manner to support search engine queries. Crawlers would also help in validating HTML codes and checking links. These web crawlers go by different names, like bots, automatic indexers and robots. Once you type a search query, these crawlers scan all the relevant pages that contain these words and turn it into a huge index. For example, if you are using Google's search engine, then the crawlers would go through each of the pages indexed in their database and fetch those pages to Google's servers. The web crawler

follows all the hyperlinks in the websites and visits other websites as well. So when you ask the search engine for a 'course in software development', it will come up with all the web pages that feature the term. Web crawlers are configured to monitor the web regularly so the results they generate are updated and timely.

Abstract ID: RSC-360

### **Recent Advances in Modified Nature Inspired Algorithms and their Application areas**

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Optimization has attracted so much attention to research community. Computer science, mathematics and operations research is a converging point for optimization problems. This paper attempts to analyze some recent modified nature inspired metaheuristic algorithms in various application domain of optimization. When the need for real world application arises, basic algorithms require some tuning in one way or the other to produce best results. These enhancements could be inform of hybridization, parameter tuning, or hierarchical modification. The analyses of the improved versions of genetic algorithm, particle swarm optimization, differential evolution, simulated annealing in specific application domain has been done. Also, the comparative performance of the modified algorithms with respect to their basic counterparts has been evaluated. Typically, this paper reveals the need for modification of such algorithms like PSO, DE, GA, SA for optimal solution in respective application domain including production scheduling process, supply chain management and inventory allocation.

Abstract ID: RSC-361

### **Study of Applying Concept of Business Intelligence in Modern Web Application**

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Business Intelligence represents the set of tools and systems that plays a key role in the strategic planning process of the business organization allowing business users to make informed business decisions with realtime data that can put a company ahead of its competitors. BI was to develop tools that improve business performance as well as to transform complex internal information into summarized and visual forms which will be helpful for an organization in strategic planning. In the present paper, existing tally based modules has re-designed and integrated with new architecture having an executive support based module for various kinds of analysis and visualizations facilities. Apart from normal business analysis tools, it contains few additional modules like Business Reminders, Executive Dashboard, Customer Relationship Module (CRM), Quotation Generation & many more as per the requirements of company. In present paper, it became easier and simpler to manage business, improve customer relationship, maintain stock, reduce paper work and provide better and enhanced results.

Abstract ID: RSC-362

### **Internet Censorship**

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"Internet censorship is the control or suppression of what can be accessed, published, or viewed on the internet enacted by regulators. Internet Protocol (IP) address blocking: Access to a certain IP address is denied. If the target Web site is hosted in a shared hosting server, all websites on the same server will be blocked. China to use artificial intelligence technology: China with the start of 2017 is going to promote the use of Artificial Intelligence (AI) in its economy to promote growth by inducing technological upgrades. As said by the Minister of Science and Technology, Wan Gang in a press conference held in Beijing on Saturday that China will soon release a development plan for Artificial Intelligence".

Abstract ID: RSC-363

### **Cloud Architecture**

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Cloud computing is a form of Internet-based computing that provides shared computer processing resources and data to computers and other devices on demand. It is a model for enabling ubiquitous, on-demand access to a shared pool of configurable computing resources (e.g., computer networks, servers, storage, applications and services), which can be rapidly provisioned and released with minimal management effort.

Abstract ID: RSC-364

### **Face recognition by using Principle Component Analysis**

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The Face is a very complex multidimensional structure and it requires good computing techniques for face recognition. In social life the face play a vital role as an identity of a person. Face recognition Algorithm are used in security, passport verification, identity of a face from the given database etc. The main problem arises when performing the recognition into a high dimensional space. The improvement can only be achieved by mapping the high dimensional data into a lower dimensional space. The PCA provide the solution. Principal component analysis is a statistical procedure that uses the orthogonal transformation to convert a set of observations of possibly correlated variables into a set of values of linearly uncorrelated variables called principal components. The Principle Component Analysis works for Prediction, to remove the redundant data and also it compress the data. In PCA the term eigenface is used to identify the face. The eigenface used PCA to linearly project the image into a lower dimensional feature space. The principle component analysis (PCA) is a good technique to reduce the dimension. After converting the data into lower dimensional space it is possible to do the proper analysis and the image can identified easily.

Abstract ID: RSC-365

### **Could Business Incubation Model be a way forward to support Rural Manufacturing Enterprises**

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"Business Incubators have been around since 1950s. Typically attached to universities, these incubators provided proving ground, with back office support to budding entrepreneurs. More recently, with start-up boom these business incubators have been an important facilitator in startup ecosystem they typically house these early stage innovative start-ups for a fixed-period of time and support them through education, mentorship, financing, IPR, providing office space, lab and manufacturing areas, marketing support, back office support and other support services (Colao, 2012) (Hathaway, 2016). Business-incubators aims to provide not only a springboard facility to these start-ups but also hedge them by providing in-time needed resources and mentoring under one roof, at a minimal opportunity cost, thereby adding resilience and reducing their vulnerability to a premature die-out. Business Incubators typically do not charge high rents and rentals, as these early start-ups, with typically limited cash flow would barely be in a position to them. Instead they take equities, which could be liquidated later, in these companies in return of the support rendered. In India, business incubators are an important element in start-up ecosystem and are contributing in a large way. These were promoted initially, mainly through Government support, largely through NSTEDB, Department of Science and Technology, GoI, since the early 2000. Presently there are hundreds of business incubators in India, both promoted through Government support and private entities. These are present in universities and research organizations and also as standalone entities."

Abstract ID: RSC-366

### **Performance Analysis of TCP Variants for Congestion Control Using NS-2**

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TCP is a consistent, association-oriented and extensively used end-to-end transport protocol in the computer network. It gives data in the structure of byte streams, start the connection and it also used in many applications that depend upon secured delivery of information. TCP assigns array to establish their integrity and deliver operation measures from timeouts and

retransmissions to provide accuracy. Many analysis affiliate with the computer network processes showed that the accurate characteristics of traffic possess the capacity of time-scale invariant. Such an impact is produced by the specific character of file allocation on servers, their dimensions ahead with an ordinary behavior of users. It was introduce that the data streams, which originally do not show autonomous-analogy properties after being processed at the host server and an effective grid elements, start exhibit the distinct signs of autonomous-analogy. It produces fast buffer overloads even with low use factor. If no action is taken to eliminate the arriving traffic then the queues on the maximum loaded lines will grow repeatedly and finally increase the size of the buffers at the identical nodes This paper presents a comparison of TCP variants for Congestion Control in network concerning the basis of various performance metrics such as end-to-end wait, throughput, queue dimension and packet delay rate using Network Simulator-2 (NS-2). The conclusion show that in high congested network, Vegas does best while in low cohesive network Reno gives best result.

Abstract ID: RSC-367

### **Ambient Intelligence**

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Philips Research introduced Ambient Intelligence in the year 1998. In 2001, Aml was taken by European Commission's Information Society Technologies Advisory Group (ISTAG).

Abstract ID: RSC-368

### **The Doppler radar technology**

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A Doppler radar is specialized radar that uses the Doppler Effect to produce velocity data about objects at a distance. It does this by bouncing a microwave signal off a desired target and analysing how the object's motion has altered the frequency of the returned signal. This variation gives direct and highly accurate measurements of the radial component of a target's velocity relative to the radar. This frequency is maximum when the source is moving directly toward or away from the observer and diminishes with increasing angle between the direction of motion and the direction of the waves, until when the source is moving at right angles to the observer, there is no shift. So the relative difference in velocity between a source and an observer is what gives rise to the Doppler Effect. Doppler allows the use of narrow band receiver filters that reduce or eliminate signals from slow moving and stationary objects. This effectively eliminates false signals produced by trees, clouds, insects, birds, wind, and other environmental influences. Doppler radar has innumerable applications. From being used by police to check the speed of a vehicle moving down the highway to the detection of breast cancer, it does it all. However in this research paper we will focus on its applications regarding military and weather forecasting. Military includes how this technology is used for various rescue operations and also to catch criminals hiding in a building by seeing through walls. The sensitivity of RANGE-R is strong enough to detect people breathing, making it hard for anyone to hide from it. Whereas in weather forecasting using Doppler radar satellites, we can see through clouds so that warning of a bad weather like storm and tornados could be given before time and arrangements for same could be made. Even though this technology already plays a very important role in our security in some way but still there are many limitations. It is still developing to be more precise and accurate. What future improvements can take place and what new technologies can come up working on this concept in coming years shall also be discussed.

Abstract ID: RSC-369

### **Exascale Computing**

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Exascale computing refers to computing systems capable of at least one exaFLOPS, or a billion billion calculations per second. It is capable to made computing systems at least 50 times faster than the nation's most powerful supercomputers in use today. Capable exascale systems will be able to analyse massive volumes of data in less time, and power the advanced models and simulations required for discovering insights and answers to crucial scientific and technology challenges. Such capacity represents a thousand fold increase over the first petascale computer that came into operation in 2008.(One exaflops is a

thousand petaflops or a quintillion, 1018, floating point operations per second.) At a supercomputing conference in 2009, Computerworld projected exascale implementation by 2018. Exascale computing would be considered as a significant achievement in computer engineering, for it is believed to be the order of processing power of the human brain at neural level (functional might be lower). It is, for instance, the target power of the Human Brain Project.

Abstract ID: RSC-370

### Viruses

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A computer virus is a computer program that can replicate itself and spread from one computer to another. A program that alter another program to include a copy of itself, a computer program able to infect other program by modifying them to include a possibly evolved version to itself. Every virus has a particular structure including searching of host program, copy itself into executable program, routines to prevent viruses from detection, perform its functions for which it was designed. Viruses are classified into three parts: - 1. Shell Viruses- A shell virus is one that forms a “shell” around the original code. So the virus code is hard to detect. 2. Add-on Virus- Function by appending their code to the host code. They then alter the start-up information of the program, executing the viral code first. 3. Intrusive Viruses- Operate by overwriting some or all of the original host code with viral code.

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### Generations of Programming Languages

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A low-level programming language is a programming language that provides little or no abstraction from computer’s microprocessor. A high-level programming language is a programming language that is more abstract, easier to use, and more portable across platforms.

Abstract ID: RSC-372

### Microservices

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The most interesting characteristics include: Componentization, the ability to replace parts of a system, comparing with stereo components where each piece can be replaced independently from the others. Organisation around business capabilities instead of around technology. There is no industry consensus yet regarding the properties of microservices, and an official definition is missing as well. Some of the defining characteristics that are frequently cited include: Componentization, the ability to replace parts of a system, comparing with stereo components where each piece can be replaced independently from the others. Organisation around business capabilities instead of around technology A linguistic approach to the development of microservices focuses on selecting a programming language which can easily represent a microservice as a single software artifact. A language well suited to microservices will encourage the developer to think and program in terms of microservices from the start instead of starting with a different programming paradigm only to refactor or retrofit a finished project so it can be deployed as a microservice. When effective, the gap between architecting a project and deploying it can be minimized.

Abstract ID: RSC-373

### Cooperative Linux

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Cooperative Linux, abbreviated as coLinux, is software which allows Microsoft Windows and the Linux kernel to run simultaneously in parallel on the same machine. Cooperative Linux utilizes the concept of a Cooperative Virtual Machine (CVM). In contrast to traditional virtual machines, the CVM shares resources that already exist in the host OS. In traditional VM hosts, resources are virtualized for every (guest) OS. The CVM gives both OSs complete control of the host machine while the traditional VM sets every guest OS in an unprivileged state to access the real machine.

Abstract ID: RSC-374

### **Computer vision**

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Computer Vision is a technology that deals with how computers can be made to gain high-level understanding from digital images or videos including acquiring, processing, analysing and extraction of data from real world to produce numerical information, in form of decisions. In terms of engineering, it seeks to automate tasks that the human visual system can do. Here, image "understanding" means the transformation of symbolic information from images and videos using geometry, physics, statistics, learning theory and come up with an appropriate action or decision. Artificial Intelligence (AI) and computer vision are closely related and share some topics like pattern recognition and learning techniques. Consequently, computer vision is sometimes seen as a part of artificial intelligence field or the computer science field in general. As a technology, computer vision seeks to apply its theories and models for the construction of computer vision systems. Applications of computer vision include scene reconstruction, event detection, video tracking object recognition, 3D pose estimation, learning, indexing, motion estimation, and image restoration. Computer vision is a field of computer science that works on enabling computers to "see". It is like imparting human intelligence and instincts to a human.

Abstract ID: RSC-375

### **Virtual private network**

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There is an increasing demand nowadays to connect to internal networks from distant locations. Employees often need to connect to internal private networks over the Internet (which is by nature insecure) from home, hotels, airports or from other external networks. Security becomes a major consideration when staff or business partners have constant access to internal networks from insecure external locations.

Abstract ID: RSC-376

### **Wine Software**

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Different software programs are designed for different operating systems, and most won't work on systems that they weren't designed for. Windows programs, for example, won't run in Linux because they contain instructions that the system can't understand until they're translated by the Windows environment. Linux programs likewise, won't run under the Windows operating system because Windows is unable to interpret all of their instructions. This situation presents a fundamental problem for anyone who wants to run software for both Windows and Linux. A common solution to this problem is to install both operating systems on the same computer, known as "dual booting." When a Windows program is needed, the user boots the machine into Windows to run it; when a Linux program is then needed, the user then reboots the machine into Linux. This option presents great difficulty: not only must the user endure the frustration of frequent rebooting, but programs for both platforms can't be run simultaneously. Having Windows on a system also creates an added burden; the software is expensive, requires a separate disk partition, and is unable to read most file system formats, making the sharing of data between operating systems difficult.

Abstract ID: RSC-377

### **Game Physics**

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What is Game Physics? The answer is in the words itself, Physics of games are game physics itself. Game Physics makes the game or basically takes the game nearer to reality or basically interprets the responsiveness of real world counterparts. Basically, there are game engines that performs the tasks of software emulated codes to receive hardware outputs. With advancing technologies and better game engines the fluidity of games is becoming better and better. Well if this wasn't the cause then a first-person shooter game wouldn't be that interesting as otherwise the bullets fired may take a ton of time to execute death of our enemies. The real laws of physics that we come across in our science classrooms are taken seriously to interpret realistic dynamism. The game developers at EA SPORTS are doing a world-class job in their annual FIFA series, which is the real-world soccer simulation game. They are making player contacts realistic (like a tackle, push, pull, etc.). All this are variables now, they vary from player to player. If a player has higher strength he is more likely to dominate the ball, and it will become harder for him to fall easily. Thus, simulating the real-world dynamism. Currently they (EA SPORTS developers) are using the FROSTBITE game engine which has even made the atmosphere realistic. As for example, in a game played on a cloudy day might end up in wet clogged fields (after rain effects). Also, injuries which are a major log in a game take it to realistic level. The jump and falls can affect their sustained time-period of injuries or so on.

Abstract ID: RSC-378

### **Physics of the Dark Universe**

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This paper is a state-of-the-art review of solid-state integrated and smart sensors. Smart sensors are defined as sensors that provide analogy signal processing of signals recorded by sensors, digital representation of the analogy signal, address and data transfer through a bidirectional digital bus and manipulation and computation of the sensor-derived data. In this paper the overall architecture and functions of circuit blocks necessary for smart sensors are presented and discussed. Circuit fabrication technologies are briefly discussed and CMOS technology is found to be ideally suited for many sensor applications. The challenges and techniques for the packaging of smart sensors are briefly reviewed and several specific examples of solid-state integrated and smart sensors are presented. It is believed that smart sensors will be needed in future closed-loop instrumentation and that control systems will be required in many application areas, including automotive, health care, industrial processing and consumer electronics.

Abstract ID: RSC-379

### **Supercapacitors Batteries**

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A supercapacitor is a double-layer capacitor that has very high capacitance but low voltage limits. supercapacitors store more energy than electrolytic capacitors and its unit is Farads(f). Supercapacitors are used in many power-management applications. such as voltage stabilization in start/stop systems, medical devices, energy harvesting etc. Graphene is a thin layer of pure carbon in the form of a two-dimensional, atomic-scale, honeycomb lattice. Among the latest development, skeleton technology grapheme supercapacitors will be used in UK, turning rigid diesel trucks into hybrids through power from regenerative braking. Maxwell Technologies supercapacitors are used for regenerative-braking energy storage in the Beijing subway systems. Linear technology, for example, offers its LTC3350, a backup power controller that can charge and monitor a series stack of up to four supercapacitors. Zap&go, a UK based start-up launching a new type of charger specifically for business traveller. It uses graphene supercapacitors to charge within five minutes. As the presence of supercapacitors increases in the power electronic market, the need for a single standard keep rising. Advances made in supercapacitor capacity and energy density will ultimately lead to greater functionality and more overall presence of the devices throughout the energy industry. Based on all of their inherent advantages, supercapacitors should help reduce the costs to the customer by minimizing the amount of batteries needed, as well as the frequency of battery replacement.

Abstract ID: RSC-380

### **Bluetooth Shared Smart Devices**

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Today we are living in the global world; the world where there has been vast advancement in the field of science and technology. The new generation is now full of smart people using smart technology. Smart devices make life of a person easy and updated. One such technology is Bluetooth. Bluetooth is a low cost, short-range, wireless technology with small footprint, low power consumption and reasonable throughput. Bluetooth wireless technology has become global technology specification for "always on" wireless communication not just as a point-to-point but was a network technology as well. The technology makes use of electronic tags to facilitate automatic wireless identification, with a Bluetooth Smart enabled device. Bluetooth Wireless Technology was developed in 1994 at Ericsson in Sweden by Jaap Haarsten and Sven Mattisson. Ericsson on advent of Bluetooth Tech. conceptualized a Radio Technology through a wireless personal area network (WPAN). Group called Bluetooth Special Interest Group(SIG) was formed in 1998 to develop the standard of IEEE 802.15. This specification standardized the worldwide Bluetooth technology. Bluetooth enabled devices operate in 2.4GHz ISM Band and at a range of 10 – 100 m with Channel Bandwidth of 1 Mbps and Maximum Asymmetric Data Transfer Rate of 721 Kbps. Works on the basis of piconet topology and scatter net topology. Piconet topology when one device sets up frequency-hopping pattern and other devices synchronize their signals to the same pattern and scatter net topology where several piconets connected by devices participate in multiple piconets of which scatter net is more advantageous due to higher throughput and multi-hop connections between devices indifferent piconets. Future Benefits be: In broadcast channels adoption of Bluetooth into mobile phones and enable advertising models based on users pulling information from the information points. Q o S IMPROVEMENTS: Enable audio and video data transmission at higher quality, especially in best effort traffic being transmitted in the same piconet. Bluetooth technology represents an opportunity for the industry to deliver wireless solutions and an important part of the smart era."

Abstract ID: RSC-381

### **Cryptocurrency Mining**

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Cryptocurrency is an encrypted decentralized digital currency transferred between peers and confirmed in a public ledger via a process known as mining. The importance of money as a form of judging the ownership of a person's assets is known since late Stone Age. It started with stone nuggets, then iron tablets followed by gold and silver coins and now paper money and electronic money. One notable fact is that throughout the timeline, the number of money people possessed increased and the value of each unit decreased. This happened till a stage when the banking system had to finally digitalize their currency, and it is all stored in reserve banks in a digitalized form. In simple terms, mining is the process of confirming transactions and adding them to a public ledger. In order to add a transaction to the ledger, the "miner" must solve an increasingly-complex computational problem (sort of like a mathematical puzzle). Mining is open source, so anyone can confirm the transaction.

Abstract ID: RSC-382

### **Introduction to Quantum Computing**

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Quantum computing studies theoretical computation systems (quantum computers) that make direct use of quantum-mechanical phenomena, such as superposition and entanglement, to perform operations on data. Quantum computers are different from binary digital electronic computers based on transistors. Whereas common digital computing requires that the data be encoded into binary digits (bits), each of which is always in one of two definite states (0 or 1), quantum computation uses quantum bits, which can be in superpositions of states. A quantum computer with spins as quantum bits was also formulated for use as a quantum space-time in 1968. As of 2017, the development of actual quantum computers is still in its infancy, but experiments have been carried out in which quantum computational operations were executed on a very small number of quantum bits. Both practical and theoretical research continues, and many national. Governments and military

agencies are funding quantum computing research in an effort to develop quantum computers for civilian, business, trade, environmental and national security purposes, such as cryptanalysis."

Abstract ID: RSC-383

### Database Encryption

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Database encryption can generally be defined as a process that uses an algorithm to transform data stored in a database into "cipher text" that is incomprehensible without first being decrypted. It can therefore be said that the purpose of database encryption is to protect the data stored in a database from being accessed by individuals with potentially "malicious" intentions. The act of encrypting a database also reduces the incentive for individuals to hack the aforementioned database as "meaningless" encrypted data is of little to no use for hackers.

Abstract ID: RSC-384

### A Survey: Nature Inspired Metaheuristic Optimization Algorithms

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Nature has always inspired us, nature is a rich Source of knowledge. we can learn a lot from nature and implement in our life and make our life better. This algorithm are used over one decade because it provide that efficient methods for solve optimization problem that is not possible to solve with the traditional methods. The main benefits or advantage with these algorithms that they are perform iterative or continuous searches effectively. In the context of we compare nature inspired Metaheuristics algorithms –Firefly algorithm, Ant algorithm, Bat algorithm and fish school algorithm. The comparative analysis is based on the different parameters like its area of application, characteristics , function, evolution year etc. nature inspired algorithm are used for best solution for different optimization problem.

Abstract ID: RSC-385

### Assessment of Ambient air quality over Kota, Rajasthan and its impact over the region

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In India, the electricity generation capacity is 329.27 GW, 58.8 % electricity is generated from coal fired power plant. Kota Thermal Power Plant is Rajasthan's first major coal-fired power plant. The atmospheric emission and pollution from the coal-fired power plants are responsible for a large burden on human health. The ambient air quality is the major concern in developing countries. The air quality plays a vital role in shaping the healthy environment for human, animal and plants. In the present industrial era, the air quality of different cities of world is degrading day by day. The present study report the ambient air pollutants over Kota, an education city of India. The diurnal and seasonal average of air pollutants determined from Rajasthan State Pollution Control Board (RSPCB). The value of PM10 and SPM shows the high variability over Kota during the study period. The PM10 levels over Kota found to exceed the prescribed limits as given by National Ambient Air Quality Standards (NAAQS). This study also reveals the source of ambient particle and its transportation over the study period.

Abstract ID: RSC-386

### IPV 6 – The Next Generation Protocol

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The Internet is one of the greatest revolutionary innovations of the twentieth century. It made the 'global village utopia ' a reality in a rather short span of time. It is changing the way we interact with each other, the way we do business, the way we

educate ourselves and even the way we entertain ourselves. Perhaps even the architects of Internet would not have foreseen the tremendous growth rate of the network being witnessed today. With the advent of the Web and multimedia services, the technology underlying the Internet has been under stress. It cannot adequately support many services being envisaged, such as real time video conferencing, interconnection of gigabit networks with lower bandwidths, high security applications such as electronic commerce, and interactive virtual reality applications. A more serious problem with today's Internet is that it can interconnect a maximum of four billion systems only, which is a small number as compared to the projected systems on the Internet in the twenty-first century. Each machine on the net is given a 32-bit address. With 32 bits, a maximum of about four billion addresses is possible. Though this is a large a number, soon the Internet will have TV sets, and even pizza machines connected to it, and since each of them must have an IP address, this number becomes too small. The revision of IPv4 was taken up mainly to resolve the address problem, but in the course of refinements, several other features were also added to make it suitable for the next generation Internet. This version was initially named IPng (IP next generation) and is now officially known as IPv6. IPv6 supports 128-bit addresses, the source address and the destination address, each being, 128 bits long. IPv5 a minor variation of IPv4 is presently running on some routers. Presently, most routers run software that support only IPv4. To switch over to IPv6 overnight is an impossible task and the transition is likely to take a very long time. However to speed up the transition, an IPv4 compatible IPv6 addressing scheme has been worked out. Major vendors are now writing softwares for various computing environments to support IPv6 functionality. Incidentally, software development for different operating systems and router platforms will offer major jobs opportunities in coming years."

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### **Global Positional System**

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The Global Positioning System, usually called GPS (the US military refers to it as NAVSTAR), is an intermediate circular orbit (ICO) satellite navigation system used for determining one's precise location and providing a highly accurate time reference almost anywhere on Earth or in Earth orbit. GPS was designed as a system of radio navigation that utilizes "ranging" the measurement of distances to several satellites for determining location on ground, sea, or in the air. The system basically works by using radio frequencies for the broadcast of satellite positions and time. With an antenna and receiver a user can access these radio signals and process the information contained within to determine the "range", or distance, to the satellites. Such distances represent the radius of an imaginary sphere surrounding each satellite. With four or more known satellite positions the users' processor can determine a single intersection of these spheres and thus the positions of the receiver.

Abstract ID: RSC-388

### **Motion Capturing System**

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In technical terms ""Motion capture (Mocap) is sampling and recording motion of humans, animals, and inanimate objects as 3D data"", but in simple terms ""Recording of motion and playback or One way of acting out an animation"" is Motion Capture. So in this paper I am going to present technical as well as simple aspects of Motion Capture like from simple history of Mocap to technical process of Mocap, simple applications of mocap to technical aspects of Mocap. In this paper first thing that would be cleared is that Mocap is not new technology it is used since 1872 when Edward Muybridge performs Flying Horse experiment to know that if a horse ever had all four feet off the ground while trotting? So Muybridge placed cameras to capture movements of running horse and takes multiple pictures of horse and proved that statement true. After that Etienne-Jules Marey became the First person to analyse human and animal motion with video. After all these main-frame motion capture started when in 1915 Rotoscoping which is described in this paper later comes in animation techniques and it changed whole meaning of animation. Then process of basic motion capture and some techniques used i.e. how motion or movements of an actor are captured using various markers, sensors, cameras and mechanical or magnetic suits and then how these recorded data is converted and applied on a virtual actor to perform same movements. Then some applications like films, animation, medical etc. are discussed and at last a brief about some pros and cons of Mocap is stated. So overall in this paper I tried to give basic knowledge on mocap so that a non-technical or normal person can also understand that how mocap is started and how it is useful or popular now days.

Abstract ID: RSC-389

### **Nvidia Personal Super Computer**

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The Tesla Personal Supercomputer is a desktop computer that is backed by Nvidia and built by Dell, Lenovo and other companies. It is meant to be a demonstration of the capabilities of Nvidia's Tesla GPU brand; it utilizes NVIDIA's CUDA parallel computing architecture and powered by up to 960 parallel processing cores, which allows it to achieve a performance up to 250 times faster than standard PCs, according to Nvidia. At the heart of the new Tesla personal supercomputer are three or four Nvidia Tesla C1060 computing processors, which appear similar to a high-performance Nvidia graphics card, but without any video output ports. At the heart of the new Tesla personal supercomputer are three or four Nvidia Tesla C1060 computing processors, which appear similar to a high-performance Nvidia graphics card, but without any video output ports. Each Tesla C1060 has 240 streaming processor cores running at 1.296 GHz, 4 GB of 800 MHz 512-bit GDDR3 memory and a PCI Express x16 system interface. While typically using only 160-watts of power, each card is capable of 933 GFlops of single precision floating point performance or 78 GFlops of double precision floating point performance.

Abstract ID: RSC-390

### **3d Printing Technology**

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3D printing, also known as additive manufacturing (AM), refers to processes used to create a three dimensional object in which layers of material are formed under computer control to create an object. Objects can be of almost any shape or geometry and are produced using digital model data from a 3D model or another electronic data source such as an Additive Manufacturing File (AMF) file. Ex: STL is one of the most common file types that 3D printers can read. 3D printing or AM builds a three-dimensional object from a model known as Computer Aided Design (CAD) model or AMF file successively adding material layer by layer. They are also a new generation of machines that can make everyday things. They are remarkable as they can produce different kinds of objects in different materials, all from the same machine. They can make pretty much anything from ceramic cups to plastic toys, metal machine parts, stoneware vases, fancy chocolate cakes or even human body parts. They replaced traditional factory production lines with a single machine just like home inkjet printers replaced bottles of ink, a printing press, hot metal type & a drying rack.

Abstract ID: RSC-391

### **The study of the impact of utilizing Cloud services with Internet of Things (IoT)**

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Cloud computing is seen as the recent trend in IT industry. Cloud computing can be visualized as the delivery of major computing services like servers, storage, databases, networking, software, analytics and more over the Internet ("the cloud"). It takes computing to whole World Wide Web. Internet of Things (IoT), the recent revolution of the internet, can be seen as the future of Internetworking and Ubiquitous Computing. IoT provides a platform for communication between objects where objects can organize and manage themselves. IoT can be observed as the expansion of internet services. It makes objects self-recognizable. IoT can benefit from the virtually unlimited capabilities and resources to overcome the shortcomings like storage, energy, processing. Cloud can also provide an effective solution to implement the IoT service management and composition and the applications that utilise the things or data produced by them. Cloud can also benefit by extending its scope to real world entities in more dynamic and distributed form. In this paper the study in terms of the survey regarding IoT and Cloud services is exhibited; their impact is also identified when integrated together. Finally, this survey concludes by covering the benefits of above integration of both services for the desired technological evolution in recent scenario.

Abstract ID: RSC-392

**DNA based cryptography**

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The biological research in the field of information technology paves the exploitation of storing capabilities which enhances the security features for data transmission. DNA is the gene information which encodes information of all living beings. The combination of DNA molecules can be interpreted as a result to give a solution to a specific problem. It can be also be used for in the field of cryptography based upon the vast parallelism which is used to break the cryptography approach. With the grow of technology advancements, the threats dealt by a user grow exponentially. Hence security has become a critical issue in data storage and transmission. As traditional cryptography system are now vulnerable to attacks. The concepts of using DNA cryptography has been identified as a possible technology that brings forward a new hope for unbreakable algorithms. There are some procedures for DNA based cryptography based on one time pads. The two DNA one-time pad encryption schemes: A substitution method using libraries of distinct pads, each of which defines a specific randomly generated pair wise mapping. An XOR scheme utilizing molecular computation and indexed, random key strings. These methods can be applied either for the encryption of natural DNA or for artificial DNA encoding binary data.

Abstract ID: RSC-393

**Data Encryption**

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Data encryption refers to the coding of data into cipher, so that only people with the authorized access or password can read it. Currently, encryption is one of the most popular and effective data security methods used by organizations. Two main types of data encryption exist - asymmetric encryption, also known as public-key encryption, and symmetric encryption. Data is encrypted with an encryption algorithm and an encryption key. The process results in ciphertext, which only can be viewed in its original form if it is decrypted with correct key. There are two types of data encryption- Private key, Public key, Encryption has long been used by militaries and governments to facilitate secret communication. It is now commonly used in protecting information within many kinds of civilian systems. Encryption can be used to protect data ""at rest"", such as information stored on computers and storage devices. There are several forms of data security technology available but encryption is one that everyday computer user should know about, the technology comes in every form, the key size and strength being the biggest difference in one variety from the next. Cyber-attacks are constantly evolving, so security specialists must stay busy in the lab concocting new schemes to keep them at bay. Expert observers are hopeful that a new method called Honey encryption will deter hackers by serving up fake data for every incorrect guess of the key code. This unique approach not only slows attackers down, but potentially buries the correct key in a haystack of false hopes. Then there are emerging methods like quantum key distribution, which shares keys embedded in photons over fibre optic, that might have viability now and many years into the future as well.

Abstract ID: RSC-394

**Quantum Computing**

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The subject of quantum computing brings together ideas from classical information theory, computer science, and quantum physics. This topic aims to summarize not just quantum computing, but the whole subject of quantum information theory. Information can be identified as the most general thing which must propagate from a cause to an effect. It therefore has important role in the science as well as in physics. Quantum computing studies theoretical computation systems (quantum computers) that make direct use of quantum-mechanical phenomena, such as superposition and entanglement, to perform operations on data. A quantum computer with spins as quantum bits was also formulated for use as a quantum space-time Computers built on the principles of quantum physics—as opposed to 'classical' physics promise a revolution on the order of the invention of the microprocessor or the splitting of the atom. D-Wave, a small Canadian company backed by Jeff Bezos, NASA, and the CIA among others, is the first firm to sell a so-called quantum computer—at roughly \$10 million a pop. The vast increase in power could revolutionize fields as disparate as medicine, space exploration, and artificial intelligence."

136

Abstract ID: RSC-395

### **Digital Healthcare and their impact on Architecture**

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Digital Healthcare is a process which connecting the development and management representation of physical and functional characteristics of Healthcare facilities. Digital Healthcare transformation should be revolutionizing in such a way that it promote patient care in new and exciting ways so that the healthcare facilities integrated the function of diagnosis, treatment, management and decision. At the same time, through the integration and fusion of application service, it can realize information acquisition, sharing and service in hospital, so as to promote the implementation process in smart diagnosis, smart treatment, smart management, smart decision and smart service. The primary objectives of Digital Hospital are patient engagement, safety, convenience, transparency and access the information anytime anywhere, also the need of better patient outcomes while keeping in mind to reduce the time, paper and cost are turning to digital technology to encourage and support new value based care model. The important topics to be covered which has directly impact Healthcare architecture are Smart Control Room System, Building Management and Energy Management, HVAC Control, Lighting Control solution, Integrated Access Control & CCTV Solution, Fire Alarm System, Public Address System and RFID. Being Healthcare designer, the author has designed many healthcare facilities, while considering the above said points and low current system designing with coordination of IT professionals and end users, refer attached IMAGE-1. The paper mainly concludes how and what measures needed to achieve the highest levels of patient comfort for occupants while increasing operating cost savings, from equipment installation time and material requirements to energy consumption of healthcare infrastructures.

Abstract ID: RSC-396

### **Time Sharing on Operating System**

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Time-sharing is a technique which enables many people which help to use a particular computer system at the same time. Time-sharing or multitasking is a logical extension of multiprogramming in the CPU where time sharing is done using processor's time which is shared among multiple users simultaneously is termed as time-sharing. A time sharing operating system is that in which each task is given some time to execute and all tasks are given time so that all processes run perfectly without any problem. A time sharing system allows many users to share the computer resources simultaneously. Time sharing refers to the allocation of computer resources in time slots to several programs simultaneously. Each user uses the resources of the mainframe -i.e. memory, CPU etc. The time sharing systems were developed to provide an interactive use of the computer system. A time shared system uses CPU scheduling and multiprogramming to provide each user with a small portion of a time-shared computer. As the system switches rapidly from one user to the other, a short time slot is given to each user for their executions. The time sharing system provides the direct access to a large number of users where CPU time is divided among all the users on scheduled basis. The OS allocates a set of time to each user. When this time is expired, it passes control to the next user on the system, the time allowed is extremely small. In time sharing systems all the tasks are given specific time and task switching time is very less so applications don't get interrupted by it. Many applications can run at the same time. You can also use time sharing in batch systems if appropriate which increases performance. Time sharing systems is better way to run a business having lot of tasks to be done and no task get interrupted by the system. Each task and each user get its time. The tasks which are near to end get more attention so that new tasks can get time. Using MS word or MS excel, now in these applications many small threads or tasks are running like spelling checking and grammatical checking in MS word. So, time sharing operating systems have to give time to these application individual tasks and other applications also, so that all system behaves correctly.

Abstract ID: RSC-397

### **Development of microsatellite and SNPs markers using de-novo transcriptome sequencing in lentil (*Lens sp.*)**

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Legumes are the main source of protein and oil, they are also involved in symbiotic nitrogen fixation. However, in comparison to other crop plants, less attention has been rendered towards their improvement. Recent advances of tools and techniques have

accelerated the use of acquired information via comparative genomics towards crop improvement. Comparative genomics is an open window to anticipate the processes involved in diversification of traits and their evolution. In the present study, we have utilized sequencing techniques to analyze the transcripts and generate large number of molecular markers. Transcriptome analysis was carried out for the lentil genotypes ILWL77 (*Lens culinaris* L.). All the short sequencing reads were assembled into 66389 full length transcriptome using de-novo assembler TRINITY. Furthermore, a total of 4985 microsatellite loci were identified using Genome-wide Microsatellite Analysing Tools (GMATO). Of which, only 3410 (68.40%) microsatellite loci fulfilled the primer designing criteria. Among six different microsatellite motifs, number of dinucleotides repeat were highest 2930 (58.23%) followed by tri 1963 (39.37%), tetra 66 (1.32%), hexa 30 (.60%) and penta 23 (0.46%) respectively. A set of 36 primers pair were synthesized and used for amplification. Of which, 30 primer pairs displayed amplification in lentil genotypes. Furthermore, comparative transcriptome analysis between two lentil genotypes ILWL77 and L830 (*L. orientalis*) revealed 125951 SNPs. These novel microsatellite and SNP markers, in future, shall aid in construction of linkage map, gene tagging, QTLs analysis, diversity analysis, marker assisted breeding and further lentil improvement program.

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### Sixth Sense Technology

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Every one of us are aware of five basic senses – seeing, feeling, smelling, tasting and hearing. These senses have evolved through millions of years. Whenever we encounter a new object/experience our natural senses tries to analysis that experience and the information that is obtained is to modify our interaction with environment. But in this new age of technologies the most important information that helps one to make right decision is something that cannot be perceived and analyzed by our natural senses. That information is the data in the digital form, and it is available to everyone through sources like internet. The sixth sense technology concept is an effort to connect this data in the digital world in to the real world.

Abstract ID: RSC-399

### Virtual Reality

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Most existing research on virtual reality concerns issues close to the interface, primarily how to present an underlying simulated world in a convincing fashion. However, for virtual reality to achieve its promise as a rich and popular artistic form, as have the novel, cinema, and television, we believe it will be necessary to explore well beyond the interface, to those issues of content and style that have made traditional media so powerful. We present a case for the importance of this research, then outline several topics we believe are central to the inquiry: developing computational theories for cognitive-emotional agents, presentation style, and drama.

Abstract ID: RSC-400

### Augmented Reality

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Imagine a world with a technology that creates the 3 dimensional images of a virtual object around you with which you can interact, see, hear, smell, and even touch it. Technologies such as computer graphics, virtual reality, and augmented reality together can be used to implement this in real world. Augmented reality actually superimposes virtual objects into the real environment with the real objects for enriching the viewer's experience Augmented reality with virtual reality in virtual space, also enhances the audience perception by displaying additional information. In this survey we present the different technologies that are involved in the implementation of augmented reality. These technologies are displays which are used for used for displaying or combining the virtual object by the real environment, tracking or gesture recognition helps in real time interaction part while the modelling is used to register the objects into 3D for enhancing the quality and perception of the viewer. With the rise of personal mobile devices capable of producing interesting augmented reality environments, the vast potential of AR has begun to be explored. This paper surveys the current state-of-the-art in augmented reality. It describes work performed in

different application domains including well established domains like medical, military, manufacturing, entertainment, visualization, and robotics. It also describes original domains such as education, marketing, geospatial, navigation and path planning, tourism, urban planning and civil engineering and explains the exiting issues encountered when building augmented reality applications considering the ergonomic and technical limitations of mobile devices. Future directions and areas requiring further research are introduced and discussed.

Abstract ID: RSC-401

### **Air Cars**

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It has become appallingly obvious that our technology has exceeded our humanity. -Albert Einstein. The Above Word describe about the technology development. The transportation is mostly depend upon the use of roads. Traffic Jams is very serious factor which waste our time, fuel and also giving trouble to emergency services like fire services, Ambulance, Police vehicles etc. When vehicles are fully stopped for periods of times, this is colloquially known as a traffic snarl-up. Traffic congestion can lead to drivers becoming frustrated and engaging in road rage. While some people use the terms Flying car and road able aircraft interchangeably, or use the latter term to bypass the science fiction connotations of the former, they are explicitly two quite different concepts. One wishing to design such vehicles must first decide which approach is appropriate. The flying car is primarily a car in which the driver has the option of taking to the air when desired or necessary. The road able aircraft is an airplane that also happens to be capable of operation on the highway. Our project has the pros of using the Vehicle in emergency and urgency times. For this we design a small extra Changes in the car to fly. It use three electric rotor motor with the hydraulic actuator. This Motor Fly upward first and then to front, right, left and turnings. Use of Battery it can fly up to more than three hour. The flying car is a car that can fly and you do not have to be late for anything now. This car is awesome. It has warmed seats. Also, when you land, the wings fold in so no one gets hurt. There are seats that turn around if you want to talk to people behind you. Air vehicles are either fixed-wing aircraft, rotary-wing aircraft or flapping-wing designs with each being used for different purposes. Fixed-wing craft require higher, forward flight speeds to stay airborne and therefore able to cover longer distances. Rotary-wing designs allow the craft to hover and move in any direction.

Abstract ID: RSC-402

### **M-Banking (Mobile Banking) Adoption by Indian Bank Consumers**

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Digital India campaign and cashless economy campaign continues to have impact on the Indian business environment, it has more focus on mobile computing, the wireless Web, and mobile commerce. In this background, mobile banking (m-banking) has evolved as a strong channel for the distribution. However, this is in the adoption stage by Indian bank consumers. This research paper analyzes the m-banking adoption by Indian bank consumers and maps the consumer's intentions to adopt it. The findings indicate that the m-banking adoption deals with the compatibility (with lifestyle and device), perceived usefulness, and attitude are the most significant drivers of intentions to adopt m-banking services in developed and developing countries.

Abstract ID: RSC-403

### **A Social Media as a tool for Effectively of Popularize Science among University Students**

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It is hard to come by science news in the pages of newspapers. In the circumstances it is still more difficult to come across any science news specially targeting the children. News has its own definition. Similarly, it is a moot question as to what 'science news' is. Simply reporting about new discovery, invention, satellites in the space, space crafts, and the like essentially is not science news. On critically searching there will not be found dearth of material of which science news is made. What lacks is the appropriate approach. To declare that 'this is an age of science', has become too hackneyed in the context of our country. There was a time when this essay could not be missed in Board Examinations. The students used to prepare and mug it up. But the irony has been that students merely kept on writing essays on science. They never grasped the meaning, the spirit of science. Science never became a part of their mental outlook and living style. Some of them at the most got involved in technological part and were bedazzled with its glamour. Science and technology did influence the living modes, but it failed to touch the

spirit. In fact the essential thing is to make our outlook scientific. In his book 'Prachin Bharat ke Mahan Vaigyanik' the well-known science writer, Gunakar Mule has repeatedly pointed out that in olden times the scientific knowledge was very much advanced. But there came a time when it suffered stagnation. It ceased to absorb new ideas. From then onwards traditionalism took roots. The biggest users of new scientific thought should be those children who are at present undergoing their education, and who are going to enter the fray of life. There are two routes for developing scientific outlook. One is through the formal education and the other, through informal education. The present study intends to understand the effectiveness of Effectiveness of Social Media as a tool of Science Popularisation among University Students of India studying in three main universities of Gwalior, Madhya Pradesh.

Abstract ID: RSC-404

### **B Green Marketing: Current Trends and Future Prospects with Special Reference to India**

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Increasing mindfulness on the different ecological issues has driven a movement in the way customers approach their life. There has been an adjustment in customer demeanors towards a green way of life. Individuals are effectively attempting to decrease their effect on nature. Be that as it may, this is not far reaching is as yet developing. Associations and business however have seen this adjustment in shopper mentalities and are attempting to pick up an edge in the aggressive business sector by abusing the potential in the green business sector industry. In the advanced time of globalization, it has turned into a test to keep the buyers in fold and even guard our indigenous habitat and that is the greatest need of the time. Green advertising is a wonder which has created specific significance in the present day showcase and has risen as a critical idea in India as in different parts of the creating and created world, and is seen as an essential procedure of encouraging practical advancement. In this exploration paper, fundamental accentuation has been made of idea, need and significance of green advertising. Information has gathered from different wellsprings of proof, notwithstanding books, diaries, sites and news papers. It investigates the fundamental issues in appropriation of green advertising hones. The paper portrays the present Scenario of Indian market and investigates the difficulties have with green showcasing.

Abstract ID: RSC-405

### **Ethical Hacking**

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"Hacking" is the word that shakes everyone whenever it is said or heard by someone. In this we don't need software to hack into someone's database there are several languages which are used to hack like HTML , java script , computer tricks , cracking & breaking etc. in this language we have some scripts which give us full control of the other computer and mobile like Trojans , backdoor's , worm , bots , sniffing , spoofing etc. in this we approach to individual's database through denial of service DOS & DDOS attack , web session hacking , SQL injection method , hacking wireless network. In my project I understood how to hack someone's computer with just one line of java script which give you full control over the other's computer then we redirected the one site to other in order to get the individuals password like we re-directed Gmail over Gmail . Then comes SDQL injection by which i hacked in other's database and extracted all the information that was usefull . Then we transfer the information by the help of criptoforge which is highly protected. At the end it was interesting for me to understand the concept of hacking to protect our computer to secure from hacker's or in the company also.

Abstract ID: RSC-406

### **Importance of Soft Skills for IT Professionals & Employability of Students in IT**

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Technology is ever-changing. This ever-changing environment requires the IT professional to possess a wide range of technical and non- technical abilities. The companies nowadays expect their employees to combine business skills, analytical thinking and the ability to exhibit expertise in an array of technology areas. The managers and professionals must be technically competent. The technical skills vary depending upon the need of the industry and the changing external environment. At least

some technical knowledge is required for every job in the IT industry. Soft Skills - A word which appears to be very simple but has a huge impact on one's success or failure. People misinterpret soft skills for communication skills. It is assumed that if one's communication skills are good, he is fit for the job. Soft Skills are more than that. These are people skills. Soft skills are personal attributes that enhance a person's job performance, interactions and career prospects. How well one interacts with others influences the success of his career. "If you want a job, have technical skills. If you want a career, have people skills." One of the major attractions why people choose IT as a career option is high salary associated with the jobs. There is a rise in demand in this segment of industry and due to this; the potential employees in the area of IT have multiple offers of employment. To compete, companies have been forced to offer compensation packages including large signing bonuses and other extras beyond base salary. The individuals with a blend of abilities command the highest salary. Individuals who can integrate networking, project management and teamwork, business technology and specific application skills are valued more as compared to others. In this paper an attempt is made to investigate the consequences of the lack of learning of soft skills in the IT students and to suggest ways to curb them. Communication, interpersonal skills, problem solving, decision-making, and teamwork are the competencies that will allow employees to grow and adapt as the world of work continues to change (Oblinger, 1998)[12]. While there are numerous explanations for the change in criteria for workplace skills, the impact of globalization appears to be one of the most significant causes that appear in many analyses (Rhinesmith, 1996; Williams, 1996). In response to increased global competition and the expansion of the world economy, businesses are seeking workers more highly skilled in the soft skills (Caudron, 1999; Solomon, 1999; Himmelsbach, 1999)

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### **Raspberry Pi: Microprocessor based computer technology**

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The Raspberry Pi is a tiny and affordable computer that one can use to learn programming through fun, practical projects. They are a series of small single-board computers developed in the U.K. by the Raspberry Pi Foundation to promote the teaching of basic computer science in schools and in developing countries. Several generations of Raspberry Pis have been released till now with different functionality and sizes. These boards are approximately credit-card sized and are priced between approx. ₹400 to ₹5,000. The first generation (Raspberry Pi 1 Model B) was released in 2012, followed by the simpler and inexpensive Model A. In 2014, the pi foundation released a board with an improved design in Raspberry Pi 1 Model B+. Improved A+ and B+ models were released a year later. A "compute module" was released in 2014 for embedded applications, and a Raspberry Pi Zero with smaller size and reduced input/output and general-purpose input/output (GPIO) capabilities was released in November 2015 for US\$5. The Raspberry Pi 2 which added more RAM was released in February 2015. Many other models like Raspberry Pi 3 Model B bundled with on-board Wi-Fi, Bluetooth and USB boot capabilities, and Raspberry Pi Zero W having the Wi-Fi and Bluetooth functionality of the Raspberry Pi 3 for US\$10 were released. All models of Raspberry Pis feature a Broadcom system on a chip, which includes an ARM based CPU and an on-board graphics processing unit (GPU, a VideoCore IV). CPU speed ranges from 700 MHz to 1.2 GHz for the Pi 3 with on-board memory range from 256 MB to 1 GB RAM. SD cards are used to store the operating system and program memory. Most boards have between one and four USB slots, HDMI and composite video output, and a 3.5 mm phono jack for audio. Lower level output is provided by a number of GPIO pins which support common protocols like I2C. The B-models have an Ethernet port and the Pi 3 and Pi Zero W have on board Wi-Fi 802.11n and Bluetooth. The Pi Foundation provides Raspbian, a Debian-based Linux OS for download, as well as third-party Ubuntu, Windows 10 IOT Core, RISC OS, and specialized media center distributions. It promotes Python and Scratch as the main programming language, with support for many other languages. The default firmware is closed source, while an unofficial open source is available to the users. Raspberry Pi provide a multifunctional microprocessor based computers to provide us with the knowledge of programming in an easy and effective manner and allow us to invent new projects and implement our ideas with help of its wide range of functionalities.

Abstract ID: RSC-408

### **xMax Technology**

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xMax private mobile broadband wireless networks from xG Technology. xMax is a secure, rapid-deploy mobile broadband system that delivers mission-assured wireless connectivity in demanding operating environments. xMax was specifically designed to serve as an expeditionary and critical communications network for use in unpredictable scenarios and during fluid situations.

Abstract ID: RSC-409

### **Radio Frequency Identification**

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A radio frequency identification system employing a thin, flexible electronic radio frequency identification (RFID) tag having an overall thickness not exceeding approximately 280 microns and the process for its manufacture is disclosed. The RFID tag includes an insulating, flexible substrate having an aperture formed therein for receiving an RFID circuit chip. An antenna forming an integral part of the substrate is electrically connected to circuit chip. A cured adhesive having a portion substantially parallel with the substrate encapsulates the circuit chip so that the chip is operably retained within the substrate aperture.

Abstract ID: RSC-410

### **Brain Computer Interface**

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A brain-computer interface (BCI) is a hardware and software communications system that permits cerebral activity alone to control computers or external devices. The immediate goal of BCI research is to provide communications capabilities to severely disabled people who are totally paralyzed or 'locked in' by neurological neuromuscular disorders, such as amyotrophic lateral sclerosis, brain stem stroke, or spinal cord injury. Here, we review the state-of-the-art of BCIs, looking at the different steps that form a standard BCI: signal acquisition, preprocessing or signal enhancement, feature extraction, classification and the control interface. This context has undergone radical change over the last two decades. BCI research, which was confined to only three groups 20 years ago and only six to eight groups 10 years ago, is now a flourishing field with more than 100 active research groups all over the World studying the topic. The number of articles published regarding neural interface technology has increased exponentially over the past decade. Successful studies on brain signal phenomena have lent further weight to these advances. The development of more and more inexpensive computer hardware and software has allowed more sophisticated online analysis. Likewise, the chances of using BCIs as auxiliary technology that might serve severely disabled people has increased social acceptance in this field and the need to accelerate its progress. Interest in this technology is now found outside of the laboratory or the clinic. Small specialized companies such as Emotiv or Neurosky have already developed some initial applications oriented towards the general public.

Abstract ID: RSC-411

### **ATMEGA32**

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AVR is a family of microcontrollers developed by Atmel beginning in 1996. AVR was one of the first microcontroller families to use on-chip flash memory for program storage, as opposed to one-time programmable ROM, EPROM, or EEPROM used by other microcontrollers at the time. ATmega32 is an 8-bit high performance microcontroller of Atmel's Mega AVR family. AVRs have been used in various automotive applications such as security, safety, powertrain and entertainment systems. Atmel has recently launched a new publication "Atmel Automotive Compilation" to help developers with automotive applications. Some current usages are in BMW, Daimler-Chrysler and TRW. ATmega32 is based on enhanced RISC (Reduced Instruction Set Computing) architecture with 131 powerful instructions. Most of the instructions execute in one machine cycle. ATmega32 can work on a maximum frequency of 16MHz. ATmega32 has got 40 pins. Two for Power (pin no.10: +5v, pin no. 11: ground), two for oscillator (pin 12, 13), one for reset (pin 9), three for providing necessary power and reference voltage to its internal ADC, and 32 (4x8) I/O pins. ATmega32 is capable of handling analogue inputs. In the end I learnt a lot about features of microcontrollers its uses in our field of study and how microcontrollers has contributed widely to the field for the better development for computers and in the field of communication."

Abstract ID: RSC-412

### **Virtual Reality Applications In Manufacturing Process**

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The Current Demand is to reduce the time and cost of product while manufacturing using some new technology and methods to reduce the cost to improve the plant growth .One of such technology which is very familiar with public is virtual reality (the ultimate display of product) or CAVE(cave automatic virtual environment) systems for the interactive visualization of three-dimensional environments.VRML, the Virtual Reality Modeling Language, is a recent ISO standard that allows for the distribution of such computer models over the World Wide Web and for interactive model viewing within the framework of a regular Web browser. The increasing trend of globalized manufacturing environment requires real-time information exchange between the various nodes in the product development life cycle e.g., design, setup planning , production scheduling , machining assembly as well seamless task collaboration among these nodes using automation technologies such as CAD/CAM/CAE have substantially shortened the time required to design products, using every entity CAD/CAE/CAM integration technology for the whole project to provide strong technical support, the global optimization can be achieved. Virtual Manufacturing will have a similar effect on the Manufacturing phase thanks to the modeling, simulation and optimization of the product and the processes involved in its fabrication and give the defect and conditions which is to overcome while manufacturing it help us to manufacture the best product for customer. This paper gives an overview on the virtual reality applications in manufacturing processes.

Abstract ID: RSC-413

### **Web Application Penetration Testing**

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"Web Application Penetration Testing directs towards using vulnerabilities to compromise and take control over a web application. Web Application, in general terms can be defined as a ClientServer Application model based interactive approach where a client typically runs within the Web Browser with some User Interface. Web Applications generally contains features like Webmail Services, Instant Messaging Services, E-Commerce, Social Media, etc. A Vulnerability is a flaw or weakness in a system's design, implementation, operation or management that could be exploited to compromise the system's security objectives. A Penetration Test is a method of evaluating the security of a web application by methodically validating and verifying the effectiveness of application security controls. A web application security test focuses only on evaluating the security of a web application. The process involves an active analysis of the application for any weaknesses, technical flaws, or vulnerabilities. Any security issues that are found will be presented to the system owner, together with an assessment of the impact, a proposal for mitigation or a technical solution. "

Abstract ID: RSC-414

### **Internet of Things**

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The Internet of Things (IoT) is a recent communication paradigm that envisions a near future, in which the objects of everyday life will be equipped with microcontrollers, transceivers for digital communication, and suitable protocol stacks that will make them able to communicate with one another and with the users, becoming an integral part of the Internet. The IoT allows objects to be sensed and controlled remotely across existing network infrastructure, creating opportunities for more direct integration of the physical world into computer-based systems, and resulting in improved efficiency, accuracy and economic benefit The IoT concept, hence, aims at making the Internet even more immersive and pervasive. Furthermore, by enabling easy access and interaction with a wide variety of devices such as, for instance, home appliances, surveillance cameras, monitoring sensors, actuators, displays, vehicles, and so on, the IoT will foster the development of a number of applications that make use of the potentially enormous amount and variety of data generated by such objects to provide new services to citizens, companies, and public administrations. This paradigm indeed finds application in many different domains, such as home automation, industrial automation, medical aids, mobile healthcare, elderly assistance, intelligent energy management and smart grids, automotive, traffic management, and many others. IoT represents the next evolution of the Internet. Given that humans advance and evolve by turning data into information, knowledge, and wisdom, IoT has the potential to change the world as we know it today for the better. How quickly we get there is up to us. Experts estimate that the IoT will consist of almost 50 billion objects by 2020.

Abstract ID: RSC-415

### **How a Virus Works**

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A computer virus is a program script to cause damage, steal personal information, modify, Send e-mail, display messages, or some combination of these actions. A computer virus is a type of malicious software program that, when executed replicates itself by modifying other computer programs and inserting its own code. Virus infect the computer programs, Infected computer programs can include data files or the boot sector of hard drive. When the virus is executed, it spreads by copying itself into over data files, programs, or boot sector of a computer's hard drive, or potentially anything else writable. A computer virus is designed to spread from host to host and can replicate itself, Viruses cannot reproduce without programming such a file or document. A virus can attach itself to any program. Each time the program runs, the virus runs too, and it has the chance to reproduce itself by attaching or inserting to other programs. A virus normally requires an action (usually a strike that can open) to infect a victim. The effect of virus can be anything from a simple prank that pops up messages to complete destruction of program and data.

Abstract ID: RSC-416

### **Some Fourier series relations and an Exponential series involving multivariable H- function**

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In the present paper we first evaluate an integral involving the product of two multivariable H-functions. Further we make its application to derive Fourier sine and cosine series involving the product of two multivariable H-functions. In the process we also obtain an exponential series relation for multivariable H-function. Some special cases of these series relations are also given which are believed to be new.

Abstract ID: RSC-417

### **Analytical approach to fractional Navier-Stokes equations by Iterative Laplace Transform method**

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In this paper, we have presented iterative Laplace transform Method (ILTM) to solve fractional Navier –Stokes equations in cylindrical coordinates with initial conditions. The fractional derivatives are described in the Caputo sense. By utilizing only the initial conditions, the analytical expressions are derived in the closed form. The results obtained by proposed technique are graphically presented and analyzed.

Abstract ID: RSC-418

### **On Q-Analog of Extension of Bailey's Summation Theorem**

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In 1972, Andrews derived the q-analog of Gauss's second summation theorem and Bailey's theorem. Recently, interesting extensions of above given theorem have been obtained by Kim et.al. The aim of this research paper is to provide q-analog of extension of Gauss's second summation theorem. For  $q = 1$ , we recover the original results. The results derived in this paper are simple and may be useful.

Abstract ID: RSC-419

**A Novel Study of Genetic Algorithm Used In Web Crawler**

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A genetic algorithm is a kind of the searching algorithm. It penetrates the resolution place for the optimal result to the difficult Problem. Genetic algorithm is an iterative procedure which is represents its applicant result as sequence of the genetic material called as the Chromosomes. When the folks come together then population form. Population is customized in the every iteration. Genetic Algorithm's process are continuously repeated are called the generation. Genetic Algorithm used the genetic operative such as selection, crossover and mutation. It produces the solutions for the consecutive generations. It also used to optimize the Web crawling and it selects more proper Web pages to be extracted by the web crawler. Genetic algorithm is used to calculate the relevancy of page by using fitness function. Link is extracted on the basis of fitness function. The fitness is calculated by using jaccard function. This paper explains three processes, i.e. Selection, Crossover and Mutation.

Abstract ID: RSC-420

**An Intelligent Approach for Mining Cyber Criminal Network**

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Cyber model would be extremely useful in many critical applications like mining cybercriminal network. A laplacian semantic inference method can be incorporated in this model to infer the semantics of mined concepts. This approach can be efficiently used for mining cybercriminal networks to classify online messages to criminal and non criminal and to infer a particular relation. This approach can be further enhanced by incorporating genetic algorithm to classify criminal messages. Genetic algorithm uses an optimization method in which a better solution can be obtained from a set of candidate solutions. This paper helps us in the development of an original weakly supervise cybercriminal network knowledge mining method to facilitate cybercrime forensics and this paper shows that they identify the corresponding cybercriminal networks.

Abstract ID: RSC-421

**Digital India: A progressive initiative by the Government**

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The Digital India vision provides the intensified impetus for further momentum and progress for this initiative and this would promote inclusive growth that covers electronic services, products, devices, manufacturing and job opportunities. India in the 21st Century must strive to meet the aspirations of its citizens where government and its services reach the doorsteps of citizens and contribute towards a long-lasting positive impact. The Digital India Programme aims to transform India into a digitally empowered society and knowledge economy by leveraging IT as a growth engine of new India Economy is going in a very positive Direction after launching make in India Plan of Indian Government. They focused on Digital India Plan to make India Economy more transparent and speedy. The Digital India project that aims to offer a one-stop shop for government services would use the mobile phone as the backbone of its delivery mechanism. Digital India Govt's Umbrella Branding of all past and new e projects and ideas to facilitate engagement with the Public promises access to internet, phone and banking Infrastructure. Government of India has planning to focus to prepare India for a future Knowledge future. It not only help to government to the government in transparency but also helps to Indian people to upgrade in knowledge. It helps to create millions of jobs in Indian economy in IT, and Electronics and communication sector.

Abstract ID: RSC-422

**Data Centric Security Approach: A Way to Achieve Security & Privacy in Cloud Computing**

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Cloud computing suggests a paradigm shift from owning computing systems to buying computing services. As a result of this paradigm shift, many key concerns such as the transparency of data transfer and access within the cloud, and the lack of clarity in data ownership were surfaced. Cloud computing patterns are gaining worldwide well-known recognition due to the various assistances they offer. These assistances include cost-effectiveness, time savings and well-organized utilization of computing resources. However, privacy and security the two major issues that proves to be hindrance in the adoption of this new technology. Recent researches have shown the focus of various researchers in improving of the security at OS level, Virtual Machine/Hardware level or at application level. But still no broad solution is provided for this problem and still the data security measures are being cared by the cloud providers. Another trend of research is based on Trust Computing concepts. This concept of Trust Computing provides a set of trusted third party technologies to secure virtual machines from cloud providers. This concept provides the user with various tools to monitor and assess the data in a secured manner but with much control capability. In comparison, Data Centric Security (DCS) is an evolving approach that aims to provide data owners with full control of their data security from within the data itself, throughout the data's lifespan on the cloud. However, DCS approach is inferred in various ways in the literature and there is not yet a standardized framework of applying this approach to the cloud model.

Abstract ID: RSC-423

### **Fibre Based Composites: A New Dawn**

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Natural fibre reinforced composites was for many years an unexplored field and little advancement took place in its implementation in the in the initial days. However, with the promising results that it exhibited, this area became more of an interest for the scholars who explored it in an intrinsic manner and, new developments and innovations came up in its use. Still, a lot of research is being carried out in this sector. The natural fibre wastes which are very readily available can be turned into fibre reinforced. Composites which are cost effective in addition to a large number of other benefits and in some cases, these have shown more effective results than the usual materials. Some of the well-known fibres are bagasse, coconut, banana, etc. Leading car manufacturers have put into use car interiors based on fibre composites. Also, road pavements have been made using these and in a recent development, the national capital of India plans to substitute the iron-based railings on roads with those made of composites so that the theft of iron structures and the maintenance cost are both minimized.

Abstract ID: RSC-424

### **Behavioral study of Geopolymer stabilized soil: a review**

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The paper presents the adverse effects of using the geopolymers prepared with the use of alkaline solutions in various proportions. The study enables us in knowing the optimum and the best economical proportion for its use in numerous site conditions. In this contemporary world of massive infrastructure development, the soil improvement is vital to effectuate the shear strength of the soft cohesive soils to captivate the demand of the diverse constructional activities at the sites. The geopolymer is a class of aluminosilicate binding material which are incorporated by the thermal activation of the solid aluminosilicate base materials like fly ash, GGBS etc. The distinctive ratios of the sodium silicate and sodium hydroxide solution are 2.0,2.5,3.0,3.5. The ideal dosage can be contemplated as 2.5.

Abstract ID: RSC-425

### **Performance of Unreinforced and Geocell Reinforced Flexible Pavements- A Laboratory Investigation**

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In this paper, a load settlement behaviour analysis is made for the geocell introduced flexible pavement. Geocells were placed on the top of base course and soil is compacted into it, over which tack coat is spread and bitumen layer is placed. Static load test was performed in order to estimate the ultimate strength for the reinforced and unreinforced test section. Study is conducted in order to know the percentage reduction in the base layer thickness with the application of geocell. The inclusion of geocell

mattress in base layer has distributed the applied load to a wider area from the point of application of load, which in turn reduces the stresses on top of the subgrade. A reduction of 43% in base thickness is achieved.

Abstract ID: RSC-426

### **Firewall Monitoring System**

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Firewall monitoring system aim at detecting attack against computer system and other imformation regarding to computer system,as it is difficult to provide the secure imformational system over a lifetime , Therefore in this condition the task of firewall monitoring system is to moniter and detect the such system which is malwareinated and give imformation to main firewall system to clean it and also provide the future security based upon that imformation , in this paper we introduce the taxonomy of firewall system that highlights the various aspects of this area.

Abstract ID: RSC-427

### **Application of Search Engine Optimization for Business Growth**

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Search Engines are designed to present the relevant results to the users on the web. With the introduction of regular updates, search engines have become user friendly. Search Engine Optimization is a collection of techniques and practices by which a website can rank higher in the search results. Search Engine Optimization involves on page and off page optimization. This paper describes the role of Search Engine Optimization for the success of a business entity and an overview of search engine optimization.

Abstract ID: RSC-428

### **A DNA-Based Archival Storage System**

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Human-beings have always been fond of accessing more and more information in minimum possible time and space. Consequently, New Generation Computers and High Speed Internet have gained popularity in the recent years. We have been witness to remarkable achievements like the transition from the bulky hard-drives to the flash drives which has made personal data storage efficiently manageable. But when it comes to handling big data, the data of a corporation or of the world as a whole, the present data storage technology comes nowhere near to be able to manage it efficiently. An urgent need for a proper medium for information archival and retrieval purposes arises. Deoxyribonucleic acid (DNA) is seen as a potential medium for such purposes, essentially because it is similar to the sequential code of 0's and 1's in a computer. Using DNA to archive data is an attractive possibility because it is extremely dense, with a raw limit of 1 exabyte/mm<sup>3</sup> (109 GB/mm<sup>3</sup>), and long-lasting, with observed half-life of over 500 years. Seeming to come straight out of science fiction, "a penny-sized device could store the entire information as the whole Internet". The analyzed data from the researches reveals that just four grams of DNA can store all the information that the world produces in a year. Here, this topic of 'Data Storage in DNA' is described starting from the very first research to the most recent one, their techniques, their advantages and their flaws, the need for DNA storage, and how it will ultimately become a paradigm shift in computing

Abstract ID: RSC-429

### **On Methods of Construction and Analysis of 5-DIB Designs Based on (40+3) Series**

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The simplest row-column design is a Latin Square design. Youden (1937) used a design in which columns constitute a symmetrical balanced incomplete block designs (SBIBD) where rows have complete replication. These designs are called Youden Square design. Smith and Hartley (1948), Shrikhande (1951) and Agarwal (1966 a, b, c, d) constructed row-column designs called designs for two-way elimination of heterogeneity or three dimensional incomplete block (3-DIB) designs. Kshirsagar (1957), Potthoff (1962), Causey (1968), Anderson and Srivastava (1971), Agrawal and Sharma (1975), Pearce (1975) and Jones (1980) gave some systematic methods of construction of these designs, which were balanced or partially balanced. The construction of four dimensional incomplete block (4-DIB) designs have been considered by many authors such as Potthoff (1962 a,b), Causey (1968), Anderson and Srivastava (1971), Agarwal and Sharma (1975). All the designs constructed by them are either balanced or partially balanced. In general there is a dearth for higher dimensional incomplete block designs such as five dimensional designs for additive models. In this paper an attempt has been made to fill up this gape by developing the techniques for construction of five dimensional incomplete block designs (5-DIB) based on symmetrical balanced incomplete block design  $v=b=4t+3$  (Prime power),  $r=k=2t+1$  and  $t=t$ . These designs are also shown to be balanced.

Abstract ID: RSC-430

### Blue eyes technology

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Imagine yourself in a world where humans interact with computers. You are sitting in front of your personal computer that can listen, talk, or even scream aloud. It has the ability to gather information about you and interact with you through special techniques like facial recognition, speech recognition, etc. It can even understand your emotions at the touch of the mouse. It verifies your identity, feels your presents, and starts interacting with you. You ask the computer to dial to your friend at his office. It realizes the urgency of the situation through the mouse, dials your friend at his office, and establishes a connection. Human cognition depends primarily on the ability to perceive, interpret, and integrate audio-visuals and sensing information. Adding extraordinary perceptual abilities to computers would enable computers to work together with human beings as intimate partners. Researchers are attempting to add more capabilities to computers that will allow them to interact like humans, recognize human presents, talk, listen, or even guess their feelings. The BLUE EYES technology aims at creating computational machines that have perceptual and sensory ability like those of human beings. It uses non-obtrusive sensing method, employing most modern video cameras and microphones to identify the users actions through the use of imparted sensory abilities. The machine can understand what a user wants, where he is looking at, and even realize his physical or emotional states. The basic idea behind this technology is to give the computer the human power. We all have some perceptual abilities. That's we can understand each other feelings. For example we can understand ones emotional state by analyzing his facial expression. If we add these perceptual abilities of human to computers would enable computers to work together with human beings as intimate partners. The "BLUE EYES" technology aims at creating computational machines that have perceptual and sensory ability like those of human beings

Abstract ID: RSC-431

### Facial Recognition Technology

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Facial recognition technology (FRT) is the technology used to identify or recognize a person by a digital image from a source of video or image. The recognition can be done by comparing certain facial features from the image and face database. It is one of the most successful applications of image analysis and understanding. It has recently received significant attention, especially during the past few years. This is evidenced by the emergence of face recognition conferences such as AFGR and AVBPA and systematic empirical evaluations of face recognition technology during some protocols. Facial recognition technology (FRT) has emerged as an attractive solution to address many contemporary needs for identification and the verification of identity claims. It brings together the promise of other biometric systems, which attempt to tie identity to individually distinctive features of the body, and the more familiar functionality of visual surveillance systems. The basic idea for FRT is to find missing persons. There are estimates that about 1.2 million children go missing and are trafficked worldwide every year. The reason includes forced prostitution and forced marriage. Some children are forced into cheap or unpaid labor, other mistreated for sport and organ harvesting and some are even recruited into armed groups. So find the missing children around the world the FRT play a very important role, there is a website, along with android app called Helping Faceless which

aims to recognize the missing child from its database. It works as whenever you see kids on street asking for money, you take their picture and upload it on Helping Faceless server, which uses facial recognition algorithm to try to match these photos to the lost children's faces they have in their database. This technology is also being used by Google Photos in which it sort your photo gallery according to the person appear in the photo. It makes easy for you to put together an album according to the person. Also most of the major photo application uses some version of FRT which is available in full-strength graphics and design applications, such as Adobe Photoshop and Light room.

Abstract ID: RSC-432

### **Information Security in Big Data**

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With the fabulous development of information technology, big data application prompts the development of storage, network and computer field. It also brings new security problems. This security challenge caused by big data has attracted the attention of information security and industrial community domain. This paper summarizes the characteristics of big data information security, and focuses on conclusion of security problems under the big data field and the inspirations to the development of information security technology. Finally, this paper outlooks the future and trend of big data information security.

Abstract ID: RSC-433

### **Biochip Technology**

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A biochip is a collection of miniaturized test sites (microarrays) arranged on a solid substrate that permits many tests to be performed at the same time in order to achieve higher throughput and speed. In addition to genetic applications, the biochip is being used in toxicological, protein, and biochemical research. Development of high-throughput 'biochip' technologies has dramatically enhanced our ability to study biology and explore the molecular basis of disease. Biochips enable massively parallel molecular analyses to be carried out in a miniaturized format with a very high throughput. The highlights of the applications of the various biochip technologies in cancer research, including analysis of (i) disease predisposition by using single-nucleotide polymorphism (SNP) microarrays, (ii) global gene expression patterns by DNA microarrays, (iii) concentrations, functional activities or interactions of proteins with proteomic biochips, and (iv) cell types or tissues as well as clinical endpoints associated with molecular targets by using tissue microarrays. One can predict that individual cancer risks can, in the future, be estimated accurately by a microarray profile of multiple SNPs in critical genes. Diagnostics of cancer will be facilitated by biochip readout of activity levels of thousands of genes and proteins. Biochip diagnostics coupled with informatics solutions will form the basis of individualized treatment decisions for cancer patients.

Abstract ID: RSC-434

### **Computer RAM**

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RAM is an acronym for random access memory, a type of computer memory that can be accessed randomly; that is, any byte of memory can be accessed without touching the preceding bytes. RAM is the most common type of memory found in computers and other devices, such as printers. Static random-access memory (static RAM or SRAM) is a type of semiconductor memory that uses bistable latching circuitry (flip-flop) to store each bit. SRAM exhibits data remanence, but it is still volatile in the conventional sense that data is eventually lost when the memory is not powered.

Abstract ID: RSC-435

### **Cultural Advancement Through Machine Learning, An Advancement In Information Technology**

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Information technology is one of the most important human endeavors. In the present interim, advancement in the information technology is the most ponderable and benevolent issue. From business to finance, healthcare, education, entertainment; information technology has been proving beneficial to humans. The IT revolution is curbing the various problems over the globe. Advancement in optic, digital technologies has lead the globe experience an Information Technology revolution to the decision support, executive support & data management in the era. In this paper, i will include about the breakthroughs in Machine Learning using its extreme classifiers over a huge dataset specially benefiting cultural environment. Machine learning is one of a type of Artificial Intelligence that allows computers to makeup an efficient decision-making system without getting explicitly programmed. Mathematical and Statistical analysis is mainly involved to receive output from input in a denoted range. It's application areas are included in Internet of Things, Automation, Self-driving vehicles and others. Robotic process automation and machine intelligence amalgamation is the future of automation. Providing automation to the clustered images is the need in the present interim. In this paper, Image, videos and other attributes linked will be retrieved using machine learning by providing image encodings and its related extreme classifiers to ease the automation process related to cultural and other historical aspects.

Abstract ID: RSC-436

**Impact of Modern Day High Rise Residential Complexes on Transition of Cultural and Social Lifestyles of Inhabitants in Context of Historical Cities- Case Study of Jaipur**

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Abstract- Challenges of urban congestion in growing cities of developing countries have steered the evolution of high rise complexes which are significantly distinct in character with the traditional planning and vernacular architecture of old residential settlements particularly in historical cities like Jaipur. During the past decade the shift in the urban population from old city of Jaipur to newly constructed mid or high rise residential complexes has been merely apparent but might be huge in future times. People shifted to high rise residential units have been experiencing an altogether different lifestyle to what they used to have while living in the old city. Apart from the above, city's growing economy too had, if not active but passive, impact on the cultural and social values of traditional city. However on the other hand it is evident that trend of shifting to high rise in such cities is still not been highly accepted. The study aims to investigate following aspects-The ingredients of architecture in those low or midrise housing complexes in old city of Jaipur which catalyzed development of this enriched cultural heritage. Impacts of urban sprawl over decongestion of city. The trends of modern day lifestyles which are not catered in traditional housing complexes of old city. In the high rise housings-how does built environment caters to the socio - cultural needs of inhabitants in contrast to living in old 'havelis' of city (supplemented with suitable examples). The aspects which still impede living in high rise complexes.

Abstract ID: RSC-437

**IPFS: For the Era of IoT**

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This paper reviews the potential of InterPlanetary File System(IPFS) in creating a truly democratic web. Due to increasing number of content delivery requests(CDR) from devices, fast adoption of IoT (Internet of Things) which in turn contributes to even more CDRs, Intrusion by large corporations and unethical content censoring by governments, it has become crucial to upgrade the web to tackle these issues, Thus the paper discusses IPFS's contribution in Outweaving the web to create a SAFE and FREE internet which are crucial characteristics of any democracy.

Abstract ID: RSC-438

**Performance Analysis of Virtual and Non-Virtual Databases**

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Virtualization is an emerging term in IT world. As whole world is getting virtualized then why not databases. Database virtualization is understood by different people in different ways; either it is executing or storing databases on virtual machine or a full virtualization of database. It helps in masking the actual physical location of the databases from the programs and users using it. With the aid of virtualization databases can be decentralized thus increasing availability and usability of databases. In this paper database is virtualized using Oracle's Virtual Box. It helps in developing a virtual layer between Host OS and Guest OS and by this databases can be easily virtualized. After performing virtualization of database various performance criteria like Cache Hit Ratio, Response time etc., of both Virtual and NonVirtual databases, are considered and analyzed. A performance analysis tool is used for evaluating the performance of workloads running in both Virtual and Non-Virtual environment. On the basis of this evaluation, a comparative study of Virtual and Non-Virtual database performance is drawn out and architecture is proposed to tune them.

**Theme # 04: Automation and Industries**

Abstract ID: RSC-439

**Adsorption Refrigeration using Zeolite-Water Pair on Pro-e and Matlab**

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The methods of production of cold by mechanical processes are quite recent. Long back in 1748, William Coolen of Glosgow University produced refrigeration by creating partial vacuum over ethyl ether. The first development took place in 1834 when Perkins proposed a hand operated compressor machine working on ether. Then in 1851 came Gorrie's air refrigeration machine, and in 1856 Linde developed a machine working on ammonia. The pace of development was slow in the beginning when steam engines were the only prime movers known to run the compressors. With the advent of electric motors and consequent higher speed of compressors, the scope of refrigeration widened. The pace of development was considerably quickened in 1920 decade when du Pont put in the market the family of new working substances, the fluoro-chloro derivatives of methane, ethane, etc.- popularly known as chloro fluoro carbons or CFCs under the of Freons. Recent developments involve finding alternatives or substitutes of Freons, since it has been found that chlorine atoms in Freons are responsible for depletion of ozone layer in upper atmosphere. Another noteworthy development was that of ammonia- water vapour absorption machine by Carre. These developments account for the major commercial and industrial applications in the field of refrigeration.

Abstract ID: RSC-440

**Implementation of pert/cpm in the analysis and improvement of Biodiesel Production process**

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Network techniques like PERT/CPM can be used to analyse and improve the performance of a manufacturing process. In the current research, biodiesel was produced from waste cooking oil through the process of transesterification. This research mainly investigates that PERT/CPM has a significant impact on yield of biodiesel, if the whole project is planned and executed properly. Different time estimates were calculated based on the real experimental based experiences of researchers in the field of production of biodiesel. A network model was drawn to find critical path and probability of completing the project by individual team of researchers in laboratory conditions was found to be 55.57%.

Abstract ID: RSC-441

**Development and Certification of silicon based Ceramic Matrix Composites modified with c-sic / si<sub>3</sub>n<sub>4</sub> / sic<sub>2</sub>ti<sub>3</sub> / c-mosi<sub>2</sub> / sic-bn-sic / c-sic-b<sub>4</sub>c / graphite brake friction materials for low to heavy duty aircraft**

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Silicon based ceramic matrix composites are mostly preferred for low to high energy aircrafts brake friction materials. The paper focuses on the prediction / evaluation of the wear, friction and braking performance of the brake friction composite materials for the low to heavy duty aircraft applications. In this paper, the design and advance processing of silicon based ceramic matrix composites modified with C-SiC / Si<sub>3</sub>N<sub>4</sub> / SiC<sub>2</sub>Ti<sub>3</sub> / C-MoSi<sub>2</sub> / SiC-BN-SiC / C-SiC-B<sub>4</sub>C / Graphite brake friction materials have been discussed in details. The qualification tests for the low to high energy aircrafts brake friction materials and the brake units are described with details. The brake testing parameters and different brake design calculations derived from the typical aircraft data and same are presented for both the laboratory and full scale dynamometer tests. A detailed study of silicon based CMCs modified with different brake friction materials are presented to exemplify the steps involved in the design, development and certification for the 2 MJ to 8 MJ energy aircrafts. From the CMCs microstructure, wear - friction surface morphology analysis, the results of brake performance parameters, functional tests and different aircraft trials, it is concluded that the silicon based CMCs brake friction material modified with SiC<sub>2</sub>Ti<sub>3</sub> - graphite and C-SiC-B<sub>4</sub>C - graphite has a maximum braking life with excellent braking performance.

Abstract ID: RSC-442

**Active Catalysts for Biodiesel Production: A Review**

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The most promising fuel for vehicles after petroleum and diesel is biodiesel. Biodiesel being an excellent alternative for diesel is in demand nowadays. Various approaches have been done on its preparation. Different oils and alcohols (MeOH/EtOH) are used to increase the yield of resultant biodiesel. But the major role in the production of biodiesel is of the catalyst used during the trans-esterification reaction. These catalysts only enhance the yield and quality of the product. This catalyst can be either homogeneous or heterogeneous in nature. Different studies are done on catalyst and its effect on the final product biodiesel. This review basically focuses on the types of catalyst used in the production of biodiesel and identify their various effects and catalytic activities to enhance the purity and yields of the final product i.e. Biodiesel.

Abstract ID: RSC-443

#### **Investigation on Automated Guided Vehicle: Review**

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It is always highly profitable to apply Automated Guided Vehicles for advanced material handling as Automated Guided Vehicles are functional mobile robots which are typically used for automated material management between desired points with the fixed speeds at work space. The purpose to write this paper is to discuss many extensive efforts made in past several years for innovation and advancement in Automated Guided Vehicle and its diversified impacts in present industrial revolution. In this paper, various investigation efforts are discussed in depth including application of simulation, optimization, advanced design techniques, full automation systems, advanced micro controllers, a mixture various kinds of sensors.

Abstract ID: RSC-444

#### **A review on Research Trends in Flexible Manufacturing System**

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It is beneficial for industries to implement flexible manufacturing system in industries by providing flexibility in manufacturing processes to improve range of products. There are many innovations and development efforts have been done in the field of flexible manufacturing system in last decade and it results in improvement in the current industrial revolution. Innovations in Flexible manufacturing system consist of flexible machining, flexible fixturing, flexible tooling, automated storage and retrieval system.

Abstract ID: RSC-445

#### **A review on integration of Renewable Energy Sources for Distributed Generation of Power**

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Requirement of energy in its most suitable form is the need of millions of people throughout the globe. It can be fuel, used in transportation, electrical energy for lighting loads, etc. With the beginning of 21<sup>st</sup> century, industrialization has raised many folds compared to 18<sup>th</sup> century; this has resulted in a massive scale extraction of fossil fuels at an alarming pace globally. The global climate change has added to the problem of scarcity of fossil fuels. Now it is time to consider the solution of energy crisis, created by the reduction of fossil fuels without altering the climate behavior. In stand-alone mode, transportation of conventional energy sources (like coal, oil, and natural gas) is quite difficult and grid extension is also not cost effective due to remoteness and difficult terrain. Renewable energy is the most appropriate solution to supply energy in isolated areas. Utilization of locally available resources is the best possible option to meet the energy requirement. Depending on the site conditions, single technology or aggregated technology would be selected in stand-alone mode. Single technology based system (solar photovoltaic/wind/small hydro) is a viable option to supply energy in isolated areas. Un-electrified rural areas like village hamlets or small villages that are far away from the utility grid can be electrified by single technology. In plane remote areas, possible schemes are solar photovoltaic based system, wind energy system etc. Biomass gasifier/biogas based system are

suitable for forest remote areas and Micro Hydro Power (MHP) based scheme is appropriate for remote hilly regions. Presently, rooftop solar photovoltaic systems are popular in urban areas to meet out energy demand of a building. Renewable energy resources are highly site-specific and intermittent in nature as some of the energy sources are available in abundance during winter and others during summer. Therefore, as demand increases in stand-alone mode, single technology based system are associated with high system cost and low reliability. To deal with such limitations of single technology based system, the concept of Integrated Renewable Energy System (IRES) has been evolved for power generation in stand-alone applications

Abstract ID: RSC-446

### **Active Catalysts for Biodiesel Production: A review**

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Urban meteorology plays a very important role in the human thermal comfort. The various anthropogenic activities have significantly altered the meteorological conditions which has adversely affected the human thermal comfort. Ahmedabad which is one of the most rapidly developing cities of India has undergone massive urbanization in the past five decades. The present study puts forward the changing urban meteorological conditions and its subsequent impact on the human thermal comfort. The impact of the changing meteorological conditions viz. ambient temperature, relative humidity and wind speed on human thermal comfort was computed using two biometeorological indices namely Thom Discomfort Index (DI) and Siple & Passel Cooling Index (K) during 1969-2006. 'DI' is based on the ambient temperature and relative humidity while 'K' is based on ambient temperature and wind velocity. As the ambient temperature plays an important role in deciding the thermal comfort levels, a trend analysis for the ambient temperature has been undertaken for the study period and respectively the Mann-Kendall test has been performed on the ambient temperature (daily minimum, daily maximum and at various time periods of the day) for the 12 months and 4 seasons (winter, summer, monsoon and post monsoon). In the background of the industrialization and urbanization activities, the present research attempts to quantify the artificially induced climatic trends affecting the human beings.

Abstract ID: RSC-447

### **A review on application of Nano-Fluids as coolant in Automobile Radiator**

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Nanofluids is a fluid containing nanometre sized particle called Nanoparticles. These are consists of carbides, metal, oxides and carbon nanotubes (CNTs) allotropes of carbon with cylindrical nanostructure. These are potential heat transfer fluids with enhanced thermo physical properties and heat transfer performance can be applied in many devices for better performances. Evaluating the heat transfer enhancement due to the use of nanofluids has recently become the center of interest for many researchers. This newly introduced category of cooling fluids containing ultrafine nanoparticles (1–100 nm) has displayed fascinating behavior during experiments including increased thermal conductivity and augmented heat transfer coefficient compared to a pure fluid. In this paper, a comprehensive literature on the applications and challenges of nanofluids have been compiled and reviewed in Automobile sector. Recent researches have indicated that substitution of conventional coolants by nanofluids appears promising in Automobile radiator. Nanofluids have great potential to improve automotive and heavy –duty engine cooling rates by increasing the efficiency, lowering the weight and reducing the complexity of thermal management. Alternatively, it is beneficial to design more compact cooling system with smaller and lighter automobile radiators.

Abstract ID: RSC-448

### **One step approach for Synthesis of Carboxycellulose Nanofibers from untreated biomass**

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A simple approach was developed to prepare carboxycellulose nanofibers directly from untreated biomass using nitric acid or nitric acid-sodium nitrite mixtures. Experiments indicated that this approach greatly reduced the need for multichemical, and offered significant benefits in lowering the consumption of water and electric energy, when compared with conventional multiple-step processes at bench scale (e.g., TEMPO oxidation). Additionally, the effluent produced by this approach could be efficaciously neutralized using base to produce nitrogen-rich salts as fertilizers. TEM measurements of resulting nanofibers

from different biomasses, possessed dimensions in the range of 190–370 and 4–5 nm, having PDI = 0.29– 0.38. These nanofibers exhibited lower crystallinity than untreated jute fibers as determined by TEM diffraction, WAXD and <sup>13</sup>C CPMAS NMR (e.g., WAXD crystallinity index was ~35% for nanofibers vs 62% for jute). Nanofibers with low crystallinity were found to be effective for removal of heavy metal ions for drinking water purification.

Abstract ID: RSC-449

### **Production, Optimisation of Biofuels Synthesized from various domestic waste and its Physico-Chemical & Biochemical Analysis**

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There has been greater awareness on biodiesel in developing countries in the recent times and significant activities have picked up for its production especially with a view to boosting the rural economy. In the present investigation waste oil and its methyl ester have been chosen to find out their suitability for use as biofuel. An experimental investigation has been done to find out the different properties of the waste oil. Many theoretical equations have been developed to find out the properties of the biofuels and they have been compared with the experimental values. Biofuel is prepared from waste oil, through esterification followed by trans-esterification; former was performed using an acid catalyst (5% H<sub>2</sub>SO<sub>4</sub>) and methanol (20% of oil). In the preparation of biodiesel waste, oil and methanol and KOH catalyst charged into the reactor at 55 or temperature for 2-3 hours and we get a biofuel. The property of biofuel depends on the nature of the vegetable oil to be used for the preparation and if the developed process is scaled up to commercial levels than the excellent business opportunity will be offered by the biofuel obtained from waste oil. It could be a major step towards the creation of an eco-friendly transportation fuel that is relatively clean on combustion and provides farmers with substantial income along with reducing a considerable amount of domestic waste.

Abstract ID: RSC-450

### **Automation of Boiler Process at Thermal Power Plant using sensors and IOT**

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Industrial automation has always produced quality products at low cost. Internet of Things is one such way of implementing such automation in accordance with the existing man power in industries. Controlling parameters like temperature, humidity and pressure is a critical and essential process in Thermal Power Plants. Despite the presence of DCS/PLC system, it requires a well-organised and trained labour for the completion of such tasks without any mishappening. This paper focuses on developing a smart simulated and automated system that makes use of modelling and pattern discovery along with the data mining techniques to collect data from the thermal power plant. Each boiler is attached with each other through sensors which in turn is connected to an IOT driven application at remote location. The sensors work on a specific pattern depending on the possible situations that may arise while the plant is in process. The same pattern is recognized in a simulated environment with the help of modelling technique. The message passing service in the whole system makes the working of the automation project prone to accidents since modification can be made according to the environment conditions. This paper also tends to propose an idea for an IOT device that provides a virtual knob facility to adjust the parameters of the furnace from the remote area.

Abstract ID: RSC-451

### **Experimental study of Nanofluid based Thermal Systems**

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Nanofluids have played an important role in heat transfer applications. Nanofluids are the suspension of Nano sized material in the base fluid. The addition of small amounts of nano material in a base fluid increases the convective heat transfer coefficient. Experiments were carried out on Heat exchangers and Solar water heaters. It was observed that the heat transfer efficiency of a thermal systems increases from 20-38%, depending upon the type of system, selection of nano-material,

concentration of nano-material in base fluid and mass flow rate. A significant increase in the heat transfer motivates the researcher to use nanofluids in various heat transfer applications like electronic heat sink, automobile radiators.

Abstract ID: RSC-452

### **MHD Stagnation Point Flow of Micropolar Fluid on a vertical plate**

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The paper investigates the numerical solution of problem of magnetohydrodynamic (MHD) micropolar fluid flow with heat and mass transfer towards a stagnation point on a vertical plate. In this study, we consider both strong concentrations ( $n = 0$ ) and weak concentrations ( $n = 1/2$ ). The governing equations have been transformed into nonlinear ordinary differential equations by applying the similarity transformation and have been solved numerically by using the finite difference method (FDM) and. A comparison with a previous study available in the literature has been done and we found excellent agreement with them.

Abstract ID: RSC-453

### **Wear Analysis of Metal Matrix Composite on Air Jet Erosion Tester**

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Erosive wear of engineering components caused by abrasive particles is a major industrial problem. Metal matrix composites are often used as engineering and structural components where erosive wear occurs. Due to the operational requirements in dusty environments, the study of solid particle erosion characteristics of the metal matrix composites becomes highly relevant. Research in this respect is needed both in view of the scientific and commercial importance. Moreover, a full understanding of the effects of all system variables on the wear rate is necessary in order to undertake appropriate steps in the design of machine or structural component and in the choice of materials to reduce and control wear. This paper describes a series of preliminary experiments that are conducted to investigate the mechanical properties and erosive wear behaviour of metal matrix composites. The tests are conducted on an air jet erosion test rig and design of an experimental approach which utilizes Taguchi's orthogonal arrays is adopted for an analysis of the results. The findings of the experiments indicate that for this metal matrix composite, filler content is significant factor in importance with regard to their influence on the wear rate. Analysis of variance (ANOVA) and S/N (signal-to-noise) ratios have been performed on the measured data.

Abstract ID: RSC-454

### **Experimental Investigation of Micro Drilling of C464 Brass**

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This paper presents an experimental study on effect of micro drilling parameters on burr formation in C464 copper alloy. Burr formation during machining is unacceptable in nature. Hence its dominant parameters are studied in this work. Micro drilling with 0.8mm HSS drill on C464 brass was performed. Response Surface Methodology (RSM) is used for design of experiments for the factors such as feed rate and spindle speed and experiments were carried out using multipurpose micro machine tool. Burr formation analysis was carried out using Scanning Electron Microscope (SEM) and inferences were made.

Abstract ID: RSC-455

### **Bioremediation of Oilzapper**

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The oil industry effluents, oily sludge and oil spills on land and water cause a major threat to the environment as their constituents are toxic, mutagenic and carcinogenic. None of the available conventional methods are permanent eco-friendly

disposal solution. Biological methods have been acknowledged for remediation of environments contaminated with petroleum hydrocarbons. Bioremediation is a process that uses naturally occurring microorganisms to transform harmful toxic substance in oil to nontoxic compounds. The oil sludge treatment by bacterial consortium is named Oilzapper. OILZAPPER is five different bacterial strains that are immobilized and mixed with a carrier material such as powdered corncob. This mixture of five bacteria is called Oil Zapper. Oilzapper feeds on hydrocarbon compounds present in crude oil and the hazardous hydrocarbon waste generated by oil refineries, known as Oil Sludge and converts them into harmless  $CO_2$ , water and some hydrocarbon.

Abstract ID: RSC-456

### **Modeling of Two Well Mixed Batch Reactors with Interchange**

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Batch reactor is an essential unit operation in almost all batch-processing industries. Batch processes are still widely used to produce pharmaceuticals, polymers, bio-technological products etc. A real reactor might be modeled by two different combinations of ideal reactors. By limiting the number of adjustable parameter to two (e.g. By pass flow rate  $v_b$ , and dead volume  $VD$ ), the situation is much more tractable. A model has been formulated consisting of an ideal reactor to represent a real reactor. First it has been solved for exit concentration and conversion in terms of two parameters  $\alpha$  and  $\beta$  which are a function the two adjustable parameters  $v_b$  and  $VD$ . To reinforce this concept, these parameters were evaluated. Here a non-ideal batch tank reactor is modeled as two well mixed batch reactors with mutual transfer between the two, larger tank is highly agitated and ideal but the smaller one is less agitated and non-ideal. There is considerable material transfer between the two regions. The highly agitated region has been modeled as batch reactor and the quieter region as CSTR, with material transfer between them. The mathematical model was developed from the material balance and the numerical technique was applied to solve the model equation. Computer program was developed using MATLAB 7.1 software. The simulation results obtained were found in excellent agreement with the published work. A plot between exit concentration and time concludes that if volume of more agitated reactor is increased, the ideality of the reactor enhances and dead zone gets decreased. The parameters used in calculations are same as those of Fogler. It demonstrates that the modeling and numerical scheme for solution developed here is reliable.

Abstract ID: RSC-457

### **Modelling and Simulation of Septuple Effect Evaporator**

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A nonlinear model is developed for a septuple effect falling film evaporator (SEFFE) system, employed for concentrating weak black liquor in an Indian Kraft Paper Mill. The developed system incorporates two various configurations: first a model is developed without vapor compression and another one has been developed for "with vapor compression" technique. A backward feed flow sequence has been followed for the designed system. The equations are developed for each effect and for every operating condition 1 separately and are solved for the unknown variables. For both the cases, the jacobian matrix has been developed which is further computed by incorporating Newton Raphson technique and formulating an algorithm followed by developing a computational program in 'C' programming language. The models yields requisite parametrical values for live steam requirement, liquor concentration and vapor produced in each effect

Abstract ID: RSC-458

### **Development of Bio-Compatible Conductive Ink For Bio And Nanoelectronics Applications With Their Rheological Properties**

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The current work experimentally demonstrates how the bio-compatible fluidic ink can be developed with the help of silk cocoon (*Bombyx Mori*). The main advancement of using silk cocoon is the wide range of variety and their existence in nature. By adopting the simple nature's way or natural activities, we tried to mimic nature inspired experimental design. The developed fibres are of maximum bio-compatibility with the human being. The overall samples lie within the range of few micro liters

and the particle are of nano to micro ranged, that's why called as nano- and micro-fluidics. The rheological properties on various concentration of solution have been calculated by using simple viscometer.

Abstract ID: RSC-459

### **$Al_2O_3$ Nanofluid for flat plate Solar Water Heaters**

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Solar thermal technology has gained importance during its globalization and industrialization, due to its effective conversion of solar energy into thermal energy. Also, the work on nanoparticles are increasing day by day because of their good thermal and mechanical properties which can be useful in many industrial applications like heat exchangers, refrigeration and air conditioning, material science engineering etc. In the present study, the Flat plate solar water heater is used to analyze the effect of  $Al_2O_3$ /distilled water Nano fluid on the efficiency of solar water heater. High quality surfactant sodium dodecyl sulfate (SDS) was used to enhance the dispersion quality of nanoparticles in fluid. The experiment was done on different conditions like flow rate, pressure, climatic conditions, time, solar collector inclination angle, composition of Nano fluid etc. The concentration of  $Al_2O_3$  Was varied from 0.1 to 0.3 vol. Percentage. The tests were performed at different mass flow rates 1-3 LPM. The measured values of the thermal conductivity in the range of 0.610-0.622 W/m-k. Experimental results show that by increasing the volume fraction of  $Al_2O_3$  From 0.1% to 0.3%, there is a maximum 21.32% growth in collector efficiency.

Abstract ID: RSC-460

### **Carbon based Nanofluids for Heat Transfer Applications**

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Solar thermal energy is a very conventional source of heating and it is a technology that does not depend on scarce, finite energy resource. Solar collector converts solar radiation into heat and transfer the heat to medium. In this study the effect of Multiwalled Carbon Nano Tube (MWCNT) nanofluid, as absorbing medium, on the efficiency of a flat plate solar collector was investigated experimentally. The weight fraction of cants was 0.15% & 0.35%. The effect of Triton X-100 as a surfactant on the stability of nanofluid was studied. The tests were performed in different mass flow rates of nanofluid from 0.0167 to 0.05 kg/s. ASHRAE standard was used to perform the tests. Results show that by increasing the weight fraction from 0.2% to 0.4%, there is a substantial increase in the efficiency.

Abstract ID: RSC-461

### **Today's World of Industrial Automation and Sustainability and its future in Rajasthan**

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The global economy depends significantly on the manufacturing industry for job and wealth creation. The rise of England in the 19th century, to the rise of the US, Germany, Japan and the erstwhile USSR in the 20th, to the newly industrializing countries like South Korea, Taiwan, and now India, manufacturing has been the key to a historically rapid phase of economic development. Unfortunately, however, there has always been a connection between the expansion of the manufacturing industry and exploitation of natural resources that results in environmental degradation. Greater awareness about this connection and its consequences is making manufacturing companies to adopt sustainable manufacturing practices. Key to improve sustainability of industrial facilities lie in how the production and support equipment is used. Raw material, resource and energy consumption rates may vary widely for the same product depending on the skill and ingenuity of the facility's automation, process and manufacturing engineering professionals. They also are strongly involved in process and production safety, as well as emission measurement and control. Process plants, factories, power plants and utilities routinely discover significant opportunities to cut per-unit-production energy costs or greenhouse gas emissions, and reduce product rejects by applying or updating instruments or controls, re-examining process chemistry or equipment, refining manufacturing methods, or implementing automation. What we see around is too many plants are wasting energy, compromising product quality and limiting productivity by, for example, running old equipment in questionable condition using antiquated procedures. Projects to improve operations and cut costs have languished due to other priorities. A focus on sustainability can provide fresh

movement and means for our industries. Resulting from greater awareness about the sustainability issues, there is a global movement towards low-carbon economy. This trend is setting the performance metrics and sustainability benchmarks for industrial companies as they are large consumers of energy and natural resources. The growth of the manufacturing industry has spurred automation industry's development and both of them have continually evolved over the years. Just as the manufacturing industry has close linkages with the global economic prosperity, automation has an important role to play in making the manufacturing processes efficient, safe and sustainable. Many facilities are applying sophisticated monitoring and control systems to production equipment in one area and would benefit by leveraging that experience and expertise to replicate or expanding the system for other, sometimes apparently unrelated, applications such as steam, compressed air, HVAC or lighting. Existing automation and control systems often include the fundamentals of a sensor, data acquisition and network system to monitor and measure parameters (such as water or energy consumption) that reflect critical elements of sustainability. This paper will focus on many of such strategies, techniques, technologies and ways through which automation in industries can be made more sophisticated and advance, which then can lead to a sustainable growth in our industries.

Abstract ID: RSC-462

**Heat transfer along a Porous Vertical surface of Unsteady Flow bounded by Absorbent Medium**

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Heat transfer along a porous vertical surface of unsteady flow bounded by absorbent medium in the presence of changeable free stream and permeability is investigated. The expression of velocity and temperature distributions are derived discussed numerically and shown through graphs. The expressions for skin-friction coefficient and rate of heat transfer in term of Nusselt number at the surface are derived, discussed numerically and values are presented through tables.

Abstract ID: RSC-463

**A novel approach on investigation of Kinetics in co-composting of Vegetable Waste and Camel Dung as Activator**

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Globally, urbanization as well as constant rise in human population has resulted in generation of huge quantity of wastes. These generated waste, led to a number of challenges (environmental, social and to the economy), especially in the third world. To overcome these concerns, effective management strategies needs to be adopted. Reusing or conversion of vegetable and animal wastes to compost can bring greater benefits to agriculture and land reclamation for long run. In addition, the benefits can also be gained most especially towards achieving environmental sustainability and healthy pollution free environment. For production of healthy food products, free from chemical residues like pesticides, herbicides and like could be consequently achieved on the optimal use of organic compost. As of today, persistent use of inorganic fertilizer is in alarming rate as it has a trend as a cancer causing and gene mutating agent. On the other side, odor nuisance has been reported as a major issue since anaerobic conditions may be developed due to insufficient turning and inadequate ventilation in the waste disposal site. Researchers has to work extensively in composting with different animal's dung such as cow, goat, sheep, pig etc. A detailed and systematic study on the role of Camel dung as an activator in composting does remains unexplored avenue in research. For the first time the camel dung has been utilized as an activator in the composting of vegetable waste. The present study is carried out with single factor constant at a time. Here the biomass of activator is kept constant with variants of vegetable waste biomass. During this process, four sets of self-heating reactors spiked with Camel dung in the Co-composting of vegetable waste. The investigated sets contain the ratio of 1:3, 1:6, 1:9 and 1:12 each in triplicate. Temperature, pH, Total Solids, Volatile Solids and level of maturity are the parameters been analyzed. Kinetics analysis was also carried out in which the rate of degradation was determined. The optimum ratio that favours the high rate of composting with more than 80 % was found the Set II and Set III reactors with a period of one month. It could be concluded that the process developed gains the safe disposal of waste in one hand and high quality compost on the other hand. Thus the organic compost generated could boost up the soil quality, and is able to resolve the issues related to the fast diminishing of agricultural land, helps in the pollution free and sustainable agricultural productivity. The future perspective of the present report extends to demonstrate efficacy of camel dung in waste management with variants of bioprocess techniques.

Abstract ID: RSC-464

**A Review on Hard facing by using Submerged Arc Welding**

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This paper emphasis on the utilization of submerged arc welding in field of hardfacing. Carbon and low-alloy steels with carbon contents of less than 1 percent can be hard faced. It is highly emphasised in manufacturing especially because of its ability to restore worn parts. Commonly applied materials include cobalt based alloys, (high wear & corrosion resistant) chromium carbide alloy. Wear-resistant cobalt-base alloys consist of hard particles ( $Cr_7C_3$ ) dispersed in cobalt-rich ( $Co > 50\%$ ). Submerged arc welding flux used for welding stainless steels and also for hardfacing purposes. During welding, granular flux is melted using heat generated by arc and forms cover of molten flux layer prevents accessibility of atmospheric gases. The fused and agglomerated types of fluxes usually consist of different types of halides and oxides such as  $MnO$ ,  $SiO_2$ ,  $CaO$ ,  $MgO$ ,  $Al_2O_3$ ,  $TiO_2$ ,  $FeO$ , and  $CaF_2$  and sodium/potassium silicate. This investigation on present shows that in the process of hard facing, submerged arc welding is of great importance.

Abstract ID: RSC-465

### **Comparative Study of RC Flight Controllers used in DIY Copters**

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A flight controller (a.k.a FC) is the brain of the aircraft, which is basically a circuit board that has built-in sensors that detects orientation changes. It also receives user commands, and controls the motors in order to keep the quadcopter in the air. Nearly all flight controllers have basic sensors such as Gyro (Gyroscopes) and ACC (Accelerometer). Some FC might include more advanced sensors such as Barometer (barometric pressure sensors) and magnetometer (compass). Flight controller is also a hub for many other peripherals, such as GPS, LED, Sonar sensor etc. Flight controllers for quadcopters are rapidly evolving: smaller, using better processors and hardware and getting more and more features integrated.

Abstract ID: RSC-466

### **Unmanned Aerial Vehicles**

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The Small Unmanned Aerial Vehicle is playing an increasingly significant role in modern military and civil arena. However, the proliferation of the unmanned aerial vehicles poses a higher requirement on their development time constraint and efficiency. As the most crucial subsystem of the unmanned aerial vehicle, the flight control system directly determines the reliability and the survivability of the small unmanned aerial vehicles. Therefore, obtaining the aerodynamic coefficients both quickly and accurately for the dynamic equations of the unmanned aerial vehicles and using such data to develop the flight control system have become another research track for researchers and scientists in the UAV industry.

Abstract ID: RSC-467

### **Past Present and Future of 3D Printing**

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The term "3D printing" originally referred to a process that deposits a binder material onto a powder bed with inkjet printer heads layer by layer. The term is being used to encompass a wider variety of additive manufacturing techniques. United States and global technical standards use the official term additive manufacturing for this broader sense. Categories of AM processes within its meaning: binder jetting, directed energy deposition, material extrusion, material jetting, powder bed fusion, sheet lamination and vat photopolymerization. The term additive manufacturing (AM) gained wide currency in the 2000s. The term subtractive manufacturing appeared as a retronym for the large family of machining processes with metal removal as their common theme. Though the printer-produced resolution is sufficient for many applications, printing a slightly oversized version of the desired object in standard resolution and then removing material with a higher-resolution subtractive process can achieve greater precision. The creation of a 3D printed object is achieved using additive processes. In an additive process an object is created by laying down successive layers of material until the object is created. Each of these layers can be seen as a thinly sliced horizontal cross-section of the eventual object."

Abstract ID: RSC-468

**Reliability Analysis of Two-Unit Cold Standby Hardware-Software System Considering Lcfs Repair and Repeat Repair Policy**

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In the present paper, a stochastic model for a two-unit cold standby hardware-software system has been developed considering two types of fault repair coverages for both hardware and software components, viz. fault detection coverage and fault recovery coverage. It has been assumed that in a failed unit whenever fault is detected in a hardware or software component, it may or may not be auto-recovered by the respective component coverage mechanism. However, whenever fault is not detected, it is not auto-recovered by the respective coverage mechanism. In any case, for the faults that are not auto-recovered the external engineer is called for the repairs. As the complete failure of the unit is considered to be self announcing, the automatic switching of the unit takes place but on non-detection of a fault, automatic switching is not considered. The repairs by the external engineer have been assumed to be carried out in LCFS pattern (last come first serve) with repeat repair policy. Various measures of system performance are obtained using semi-Markov process and regenerative point techniques. The conclusions regarding reliability of the system have been drawn on the basis of graphical studies.

Abstract ID: RSC-469

**Roll Acted Bearing**

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In an invention design the rollers of the bearing have the inner pressure which counteracts the outer vibrations, absorbing or reducing vibration energy. In the event of vibration it is in regular intervals distributed between the intense sites of bearing rollers. The intense bearing works quite silently, thermo stability of the bearing raises.

Abstract ID: RSC-470

**Abstract on “Industry 4.0”**

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The real and the virtual worlds are growing very fast and closely to form the Internet of Things (IoT). In fact, IoT has stimulated the factories and the governments to launch an evolutionary journey toward the fourth industrial revolution called 'INDUSTRY 4.0'. We define Industry 4.0 as the digital transformation of manufacturing, leveraging third platform technologies, such as Big Data/Analytics and innovation accelerators, such as the (Industrial) Internet of Things; and requiring the convergence of IT (Information Technology) and OT (Operational Technology), robotics, data and manufacturing processes to realize connected factories, smart decentralized manufacturing, self-optimizing systems and the digital supply chain in the information-driven cyber-physical environment of the fourth industrial revolution. Industrial production of the new era will be highly flexible in production volume and customization, extensive integration between customers, companies, and suppliers, and above all sustainable. Reviewing and analyzing the current initiatives and related studies of the smart factories/Industry 4.0, this paper presents a reference architecture for IoT-based smart factories, defines the main characteristics of such factories with a focus on the sustainability perspectives. And then it proposes an approach for energy management in smart factories based on the IoT paradigm: a guideline and expected benefits are discussed and presented.

Abstract ID: RSC-471

**Determination of stresses and shakedown limit of cracked thick pressure vessel using Unified Strength Criteria**

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In previous studies on stresses of thick walled cylinders were based on the assumption that there is no crack in the cylinder and there is no strength difference. It was found that effect of intermediate principal stress effect was not taken in to account. Previous Studies give equations of stresses for an identical material and cannot apply to those materials which have strength difference. Radial and tangential stresses equations for thick-cylinder ignore the intermediate principal stress effect, when there is a 10% to 33% effect of it, which cannot be ignored. In this paper stresses on cracked thick-cylinder calculated by applying unified strength criteria where strength difference effect and intermediate principal stress effect is taken in to account. These equations can be used for a cracked thick-cylinder with internal pressure and made of materials those have difference in tensile and compressive stress. Intermediate principal-stress effect and strength difference effect is define by parameters  $b$  and  $m$  respectively. Crack in cylinder is through crack and it is longitudinal (along the length of the cylinder). The focus of present research is to give the equation of radial stress and tangential stress for a cracked thick-cylinder with strength difference and intermediate principal stress effect which can be used for isotropic materials.

**Theme # 05: Economic, social and environmental sustainability**

Abstract ID: RSC-472

### **3A Comparative Study of Demand Side Management through SPT and TOU**

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Modern power system have huge amount of generation from fossil fuels which provide high degree of reliability and sustainability but produce carbon and polluted the environment from green house gasses. Renewable energy generation (REG) is the best alternative to reduce such problems but REG installation have their own problems of reliability and bidirectional power flow. Smart grid provides the solution by controlling the power consumption through Demand Side Management (DSM). Demand Side Management (DSM) is much needed requirement to control the generation at distribution side, objective of the paper is to compare the two latest technologies of DSM through literature review, which are Time-of Use (TOU) and Stepwise Power Tariff (SPT). TOU is the methodology used to reduce the difference between peak and normal hour power consumption and STP is divided the power consumption in several parts and reduce the cost. Both these methodologies are used together for better results.

Abstract ID: RSC-473

### **Development of a cost effecting Water Quality Testing Field Kits (WQTFKs) after evaluation of all possible field testing methods**

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A Metropolitan city like Mumbai in India safe, consistent, and reliable water supply is a challenging task. Large number of population lives in areas of Mumbai that are suffering from water quality problems and water shortages which is also studied by our institution in a community based project CAASP. Many areas have contaminated water with fecal coli form bacteria as the primary contaminant of concern. There are many aid groups that are actively working to develop and improve the water supply in the developing world. An important first step in such work is an accurate appraisal of the existing water supply. This appraisal often requires a rapid, onsite field assessment of possible fecal coliform contamination with minimal equipment. Therefore, this project will be summarizing a qualitative evaluation of different field assessment techniques (MPN test, H<sub>2</sub>S broth Methods and filter paper Strip method) which will be undertaken by an interdisciplinary team of students involved in aid work. The focus of this evaluation is on Presence/Absence testing. The evaluation examines usability, accuracy, cost, and speed of results with ease of explaining results to the local population and to develop a cost-effective potable water testing kit after evaluating all different methods that will aid in the selection of a suitable rapid fecal coliform field test. The project also aims to provide guidance to the citizen of Mumbai through our institution about the usability and importance of the Water Quality testing field kits (WQTFKs).

Abstract ID: RSC-474

### **Tourism Promotional Videos: A Comparitive Study Between Rajasthan and Madhya Pradesh**

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The study focuses on the proliferated effect of social media in tourism. Tourism industry is one of the most enlarging industry which offers a high amount of employability. It is the need of the hour to identify the rustic platform for the promotion and reach of tourism. This research grasps the crux of the two most visited tourist destinations of India i.e. Rajasthan and Madhya Pradesh. Advertising is the indispensable force that allures lot of people from outside as well as within the country. Tourism sector has done an impeccable work which can be clearly seen in the advertisements of both the state. The findings are amalgated towards the analysis of the content of the recent advertisements of both the states and how the old method of word of mouth promotion has moulded itself in this present scenario.

Abstract ID: RSC-475

**Digital strides: Health communication Initiatives on new and Social Media in Most Backward Districts of Central Uttar Pradesh in UP**

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The study, a part of the research scholar's entails investigation into the usage and acceptability of Health Communications on New and Social Media and case studies of Health applications on mobile devices being used by respondents in Barabanki, just 30 kilometres from the state capital but counted among one of the extremely backward districts of Uttar Pradesh. The paper also assesses mobile usage, affordability and efficiency as a modern medium of communication against traditional methods. The paper attempts to cover also the access and comfortability of mobile usage among women especially with respect to Health related communications and gauge their acceptability of the same. The study seeks to find an answer to the query whether digital and new media can be used as an efficient, prompt and cost-effective medium of communication in these most-backward areas of the state to disseminate information related to health and extend health related services through mobile apps to the poor and underprivileged.

Abstract ID: RSC-476

**A Survey on Authentication in Internet of Things**

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With the enhancement of Internet of things (IoT), the number of devices associated with it also growing rapidly. IoT has turned out to be prominent in various areas on account of their availability, portability, cost-effective assembling, arrangement, and support process. The board arrangement of IoT gadgets makes them an appealing focus for an attacker attempting to increase unapproved access to an IoT framework. The current security plans for the mobile frameworks can't be connected straightforwardly to an IoT-empowered system since gadgets are asset compelled with respect to capacity, preparing force, and correspondence transfer speed. IoT can possibly improve the way we get things done by expanding profitability and effectiveness. It additionally has the possibilities of conveying noteworthy business benefits. In any case, actualizing secure correspondence in the IoT and coordinating security systems into some of its gadgets have been a noteworthy obstruction to its encouraging, bringing about numerous protection concerns. Despite the fact that IoT is a cross breed system of the Internet, numerous security answers for the Internet can't be specifically utilized on the asset obliged gadgets of the IoT, thus the requirement for new security arrangements. Moreover, the present security approaches for the IoT frameworks can't recognize physically bargained IoT gadgets. The current models for authentication are getting to be plainly helpless against numerous new assaults. Various security standards ought to be accommodated accomplishing the secured IoT execution. IoT improvement in the coming future relies on how we manage the security issues and how we explain them. Client verification assumes a pivotal part since the information or data ought not to be taken by broken hands. Numerous scientists have tended to different security concerns with respect to client authentication by giving related counter measures.

Abstract ID: RSC-477

**Physico-chemical Properties of Soil in a Local Botanical Diversity Park**

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Urban landscapes particularly metropolitan cities are the habitat for bulk of population. However, these cities are literally owing to population posing a threat to the eco-diversity of the region leading to loss of flora and fauna and thus the environmental health. Fractured or damaged ecosystem causes loss to microbial population as well that maintains dynamics of the ecosystem. It is well established fact that changes in botanical diversity could cause long lasting change in environmental conditions leading to unwarranted climatic changes. Agra is a semiarid region. Over a period of time because of spreading urbanization, leading to heavy pollution several natural ecosystems have become degraded and subsequently, the city has lost many of its plant and animal species. In an attempt to answer these environmental and biodiversity issues a botanical diversity park is being established at Dayalbagh. The botanical diversity park is planned to provide an interface for educating the society. This is also a step towards ex situ conservation and propagation of threatened medicinal and other important plants of the region. An important factor for growth of plants and microflora is good edaphic factors. In an attempt to assess the soil

dynamics of the park, samples were collected from different sections of botanical diversity park and each sample was analyzed for their physical and chemical properties. In this paper we will discuss soil properties and a comparative study of soil from nearby fields of Dayalbagh. It is expected that these studies will generate data to interpret growth dynamics of plants in the biodiversity park.

Abstract ID: RSC-478

**Trends of seasonal snow cover variation over Himachal Pradesh during the period 2010-16 using Satellite data**

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Large areas in the Himalayas are covered by snow during winter. Area of snow can change significantly during winter and spring. This can affect stream flow of rivers originating in the higher Himalayas. All the rivers originating from higher Himalayas receive almost 30-50 % of annual flow from snow and glacier melt run off (Agarwal et al., 1983). In addition, snow pack ablation is highly sensitive to climatic variation. Increase in atmospheric temperature can influence snowmelt and stream runoff pattern (Kulkarni et al., 2002). Therefore, mapping of the areal extent and reflectance of snow are important parameter for various climatological and hydrological applications. Mapping and monitoring of seasonal snow cover using field methods are normally very difficult in a mountainous terrain, like Himalayas. Therefore, remote sensing techniques have been extensively used for snow cover monitoring. In this paper, it has been attempted to study seasonal snow cover variations in Himachal Pradesh during the period and a comparative analysis has been done with reference to monthly average of 2010-16. Area under snow cover in different seasons was mapped for the period from 2010 to 2016 using the AWIFS satellite data, taken from Himachal Pradesh State Centre on Climate Change, Himachal Pradesh, covering all the basins in Himachal Pradesh viz., Chandra, Bhaga, Miyar, Beas, Parvati, Jiwa, Baspa, Pin and Spiti sub basins. Normalised Difference Snow Index (NDSI) and Snow cover monitoring algorithm have been used to calculate Snow cover and change in Snow cover area. This snow cover area analysis has been compared with the actual snowfall data recorded at surface observatories by the IMD. It has been found that by and large all the basins show a decrease in their snow cover area in comparison to the averaged value during the period 2010-16. The basins which are on the northern side of the Pir Panjal Range shows comparatively less loss in snow cover area than the southern basins, but the overall area under snow during peak winter months in these basins was also found to be less during 2015-16 than the previous years in the period of study. The Ravi basin which is on the southern side of the Pir Panjal Range also shows less snowfall area during 2015-16 and comparatively the values are quite prominent in all the months except November wherein it shows a positive correlation. Likewise, the Beas basin which includes Parvati and Jiwa basins shows less area under snow in all the winter months except a small variation in the Parvati basin which shows a positive trend in the month of November. The uppermost part of Beas basin i.e. the areas on the upstream of Bhuntar show negative results in all the observation months (Oct to March) in 2015-16 in comparison to the average area as in 2010-16, whereas there is slightly better results in Parvati basins which may be due to altitudinal effects. The Baspa basin shows a very marginal increase in snow cover area during the month of November as compared to average value of snow cover during 2010-2016 whereas during the other months of the observations i.e during Oct, Dec, Jan, Feb and March, it shows a reducing trend in it's area under snow cover during the period 2010-2016. This loss in area under snow cover in Baspa basin is comparatively better than the loss in snow cover in Beas and Ravi basins during the same months of the year.

Abstract ID: RSC-479

**ECOLIT 2017: Economic, Social and Environmental Sustainability**

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Literature has played an important role in mirroring the important debates and decentering the prevalent discourses by adequately representing the issues which borders the margins. This paper analyses Han Kang's Man Booker prize winning novella titled *The Vegetarian* to uncover the various anthropocentric debates which are mirrored through the patriarchal structures. By studying the character of its protagonist, one can argue that she stands for the deconstruction of such patriarchal ideas and anthropocentric discourses which opened the way for untrammelled exploitation of nature as Thomas Aquinas had once argued that non-human animals are "ordered to man's use". The novel is set in South Korea where a woman named Yeong-Hye is haunted by grotesque dreams, first gives up meat, then food altogether in a radical refusal of human cruelty and destruction. In a patriarchal society where vegetarianism is rare, Hye's transgression leads to her institutionalization and force-feeding. Yeong-hye through her transgressive actions deconstructs the anthropocentric model by refusing to eat meat. Her attitude towards meat underlines the violence that defines the way humans relate to animals. Her newfound herbivorism has consequences -she loses weight, her libido is diminished and she abandons civilized life altogether. She stops eating meat,

gives in to nudity as she feels burdened with clothes and her language transforms from monologues to post-language state of murmurs and screams. Kang's treatment of personal choice and subversive agency is ultimately death-affirming. Han's explores the themes of violence rooted in the anorexic body forming a provocative psychological portrait of a woman's body politics. The book is a mediation on the question of violence and the impossibility of innocence. Thus, the protagonists' attempt to turn her back on violence by casting off her own human body and transforming into a plant lies a deep despair and doubt about humanity. The book echoes the conception of environment including plants and animal species as having intrinsic values which the patriarchal system around her considers as instrumental values, which means that the plant and animal world is a means to further some other ends. Thus, the book positions itself to articulate the problematic that the treatment of non-humans is intrinsically wrong. The protagonist stands as a parable for questioning the superiority of human beings over other living things.

Abstract ID: RSC-480

### **Usage of new media for higher education- A study of Central University of Jharkhand**

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Within last 10 years, technology have upgraded their world vastly and even affected on mind and way of thinking and living. There's been a traditional conversation about change in lecture halls in terms of more interactive and active learning environments and those are all to be applauded, all those initiatives are enormously important. After globalization new media is developing technology as well as people and their positive thinking towards new media. New media is evolving faster than anything we've ever known. New Media are the cultural objects which use digital computer technology for distribution and exhibition. e.g. Internet, Web sites, computer multimedia, Blu-ray disks etc. Through technology, learning is becoming increasingly flexible. It can move outside the lecture hall, on to podcasts, and across devices, becoming available anywhere and at any time. The Higher Education Academy noted that students with disabilities have a need for flexibility. Technology can help provide this. Students no longer have to carry around heavy textbooks. Nor do they have to go physically to the library or bookshop to access learning materials. Students are using new media for their education. This study examined the usage pattern of new media among the students of central university of Jharkhand for higher education. Questionnaire was used to collect the data. Stream-wise students were selected for the survey. Five students from each stream were taken as sample from 20 Centers of the university. Total 100 students were surveyed for this research. Major findings of this study is, most of the students are using internet for their study purpose and most of the students are spending more than 1 hour daily on internet for their study. Mostly students are available on social networking websites and they are using these websites for education purpose also. They are using internet for downloading the study material, e-book and articles etc. They are using new media for e-paper & e-zine reading, email and chatting purpose also. Their main problem in this regard is connectivity of Wi-Fi. According to the respondents, major constraint in using new media is connectivity of Wi-Fi.

Abstract ID: RSC-481

### **Role of new media in the lives of rural teenagers in Mandar, Ranchi**

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India is a country of villages which constitute more than half population of India. Development of country cannot be accomplished without uplifting the villages and students living in villages. Children especially teenagers are the prospective new generation of country. Rural teenagers are going to constitute 60 % of new generation. New media is dominating the lives of people all over the globe dramatically. Government is also trying to interact with its remotest corners citizens in electronic form so that innumerable services and information can be accessed by rural citizens in a transparent, speedy and economical way. Under Digital India campaign government has introduced various schemes and aimed to facilitate the villagers at doorstep. Government is preparing online grievance platforms to caters rural people but the question is are they prepared for the same? Are the new generation of rural areas are aware of this new technology? Are they aware of online facilities provided by government? How are they using this technology in their daily lives? Schools are largest platforms to educate people. Are rural teenagers get any training regarding using new media for availing various facilities provided by government online? This paper will focus to find out what kind of information they seek online and how they use it in their daily life and for what purposes. The study will focus on rural teenagers to know the different roles of new media in their lives and to find out its relation to Digital India campaign objectives with brief analysis of limitations. The study will be based on the rural teenagers of Mandar block of Ranchi, Jharkhand. This paper is based on survey of students and interviews of some teachers of mentioned area.

Abstract ID: RSC-482

**A Study on the Impact of Goods and Services Tax (GST) on Indian Hospitality Industry**

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Finance Ministry of India implemented an indirect tax known as Goods and Services Tax (GST) on 1st July 2017 which replaced multiple cascading taxes levied by the central and state governments. The main aim of introducing GST was to simplify the taxation process, reduce the burden of taxes and ensure compliance of tax payment. This major step by government of India played a major role in day to day business activities of different sectors in India. However, implementing GST also affected Indian Travel and Tourism sector. The Travel and Tourism sector holds great strategic importance in the Indian Economy which provides many socio-economic benefits. Apart from income, foreign exchange and employment the tourism sector also have an economically positive impact on the sectors and industries such as food manufacturing, agriculture, construction, handicrafts etc. Overall the hospitality industry plays an important role in development of Indian Economy. This paper aims to highlight the challenges, changes and impact of Goods and Services Tax (GST) on Indian Hospitality Industry. The methodology used to study the paper is in depth literature review.

Abstract ID: RSC-483

**Clothing consumption practices: a step toward sustainability**

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Clothing consumption has high environmental impact. It raises the concerns at each phase of a clothing item's life cycle. The severity of which is determined largely by which and how many clothing items are purchased and how often, as well as the frequency of items used also the nature of their maintenance and disposal. Efforts to decrease the environmental impact of today's clothing industry across the entire process of production, purchase, maintenance and disposal are driven by the suppliers or consumers. The purpose of the present study, is to access consumer behavior as it relates to each of these aspects- with particular attention to current clothing consumption patterns through the purchase, use and maintenance and disposal phase as well as this behavior implications for environmental sustainability. Since the evolution of fast fashion and the subsequent globalized mass consumption of clothing have greatly influenced the state of the environment, an explanation of how production and purchase, use & maintenance and the eventual disposal of clothing, each creates different environmental concerns. Hence understanding of current clothing consumption pattern can prompt rethinking of previous assumptions about such aspects as clothes purchasing behavior.

**Solid waste Management in Alwar City**

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किसी भी कार्य के संपादन के पश्चात् बचा हुआ ठोस पदार्थ, जिसका तुरंत या मध्यम में कोई सार्थक उपयोग नहीं रह जाता था किसी प्रकार से यह अनुपयोगी रहता है, ठोस अपशिष्ट कहलाता है। ये ठोस अपशिष्ट मात्रा और आकार में अधिक होने के कारण फेंके जाने पर भूमि के बड़े भाग का उपयोग कर लेते हैं। इस कारण भूमि का यह हिस्सा उपयोग के योग्य नहीं रह जाता।

ठोस अपशिष्ट के वर्गीकरण

1. नगरीय ठोस अपशिष्ट
2. जीव विविधता अपशिष्ट
3. औद्योगिक अपशिष्ट

अलवर शहर राष्ट्रीय राजधानी क्षेत्र (NCR) योजना 2021 के अन्तर्गत प्राथमिक शहर के रूप में चयनित है। अलवर शहर के बढ़ते नगरीयकरण से ठोस अपशिष्ट का अधिक प्रभाव देखने को मिलता है।

पर्यावरण संरक्षण से जुड़े मुद्दों पर जब भी बात की जाती है, तो सर्वाधिक चर्चा वायु प्रदूषण और जल प्रदूषण की होती है। इसमें संदेह नहीं कि औद्योगिक विकास और इसके साथ हमारी जीवन शैली में आए अभूतपूर्व परिवर्तन ने पर्यावरण और प्रकृति के मूल स्वरूप को बदल दिया है। इस बदलाव के दुष्परिणाम हम लगभग प्रतिदिन झेल रहे हैं। ग्लोबल वार्मिंग, ओजोन परत में छिद्र, अम्ल वर्षा, क्लाइमेट चेंज, जल विनी, कैंटरीना, रीटा, सुनामी आदि पर्यावरण को निरंतर क्षति पहुंचाने के दुष्परिणाम ही हैं। लेकिन वायु प्रदूषण और जल प्रदूषण के अलावा 21<sup>वीं</sup> सदी के आरंभ में पर्यावरण के सामने एक और गंभीर चुनौती आ खड़ी हुई है और वो चुनौती है, ठोस अपशिष्ट प्रबंधन की। ये भी सच है कि पर्यावरण और मानव स्वास्थ्य पर पड़ रहे इसके दुष्परिणामों को देखते हुए भी इसके प्रति अब तक यांचित जागरूकता या इसके निपटान के प्रति आवश्यक संवेदनशीलता का अभाव साफ तौर पर देखा जा सकता है।

घरेलू ठोस अपशिष्ट के सम्बन्धित निपटान को अनिवार्य समझते हुए केन्द्र शासन ने पर्यावरण संरक्षण 1986 के अन्तर्गत "नगरीय ठोस अपशिष्ट प्रबंधन एवं हथालन नियम 2000" बनाया है।

इस नियम के अनुसार प्रत्येक नगरीय निकाय, नगरपालिका नगर निगम पंचायत आदि को अपने क्षेत्र के अन्तर्गत निकलने वाले घरेलू ठोस अपशिष्ट का नियम अनुसार एकत्रीकरण, भण्डारण, उपचार परिवहन एवं निपटान करना अनिवार्य है।

की बर्त – ठोस अपशिष्ट, औद्योगिक विकास, पर्यावरण

**Smart Future of Fashion & Technology in concern of India**

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In Fashion world two aspects of fashion theories are popular one is people's physiology and there physiological need which influence the technological development. Technology leads us towards advancement and broader field rapidly. Physical form of clothing is most close to human body and changes the person's personality the way we think, the way we do things all comes in fashion style. our world runs with fashion, specially youngsters are very concern about their looks and technology they are conscious for smarter things this passion of today's making the fashion world to run more rapidly with technological blurring the boundaries. Smart clothing word is very important for future fashion, with rapid development of science and technology that form design of fashion has a great change. This gave the new means of clothing form, with the support of high technique modern clothing fuse advance technology. Science and technology developed the fashion art, nowadays people are eager to dress more for human function in order to meet that they were efficient intelligent clothing to deal with more physiological needs there is no counting of innovative fabrics, new design patterns (virtual interactive designs) for entering in the new era of science and technology. This descriptive research paper enlightens the systematic development of smart textile, trends opportunities and challenge in Smart Fashion field based on secondary data.

Abstract ID: RSC-486

### **Problem of Noise Pollution in India**

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In India there is no specific law which exclusively deals with the problem of noise and its control. However, in the absence of a specific law, noise pollution is regulated by certain other laws which have got an indirect relation with noise pollution. Besides these laws we also have got our Constitution, the law of the land which although do not have specific provision on noise pollution but has direct provision and concern for environmental pollution. Noise as a major component of environmental pollution thus comes under the constitutional provisions. Let us start with the Constitution itself. We know that the particular word 'environment' was not there in the Constitution when it was drafted and came into force. However, only recourse available to the citizens on the grounds of environmental pollution was under Article 47 of the Constitution which deals with public health. After the 42nd Amendment to the Constitution in the year 1976, specific provisions were made through Articles 48A and 51A (g) to protect the environment. If we give a closer look of both the provisions it is clear that while in the former case the state is directed to take necessary provisions for the protection of the environment, in the latter case the citizens are under a duty to safeguard and protect the natural environment. We have seen among the sources of noise that the extensive use of loudspeakers day and night contribute significantly to the pollution hazards. While aiming to control the use of loudspeakers we have to face constitutional hurdles which are enumerated through certain rights guaranteed by the Constitution, first one is the freedom of speech and expression under Article 19 (I) (a) and the other one is the exercise of religious freedom under Article 25.

Abstract ID: RSC-487

### **Economic Progress – Rethinking Beyond GDP**

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This paper aims to highlight and discuss various measures of economic progress other than Gross Domestic Product (GDP). GDP is the money value of all final goods and services produced in the domestic territory of a country during an accounting year. GDP has become the standard measure of economic progress, even though it was only intended as a macroeconomic accounting tool. But the problem with GDP is that it doesn't separate costs from benefits. It simply adds them together under the heading of economic activity and GDP has a lot of limitations and weaknesses which has been highlighted in the paper. This paper is an opinion paper which advocates adoption of various measures of economic progress rather than only GDP. Various articles, research papers, viewpoints, economics reports have been reviewed for the accomplishment of the objective of the paper. The various other measures of economic progress have been discussed thoroughly. This paper contributes by furthering agenda of measuring economic progress using various parameters of economic progress to form a better index than GDP alone.

Abstract ID: RSC-488

### **Biodegradable Sanitary Napkins: A Step towards Sustainability**

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Menstruation is one phenomenon that almost every female has to deal with in her life. During those toughest days of the month, sanitary napkins have been our saviour and we can't even fathom how much they have been there for us. However, the disposable sanitary napkins are rapidly depleting our natural resources at an alarming rate. Only 12 per cent of the 355 million women of menstruating age in India can afford disposable sanitary napkins. But, conservatively, these 42.6 million women will throw 21.3 billion sanitary napkins into a landfill in their lives. After use, we don't even think twice while disposing off a sanitary napkin by simply wrapping it in a plastic bag/paper and disposing it along the domestic waste. In the manufacture of sanitary napkins, apart from wood pulp, chlorine bleach is a key ingredient; used to whiten the pulp for aesthetic reasons. Chlorine bleach is both an environmental and health hazard, releasing toxic chemicals as a by-product. Some of these toxins like dioxin and furan are carcinogenic while others pollute our rivers. Therefore, at every stage of manufacturing and use, disposable sanitary napkins use up precious resources like crude oil and trees, contaminate water and the atmosphere, and finally end up in a landfill since there is no option to dispose of them safely. The game-changer in this regard is a biodegradable sanitary napkin. They are manufactured using only environment-friendly and sustainable products like banana fibres, which

take much less time to decompose in landfills and can even be reused for compost and biogas. It means relying on fewer resources and also providing extra earning opportunities to the farmers who want to put their waste banana fibre to use and also to the rural women who will manufacture these biodegradable napkins. They are softer in comparison to the regular ones and pose less risk to consumers as they do not contain any toxic material. Through this e-poster we would like to promote the idea of biodegradable sanitary napkins as they seem like the perfect idea to combat the increasing difficulty in menstrual waste disposal and the threat it poses to our environment and the available resources.

Abstract ID: RSC-489

**Application of swot in distributed energy sector using renewable in the rural areas in the state of Rajasthan, India**

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A holistic view of energy stakeholders in a SWOT (Strengths, Weakness, Opportunities, and Threats) perspective for the state of Rajasthan is presented here. SWOT analysis is based on the themes of market resources, energy technology & invention, and energy efficiency & climate. With this analytical frame work, the article discusses the strengths and opportunities while compensating weakness and mitigating threats. The action portfolio is directed towards enabling sustainable development, alleviating poverty and stresses the importance of comprehensive energy strategy towards building a strong economic profile while minimizing carbon foot print including energy efficient systems for the Distributed Energy Resources.

Abstract ID: RSC-490

**Sustainable Development and Environment**

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The economy and society is depended upon the natural resources and ecosystem services given in the environment. Therefore, Sustainable Development is a concept which leads to sustainment of the ability of natural system while meeting human development goals. The present day environment faces some major issues, exempli gratia, pollution, global warming, overpopulation, natural resource depletion, waste disposal, climate change, ocean acidification, etc. For the omission of above stated problems related to the environment with a preview of sustainable development, The Environment (Protection) Act, 1986 was created and is one of the major act for environment protection. Also, Water Act, 1974; Air Act, 1981; Wildlife Act, 1972 were introduced within five years of Stockholm Declaration. However, the amendments were made in the Constitution regarding the protection of the environment, such as, Article 49-A imposed a responsibility on every citizen in the form of fundamental duty, Article 51-A Clause (g) which states the duty of Indian citizen to protect and improve the natural environment, Article 14 which states the effects of petroleum industry to the environment. There are also several legal cases to support the current topic, such as, The Oleum Gas Leak Case, 1986 where M C Mehta, who was single-handedly responsible for making the environmental degradation a part of public discourse, says it is vital that PILs have no ulterior motive. Also the Khoday Distilleries Ltd v. State of Karnataka, 19 October, 1994 based on Article 19.

Abstract ID: RSC-491

**Sustainable Use of Water Resources in The Arid Zones**

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The nature's precious gift to the mankind is water and that is the reason we exist to-day. The water is a pre-requisite for the existence of entire bio-universe without which we would not have witnessed the present eco-system. Therefore, it is very important to conserve and have judicious use of the water resources. This is more important particularly in the arid zones like the state of Rajasthan, Gujarat, MP, and Maharashtra etc. To maintain the healthy ecosystem particularly in rain-fed areas we need to innovate and initiate steps at various levels to have positive impact on the livelihood of rural people. The most important task with regards to use of water, in the water deficit areas, to enforce water legislation. This would help to manage ecosystem, under-ground water recharge, efficient use of available water, bring more area under crop production, increase income of the farmers. The latest innovative techniques like use of sprinkler and drip system, check dams, harvesting rain water, cropping

pattern suited in arid-semi-arid regions if adapted would not only enable to have optimum use of water but will enhance the living of rural population at large. In the paper focus is given on adapting integrated approach, where technology for watershed development and management, cropping pattern, attitudes of farmers, arid and semi-arid conditions of the region etc. are to be simultaneously considered to improve the livelihood of the rural people.

Abstract ID: RSC-492

### **Environmental Sustainability in Economic Development: An Overview**

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Sustainable development promotes economic growth, environmental sustainability and social development in both the developed and the developing world. As the current dominating paradigm of development, the principles of sustainable development have been adopted worldwide and have had a significant impact on international agreements and national policies and strategies. Sustainable development emphasizes the necessity to achieve further economic growth in an environmentally-friendly manner as past patterns of economic development have had serious implications on the global environment. The aim of this project is to determine the extent to which economic growth and environmental sustainability are compatible and can be simultaneously sought and achieved. Author adopts a triple bottom line approach to integrate economic, environmental and social factors with environmental sustainability. The aim of this study is to determine the extent to which economic growth can be pursued while simultaneously ensuring environmental sustainability. Although the linkages between economics and environment are absolute, they are not emphasized either by the economic or by the environmental professions. The economics of natural resources remains a minor unpopular theme in orthodox economics today. Attention to the environmental dimensions of economic development burgeoned in the early 1970s and has yet to become systematic. There are encouraging signs that this is improving. This paper mentions four environmental aspects of economic development e.g. the concept of sustainability, carrying capacity, ethics and irreversibility. This paper concludes that there are difficulties in protecting environment and wildlife of the third world, but cooperation between government, non-governmental organizations, academia and the private sector will help ensure to success. Though, the big challenge is to accumulate resources and encourage to potential organization to finance it.

Abstract ID: RSC-493

### **Analysis of Environment Protection Act, 1986 with Sustainable Development**

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The economy and society is depended upon the natural resources and ecosystem services given in the environment. Therefore, Sustainable Development is a concept which leads to sustainment of the ability of natural system while meeting human development goals. The present day environment faces some major issues, exempli gratia, pollution, global warming, overpopulation, natural resource depletion, waste disposal, climate change, ocean acidification, etc. For the omission of above stated problems related to the environment with a preview of sustainable development, The Environment (Protection) Act, 1986 was created and is one of the major act for environment protection. Also, Water Act, 1974; Air Act, 1981; Wildlife Act, 1972 were introduced within five years of Stockholm Declaration. However, the amendments were made in the Constitution regarding the protection of the environment, such as, Article 49-A imposed a responsibility on every citizen in the form of fundamental duty, Article 51-A Clause (g) which states the duty of Indian citizen to protect and improve the natural environment, Article 14 which states the effects of petroleum industry to the environment. There are also several legal cases to support the current topic, such as, The Oleum Gas Leak Case, 1986 where M C Mehta, who was single-handedly responsible for making the environmental degradation a part of public discourse, says it is vital that PILs have no ulterior motive. Also the Khoday Distilleries Ltd v. State of Karnataka, 19 October, 1994 based on Article 19.

Abstract ID: RSC-494

### **Analysis of Industrial Revolution-IV: With special reference to Indian Economy**

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Industrial Revolution has been used as an effective tool to attain desired economic growth and development for various economies of the world. It is the process of change from previous dominance like agriculture and handicraft to industrialization, mechanisation, technological advancement and digitalisation. This process first time initiated in Europe and America, known as Industrial Revolution-I during 18<sup>th</sup> to 19<sup>th</sup> century. Further, Industrial Revolution-II and III have been successfully introduced to the world. Now, this is the time for Industrial Revolution-IV which would be the prologue of smart factories, combination of cyber- physical and biological worlds say era of artificial intelligence. This new initiation will have significant impact on all disciplines, economies and industries. It will have immense opportunities as well as potential challenges on certain dimensions. The present study is an attempt to understand the possible impacts of the Industrial Revolution-IV on the Indian economy. The research methodology is in-depth literature review.

Abstract ID: RSC-495

**Statistical Comparison between selected public and private sector banks with regards to increase in Non-Performing Asset (NPA)**

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Bank plays an important role in developing the economic growth of a country and India has a strong banking system. Indian banking system consists of 21 Public sector banks, 20 Private sector banks, 30 foreign banks, 82 regional rural banks, 54 schedule urban cooperative banks and 1501 non-schedule urban cooperative banks. But, for the last few years banking sector is facing a major challenge of mounting NPAs which is impacting the credit delivery of banks. Besides, the continuous accumulating NPAs are also building pressure on the operational front of the banking industry. As this has warranted the banks to arrange additional capital to maintain capital adequacy norms. Increasing NPAs suggests high probability of a large number of credit defaults which affects liquidity, profitability and net-worth of banks and also erodes the asset quality. Several prudential and provisioning norms have been introduced and these are pressurizing banks to improve efficiency and trim down NPAs to improve the financial health of banking industry. In this paper, an attempt has been done to make the statistical comparison of Public and Private sector banks with regards to increase in NPA on the basis of sampled information obtained from the selected public and private banks. The study was based on Primary Data. Primary data are collected through "Questionnaire Method" directly from the bank Executives, Branch Managers, Loan / credit officers etc.

Abstract ID: RSC-496

**Representation of Italian society in the works of Luigi Pirandello: an analysis of the short story "The Oil Jar"**

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The main discussion in this paper is to show how Luigi Pirandello (1867- 1936) in his Oil Jar (1909) describes the Italian society of farmers in the 20<sup>th</sup> century. The protagonist of the story is a rich Italian farmer from the region of Sicily. It is important to see the physical description of the characters by the author which forms an idea of the personality of the farmers. The paper reveals different aspects of the agricultural Italian society where large number of farmers is not very well organized and they are exposed to be exploited by the rich. The artisans are not being appreciated for their work and are under paid. Through the use of comic elements, author reflects the materialistic Italian society.

Abstract ID: RSC-497

**A Study on the style and behavior of the Transactional and Transformational Leadership**

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Leadership play crucial role in today's scenario, leadership provide a way of success to the organization. To cope with fast changing environment enterprises needs a leader who works as a change agent and help organization to sustain in continuously competitive and changing environment. Success of leaders depends upon the style of leadership which leader adopt. In today's changing environment two leadership styles are famous transactional leadership and transformational leadership. Transactional leaders believe in exchange process (give and take) process, whereas transformational leader work with the follower to achieve the goals, they motivate and guide their follower. This paper basically focuses on the style and behavior of transactional and transformational leadership. This study is all about the role of transformational leadership and transactional leadership.

Abstract ID: RSC-498

**Science and Technology for Environmental Sanitation in Coming Decades**

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Environmental sanitation is one of the most pervasive problem afflicting people throughout the world. Recent interventional studies on environmental sanitation in India highlighted the need for improvement of environmental sanitation condition in Rajasthan. Strategies with low cost and minimizing the use of chemicals is a big issue. This paper discusses the present scenario of environmental sanitation in India including Rajasthan and use of science and technology to overcome water, sanitation and hygiene related health issues in state.

Abstract ID: RSC-499

**The Power of the sun on the surface of the earth**

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Nuclear fusion is a process which itself occur in the universe, our sun is powered with this process and many other stars in this universe are powered by this process. Methods of attaining a fusion reaction, Fusion can be attained by the method of MCF (Magnetic Confinement Method), ICF (Inertial Confinement Method), MTF (Magnetised Target Fusion). There are many countries in the world which are working on fusion and so an association is being formed for all the countries which are doing research on fusion power, the name of the association is "ITER". This association is a group countries named "China, Europe, India, Japan, Korea, Russia, USA", they all are working together on the future power resource that is to get power from fusion reaction and for that they are forming a large fusion reactor in south of France known as Tokomak. Fusion is not an easy process and so there are many difficulties in getting a sustained fusion. Currently, the main hurdle to fusion energy is sustainability. The fusion reaction is only momentary and requires more energy to create than it generates. My theory is that the way of creating helium-3 in large amount because it can be a fuel which can deliver a large amount of energy in fusion reaction, and this has been found that the large amount of helium-3 is found on the surface of the moon or we can say in the lunar soil and since this is very difficult to bring a large amount of soil from moon so we have to find a way to create a large amount of helium-3 in laboratory. The second way is to perform the method of fission after fusion gain reaction, this process can be very useful for generating a vast amount of energy in one time of process due to the energy gain by two process "fission and fusion".

Abstract ID: RSC-500

**Empirical study on impact of SAP ERP in IT Sector**

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Information Technology is a crucial factor and it has a great impact on global environment. We cannot even imagine or move a single bit without technology in today's scenario. We can see the high impact of technology in this digital era. IT Sector has a vast growth and SAP ERP is one of those advanced techniques used by large number of people in an organization. It is a software mainly adopted by large organizations to overcome from hurdles and consuming less time while working. In this empirical study, two companies TCS & HCL TECHNOLOGIES of IT Sector has been taken to measure the impact of SAP ERP in both the organizations by using questionnaire method. This study revealed that SAP ERP has a very high impact on both the organizations. While comparing both the organization's performance using SAP ERP, the study revealed that TCS has a high growth-rate than HCL TECHNOLOGIES.

Abstract ID: RSC-501

**Wheat straw and Phanerochaete chrysosporium for dye decolorization from textile waste water**

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Rapid industrialization has alarmingly contributed to environmental pollution, as gallons of untreated effluents from various chemical based industries pollute water bodies. Dyeing process, commonly used in Textile industries, contaminate waters, with hazardous effects on animal and plant health. Treatment of dye waste using low cost lignocellulosic adsorbents and microbiological methods can effectively alleviate the dangers associated with these pollutants, in a cost effective manner. The current study investigates the use of wheat straw, an abundantly available agri-waste as an adsorbent for industrial dye (Reactive black 5), and its reutilization as a substrate for growth and enzyme production for *Phanerochaete chrysosporium* MTCC787, a representative white rot fungus, with powerful ligninolytic enzymes, under solid state fermentation conditions. Wheat straw effectively decolorized (91.5%) the dye in 60 mins, at 50°C, using substrate to dye ratio as 1:10. Further, the dye adsorbed substrate was also found to be an effective solid substrate for laccase production for *P. chrysosporium* MTCC787. The spent agri-fungal biomass, when recycled, retained 80.6% of its dye adsorptive ability and 62.0% efficiency in Laccase production. The findings suggest that a combination of wheat straw-*Phanerochaete chrysosporium* can effectively reduce the dye concentration in textile waste waters, thus supporting the application of natural substrates and microorganisms for waste water treatment in an environment friendly, cost efficient manner.

Abstract ID: RSC-502

### **Sustainable development and environment**

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Sustainable development is a practice of development without the environment. Sustainable development is a development that meets the needs of present, without compromising ability of future generations to meet their own needs. This concept can be interpreted in many ways but its main approach is to make balance, between environment and society. Living within our environmental limits is one of the central principles of sustainable development. It's about ensuring a strong, healthy and just society. Sustainable development provides an approach to making decision on such issues that affect our lives.

Abstract ID: RSC-503

### **Wool Dyeing with Pure Natural Yellow Dye extracted from Turmeric Rhizomes**

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Today the need to realize the importance and the technology of natural dye is more urgent. Protection of environment has become a challenge for the chemical industries worldwide. All over the world the environment restrictions are becoming stricter. The present study was carried out at Department of Clothing and Textiles, Collage of Post Graduate Studies, G B Pant University of Agriculture and Technology, Pantnagar, Uttarakhand, India. Turmeric rhizomes were used as source for pure vegetable dye for yellow colour. The water soluble yellow dye from turmeric rhizomes (Curcumin) is very fugitive in nature. The hue becomes dull with exposure to time and temperature. To achieve the best dyeing results, a different method of dyeing was tried and tested, "Simultaneous extraction and dyeing" where dyeing of substrate is carried out in same water bath along with extraction of dye from the raw material. Observations proved that less temperature and reduced time of dyeing give better results in terms of colour appeal. Dyeing of scoured wool samples was carried out in various ratios in order to optimize the variables. A number of shades were developed with good to excellent washing fastness, through variations in dyeing conditions only. Results of numerous experiments reveal that same dye produced different shades under different dyeing conditions. Standard recipes have been developed for each shade. The final samples were tested for colour fastness to light and washing as per standards laid by Bureau of Indian standards at Indian Institute of Technology Delhi.

Abstract ID: RSC-504

### **A Survey on Technical Textile in India**

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India is traditionally rich for its Art-craft and textiles. We have surpassed the initial stages of exploration and experimentation. Now there is a need to raise our bar by working together with "Tradition" and "Technology". In this paper, we focus on the

challenges and opportunities for Technical textiles in India. There are many opportunities waiting for intelligent product where India may expand their export with collaboration of tradition with technology and may create its remarkable presence in the global market. The textile export of India has opportunity to expand itself in term of product and market diversification. There is no doubt that manufacturer who have created niche market will be better position to compete in the global market place and achieve higher margins on products including greater profitability. This paper will give over view of approaches including challenges and opportunities in India for technical textiles.

Abstract ID: RSC-505

**Innovative approach of quality management system in commercial plant tissue culture**

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BCIL is managing the unique quality management system (QMS) which is known as National Certification System for Tissue Culture Raised Plants (NCS-TCP). NCS-TCP has been established by Department of Biotechnology, Government of India in line with the Gazette Notification under the Seeds Act 1966 for facilitating production and distribution of quality planting materials in the country. Commercial tissue culture production facilities (TCPFs) are recognized based on conformity with NCS-TCP Guidelines. After getting recognized, TCPFs become eligible for getting their planting material certified by Accredited Test Laboratories (ATLs). NCS-TCP facilitates comprehensive quality management practices which not only includes recognition of TCPFs based on infrastructure and package of practices but also certification of plants dispatched from the recognized TCPFs. Tissue Culture Plants (TCPs) are certified based on freedom from all the known viruses and clonal uniformity. Certified batch of TCPs are provided labels which contain two dimensional barcode for complete traceability for tissue culture plants. Work is under process to develop Quick Response Code (QR Code) which might be affixed with each certified plant in order to differentiate it with non-certified/substandard material. Farmers carrying smartphone will be able to access the complete details of each plant in his/her field for which they had paid premium price.

Abstract ID: RSC-506

**Sustainable design practices-lessons from heritage**

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Heritage buildings are result of long experience, of the builders, users and the viewers. The art of craftsmanship changed hands from generations to generations. Every generation has utilized the experience of their ancestors and kept on modifying the same with the changing times, technology and materials. The skills and knowledge kept on enlarging only one thing remained constant and that was the human Comfort. With passage of time the input of aesthetics was incorporated as a natural process of prosperity and development. These structures are still available and their attraction to the coming generations is a proof that they have sustained the vagaries of the nature and stood tall even on all standards. The wealth on generations of knowledge stored in these structures if reviewed reveals that they had inbuilt sustainable practices. Many of these practices are really relevant even today. Every region developed localized such practices.

Abstract ID: RSC-507

**Employment Branding: Tool for HR Success**

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Great talent is the one which always required in the organization. Today's economy is knowledge based and In this knowledge based economy and in this type of economy the winning edge in competition is the Talent you have with you in your organization. To employ and retain this talent is one of the biggest challenges the organizations are facing today. The paper tries to bring forward the concern dimensions and strategic role of organization towards managing the employment branding. It comprises of the literature review and a research study amongst the 100 employees to find out the parameters affecting the acquisition and retention of talented employees.

Abstract ID: RSC-508

### **Water, air and environment pollution, Forest Conservation**

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Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs, going on with the phrase as quoted above the increasing pollution level in our country being the 9<sup>th</sup> most polluted country of the world, the increasing level of air, water and environmental pollution along with our development contradicts the sustainable development phrase. Air pollution, that makes our air unfit for survival which is caused due to introduction of harmful particulates into atmosphere, and also due to some man-made disasters such as Bhopal Gas Leak, The Ozone Hole. Recent research show that of the four major Indian cities, air pollution was consistently worse in Delhi, every year over 5-year period (2004–2008). Kolkata was a close second, followed by Mumbai. Chennai air pollution was least of the four. Water pollution is contamination of the water bodies and which is also unfit for its consumptions but due to poverty in India people still drink it and also which is a hotspot for many endemic diseases, the case study of The Ganges and The Yamuna is discussed. Environmental pollution is a union of all pollutions, as a major issue pollution in our country is leading Sustainable development to a threat, bio magnification, ocean acidification and global warming are some major issues faced by our country today. Forest depletion is self-defined Ecological issues are an integral and important part of environmental issues challenging India. Poor air quality, water pollution and garbage pollution, all affect the food and environment quality necessary for ecosystems. India is a large and diverse country. so Forest conservation is important as it is directly related to sustainable development as many valuable things which are life essentials we get from our forest but due to pollutions and other factors the rate of forest depletion is tremendously high, so Forest conservation is important Forest conservation is the practice of planning and maintaining forested areas for the benefit and sustainability of future generations, the acts which is made by our government such as Biological Diversity Act, 2002, Indian Forest Act, 1927 and Forest (Conservation) Act, 1980 with Amendments Made in 1988 are also discussed.

Abstract ID: RSC-509

### **Help of Science and Technology in English Language Teaching and Learning**

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With the expansion of English students different diverse showing strategies have been executed to test the viability in the instructing procedure. The beginning of innovation has radically changed the old behavior of instructing English. With the impact of the wonder called Globalization which is interrelated with innovation, instruction work and culture have been influenced decidedly. To confront the new reality which is connected about the expanding of English, new educators is should have been told to control understudies in a fruitful instructing. The most recent two decades have seen an insurgency because of beginning of innovation, and has changed the flow of different businesses, and has additionally affected the ventures and the way individuals associate and work in the general public. This quick rising and improvement of data innovation has offered a superior example to investigate the new educating model. Accordingly innovation assumes an imperative part in English educating. Utilizing interactive media to make a setting to show English has its one of a kind preference. This paper tries to investigate the need of sight and sound innovation to dialect instructing and furthermore draws out the issues looked by utilizing these advancements. It additionally expects to make English instructors mindful of the systems to utilize it in a successful way.

Abstract ID: RSC-510

### **Studies on the Water Purification Technology in Rural Areas of Developing Countries**

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Water scarcity is threatening social & economic growth in rural area of developing countries. There are potential markets for water purification technologies in these regions. Different areas have different problems, resources, and no one solution can be applied to all. More than 3.4 million people die each year from contaminated water related causes. Nearly all deaths, 99 percent, occur in the developing world. A survey by US environmental protection agency concluded that nearly 90% of the earth's water is contaminated in some way. Purity of water can be measured by the pH scale. The purest water is neutral on pH scale or close to seven. Many individuals especially those who live in more developed lands, drink water unaware of its purity. Water

178

purification is the removal of contaminants from raw water to produce drinking water that is pure enough for human consumption or for industrial use. There are many types of water purification such as RO water purification, UV water purification, UF water purification, distillation, filtration etc. The natural purification processes were quite adequate in providing very high pure water quantities. Due to the increase in human activity we have often pushed the natural purification beyond their limits. More complex molecules take longer to break down than other. For example, biodegradable substances are broken down easier than nonbiodegradable substances that cannot break down into simpler molecules; which tend to accumulate into the environment. The focus of this paper will be on smaller, household systems for purifying water, looking at existing appropriate technology for purifying water in developing countries. During this study, examination of treated and untreated sample water for heavy metals was analyzed. The results showed the significant reduction in the microbial counts in water.

Abstract ID: RSC-511

### **Awareness about Organic clothing in college going girls**

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Have we ever wondered that where does the discarded clothing go? A large portion of textiles are ending up in landfills worldwide. As a whole textile industry occupies approximately 5% of landfills. The clothing which went to the landfills is made up of synthetic or inorganic fibers due to which these become non-biodegradable. The designers and fashion brands are introducing new fashion so fast that it has increased the consumption of clothing by the consumers which has led to increase in the discarded clothing, as they become old fashion very quickly. In past few decades the awareness about increasing pollution due to textile industry has increased and people are now shifting towards sustainability, started buying more organic & environment friendly clothes. The use of organic cotton clothing has a number of benefits: better health for consumers and farmers, environmental conservation, and cost savings for farmers. These benefits have created a boom in the organic cotton clothing industry in the past few years. The present study is done to check the awareness about organic clothing and its use among the college going girls. The young groups going to colleges or other education institutions are one of the biggest target customers for many designers and fashion brands and they adapt the fashion change very fast, so it is necessary for them to know what they are buying and their contribution to the environment globally.

Abstract ID: RSC-512

### **An Introduction to Green Manufacturing**

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The textile and apparel industry global level has bitterly evidenced the social and environmental implications associated with fast production cycles, overuse of resources, waste generation, environmental pollution and unethical labour conditions. In counter with the conventional way of production in textile and apparel industry we have greener solution i.e., green Manufacturing. The main objective of the green manufacturing is to save the environment and to reduce the cost of the product. The poster gives the overview of green manufacturing: what is green manufacturing, why it is needed and methods of green manufacturing that reduces the waste and even pollution. The focus of green manufacturing is on the green design for environment of green manufacturing system, energy conservation, development of product with less wastage. The poster also highlights the use of green manufacturing to form a sustainable product and to reuse the product, shorter life cycle. The reviewer also tried to discuss about the green accounting and green supply chain management.

Abstract ID: RSC-513

### **Sustainable Development–A Phase Change Process in Technical Textile**

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Sustainability is a complex phenomenon and related to 3 P'S Planet, profit and people. Planet known as non-renewable resources land, water and air while profit related to production and other financial activities and both are related to people and societal arena. Last two decades were evidence for struggling the second largest industry of India- conventional textile industry, transforming in technical textile industry which is more concern the aspect of sustainability. Industrial sustainability portfolio presents the current and futurist scenario of industry. Industrialists are adopted various strategies to make sustainable product

from fiber to dispose-off or cradle to grave stages. Especially Packtech segment of textile industry related to almost each segment of industrial economy (B2B and B2C) and end customer. Each and every product required a packing box or packing material which finally create a heap of Non- bio-degradable waste at home and in industry. Phase change process create a mid-way for clean production and provide insight of production process and sustainable use after the last customer use for economic growth. Research focused on technical textile- Packtech product sustainability cradle to grave and evaluating dispose -off strategies as rethinking, recycle, redesign and reduce challenge faced by industry for said strategies. Case studies methodology is used to evaluate the sustainability during production and informal communication with consumer for packing material and their uses and create a sustainable vision in consumer and key challenges face for industry in concern of sustainability.

Abstract ID: RSC-514

### **Estimation and Future trends of Municipal Solid Waste Generation in Metropolitan Regions – A Review**

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The purpose of this study is to outline the real pattern and difficulties that will shape the future of waste management for the next few decades in metropolitan regions like Kanpur, New Delhi, Kolkata, Bangalore and Mumbai. There are certain trends and facts that pretty much make the bigger picture in which the waste management industry will develop. Obviously new difficulties are rising, and the present circumstance must be found distinctively on the grounds that the transfer site is restricted and furthermore it must be made financially savvy. Measures of waste era are generally dictated by two elements: in the first place, the rate of population expanding in metropolitan regions and second, its per capita waste generation - which is controlled by the advancement of monetary development, way of life and sustenance propensities. The present study explains the correlation analysis of among different factors of municipal solid waste and the objective is to assess the future municipal solid waste stream in metropolitan region. The outcomes demonstrate that for a decoupling to occur between monetary development and waste generation, the waste generation by firms and family units in connection to their financial exercises must decrease in the future.

Abstract ID: RSC-515

### **Traffic volume study of Dadabari Chauraha, Kota**

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The knowledge of traffic volume is an important basic input required for planning, analysis and operation of roadway systems. A significant effort has been made in order to study the Traffic Volume of Dadabari Chauraha. For better understanding of the present status of traffic flow at the junction, traffic survey is conducted. The safe and time efficient movement of the people and goods is dependent on Traffic flow, which is directly connected to the traffic characteristics. In Traffic Flow we have to consider generally three parameters, Volume, Speed, and Capacity. While as a traffic volume may be defined as the number of vehicles passing a given section of road or traffic lane per unit time will be inappropriate when several types of vehicles with widely varying static and dynamic characteristics are comprised in the traffic. Due to mixed nature of traffic it gets difficult to accommodate all the kinds of traffic on these roads. The basic problem arises during the peak hours of the day when the traffic volume is highest on the road. The interaction between moving vehicles under such heterogeneous traffic condition is highly complex. The problem of measuring volume of such kind of traffic has been addressed by converting the different types of vehicles into equivalent passenger cars and expressing the volume in terms of Passenger Car Unit (PCU) per hour. Calculation of Passenger Car Units (PCU's) for different vehicle types had been made. For a wide range of traffic volume and roadway conditions indicate that the PCU value of a vehicle significantly changes with change in traffic volume and width of roadway. some of the remedial measures to improve the traffic safety in the region such as widening the road, changing 4-lane to 6-lane or by providing more public transport can be recommended based on the outcomes of the work.

Abstract ID: RSC-516

### **Impact of physical development on urban Lake Ecosystem: Case study-Kishangarh, Rajasthan**

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One of the most vital natural resource for the human civilizations is water. Lakes contain less than 0.01% of all the water on the Earth's surface. Although, they hold more than 98% of the liquid surface freshwater. Lake ecosystems are fragile; they can undergo rapid environmental changes, often leading to significant declines in their aesthetic, recreational, and aquatic ecosystem functions. Lakes play a vital role in the context of Rajasthan. It is hot and arid state in India with scarce water resources. None of the rivers originate from snow-fed glaciers. Surface water in Rajasthan accounts for mere 1% of the total surface water in the country. However, rainfall and temperature conditions make the availability of surface water a serious problem. Kishangarh is a statutory town in the district of Ajmer and also famously known as the 'marble city'. The city is gifted with significant lakes and ponds, few of which are interconnected, Hameer Sagar in the upstream and Gundolav Lake in the downstream. Hameer Sagar suffers from pollution caused due to slurry and marble waste dump from marble industry and untreated wastewater discharge, owing to the rapid urban development in the late 20th century. The water of Gundolav Lake was once used for drinking purpose as well as for recreational activities. This has now become a site of waste water disposal and facing a critical threat for its sustenance. Eutrophication and siltation is also a major problem for these water bodies. The study of the lake ecosystem considers the physical, chemical and biological properties of the water bodies. It also includes both qualitative and quantitative analysis of the lakes. The aim of this study is to assess the current condition of the lakes and evaluating the trends which led to the degradation of Lake Ecosystem. It will help restore the natural drainage channels running through the city & ponds in the future, it will reduce burden on the ground water withdrawal (5.2 MLD daily). It will enable integrating ponds and water supply for secondary uses; lastly, restoration of the urban lake ecosystem will ultimately result in restoration of urban ecosystem as a whole.

Abstract ID: RSC-517

### **Converging HR Practices & Entrepreneurship: Promoting Innovation**

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Entrepreneurship and innovation have become most essential elements of the organizations. Entrepreneurship is to establish organizations rather than the process of new venture creation. The main aim of the article was to understand the role of human resource practices in the promotion of entrepreneurship and innovation within the organization. It has been found that collectively all these HR practices promote innovation by encouraging employees to identify their potential and talent. The HR practices in organizations have been developed to include activities like recruitment and selection, performance management (succession planning and talent management). HR practices are positively associated with entrepreneurship and innovation.

Abstract ID: RSC-518

### **Various Techniques for Sustainable Production**

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Fashion and textiles is the most polluting industry in the world. Every stage in a garment's life threatens our planet and its resources. Sustainable growth and development require minimizing the natural resources and toxic materials used, and the waste and pollutants generated, throughout the entire production and consumption process. Waste—and the unsustainability of the supply chain—is a problem endemic to the entire apparel industry, but especially interesting in the context of fast. Zero-waste is a design technique that eliminates textile waste at the design stage. The business strategy that has dominated our manufacturing industry for more almost a century now is called “planned obsolescence “.This is done so that in future the consumer feels a need to purchase new products that the manufacturer brings out as replacements. We need to develop long lasting products and decline this business strategy to cause less environment impact. Biomimicking research in textile production is a rapidly growing area and its true potential in the development of entirely sustainable fibres has yet to be discovered through interdisciplinary research with an understanding of the holistic approach of nature in its formation of organisms. The term 'biomimicry', or imitation of nature, has been defined as, 'copying or adaptation or derivation from biology'. Textile recycling is the process by which old clothing and other textiles are recovered for reuse or material recovery. Digital printing, prints are directly applied to fabrics with printers, reducing water usage by 95 percent, energy reduction of 75 percent, and minimizing textile waste. The sustainability gains of upcycling and redesign are quite evident. When wasted textiles are used as raw material in production, the demand for virgin fibers such as cotton and polyester is reduced, and so is the fashion industry's total impact on water, soil, air, climate, biodiversity, ecosystems, etc.

Abstract ID: RSC-519

**Corporate Social Responsibility: A study of TCS, IBM and Infosys**

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Corporate social responsibility (CSR) is emerging as a new field in the management research. The empirical paper explores to study the CSR initiatives of conglomerates like TCS, IBM, and Infosys. It also seeks to explore the origin, advantages and importance of CSR in India. Information provided is gathered from authentic sources like CSR reports and websites.

Abstract ID: RSC-520

**Environmental Implications of Utilizing Hydrogen**

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Hydrogen is the most abundant element in the universe. On our planet "Earth", Hydrogen is found as part of the molecules of water, methane and organic material. Hydrogen has often been considered as a long term solution to the environmental and security problems associated with fossil fuels. However, before hydrogen can be used as fuel on a global scale, we must establish effective means of producing, storing and distributing it. The concept of producing hydrogen fuel from sunlight is inherently appealing and has captured the imagination of many scientists, innovators, and decision makers. In fact, there are numerous routes to produce hydrogen from solar energy.

Abstract ID: RSC-521

**Assessment of Groundwater near a Municipal Solid Landfill Site of Rohtak, Haryana.**

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Solid waste problem can be dated back to prehistoric days and has attracted the attention of human civilization even before water and air pollution. The quality and quantity of solid waste had changed over the time due to invention of new technologies, new products and services. India with a population of 1.21 billion, the second largest nation in the world accounts nearly 18% of world's population, but the resources to treat its solid waste are not enough. Its urban population grew at a rate of 31.8% during the last decade (Census 2011). Municipal solid waste disposal is a global concern, especially in developing countries. One of the best methods of disposal of municipal solid waste is landfilling because it is more economical and has a very limited time frame of usage. The landfills have been identified as one of the major threats to groundwater resources and the areas near landfill sites have a greater possibility of groundwater contamination because of the potential pollution source of leachate originating from the nearby site. Municipal landfill leachate are highly concentrated complex effluents which contain dissolved organic matters; inorganic compounds such as ammonium, calcium, magnesium, sodium, potassium, iron, sulphate, chlorides and heavy metals such as cadmium, chromium, copper, lead, zinc, nickel, lead, mercury together with household chemicals and poisons, which can be concentrated in groundwater supplies beneath landfills. These contaminants have possibly ill effects on human health. The present study is carried out to examine the various physico-chemical parameters of the groundwater around the old approved municipal dumping site at Jind road, Rohtak. Ten groundwater samples were collected from different sites within a kilometre radius of landfill site. All the samples were analyzed for selected relevant physico-chemical parameters such as pH, electrical conductivity, total dissolved solids, total suspended solids, total alkalinity, total hardness, calcium, magnesium, ammonia, nitrates, chloride, fluoride, Sulphate, phosphate, heavy metals and total coliform and faecal coliform according to internationally accepted procedures and standard methods (APHA, 1999). The results of the study revealed that the concentration of waste materials in the landfill site had systematically polluted the groundwater over time. The pH of the ground water at the actual landfill site is 8.64 out of permissible limit given by (BIS). The total hardness, alkalinity, ammonia, concentration of calcium, magnesium as well as heavy metal chromium and total coliform count and are found to be out of permissible limits given for drinking water. The leachate from MSW landfills is a highly concentrated "chemical soup", that small amounts of it can pollute large amounts of groundwater rendering it unsuitable for domestic use."

Abstract ID: RSC-522

**Analysis of the Current Curriculum of Textile, Fashion in Relation to Different Aspects of Sustainability**

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Sustainability is the most important concern in the advance technology related to fashion & textile economy. In present textile and fashion production houses, this has been a burning issue for many related concerned bodies like cultivators of fibers, production processors, dying or printing industries. Over the last few years, increasing awareness of the environmental and social concerns surrounding the fashion & textile, industry has noticed a change in their system and grow for the implementation of sustainability initiatives. Sustainability is gaining importance because of heightened ecological challenges. First time UN in 2005 include in their curriculum and given suggestion for adding sustainable development encouraging educational institutions at all levels according to need of discipline to nurture ecologically literate individuals. Institution appointed one ecologically literate person he/she has the knowledge necessary to spread awareness among individuals. This study aims in developing an understanding of the term of sustainability, and mandatory including aspects related to sustainability for education purpose in the discipline of textiles and fashion. To develop Interest in students regarding the sustainable behavior, and sustainable process same time organize different activities in college like group discussion, organize workshop, guest lecture with college students provided an understanding as to how they define sustainability and how they act to embody sustainable behavior in their personal and professional lives. Conclusion of the study if added sustainability and their importance, need, economical value and way of the sustainability definitely students increases sustainable process in personal or professional life and aware the industries and production houses in textile & fashion fields.

Abstract ID: RSC-523

**Developing Sustainable Neighbourhoods with Gender Sensitive Approach: Lessons from Traditional Neighbourhoods of Rajasthan**

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While urban areas are a hub of economic activities, innovation, and cultural life, they are also present a stark contrast of socio-economic inequalities. With increasing population pressures, the cities have experienced massive urban growth. Most of our cities have a distinct 'old city' or 'walled city' area and a substantive portion of the comparatively new development. While the traditional neighbourhoods are a dense compact development the new neighbourhoods reflect wide variety of planning and design concepts. This paper analyzes the spatial planning of the traditional and contemporary neighbourhoods in two cities of Rajasthan – Jaipur and Kishangarh. Both cities are the hub of economic activities and have a rich architectural, historic and cultural heritage. Both have experienced fast growth and substantive urban sprawl. The aim is to understand the perception of people about livability, experience in traditional neighbourhoods vis-à-vis the contemporary neighbourhoods. An attempt is made to assess the social sustainability of different neighbourhoods with gender perspective with an aim to understand gender concerns and needs that could be addressed in planning and design of new townships and neighbourhoods. The methodology of the study is based on quantitative and qualitative techniques including observational assessment, physical analysis of the site, and by collecting residents' perceptions and experiences through selected indicators on a 1-5 scale and open-ended participative learning approach.

Abstract ID: RSC-524

**Formation of Star**

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Our current understanding of the physical processes of star formation is reviewed, with emphasis on processes occurring in molecular clouds like those observed nearby. The dense cores of these clouds are predicted to undergo gravitational collapse characterized by the runaway growth of a central density peak that evolves towards a singularity. As long as collapse can occur, rotation and magnetic fields do not change this qualitative behavior. The result is that a very small embryonic star or protostar forms and grows by accretion at a rate that is initially high but declines with time as the surrounding envelope is depleted. Rotation causes some of the remaining matter to form a disk around the protostar, but accretion from protostellar disks is not

well understood and may be variable. Most, and possibly all, stars form in binary or multiple systems in which gravitational interactions can play a role in redistributing angular momentum and driving episodes of disk accretion. Variable accretion may account for some peculiarities of young stars such as flareups and jet production, and protostellar interactions in forming systems of stars will also have important implications for planet formation. The most massive stars form in the densest environments by processes that are not yet well understood but may include violent interactions and mergers. The formation of the most massive stars may have similarities to the formation and growth of massive black holes in very dense environments.

Abstract ID: RSC-525

### **Pollution de l'environnement**

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Air pollution and population health is one of the most important environmental and public health issues. Economic development, urbanization, energy consumption, transportation/motorization, and rapid population growth are major driving forces of air pollution in large cities, especially in megacities. Air pollution levels in developed countries have been decreasing dramatically in recent decades. However, in developing countries and in countries in transition, air pollution levels are still at relatively high levels, though the levels have been gradually decreasing or have remained stable during rapid economic development. In recent years, several hundred epidemiological studies have emerged showing adverse health effects associated with short-term and long-term exposure to air pollutants. Time-series studies conducted in Asian cities also showed similar health effects on mortality associated with exposure to particulate matter (PM), sulfur dioxide (SO<sub>2</sub>), nitrogen dioxide (NO<sub>2</sub>) and ozone (O<sub>3</sub>) to those explored in Europe and North America. The World Health Organization (WHO) published the "WHO Air Quality Guidelines (aqgs), Global Update" in 2006. These updated aqgs provide much stricter guidelines for PM, NO<sub>2</sub>, SO<sub>2</sub> And O<sub>3</sub>. Considering that current air pollution levels are much higher than the WHO-recommended aqgs, interim targets for these four air pollutants are also recommended for member states, especially for developing countries in setting their country-specific air quality standards. In conclusion, ambient air pollution is a health hazard. It is more important in Asian developing countries within the context of pollution level and population density. Improving air quality has substantial, measurable and important public health benefits.

Abstract ID: RSC-526

### **Sustainable Tourism Development in the State of Rajasthan**

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Tourism has emerged as one of the priorities of governments as a sector with immense potential for economic development and employment generation. Various agencies like World Tourism Organization (WTO), India Tourism Development Corporation (ITDC) have pointed out the vast developmental potential of tourism. As per the current scenario of the world, today's motto is SUSTAINABILITY, irrespective of the economic activity you are in. And the same is the challenge for tourism which is by considered to the fastest growing industry in the world. The government through the help of India Tourism Development Corporation (ITDC) is taking initiatives to promote the same in India such as promoting the 20 year perspective plans for different states, Implementation of the Sustainable Tourism Criteria for India, Ratification of the Sustainable Tourism Criteria for India and Indicators for tour operators and the accommodation sector by all industry associations, Use of local materials, styles and skills must be adhered to, through advisory support of a panel of architects specialized in the vernacular practice etc. Rajasthan being a culturally, ethnically and spiritually diverse nation caters to the world as a tourist place and is waking up to the opportunities that sustainable tourism presents and seems to be moving in that direction. It is a state that is known for desert, pilgrimage and heritage. It also has its separate Rajasthan Tourism Development Corporation which looks at the potential of increasing the number of tourists and is taking efforts to develop this industry to its fullest potential so that it can also help in the socio-economic development of the state. This is evidenced from the increase in the number of international and domestic tourists in the last decade. A total of 3,25,58,009 tourists including 3,11,91,011 domestic and 13,66,998 foreigners visited the desert state till November this year. The increase in number of tourists was 9.44 per cent during January to November this year as compared to the corresponding period last year. It was reported by the tourism Director that the highest increase of 27.16 per cent was registered in May, which is an otherwise off-season. While the prospects of tourism development in India are very promising in general, but in Rajasthan due to its major architectural attractions and a wide variety of climatic changes throughout the state. With respect to the above context, I would like focus in the paper on: Problems and potentials of tourism development in Rajasthan. To suggest meaningful strategies for tourism development in Rajasthan for long term sustainability of the government initiatives. 1. State government initiatives for development of tourism industry. 2.

State government plans and incentives for tourism development. Ongoing projects for tourism development. Role of private sector and privatization.

Abstract ID: RSC-527

### **Sustainable Management of Water Resources in Rajasthan**

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The concern over the staggering effects of climate change has become very serious these days and its impact is being felt globally. Climate change affects the balance of natural and socio-economic systems. India has emerged as one of the most vulnerable countries in the world, with a high-dependence on climate sensitive sectors such as agriculture, water resources, natural ecosystems and forestry, health, sanitation, infrastructure and energy. Climate change impact and vulnerability assessment at state and regional levels is necessary to develop adaptation strategies for battling the depletion of water resources. This study aims to assess water ecosystem vulnerability to climate change across Rajasthan state for vulnerability reduction under current climate and future climate scenarios. Vulnerability of water resource under current climate scenario is assessed by adopting indicator-based approach, while the vulnerability under future climate scenario is assessed using climate and water impact models. Purpose of this study is to assess how small check dams built across rivers in Rajasthan state can revitalize rivers during dry season and mitigate local climate change consequences. The surface and groundwater resources are increasingly under pressure throughout the country. The climate change impact models have predicted that India will face extreme weather conditions in the form of consecutive droughts, several monsoon, serious floods and rapid rise in sea levels. Such changes are consequential to human communities and freshwater ecosystems and as a result social-ecological systems in India are “vulnerable” to the effects of climate change. Identifying vulnerable dry land districts will help policy makers and water managers to prioritize resource allocation and water resource management interventions, to restore health and productivity of aquatic ecosystem and to build long-term resilience to climate change.

Abstract ID: RSC-528

### **Rainfall and Conservation of Water in Rajasthan**

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The world is warming unquestionably. Since the 1800s there has been an increase to the Earth's average temperature by around 1.8 ° F (1°C). But this is not it as it has been gradually increasing till date, and if human efforts are not put to make things better it will increase even more. The warming of the Earth is largely the result of emissions of carbon dioxide and other greenhouse gases from human activities. These activities include burning fossil fuels and changes in land use, such as agriculture and deforestation. As a result, greenhouse gases are accumulating in our atmosphere. The reason is simple, human activities are putting more carbon dioxide than the planet's vegetation and ocean can remove. Other factors capable of changing the climate, like volcanic eruptions and changes in the sun's intensity, cannot by themselves explain the changes we've observed in the Earth's climate. The impacts will be very serious if this trend continues in our future. The amount of warming that occurs, depends on our choices now. If we don't make much progress in curbing emissions, temperatures for the planet could rise between 4.7°F to 8.6°F (2.6°C to 4.8°C) by the end of the century, compared to the average temperature around the end of the 20th century (1986-2005). Some major impacts are sea rise level, melting of the polar ice caps, heavy downpours, heavy heatwaves, threats to ecosystem, ocean acidification, agricultural pest increment, and many other n number of reasons. India is the fastest-growing major economy in the world. It is the fourth largest greenhouse gas (GHG) emitter, accounting for 5.8 percent of global emissions. India's emissions increased by 67.1 percent between 1990 and 2012, and are projected to grow 85 percent by 2030 under a business-as-usual scenario. India is extremely vulnerable to the impacts of climate change and significant measures are needed to build climate resilience and assist communities with adaptation. Several programs are already underway in many parts of India. This study also covers the changes in Indian monsoon that will occur in future, especially in Rajasthan.

Abstract ID: RSC-529

### **Role of Religion in Politics & Economics**

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With the technical upgradation and advancement taking place every second in every nook and corner of world, we have accelerated amazingly into a new a new world where the conventions and some traditions have been proven wrong. But even with this metamorphosis there are still some barriers which hinder the development of society as whole and at the same time prove to be immensely helpful in economic development. It can't be denied that religion plays an important role in creating economic opportunities be it festivals or any ritual, nowadays this grid is so well connected that it is almost impossible to segregate business with religion. Increase in sales of particular products during religious happenings worldwide or demand of commodities because of large scale religious favouring as in some festivals can be defined as the outcome of business understanding the religious needs and alignment of the same. India on one side is united by it is diversity and on other side is bifurcated on religious grounds as seen by the trends in political elections in recent decades, say political Supremes. If we closely analyze the data, it is very surprising to see how the minority favours a single party pan India and majority falls divided supporting different parties. However, we are still struggling to come out of the religious jinx and support the one who prefers national agenda and not religious. The role of religion in politics and commerce can't be denied, not just in India but worldwide as it has widened the scope of economic benefits and has created ocean of opportunities to do business.

Abstract ID: RSC-530

### **Ancient Wisdom - Overlapping of Traditional Principles in Present practice**

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India is known for its rich culture, traditions and ancient wisdom. Rajasthan is a traditional state of India. As human are moving towards globalization and urbanization instead of carrying our traditional practices we are leaving them behind, and we are unable to recognize how much our history can give us. The objective of this paper is to study the changes and evolution of traditional practices to modern practices of settlement in Rajasthan and how these planning techniques and principles are evolving and their effect on the microclimate of the settlement. Jaipur offers composite climate and the temperature remains relatively high all through the years, with which in turns affect the planning of settlement in Jaipur. The traditional building are climate responsive, history has already proved the use of local material in designing in culture, social and economic aspects. The present generation of architects mostly have a perception that vernacular and traditional built forms do not have the capability to stand in modern time. They might be true but vernacular and traditional built forms had survived for centuries. So, it is needed to understand the essence of vernacular and traditional architecture which can be implemented in modern plans of houses. This paper will study the high profile house's plan of Jaipur old city. The study will explore the principle of vernacular and traditional architecture which had been drafted under cultural and social influence and they are still in practice and can be implemented in present culture and lifestyle, cultural aspect in planning will help in acceptance of houses in modern society the study will help the practicing architects to understand the core influence on the society in the past. The paper concludes by learning and appreciating the principles of vernacular architecture and integrating them with the contemporary knowledge and technology.

Abstract ID: RSC-531

### **Water Conservation techniques and its use for Passive Cooling in dry arid region of India: a study of Kuchaman Fort (Nagaur, Rajasthan)**

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Water, the basic necessity for the survival of life is becoming scarce and its sources are also depleting due to climate change. The importance of water is very much realized not only for daily activities but is effective in passive cooling too. The traditional knowledge of rainwater harvesting and passive cooling that is embedded in various historical monuments and settlement can be explored and adopted with the scientific methods to face the warning of the water crisis. This paper tries to find out the various traditional water harvesting techniques used throughout India and limit the study to dry arid region of Rajasthan where water is scarce resource and has very harsh climatic conditions. This paper explores the water conservation and passive cooling techniques used in Kuchaman fort, Nagaur, Rajasthan. The qualitative and technical aspects of the residential zone of the fort are studied and will try to explore effectively used in contemporary building designs and construction.

Abstract ID: RSC-532

### **Society, Environment and Ethics- A comment**

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Today we live in a global society where people across the globe purchase, use, and dispose off a huge variety of products which make our lives smoother and more comfortable. However, such activity can lead to massive damage to our environment. What can one individual do on his own part to protect the environment? However, working together and joining hands with dozens, hundreds, or millions of other people, one can influence and change policies which are destroying our own environment. The merits of environmental conscious design are sometimes blamed as futile, as the world has not accepted the significance of environmental contribution to the solutions of global problems that are existing all over the world. This article mainly lays emphasis on: Efforts put by authorities and individuals to protect the natural resources and our planet. Relationship between the Society and the Environment for the existence of human lives. Role and Influence of the physical environment in the lives of living creatures on the earth. Responsibility of humans in protecting the environment along with other surroundings on this earth. Steps taken for the protection of environment, air and water. This paper also deals with the problems of global warming and climatic changes that are occurring due to the destruction of forests. Thus, the need for forest conservation has also been covered up in this paper. Moreover, the steps for the protection and the conservation of the environment have also been laid down at the end of paper.

Abstract ID: RSC-533

### **Sustainable Development**

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Sustainability is significantly important for fashion business due to consumers' increasing awareness of environment. When a fashion company aims to promote sustainability, the main linkage is to develop a sustainable supply chain. This poster contributes to current knowledge of sustainable supply chain in the textile and clothing industry. We first depict the structure of sustainable fashion supply chain including eco-material preparation, sustainable manufacturing, green distribution, green retailing, and ethical consumers based on the extant literature. We studied the case of a fast fashion company, which has constructed its sustainable supply chain in developing eco-materials, providing safety training, monitoring sustainable manufacturing, reducing carbon emission in distribution, and promoting eco-fashion. Moreover, based on the secondary data and analysis, we learn the lessons of the company's sustainable fashion supply chain from the country perspective: (1) the company's sourcing managers may be more likely to select suppliers in the countries with lower degrees of human well being; (2) the company's supply chain manager may set a higher level of inventory in a country with a higher human wellbeing; and (3) the company CEO may consider the degrees of human wellbeing and economic well being, instead of environmental wellbeing when launching the online shopping channel in a specific country.

Abstract ID: RSC-534

### **Organic Waste Resources and Recycling Trends in Rajasthan, India**

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Organic waste is produced wherever there is human habitation. The main forms of organic waste are household food waste, agricultural waste, human and animal waste. Rajasthan is growing at a fast pace. With this growth comes great amount of waste and the responsibility to handle that waste properly. Although many gardening enthusiasts 'compost' some of their kitchen and garden waste, much of the household waste goes into landfill sites and is often the most hazardous waste. The organic waste component of landfill is broken down by micro-organisms to form a liquid 'leachate' which contains bacteria, rotting matter and maybe chemical contaminants from the landfill. This leachate can present a serious hazard if it reaches a watercourse or enters the water table. Digesting organic matter in landfills also generates methane, which is a harmful greenhouse gas, in large quantity. Human organic waste is usually pumped to a treatment plant where it is treated, and then the effluent enters a watercourse, or it is deposited directly into the sea. Little effort is made to reclaim the valuable nutrient or energy content of this waste.

Abstract ID: RSC-535

### **It's Time to Up-cycle**

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We all are living in a ready-made society, where production is primarily driven by business which aims to maximize sales, increase economic profits and grow market shares. Products are rarely designed and manufactured to meet any real need or specific demand by customers. Most people rarely need mass-produced and ready-made products, may it be clothes, home textiles or other accessories. The need to fill our homes with additional pillows, glasses, table cloths, t-shirts, pants or accessories is no longer real. Accelerated pace of consumption of textile products and accessories has led to an increase in clothing and textiles disposed of in the garbage. It is the time when we need to switch to sustainable fashion or "Slow fashion". Sustainable fashion is about producing clothes, shoes and accessories in environmental friendly manners. Now a day's people are quite aware about the pollution caused due to manufacturing of textile and due to non-decomposing feature of most of the textile waste. People all over the world are moving towards organic and recycled products, but there is a more greener and more sustainable option called Up-cycling. Up-cycling is the process of converting old or discarded materials into something useful and often beautiful. An average person living on the earth contributes around 1.5 tons of solid waste each year, which is actually a lot of waste! Whether it's old clothes, household items, furniture, or hundreds of other items, the sky's the limit for up-cycling different items, and there are many positive benefits of doing just that. The particular study is based on the various beautiful ideas to reuse the old without consuming the energy, raw material, chemical processes etc.

Abstract ID: RSC-536

### **Khadi and its future**

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Khadi is handmade fabric, and as we all know handmade goods hold more value than machine made goods, As it's more pure, natural and original We might not know but khadi can be used in many forms, products and places, the work of art which is used to create the fabric by our own hands, toching each fiber closely and attached and designed and cut by your own hands. I think that's something which makes someone a complete designer in true sense, to start the process from the very beginning to its very end. Khadi can be presented in the international market in various ways' and products which can actually bring some change in our economy in textile industry. It's an amazing product line which can be up on the international fashion market as the best designer product by any designer and can create something which even we can't expect by the masses. And my study is all about khadi and its different kind of uses which we put or display globally or in international fashion market. I'll be studying the facts and history about khadi and how can we change it and make it a global product in this country and foreign country's which can new and useful at some time. And how the fashion industry is will react to it and its new products which might hit the general population and on that basis how the market will react to it. Khadi can be the new face for Indian fashion industry if we use it like wise.

Abstract ID: RSC-537

### **Sustainable development and Environmental Growth**

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Sustainable Development means an integration of development and environmental imperatives. It means development in harmony with environmental considerations. Sustainable Development is development that meets the needs of the present without compromising the ability of the future generations to meet their own needs. Absolute economic convergence is possible in economic development region, which already, is passed by the maximum growth rate and can be defined by the growth rate and was also seen that the growth gradually approaching the study state (zero growth) stage. This paper contributes to the growth of our reign, focusing on not only economic but also environmental sustainability aspects and consequences of convergence. The results that the direction and rate of economy in different regions were depended on their development and corresponded well to the primary growth. In development, a country leads to the divergence among countries of the region. Economic growth and convergence lead to both positive and negative environmental outcomes which were analyses by using sustainable development method. The first signs of absolute decoupling were noticed over the last decades of some developing countries. But even by performing this idea the level of decoupling was not sufficient, that is why the environment in developing

188

country was degraded much faster as compare to the economy. In India, rapid growth of population, poverty, and urbanisation take place due to several factors which relates to industries and other. Environmental problem became the serious problem in many countries hence it cannot be ignored. The main problem in India related to air pollution, water pollution particularly in metropolitan cities and industrial zones. That is why to control all that problems many programs of environmental awareness has been launched by the government and some strict rules were made by the government. The government has recently started emphasizing the combined use of regulatory and some economic instruments on reducing the economic problems. There is requirement of coordination between the government agencies and N.G.O.s and the public also because they play an important role in economic development to achieve the target which was set by the government that was sustainable development for environment.

Abstract ID: RSC-538

### Sustainable Development and Environment

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The most widely accepted definition of sustainable development is one which published in 1987 by World Commission on Environment and Development in the Brundtland Report also known as Our Common Future. According to it, sustainable development is "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs." This sounds like a very responsible and simple concept. Most people want to preserve all which is good in the natural environment, so their upcoming generations can be benefitted from its rich resources. If each human being uses what he or she needs for survival, then the natural environment can keep giving back, and essentially humans and the environment can live in harmony for many generations to come. For sustainable development to be achieved, it is crucial to harmonise three core elements: economic growth, social inclusion and environmental protection. These elements are interconnected and are all crucial for the well-being of individuals and societies. The economy and society are dependent on the environment. This is because the environment provides them with raw materials such as food, clean air and freshwater, as well as natural resources, such as timbers and fossil fuels. The economy, society and the environment must work together and they have done so for centuries. But there are some economic and social needs that must be met and those needs impact or pressurise the environment's ability to sustain itself and due to ever increasing social and economic demands the environmental limits of our planet get stretched. The continuously growing world population is a major factor that pushes the environment by increasing demands of goods and services from industry and business. That, in turn, deplete the natural resources and increase pollution which making it more difficult for the natural environment to sustain itself. Living within our environmental limits is one of the central principles of sustainable development. One implication of not doing so is climate change. So we must need environmental sustainability which means that we are living within the limits of our natural resources. To live in true environmental sustainability we need to ensure that we are consuming our natural resources, such as materials, energy fuels, land, water...etc; at a sustainable rate i.e. it requires society to design activities to meet human needs while preserving the life support systems of the planet and requires that human activity only uses nature's resources at a rate at which they can be replenished naturally. Inherently the concept of sustainable development is intertwined with the concept of carrying capacity. The need of hour is that we have to conserve natural resources and to develop alternate sources of power while reducing pollution and harm to the environment. The longer we pursue unsustainable development, the more frequent and severe its consequences are likely to become, which is why we need to take action now.

Abstract ID: RSC-539

### Phytotoxic effect of textile wastewater on germination and growth of *Triticum aestivum*

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The paper presents an investigation conducted in order to study the phytotoxic effects of textile wastewater on germination and early growth of *Triticum aestivum*. *Triticum aestivum* belongs to family Poaceae and commonly referred to as common wheat, bread wheat. Sixteen samples were collected from Bagru (Hub of small scale textile industries) Rajasthan and were analyzed for various physic-chemical parameters including pH, TDS, EC, Chloride, hardness etc. the wastewater were rich in hardness, chloride etc with pH ranges from 3.0 to 9.1. Parameters studied in case of *T. sativa* includes germination percentage, percentage phytotoxicity, Tolerance index, relative length of germinated seedlings, fresh weight and dry weight of seedlings. Germination percentage and seedling growth shows considerable reduction as compared to control with relative germination percentage reducing to 36.66% as compared to control with 100% germination percentage. Similarly, the wastewater showed inhibitory effect on seedling growth with minimum length of root up to  $1.23 \pm 0.1$  cm and shoot up to  $0.68 \pm 0.05$  cm in contrast with control

with  $7.12 \pm 0.01$  cm root length and  $6.25 \pm 0.04$  cm shoot length. Effluent with lower concentration showed seedling growth higher than the control. The findings indicate that textile wastewater being rich in dissolved solids reduces the energy supply through anaerobic respiration causing retardation of growth and development of seedling. Similarly increase in phytotoxicity percentage and decrease in tolerance index and vigour index was observed. Therefore, use of wastewater for irrigation purpose cannot be permitted without treatment.

Abstract ID: RSC-540

**Cost effective & an efficient bio alternative for waste water treatment: *Moringa oleifera***

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The present study was carried out to confirm the effectiveness of seed powder extracted from mature-dried *Moringa oleifera* seeds which are commonly available in most rural communities. In our studies, the water samples were collected from Jayoti Vidyapeeth Women's University campus for treatment by Moringa seeds in powdered form, resulting in an effective natural clarification agent for highly turbid and untreated water. Various doses of Moringa seed powder viz. 2, 4, 6 g/l were taken and checked for their efficiency dose on raw water. After treatment of seed powder water samples were analyzed for different parameters like pH, EC, TDS, alkalinity, hardness and sulphates. All the parameters were reduced with increasing time with the treatment with seed powder. Maximum reduction was in Sewage water in reference to pH, alkalinity and sulphates. In Duckpond, maximum reduction in EC, TDS and Sulphates. Hardness of water was maximum reduced in Tubewell water after 2 hrs. Application of low cost *Moringa oleifera* seeds is therefore, recommended for eco-friendly, nontoxic, simplified water treatment where rural and peri-urban people living in extreme poverty.

Abstract ID: RSC-541

**Employability through Effective Communication Skills**

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Employability skills are a set of achievements, understandings and personal attributes that make individuals more likely to gain employment and to be successful in their chosen occupations. Such skills are coined as Soft Skills which further harmonize Hard Skills. Embedding the training of soft skills into hard skills courses, is an effective and efficient method of achieving both an attractive way of teaching a particular content and an enhancement of soft skills. Adequate communication skills are a pre-requisite for a range of other soft skills like moderating discussions or conflict management. Soft skills fulfill an important role in shaping an individual's personality. It is therefore important that students acquire skills beyond academic or technical knowledge. Good English faculties will always be meticulous learners. There is always a scope for innovations and improvement to enhance linguistic proficiency.

Abstract ID: RSC-542

**Action Research in ESP: The way forward**

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The teaching of English for specific purposes (ESP) in India is marred by various lacunas. The absence of a platform to train teachers to incorporate research and teaching procedure leaves them to bank on the conventional theoretical pedagogical methods. These conventional models fails to account for the changing trends and it also fails to contextualise the teaching procedure in accordance with the needs and demands of the class. This loophole can be gauged by the use of Action Research by the teachers. Burns (2011, 2) defines action research as a reflective process in which the teacher assumes the role of researcher. It involves taking a self-reflective, critical, and systematic approach to discovering one's own teaching contexts. This paper endeavours to analyse the methods and means by which a teacher of ESP can employ and engage with action research to develop better strategies and pedagogical methods.

Abstract ID: RSC-543

### **Human Capital is the key to Success: A Case Study**

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Any organization which is plays a vital role in the development of business. The skills brains or the people working in the organization are innovation focused will be able to meet the peoples demand more effectively. The continuous innovation in the organization will enhance the visibility of the organization and ultimately give push to the business development. We are committed to associating with employees and consolidation our talent pool by providing them with growth and career enhancement opportunities. Today we have a large and diverse workforce, and we continuously design and implement processes and programs to foster people development, leadership development, and skill developments among our global teams.

Abstract ID: RSC-544

### **Sustainable development of traditional knowledge**

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Studies have indicated the expanding essentialness of knowledge and Traditional Knowledge frameworks in sustainable development in India. The way of life and knowledge frameworks of indigenous individuals and their establishments give valuable structures, thoughts, controlling standards, strategies and practices that can fill in as an establishment for viable endogenous development alternatives for re-establishing social, monetary and ecological flexibility in many parts of the nation. It is accordingly fundamental that Traditional Knowledge Systems in the creating nations ought not be eclipsed by the mastery of societies that encourage disparity and realism. Traditional Knowledge is a pluralistic approach for preserving and overseeing characteristic assets. Traditional Knowledge is dynamic - new knowledge is persistently included. Such frameworks enhance from inside and will likewise disguise, utilize and adjust outer knowledge to suit the nearby circumstance. These knowledge frameworks have much to offer to approach creators, natural directors, overseers, and partners. The connection between traditional knowledge and licensed innovation rights has turned into a theme for serious debates at the national level, in different worldwide settings and inside and among various UN offices, including the World Intellectual Property Organization (WIPO), the UN Food and Agriculture Organization (FAO.), UNESCO, UNCTAD and the United Nations Environment Program (UNEP). In any case, an accord on a meaning of customary knowledge still can't seem to rise because of tireless contrasts in observation. From one viewpoint, indigenous groups hold locally particular and all-encompassing perspectives of traditional knowledge, which are hard to put inside the structure of current protected innovation rights. Administrations of creating nations, then again, generally concentrate on obviously characterized parts of customary knowledge and their translation in the national intrigue and as articulations of national culture. Asian governments, specifically, have pushed the last view The Philippines give an exemption because of a convention of perceiving indigenous individuals as independent "social groups". In any case, the functional execution of supposed "group scholarly rights" up to this point is generally kept to access and advantage sharing guidelines, pay necessities for customary agriculturists and cautious insurance measures, for example, computerized libraries recording traditional knowledge.

Abstract ID: RSC-545

### **United Nation's Credibility and The Gulf Crisis (1991): Role of United Nations Security Council Post-Cold War**

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The United nations was created in 1945 after the failure of its predecessor League of Nations to with the objective to maintain international peace and security. The universal rights to life , liberty and security retained by every individual supersede state boundaries and territorial limitations. Since its inception the United nations has committed itself to promote and protect these rights across the globe. To further this purpose the United Nations had delegated to itself certain powers and responsibilities. With the end of the Cold War a Unipolar world order was created with USA as the sole super power. It was pertinent for United Nations to adjust to the different needs of the global community in maintaining international peace and security under the new world order. The Persian Gulf War whereby Iraq invaded Kuwait was the first test of United Nations peace keeping and security

191

measures in the changed scenario post-cold war. The collective security system as envisioned by its founding delegates was put into operation during the Operation Desert Storm in the Persian Gulf. The collective actions measures undertaken by the United Nations Security Council, the principal organ entrusted with the responsibility of maintaining world order and peace was hailed as a harbinger of a new international order where the major powers of the world would be united against any aggression that would threatened world peace and security across the globe. This paper is an attempt to explore the actions taken by United Nations in the Gulf Crisis in a Unipolar world order with USA as a hegemon and the role played by UNSC in containing the breach of peace Iraq committed by invading Kuwait.

Abstract ID: RSC-546

**Design of flexible pavement (widening and repairing work) on NH – 89**

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A road is a thoroughfare route, or way on the land between two places which has been paved or otherwise improved to allow the travel by some conveyance. There is a very strong positive correlation between a country's economic development and the quality of its road network. Designing of this road is based on the IRC: 37-2012 (for widening portion) and IRC: 81-1997 (for repairing portion). By carrying out survey and levelling collected the road data which is required to draw the cross section of the road. By gathering the soil sample from the road site, we then performed California Bearing Ratio Test. All the above information will be used to design the road.

Abstract ID: RSC-547

**Employability Skills: With special reference to Career Management among Youth**

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In the present scenario probably, most of the candidates who are at the verge of getting placements are not able to perform for lack of Employability Skills. A recruiter is looking for employees who excel in all the skills. The main objective of this research paper is to show how an aspirant should inculcate the employability skills for his betterment of career management. One should manage a career map to set one's goals. Do the Self Introspection and know the various skills for Employability.

Abstract ID: RSC-548

**Nature and Determinants of Household Income Mobility: Study of Social Groups in India**

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Using nationally representative longitudinal data from India Human Development Survey (IHDs), this article analyses household income mobility among Indian households between 2004-05 and 2011-12. This article uses Shorrocks' rigidity index, which compares the Gini of the total income in the two periods with the weighted average of the Gini in each period, and transition matrix to measure the extent of income mobility across the social groups and household types. The study finds that the degree of upward mobility is highest among Upper caste and lowest in Schedule Tribe (ST). It can be seen that 31 percent of Upper Caste (UC) households who were in poorest quintile in 2004 remained there in 2011 compared to 47 percent of ST, however another 11 percent UC households moved up into richest quintile between 2004-11 and this percentage is very low among ST households (3 percent). Similarly, 57 percent of UC households those who began in the richest quintile were still there seven years later as compared to 51 percent of ST households and another 21 percent UC households moved down just one quintile. Besides, this study also shows that households those who take main resources from business, trade and salaried experienced highest income mobility than households who mainly depend on casual work and cultivation. Results of the multivariate analysis (IV estimation) show that the level of education and employment came in very strongly, with large and significant positive coefficients of change in log adult equivalent income. A high initial education of male and female adult and change and share of persons in household engage in non-farm activities and change lead to increasing income level in both rural and urban areas. However, household compositions such as large household size and greater number of children lead to falling income levels.

Abstract ID: RSC-549

### **Csr and its role in boosting industrial participation**

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Forward-thinking associations have answered that question and developed sustainability programs for their members. For those associations that haven't ventured into this territory yet, here are words of warning: If you drag your feet, you will put your members at risk -- and ultimately jeopardize the viability of not only your industry association, but your entire sector. Seven reasons why sustainability programs are good for industry associations

1. Help attract and retain members: Sustainability and CSR programming increases the value and relevance of the association to current and prospective members. It reduces the risk that members will have their CSR and sustainability needs met by other organizations or initiatives.
2. Enhance innovation in the sector: Cost-effective pre-competitive CSR and sustainability collaborations can result in industry innovation, enabling the industry to improve its collective CSR impacts while driving business and operational benefits.
3. Build positive government and NGO relations: Associations that increase their CSR or sustainability expertise are better positioned to contribute positively to regulatory initiatives by government and other agencies and to engage constructively with NGOs and other stakeholders. Associations with voluntary industry CSR and sustainability standards that exceed compliance requirements are able to forestall government regulation.
4. Help identify industry priorities: Many generic global CSR and sustainability initiatives and standards are now available, and this in turn can make priority-setting for members difficult. An industry approach can assist member companies to develop an industry-relevant model tailored to the sector's most material risks and opportunities.
5. Fulfill association goals: Typically association goals include assisting members to be competitive and profitable. CSR and sustainability is one tool to enhance member profitability and competitiveness.
6. Build industry reputation and brand: An association's CSR and sustainability program demonstrates the sector's commitment to sustainable practices and leadership. It can build positive stakeholder relationships with customers, communities, NGOs, suppliers and others. In doing so, it enhances the sector's social licence to operate and grow.
7. Enhance employee recruitment and retention: Associations with CSR programs are able to attract and retain the best and brightest employees who prefer to work for organizations aligned with their values.

Corporate Social Responsibility is a management concept whereby companies integrate social and environmental concerns in their business operations and interactions with their stakeholders. CSR is generally understood as being the way through which a company achieves a balance of economic, environmental and social imperatives ("Triple-Bottom-Line-Approach"), while at the same time addressing the expectations of shareholders and stakeholders. In this sense it is important to draw a distinction between CSR, which can be a strategic business management concept, and charity, sponsorships or philanthropy. Even though the latter can also make a valuable contribution to poverty reduction, will directly enhance the reputation of a company and strengthen its brand, the concept of CSR clearly goes beyond that.

Abstract ID: RSC-550

### **Relative contributions of dry and moist static energy in extreme rainfall events**

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This study is based on observational datasets for the calculation of dry static energy ( $gz+CpT$ ) and moist static energy ( $gz+CpT+Lq$ ). Observations are acquired from NCEP reanalysis. These energies are calculated for three extreme rainfall events (July-August 2010, June-2013 and September-2014) of northern India. The relative contribution of the  $Lq$  is far more than the other terms in the energy equation. Furthermore, this study analyses the importance of each term in the strengthening and sustainability of the extreme rainfall. Vertical structure of the energies provides a better clue about extreme rainfall. Increasing trend of extreme rainfall events over Indian region and thus the moist static energy may influence the climate variability on seasonal scale. Somehow this study cannot explain the triggering mechanism of such extreme events.

Abstract ID: RSC-551

### **A Survey of Jaipur Vehicular Network for Intelligent Transportation System**

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India's road network is the third-largest road network in the world, next to the US and China, It spanning across 4.69 million km. Roads in India bears about 85 per cent of the country's passenger traffic and 60 per cent of freight traffic. The key factors

responsible for driving demand in the sector have been the rise in two-wheeler and four-wheeler vehicles and increasing freight traffic. National Highways (NH), under the jurisdiction of National Highways Authority of India (NHAI), constitute for almost 2 per cent of the network but carry about 40 per cent of the total road traffic. This research work uses the realistic automotive network scenario of Jaipur, Rajasthan, India region. So it is very much necessary to survey the existing transportation availability and its status, details of road, vehicles and population across the state of Rajasthan, especially the Jaipur region. At the same time our survey will also provide the status and causes of accidents for the Indian automotive networks.

Abstract ID: RSC-552

### **MOOCs: A Helping and Informative Tool for the Young Professionals**

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There is no denying the fact that English is the window to the world of employment too. India is one of the youngest nations which houses more than 54% of the total population below 25 years of age. India's workforce is the second largest in the world after China but India's formally skilled workforce is approximately 2% as compared to China, Japan etc. One among the many challenges is that India is presently facing a dual challenge of acute rarity in highly trained and quality employees along with the non-employability of large sections of the educated workforce with vast skill gaps. This paper is an attempt to discuss the role, importance of Moocs as to how they can be a helpful and informative tool for the Indian learners of English and Employability skills.

Abstract ID: RSC-553

### **Leopard Project Rajasthan**

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In this paper we consider how due to human -animal conflict there is an urgent need for conservation. The government initiated a new Centrally Sponsored Scheme 'Assistance for the Development of National Parks and Sanctuaries' entitled Integrated Development of Wildlife Habitats to focus on the need to ensure better protection of wildlife outside the protected areas and initiate recovery programmes for saving critically endangered species. To ensure better protection of the wildlife, and critically-endangered species and habitats in and outside protected areas, the centrally-sponsored scheme, 'Assistance for the Development of National Parks and Sanctuaries' has been modified during the 11th five-year plan period to address the new generation issues facing wildlife conservation. One of the key issue that is being dealt with is protection of leopard and to conserve their habitat in the State of Rajasthan. Jhalana reserve forest will spearhead 'Project Leopard' its one of its kind in the entire country with its entire focus being on leopard and its preservation and will be launched across 8 conservation reserves and sanctuaries across Rajasthan The government has passed a multi crore budget to fund this project The blue print of the project is ready with the forest department and is to be launched in the first week of October that also happens to be the 'Wildlife Week'.

Abstract ID: RSC-554

### **Cashless Economy- A Way towards Sustainability**

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Cashless economy is the need of hour for better development of the country and for bringing majority of the citizens to organised financial mainstreame. The argument posited in favour of cashless economy, that the digital transactions are the need of hour for better development, growth and for better structure of economy. The implementation of such a drive is based on government measures, ways of digital payments, benefits and the availability of resource used for payment etc. The objective of this paper is to find out the impact of cashless economy and to find out the commonly used digital method of payments used by most of the people. The study also attempts to find out the reason behind choosing a particular method of digital payment. This paper elucidates the impact of credit, spending, level of activity, government finances, flow of moneys and digital methods used for payments along with the reasons of selecting that particular mode of payment by the users.

Abstract ID: RSC-555

**Triple Talaq: A Rendezvous with Oppressiveness and Malevolence**

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Talaq and Divorce though have always been used interchangeably yet the former is distinct in nature as it is the termination of marriage by the sole prerogative of the husband unlike English Divorce, which can be initiated by any partner. The Islamic concept of dissolution of marriage stands on power of announcement by Husband bestowed to the latter by Almighty Allah. It is this unique authority, which makes Talaq different from Divorce. This unilateral power of one partner though sanctioned under Islamic scriptures, nonetheless has often been exploited. A comparative case study of legislations adopted by different countries has been undertaken to evaluate this issue. Talaq-ul-Bain or Triple Talaq has been critically analyzed in the background of Islamic law and many scholars have suggested reforms to bring this law into conformity with the true spirit of Islam by treating both partners on equal footing in a society. Triple talaq is the practice under which a Muslim man can divorce his wife by simply uttering 'talaq' three times. It is prevalent among India's Muslim community majority of whom follow the Hanafi Islamic school of law. This paper explains the forms of talaq laid down under the holy Quran and the procedure for the same. This religious practice has become a custom and in this paper throws light on how it is not a good form of custom. The legislations are silent upon the practice of triple talaq.

Abstract ID: RSC-556

**Innovation Portfolio in the VUCA Era**

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In the last few years, technology has taken marketing by storm. Channels proliferated, and then converged; information turned into a tidal wave; and customer expectations for new experiences rose to new heights. What this means is that marketing has changed more in the last five years than in the hundred before that. The speed of change in marketing is picking up its pace, and it's going to keep accelerating. The implication is that marketing is shifting again, this time to managing customer engagement – meaning that marketers will need a customer engagement platform to keep up. It is the latest emerging Business Model. It has disrupted the regular flow of traditional business model also termed as Pipeline Marketing. The name very well suggests that value is created at one end and transferred into the other end. The flow of product and service is at one direction only. In the last five years we have seen that the biggest Taxi Company doesn't own a taxi, the largest accommodation provider is not having any asset, the biggest product selling company is not having any inventory. The owner of these companies are from the age of 19 to 29 years mostly and they have become billionaires. Digitalization has broken the business flow and the middleman has become very strong. In platform marketing an Eco system or a platform is created where different people interact. It is basically an exchange platform. In this value is not created by the owner, it only helps in creating a value. Let us talk about Android first, they neither made handset nor an application. They created a space where application developers put their applications and consumers used it. For the upcoming management students it is imperative to have a clear view or understanding of it. In creating a platform they have to first generate an idea or seed which will create a pull for both consumers and producers. This seed should create a magnetic effect to pull the consumer and the user on one platform. Platform should enhance this value created by the producer and the consumer should feel satisfied with the value product.

Abstract ID: RSC-557

**Tourism Industry in India and GDP**

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It is internationally accepted that tourism has been the most rapidly growing sector. Tourism is the main employment provided sector Tourism always encourages economic growth. Tourism in an important sector in India it also plays an socio-economic contribution for national economy. Tourism has been in evidences from centuries. Tourism in the one of the most basic & most desirable human activity which plays a very vital role to encourage people to travel & use various activities for which helps in increase growth in economy, cultural, social and industrial development of any nation, tourism sector. According to World Travel & Tourism Council travel & tourism directly supports 292 million jobs globally, that is 1 out of 10 of all the jobs on the planet generating 10.2% of global GDP, thus by calculated that tourism generated INR 14.1 trillion or 9.6% of the nation's

195

GDP in 2016. It supported 40.3 million jobs, 9.3% of its total employment. The sector is predicted to grow at an average annual rate of 7.9% from 2013 to 2023. India travel and tourism sector has also the fastest growing amongst the G20 countries, growth is forecast for 2017. This gives India the third rank among countries with the fastest growing tourism industries over the next decade. India has a large medical tourism sector which is expected to grow at an estimated rate of 30% annually to reach about 95 billion by 2015. Tourism is a composite of activities – services and industries that delivers a travel experience namely, accommodation, transportation, entertainment and other hospitality related services to individuals and groups that are travelling away from home. Tourism in India has a huge potential, the country's unique diversification of culture and natural attractions constitute the resources for tourism industry

This paper discusses how India is emerging as a popular tourist destination in the world. This paper will also highlight the tremendous growth is growth in tourism in India because of policies of government and support system thus it will enhance few ideas & policies for improvement of tourism. keeping in view that progress in tourism is great in India.

Abstract ID: RSC-558

### **Textiles for Better Future**

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"Textile and fashion products are manufactured, distributed, sold and used worldwide, so the textile and fashion industry has a major impact on the environment. Environmental issues are playing an increasingly important role. This paper aims in developing an understanding of the term of sustainability, and its importance including aspects related to sustainability for education purpose in the discipline of textiles and fashion. The paper presents different aspects of sustainable development of textiles. It is shaped in six major segments:

1. Sustainability - concepts and definitions
2. Textiles and fashion impacts
3. Eco fibres and textiles
4. Environmental aspects of textile finishing
5. Green chemistry and the textile industry
6. The consumer and future challenges

Sustainability is the most important concern in the advance technology related to fashion & textile economy. In present textile and fashion production houses, this has been a burning issue for many related concerned bodies like cultivators of fibers, production processors, dyeing or printing industries. Over the last few years, increasing awareness of the environmental and social concerns surrounding the fashion & textile, industry has noticed a change in their system and for the implementation of sustainability initiatives. Sustainability is gaining importance because of heightened ecological challenges."

Abstract ID: RSC-559

### **Regression model for BSE – Sensex and exchange rates of different foreign currencies**

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In India, the stock market fluctuates with respect to foreign exchange rates of different currencies. The secondary data of exchange rates of US Dollar (USD), Pound Sterling (GBP), Euro, Japanese Yen and Closing price of Sensex of 3860 days were collected from websites of RBI and BSE. BSE – Sensex was taken as dependent variable and Foreign exchange rates were taken as independent variables. After verifying all the assumptions required for proper regression analysis the best model was fitted. It was observed that the effect of 1st difference of USD and 1st difference of Yen was negative and 1st difference of GBP was positive on 1st difference of Sensex. The proximate reason behind this may be the difference in foreign trade volume and traded commodities & services.

Abstract ID: RSC-560

### **Portable and Peripheral Communication: Pen and the keyboard technology**

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In the computer age there is an authentic probability that adult find handwriting far less imperative to them than in the past. A hand written communication is increasingly atypical in the adult world, in fact it is deplorable. The technology of pen suits some people and the technology of keyboard to the other. This does not make handwriting outmoded and never will. There is also a fundamental facet that pen technology is cheaper than the keyboard technology, and is far more portable than computer. Technology can reach no doubt to the incremental miniaturization; the importance of pen technology cannot be overlooked. The paper will focus on the fundamental relationship between reading and writing and relate it within the emerging and by no means stable world of the electronic media. It will throw light on how we can make the maximum use of the current capabilities of the convergence of information and technologies and offers some cautions and some optimistic visions of the decidedly imminent future. Handwriting is a prison for many students and adults. Much energy has been spent on trying to develop a handwriting system that will enable everyone to have neat, legible and fluent handwriting

Abstract ID: RSC-561

### **Globalization and Its Impact on Indian Agriculture Scenario**

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Agriculture is the premise and key to economic and social improvement of any general public on the planet. Every general public, especially of the tribal one has its all-around characterized conventional rural practices. Be that as it may, the learning acquired by the tribal individuals for its administration which is the result of over hundreds of years of experience, expertise and data being undermined at this time of globalization. Almost certainly the uneven new innovation and apparatus instruments have made the work substantially less demanding and quicker however it has disregarded the other sensitive side of the world which is the earth. The present investigation is in this manner an endeavor to overview the huge indigenous information, rich culture and conventions honed for the agricultural management and the reasons in charge of the loosening of the grasp of agriculture manageability in the area.

Abstract ID: RSC-562

### **Globalization Impact on Environment and Proposal for Solution**

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Artificial or Natural things all are related with environment also called environmental components and these components are continually changing in line with the importance of an international investment. Stability between environment and development cannot reaches under the required effects of globalization. Day to day urbanization become utilize centers rather than production. Concentrating on additional incomes and savings carries about the distortion of the urban environment, it contributes irreparable injuries to environment. To avoid this adversity also authorized methods, it is mostly essential to intensification to people's attention. Education about the environment is very essential tool in these measures. It will help to change people's perspective regarding environment that it will help to people may think in positive way with environmental education. The people who could have a great knowledge or environment savvy can provide on the solution of environmental problems. In this study that tried deals with the environmental problems as a replication of globalization, environmental education happenings will be highlighted as a proposal for solution.

Abstract ID: RSC-563

### **A Literature Review on Barriers in Implementation of Lean Manufacturing in Indian SMEs**

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There are several key lean manufacturing principles that need to be understood in order to implement lean. Failure to understand and apply these principles will most likely result in failure or a lack of commitment from everyone in your organization.

Without commitment the process becomes ineffective. Lean Manufacturing is the production control technique for eliminating the waste from your manufacturing. We would like not only to introduce you to the many production control techniques that have been created in Japan such as the Toyota Production System, Production Scheduling, JIT, KANBAN and 5S.

Abstract ID: RSC-564

### **An Investigation for the Scope of Multi Network Marketing in India**

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Every product in market do need some kind of marketing strategy to be sold. Those marketing can be done in many ways, i.e. through advertisements through newspapers, flyers, magazines etc. and through network marketing. Network marketing is a process in which a network is created through people and those same people promote products to others and network marketing companies pay them well. Many well-established network marketing companies in India are Amway India Ltd, Modicare Ltd etc. The MLM system has been found to be much more memory, resource and time efficient. The system is simple to maintain. The concept of Multilevel Marketing or network marketing is a method of product distribution. The products are moved through independent distributors. The distributors are given an opportunity to introduce other distributors to the business. In this paper I would like to highlight the meaning, growth and scope of multi network marketing in India. And also how it contributes to employment level in Indian Economy. This paper also presents for bringing changes in business environment using plan called multilevel marketing. The paper describes what it is, why it is used, and what its limitations are when compared to the existing system of Marketing.

Abstract ID: RSC-565

### **A study on GST: Awareness, Prospectus and challenges in Indian Economy**

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Amongst the mixed responses that has emerged amongst Government of India has implemented GST from 1st April 2017. It is one of the substantial steps towards the development of Indian economy. The basic aim behind introduction of this tax was -simplification of taxes in country and avoiding unnecessary complexities. . Earlier companies used to pay multiple taxes which increased the cost of product and also hampered the profit earning capacity of the firms. India is a federal country where Indirect Tax is levied by Central and State Government It will be a milestone in the history of India to subsume all indirect taxes under one umbrella. This paper focuses on a number of opinions in society with regards to implementation of Goods and Services Tax (GST). The basic objective is to find out the objective to identify the level of awareness about implementation of GST. The paper will also highlight the background, prospectus and challenges in Implementation of Goods and services Tax (GST) in India.

Abstract ID: RSC-566

### **Impact of Tourism on Economy of Rajasthan**

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The state of Rajasthan with its rich historical culture and heritage has emerged to be as most visited destination for both international and domestic tourists. Development of tourism is considered to have a positive impact on economic growth of a State. Its impact on an economy of a state is multifaceted but tourism may represent an excellent tool for development. The present paper presents preliminary findings and the main purpose of this paper is to examine the relationship between Gross State Domestic Product (GSDP) and the total tourist arrival in the state during a period of 2001 to 2015. It also examines the possible reasons of sudden increase or decline in tourist arrival in the state and its impact on GSDP. Besides, these the projections for possible tourist arrival in the State using different statistical tools over the coming years and suggested ways for improvement of tourism industry as a perspective tool of economic development in Rajasthan.

Abstract ID: RSC-567

### **Evolution of Sarees**

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The study aims to describe and analyse the drape of the sari, such as, worn by Indian women. A saree is a female garment from the Indian subcontinent that consists of a drape varying from five to nine yards (4.5 metres to 8 metres) in length and two to four feet (60 cm to 1.20 m) in breadth that is typically wrapped around the waist, with one end draped over the shoulder, baring the midriff. It is associated with grace and is widely regarded as a symbol of grace in cultures of the Indian subcontinent. The study also aims to define and analyse the saree in a comparative manner; within a region and a nation, in both rural and urban environment, amongst adivasis. Studying about saree will be an excellent tool for understanding aspirations and ideas of the contemporary Indian women. The history of the Indian saree is full of tradition, pride, and innovation. The cultural ideal of decorum and dignity is also satisfied by the sari. The sari readily fulfills this function. Through an analysis of the wearing of the saree, the relationship between men and women, social and political life and the evolution from the rural India, are presented.

Abstract ID: RSC-568

### **Evolution of bridal dresses**

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The study aims to describe & analyze the evolution of bridal dresses in western culture. Weddings have always been a sacred affair. Social settings, war times, economic crisis, trendsetters have all contributed towards the evolution of bridal dresses. From frilled, corseted, high neck numbers to glitzy fishtails we see now, decades have gone by in transforming wedding gowns. The iconic white colour associated with it represents either a new phase, purity or virginity according to different mindsets. The classic white wedding dress has long since changed into pleasing pastels and daring reds. Wedding gowns also symbolises fashion trends of that era making it a prominent part of the fashion industry.

Abstract ID: RSC-569

### **Bamboo Clothing: A Green Substitute to Cotton**

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Despite its natural image, the conventional cultivation of cotton has serious impact on people and the environment. Increasing resources use has made it necessary to the most important natural textile fibre. Since bamboo requires no chemical and very little water to grow, it is an environmental wonder plant. As if this were not enough, bamboo absorb more carbon-dioxide from the air than either the cotton or timber. Bamboo is 100% natural and biodegradable which gives conscientious consumers real peace of mind. One you have no further use for a bamboo product you can rest easy, knowing that it will return to earth leaving minimal environmental impact. Bamboo is an extremely resilient and durable fiber. At the same time it can feel beautifully soft and pleasant to the touch. When compared in studies to cotton and polyester, it has been found to be stronger, have been better moisture wicking properties and better moisture absorption than the more common place western material.

Abstract ID: RSC-570

### **Environmental protection and sustainable development**

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The term 'environment' cannot be defined precisely as it is linked with many subjects like ecology, biology, geography, physiology, psychology etc. But in the layman terms, environment can be defined as the surroundings like natural resources, atmosphere, water bodies, sunlight etc in which an individual or organism lives. To C.C Park, (1980) environment is the sum total of conditions which surround a man at a given point in space and time. The basic components of environment are three types viz (1) Abiotic or non-living components which include Atmosphere or air, Hydrosphere or water and lithosphere or the rocks and the soil; (2) the biotic or living components comprising flora, fauna including human beings and (3) energy components which include solar energy, geothermal energy nuclear energy etc.

Abstract ID: RSC-571

**Hemp clothing: solution to sustainable living**

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Conventionally grown cotton is natural but is not considered sustainable because large amounts of pesticides and herbicides are used to grow it. Hemp is much kinder to the Earth than conventionally grown cotton. Like hemp, cotton is a natural fibre, but growing it accounts for a significant portion of the pesticides and insecticides sprayed on the world's crops. In this way, cotton has negative impacts on health, water and worker safety. Hemp is the most durable of natural fibers. Hemp is also a very eco-friendly crop. It requires no pesticides and needs little water, yet it renews the soil with each growth cycle. It's long roots prevent erosion and help retain topsoil. Hemp can be grown with little or no chemical fertilizers, herbicides or pesticides. Nothing is wasted in the production process: seeds are used to make oil and food supplements, while the stalks are used for fiber. Hemp also produces more fiber per acre than trees, and can be renewed two to three times per year! The value of this versatile, easy to grow, eco-friendly crop is becoming more and more apparent.

Abstract ID: RSC-572

**HIV related knowledge, attitude among nurses and paramedical health care providers in Delhi**

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Purpose: Currently, estimated 2.1 million people in India are living with Human Immunodeficiency Virus (HIV) infection. This study will discuss about the knowledge and attitude regarding HIV transmission among paramedical staff (Auxiliary Nursing Midwifery, General Nursing Midwifery, Laboratory technician and Operation theatre technician) who are coming directly in the contact with patients in out-patient department (OPD), in-patient department (IPD) and operative cases. Objectives of the study: To assess the knowledge level of paramedical staff about the HIV/AIDS in health facilities in Delhi. And the second objective of the study was to assess the attitude of paramedical staff in health facilities while caring people living with HIV/AIDS in Delhi. Methods/approach: The quantitative study conducted with 94 paramedical staff of 36 small and medium level private health care facilities in Delhi. Total 239 people were contacted for data collection and 94 subjects filled the questionnaire. A set of pre tested questionnaire were formed and tested before collection of information. The questionnaire was distributed in three sections contains demographic information, knowledge and attitude. Results of the study: Among 94 respondents, Majority of the respondents are from the age group of 25-34 years (66%) and the mean age is 29.30 (N= 94). Out of the total, the majority of the respondents are female (57.4%). The different qualification background has noticed in the study. The majority of the respondents are Diploma holders such as GNM (47.9%), ANM (20.2%) and DMLT (19.1%). Rest of them are OT technician, B.Sc., and MLT holders. 47.9% staff are experienced 4-8 years and 33% staff are experienced 9 or more than 9 years. Only 19.1% staff are having 1-3 years of experience in the private health sector. Conclusion: knowledge about the infection of HIV is quite poor as 45.7% respondent have poor and 28.5% have average knowledge among nurses and paramedics staff in healthcare settings. And the attitude of the staff is neither favourable nor unfavourable. This study recommend that a rigors information, education, and communication program should be implemented in the healthcare settings.

Abstract ID: RSC-573

**Deep Ecological Perspectives in James Cameron's Avatar**

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With the multi-folds advancements and innovations, humanity has started turning inhuman towards its own Mother Nature. In the race of calling oneself the most technologically advanced, man has destroyed nature to such an extent that neither there is any scope to return nor to escape the adverse effects of the same. With the increasing number of natural calamities, humans have started realizing that nature is the ultimate source of life. Having understood the essential harmony between man and nature, people are being made aware about the environmental ethics to make them realize the intrinsic value of everything in nature and the same has been attempted in Cameron's Avatar which is a movie that won the Environmental Media Award for

being the Best Feature Film. So, this paper shall attempt to find out the deep ecological undertones behind the great cinematographic representation of the plot that the need of the hour is to save Nature in order to save humanity.

Abstract ID: RSC-574

**An Eco critical Study of Arundhati Roy's The God of Small Things and Amitav Ghosh's The Hungry Tide**

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Indian culture has been aligned and associated with nature. A detailed study of our ancient texts and myths would reveal that all our festivities are associated with different phenomenon of nature. The neglect of the balance between nature and man is responsible for the ecological challenges. The Indian writing in English from its early stages has given nature a very prominent role. Raja Rao and R.K. Narayan have located their novels in the backdrop of nature. The paper focuses to study ecocriticism in two novels of contemporary Indian writers: Arundhati Roy and Amitav Ghosh. They both have carved a niche for themselves and proved their mettle to the world. Arundhati Roy's *The God of Small Things* is located in the backwaters of Kerala and the central character Ammu represents the river. The setting of the important events in the novel is symbolic. The river serves to bring humans closer to nature and to their innate self. Amitav Ghosh's *The Hungry Tide* is set in the Sunderbans where the protagonist with her team attempts to study a rare species of dolphin. The events unfold as the novel progresses in the recesses of the Sunderbans. The paper endeavors to use ecocriticism as envisaged in the texts. The paper will study how the writers represent the nature and ecology and voice their concerns for the same.

Abstract ID: RSC-575

**Role and Contribution of Corporate in Sustainable development of India: A Case of Maharatna Companies in Energy Sector**

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Maharatna Companies are the major contributor of Gross Domestic Product (GDP) in Indian Economy. Of the seven Maharatnas, five are in Energy Sector. With increasing concerns regarding dwindling natural resources and the impact of their usage on our environment, it becomes imperative to investigate the efforts being made by these organizations in ensuring the sustainability of their businesses and our environment. In this study, the authors have done an exhaustive analysis using secondary data and interview method to develop a case for Maharatnas in the energy sector and their role and contribution for sustainable development in India. The data obtained were analyzed using descriptive statistics and content analysis approach. The finding from interview sessions was collated/ grouped under various factors and was used to support and explain the statistics gathered thus enabling descriptive validity and interpretative validity for the research carried out. The finding of the study discusses the efforts made by Maharatnas in achieving their sustainability agenda and programmes and schemes initiated as a part of Corporate Social Responsibility (CSR) to achieve sustainable development of India. These findings will serve as a roadmap to the similar and allied organization in charting their roadmap for sustainability. The study will also serve a knowledge base for scholars and researcher taking further studies in understanding the role and contribution of Maharatnas in Energy sector for sustainable development in India. Finally, it will also assist policy maker in government in designing and implementing policies that assist in the effective and efficient distribution of resources in the energy sector and achieving sustainable development of India.

Abstract ID: RSC-576

**Globalization: Impact on the Indian society**

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Following research articles is just an attempt to highlight, what the globalization is and its effect on the most prominent and developing country ""India"". As globalization is need of hour, therefore too important to get acquainted with the term in detail, it's effect, use and more from pin to plane. Thereby, thee post text in following research article, will enlighten knowledge about the changes, challenges, advancements, it's advantages and disadvantages in detail. Before commencing the article, it's needed

to be aware of certain keywords like, FDI, GNI, liberalisation, integration, I.T. sectors, industrial sector, services, exports, capital formation, regulatory constraints, UNO, competition, population, unskilled labour.

Abstract ID: RSC-577

### **Hospitality's role in the Growth of Character building**

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Hospitality refers to the relationship between a guest and a host. It emphasis on the word Relationship. Guest can be a friend, Relative, or Family member, stranger. Host of the place or any event has responsibility to receive the guest, serve the guest and generate the relationship or bonding with the guest and treat all guests in a warm, friendly, and generous way. In India "Hospitality" is based on the principles "Athiti Devo Bhav:" meaning "Guest is God". The principle is shown in a number of stories where guest is revealed to be a God who rewards the provider of hospitality. Modern Education is aimed to develop as much as knowledge and information in today's child. In History the main focus was on building and developing the various qualities of character. It is stated in "Bhagvat Geeta" that Knowledge should describe as quality of character building. One of the main qualities amongst various qualities of civilized person is "Hospitality" which refers to the virtue of a great soul that comes for the whole universe through the ties of humanity. In this paper Hospitality will show different perspective to develop and grow the inner personality. This research will be effectively useful for generating the practices of Happiness.

Abstract ID: RSC-578

### **Examine the existing career stage model in the consequences of changing nature of work and career**

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A career is a lifelong process that includes the preparation for and choice of a specific occupation. It is used to refer to the choice of the specific profession or vertical advancement in an organization. It also refers to the series of work-related positions occupied by an individual throughout his life and the associated activities, behaviors, attitudes, values and aspirations. Career success is no longer measured in terms of vertical advancement in the hierarchy or increasing salary levels. It is now characterized by the achievement of one's full potential, and the ability to face challenges and assume greater responsibility, along with increased autonomy. The relationship between needs of an employee and work behavior is moderated by the career stage. To explain the career dynamics of the employees several models have been developed by the researchers. These career stages are based on chronological age. Working life of every individual passes through typical evolutionary phases called career stages. The objective of the researcher is to examine the existing career stage model in the consequences of the changing nature of work and careers on career development. For this researcher has taken cron and super's career stage models for the reference. Once the researcher examine the relevance of these two models in the current scenario ,in the future research she tries to identify the needs of employees at different stages of career development and the extent to which they are met.

Abstract ID: RSC-579

### **An assessment of Self Help Group Bank Linkage Programme in Sustainable Development of Rural Uttar Pradesh**

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The basic objective of SHG-BLP is to provide financial and credit assistance to the deprived section of the society who has been avoided by the formal banking sector because of their poverty and they did not have any collateral facility to avail banking services. After the initiation of NABARD in promoting SHG-BLP now various government agencies, NGOs and Banks (Commercial Banks, Regional Rural Banks and Cooperative Banks) are playing an essential role of Self Help Promoting Institutions to promote and monitor the self help groups so that they can avail loan from the formal banking sector and invest that loan amount in income generating activities and can step out form their poverty. With the prime motive to assess the role of SHG-BLP in the sustainable rural development present study based on the two under developed districts of Rural Uttar Pradesh to judge the regional variations of the programme. the results shows that the participating households of the SHG-BLP are investing their loan amount in the income generating activities and those who are investing in non income generating activities reduced their dependency in informal sources of loan and step out form the vicious circle of the debt. As far as their

agriculture income is concern so we can see the much visible difference in their agriculture income and non agriculture income in before when they did not have availed loan and now when they have availed loan from the SHG-BLP. As far as on the basis of the poverty class of the participating households are concern so the poorest participating households are positively affected by the credit of SHG-BLP.

Abstract ID: RSC-580

**Demonetisation: impact on services provided by public banks and private banks**

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The argument posited in favour of demonetisation is that the cash that would be extinguished would be “black money” and hence, should be rightfully extinguished to set right the perverse incentive structure in the economy. While demonetisation effects not only on the people of country but also on banks services , savings and most probably all the features banks provided. When complete cash come in banks than what are the impacts on services. Therefore, it is imperative to evaluate the short run and medium-term impacts that such a shock is expected to have on the economy. Further, the impact of such a move would vary depending on the extent to which the government decides to remonetise. This paper elucidates the impact of such a move on the availability of credit, spending, level of activity and government finances and services of banks. Moreover, complete economy going to cashless so all activities depends on banks so evaluation of effect on services is main aim of this paper.

Abstract ID: RSC-581

**Demonetisation: impact on services provided by public banks and private banks**

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The argument posited in favour of demonetisation is that the cash that would be extinguished would be “black money” and hence, should be rightfully extinguished to set right the perverse incentive structure in the economy. While demonetisation effects not only on the people of country but also on banks services , savings and most probably all the features banks provided. When complete cash come in banks than what are the impacts on services. Therefore, it is imperative to evaluate the short run and medium-term impacts that such a shock is expected to have on the economy. Further, the impact of such a move would vary depending on the extent to which the government decides to remonetise. This paper elucidates the impact of such a move on the availability of credit, spending, level of activity and government finances and services of banks. Moreover, complete economy going to cashless so all activities depends on banks so evaluation of effect on services is main aim of this paper.

Abstract ID: RSC-582

**An analysis of Indian Economic Growth and Economic Development**

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Economic Growth and Economic Development is the most important parameters to find out a country’s well being and the status. It provides the total information regarding every activity of a country. It helps to compute the inter and intra comparison of a country. This study studies about Indian Economy because India is the fast growing economy. It has the youngest population and it provides the information to the Indian as well as to the foreign investor about the growth of an economy which helps them to find out the suitable structure to invest in. This study studies about the Indian Economic Growth and Economic Development since 1951 to 2017 through five year plan as 1951 was the year after independence in which the constitution was made to follow the path of Growth and Development. There are two objectives of this study, one is to understand the pattern of Indian Economic Growth and Development and another is to know about the factors that influence the Economic Growth and Economic Development. The research methodology is done through in-depth literature review since 1951 – 2017.

Abstract ID: RSC-583

### **Impact of Demonetization and GST on the Indian Economy**

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The current Indian Government is in news because of its historic moves; Demonetization of high denomination currency notes and implementation of Goods and Services Tax (GST). The citizen of India hardly recover from the shock of demonetization as they got another shock of GST. As a result of demonetization of high currency value notes and implementation of GST, the nation which was running comfortably with around 8% annual growth of GDP in the year 2015-16 come down to 5.7% in the quarter ended June 2017. The Government's fiscal deficit which was targeted for 3.2% of GDP for the year 2017-18 also increased during April to August 2017. In the last fiscal, Govt. had met the deficit target of 3.5 per cent of the GDP. The Controller General of Accounts (CGA) data showed that the government's revenue receipts worked out at Rs 4.09 lakh crore during April-August period and government's expenditure had been increasing on sequential basis and totaled Rs 9.5 lakh crore at August end. Although, there were some other reasons also behind poor performance of the Indian Economy but demonetization of high denomination currency notes and implementation of GST cannot be ignored completely for the reasons behind its slow and low performance in the current quarters.

Abstract ID: RSC-584

### **Rapidly changing world and standards of professional behaviour at the workplace**

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In globalized and commercialized world, the professional fabric of organization is changing day by day. Morality, ethics and values have taken big seats changing the standards of professional behaviour. It is easier to distinguish between right and wrong action depending on the experience and beliefs but it is very difficult to specify the absoluteness of black versus white. With the wide spectrum of professions and professionals almost from all the walks of life bears the responsibility to practice and inculcate ethics to go long way in life. Not only this, they also have to be prepared to face dilemma in their professional lives. In last few decades technology has immensely grown and many business giants have been created. With this change work culture has also undergone many changes which includes work from home culture and need not be physically present in the office but professional integrity and honesty plays an important role in it. Lot of business acumen and tact are needed to work ethically in politically controlled environment. Professionals have to consider rules and regulation, ethical work culture from country to country. This paper is written to showcase the changing world and change in the standards of professional behavior at the workplace.

Abstract ID: RSC-585

### **Women at work**

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In India, there are women as equal as men who work in offices to earn their livelihood or just for their passion, but tradition and society of India do not allow them to work freely. They face many problems like less compensation compared to men for the same work, late night work, sexual harassment etc. When we compare India to other nations then we can see very much differences in the same case. We can't deny that this is only happening in India, this is there in other countries too but the extent is very low compared to our nations. This opinion paper aims to investigate and highlight various discrimination women faces at work. The methods we have used in this opinion paper are review of literature and reflections. Literature from last 10 years has been reviewed thoroughly. Research papers, opinion papers, Research reports, articles etc. have been sourced through internet and online EBSCOHOST database. This paper finds out that how women face discrimination at the workplaces. But now a day man and woman-both are facing gender bias. There are certain jobs which are occupied only by women or only by men. People don't accept males as nurses and females as firefighters.

**Theme # 06: Peace, justice and strong institutions**

Abstract ID: RSC-586

**Corporate Social Responsibility and Environment Protection: A Judicial Perspective**

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Right to wholesome environment is a fundamental right protected under Article 21 of the Constitution of India. In India environmental law has seen considerable development in the last two decades. Most of the principles under which environmental law works in India come within this period. The development of the laws in this area has seen a considerable share of initiative by the Indian judiciary, particularly the higher judiciary, consisting of the Supreme Court of India, and the High Courts of the States. The role of the administration, although a critical factor in the success of any environmental management programme, has seen its share of problems of scale and definition. The aim of this article is to analyse the role of Indian Judiciary in fixing Corporate Social responsibility (CSR) in facilitating environment protection. This analysis becomes more important in a welfare State like India where companies have to perform the benign task of a bread provider and society maker. A strategy of enforcement of Fundamental Rights against all, including private persons and companies, has been analysed so that environmental corporate social responsibility (ECSR) can be a meaningful reality in India.

Abstract ID: RSC-587

**Constitution of India and sustainable development**

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Over the past few years, “Sustainable Development” has emerged as the latest development catchphrase. A wide range of nongovernmental as well as governmental organizations have embraced it as the new paradigm of development. Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. The concept of sustainable development was introduced in early 1980’s (in particular through the publication of the World Conservation Strategy by IUCN, UNEP and WWF, 1980), in order to reconcile conservation and development objectives. Since then, it has evoked much discussion. The need and importance of sustainable development are to balance our economic, environmental and social needs, allowing well-being for now and up-coming generations. Sustainable development encourages us to conserve and enhance our resource base, by gradually changing the methods in which we develop and use technologies. In developing countries like India, there has been environmental degradation due to over exploitation of resources, depletion of traditional resources, industrialization, urbanization and population explosion. Since, man is the creator and moulder of his environment, his conduct can be regulated through the instrument of law. Extricating itself from the principles 433 Water (Prevention and Control of Pollution) Act, 1974. 434 Air (Prevention and Control of Pollution) Act, 1981. 224 of locus standi 435 and using the instrument of public interest litigation to the maximum effect, the apex court has laid down that sustainable development is a legal obligation of every government.

Abstract ID: RSC-588

**Symbiosis of Industry and Academia**

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The present paper ‘Symbiosis of Industry and Academia’ focuses on coupling of Industry and Academia with the ultimate aim of sustainability in employment. The topic finds Last but not the least the paper also highlights the challenges faced due to association of industry and academics and alternative solutions by incorporating appropriate soft skills.it relevance in the present scenario when India aims to emerge as a growing and influencing economy of the world.

Abstract ID: RSC-589

**Psychology in communication and employability: the perspectives of employers**

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The role and outcomes of communication and language provision in English-medium higher education institutions in India remains central to any discussion on graduate profile and the employability of graduates in the global marketplace. This paper describes the findings of research of communication skills amongst Indian employers and students at different universities. Using a mixed methods approach, data was gathered through student workplace simulations and employer focus groups. Findings show that generic employability skills, channelled through English as a second or additional language, are highly valued by Indian employers. In particular, students need to market themselves as confident, knowledgeable individuals during the recruitment process and after recruitment, continuing to operate successfully in the sociolinguistic culture of their company. Consequently, it is concluded that training of communication in higher education programmes needs to move from purely linguistic and degree-related content areas to a broader remit of communication that covers both specialised discourse fields and broader generic employability skills and competencies.

Abstract ID: RSC-590

### **Effective Communication brings Successful Organizational Change**

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The purpose of this paper is to recognize and discuss the significance of effective communication during the process of managing changes in organizations. The paper reviews the literature investigating the relationship between communication and organizational change. The advantages of successful communication related to improved efforts of employees to plan and execute change strategies are also discussed. This paper also identifies the objectives and communication needs for each stage of the change process. Also, the various motives and benefits of organizational communication are discussed. It defines the organizational communication and presents its various objectives. The means to achieve these objectives and their advantages are also described. The paper offers a change communication model which identifies different variables facilitating effective communication and finally ensuring successful organizational change. Also, highlights the aspects of communication which has proven to be useful for successful changes in business organizations. It would be of value to practitioners and researchers seeking to develop their communication skills and encourage members of staff to demonstrate improved results.

Abstract ID: RSC-591

### **Sustainable Development and Environment**

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All through we have discussed the various aspects and areas of the economic growth of India. In this era of globalization, prospects of economic growth are very high, but we have to consciously choose the paths which do not have a negative impact on the environment. The economic development should be sustainable and should leave the environment untouched and unpolluted. The contribution of the environment towards the economic development of a country should be understood and strategies have to be developed so that further development of the economy is not at the cost of the environment. Sustainable development is the concept of a relationship between economic growth and the environment. The term was first used in 1987 by the World Commission on Environment and Development (also known as the Brundtland Commission for its chair, Gro Harlem Brundtland). In the commission's report, "Our Common Future," it defined sustainable development as development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development 1987). Although the term has been around for almost two decades, differing interpretations have kept it from being a useful guide for development policy. However, there is now progress in moving the concept toward a more productive exploration of the relationship between economic development and environmental quality. For example, the International Summit on Sustainable Development that convened in Johannesburg, South Africa, in September 2002 provides some promise along this line (Hayward 2003).

Abstract ID: RSC-592

### **Corporate Social Responsibility in India: The Road Ahead**

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Corporate social responsibility is the persisting commitment by the business to contribute to the environment by indulging in activities to contribute to the improvement of the workforce and the families including the local community and the society. A company is a part of the society, and it has a certain duty and responsibility towards the employees, residents and the shareholders of the entire community. Hence it is a really important that the corporation renders its services in the development of the society, and essential for healthy conduction of business. The on-going scenario to make corporate social responsibility compulsory has drawn a lot of stark criticism from the corporations. This paper deals with the emerging trends of corporate social responsibility and its legal issues when the businesses are involved in the practice, and also how the term CSR has evolved through time giving it a different purpose and meaning. It specifically talks about the practice in India and how the country needs to deal with it, the challenges faced and the fraud involved in CSR which amounts to a green wash to the public at large. The main attempt of the paper is to throw a light in the practice of corporate social responsibility in India and how country must act as a forerunner in the field setting an example for other countries to follow.

Abstract ID: RSC-593

### **Role of innovative HR practices for effective organization performance**

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Organization performance and having the competitive edge in the highly exposed challenging environment is the major concern for all the organisations now a day. In order to ensure the success, the organization have to adopt the innovative HR practices in creating and sustaining organizational performance. This paper addresses the importance of innovative HR practices that organization should possess to have the effective organizational performance. This paper is based on the previous researches carried out to know the importance of implementing innovative HR practices which helps in attracting and retaining talent as well as motivate employees to build up the commitment towards the organization which in turn leads to the increased efficiency and productivity of organization. It provides insight on the need of innovative HR practices backed up by manager support can lead to tremendous change in its productivity.

Abstract ID: RSC-5 94

### **Sustainable Development and Analysing Indian Judiciary**

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Economic development that is conducted without depletion of natural resources, Sustainable development is a development without harming the environment. We do not inherit the earth from our ancestor; we borrow it from our children. Sustainable Development is not an end; it is an apparatus to attain a durable and counterbalanced growth in the world. It addresses the disposition of available resources in such a manner that the attribute and ease is not bargained and the approaching fated contingencies of their appearance are feasible as well.

Abstract ID: RSC-595

### **Sustainable development in India and state of Rajasthan**

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In 1972, the spell Designing Emissary of India, Mrs. Indira Gandhi emphasized, at the UN Meeting on Mundane Ambience at Stockholm, go off at tangent the reasoning of exiguousness is an sound affinity of the direction of an environmental strategy for the world. The concepts of interrelatedness, of a proverbial mother earth, of huge clan, and of 'spaceship earth' cannot be private to environmental issues alone. They run uniformly to the frequent and inter-cognate responsibilities of environmental protection and human aid. Explanation has led to enormous inequalities, flight almost three-fourths of the world's relative crawling in less developed countries and one-fifth below the Sparsity line. The everlasting onus of primordial industrialization, con job and environmental disparage cannot be wished away. It is toute seule pertinent go wool- gathering forward in this far-out century be placidity more conscious of its long-term impact. The coerce are occupied and the choices difficult. Our normal doom foot without equal be achieved helter-skelter a improve acquaintance of our habituated concerns and shared responsibilities. Poverty and a bottom atmosphere are exactly inter-related, tax veer kinsmen dangle for their livelihoods primarily on the equalize resources base of their immediate environment. Replace uncomplicated systems and exaltation natural

208

resource furnishing orthodoxy at the grassroots equalize are central to a strategy to eliminate poverty. Prevalent enlarge get gift, purposeless lassitude linked to argument ridden consumerism is stressing the resource base of developing countries further. It is burgee to monitor this flip savoir faire and public awareness. The blending of agribusiness on every side get and plain conduct, and in the matter of environment safe keeping is defoliate for both environmental sustainability and agricultural production. An environmental range maintain warn the review of far advance projects, convention the proprietorship of natural resources in native livelihoods. This allowance requires be knowledgeable by a fortnight acquaintance of the perceptions and opinions of aboriginal kith and kin everywhere their stakes in the resource base. Globalization as it is inviting assignment modern is snowball the distribute between the liberal and the poor. It has to be steered hence stray it serves yell unique poster interests but also the social needs of the Catholic incident thrive on, and history encourages and imposes, overweening levels of homogeneity in consumer preferences. On the backup waive, for improve to be locally make allowance and applicable, it secure be guided by local considerations which forming in cultural conversion and traditions. Tale owning at the propensity level, of the give of the diversity, and the knock up a appeal to nurse it, is an standard necessity for resonances development.

Abstract ID: RSC-596

### Employment for female through dairy training

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इस युग में जब वैश्वीकरण अपने चरम पर है, चीजों की दर आकाश को छू रही है, स्वतंत्र होने और जीवित रहने के लिए आवश्यक हो जाता है, महिलाओं के लिए यह दौड़ में खड़ा होना मुश्किल हो जाता है, सभी जिम्मेदारियां अच्छी तरह से पकड़ और महिलाओं के रूप में सफल रहें हमेशा वापस रहने और एक परिवार का निर्माण करने के लिए माना जाता है डेयरी खेती रोजगार का एक ऐसा स्रोत प्रदान करती है, जो लाभदायक रोजगार और स्थिर आय के साथ मदद करके कमाई का एक आवश्यक स्रोत है। लोगों के शारीरिक विकास के लिए दूध और दूध उत्पादों का महत्व अच्छी तरह से जाना जाता है और इस ज्ञान का उपयोग रोजगार का एक महत्वपूर्ण स्रोत बन जाता है। प्रबंधन एक पुरानी परंपरा है और डेयरी फार्मिंग होमस्टैड खेती प्रणाली का एक अभिन्न अंग रही है। पशुपालन से संबंधित अधिकांश काम महिलाओं द्वारा किया जाता है, ग्रामीण विकास में शामिल एक्सटेंशन एजेंसियों के लिए डेयरी खेती में लगे खेती महिलाओं की प्रशिक्षण आवश्यकताओं को सबसे महत्वपूर्ण माना जाता है। दूध पिलाना, प्रबंधन, खेती, आवास बुनियादी संचालन थे। खेती की महिलाओं के लिए उपयुक्त जरूरतों के आधार पर और अच्छी तरह से तैयार किए गए प्रशिक्षण कार्यक्रमों की अधिक संख्या के संचालन की आवश्यकता है जो उन्हें अधिक विस्तार एजेंसी संपर्क बनाने में मदद करेंगे। प्रशिक्षण कार्यक्रमों के पाठ्यक्रम में आवास से संबंधित फार्म परिचालन को सर्वोच्च प्राथमिकता दी जानी चाहिए।

Abstract ID: RSC-597

### Constitution of india and sustainable development

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Environment can be defined as our surroundings that include entities like natural resources, atmosphere, water bodies etc. in which organisms reside. These organisms are in constant interaction with the environment to fulfill their needs therefore, Environment and life are interrelated and existence of life on earth depends on the harmonious relationship between the two thus "Sustainable development" suggests conducting an economic development without the depletion of natural resources. Centuries ago, peace and harmony prevailed amongst people and there was no exploitation of resources. Nature (trees, mountains, etc.) was worshipped, considering them god's creation and earth was thought as a mother (as it was quoted as "mother earth"). But as the time passed and the era changed, man grew selfish and desired to transform his surroundings to meet his materialistic needs. Today, the air we breathe is polluted. "Pollution" is now no more harm as it is gradually becoming a habit for the common people. In such environment, health questions the survival of an individual. Also, while framing the constitution, there were no specific provisions for environment as the society was homogenous in nature and industrialization has just begun But further, to solve the issues, "Article 21" was set up that states; "No person shall be deprived of his life or personal liberty except according to a procedure established by law. This article says that every individual has the right to live in a clean and safe environment for their healthy growth resulting in a developed society and nation. Evolution of Right to Health under Article 21 is invariably linked with the Right to Clean Environment because without the latter the former was impossible.

Abstract ID: RSC-598

**Governance – peace, justice and strong institution**

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The paper is heavily deals with the general understanding of Sustainable Development which means to preserve the precious natural resources for our future generations while meeting our present needs. It discusses about the measures taken by the Indian government to promote the sustainable development by protecting environment as well as promoting the social and economic conditions because all these three components are inter-related to each other. The paper also deals with the provisions of laws and rights incorporated under Indian Constitution, right to life which include right to clean environment, and several other laws or Acts enacted by Indian legislature and national environment policies also made by Indian government. The paper consists information about strong institutions such as NGO's (Non-Governmental Organization) and other bodies of government which include 'Green Tribunal', Rajasthan Environment Preservation Society etc. The paper discusses about the crisis of water availability in Rajasthan and it also discuss different techniques of rain water harvesting prevalent in arid region of Rajasthan as well as their management and use. As the experience of NGO's Rajasthan has shown, it is only by decentralized development involving the community. The paper concludes by examining the institutional options for the sustainable development in Rajasthan, in the context of a constitutional amendment on democratic decentralization. It talks about the steps taken by the Rajasthan government to preserve the natural resources. The paper includes the role of National Green Tribunal and certain leading cases such as M.C. Mehta vs. Union of India, 1986, Enviro-Legal Action vs. Union of India, 1996 and A.P. Pollution Control Board vs. M.V. Nayudu: 1999. Paper also discuss about the judgment given by the National Green Tribunal for the closure of 739 textile units of Balotra and its surrounding area of jasol (Balotra Water Pollution Control and Research Foundation Trust vs. State of Rajasthan).

Abstract ID: RSC-599

**Growing Impact of Graphic Design in Social Media as A Tool of Brand Promotion & Consumer Awareness: A Perception Study of Jaipur Based Mass Communication Students**

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Gone are the days when consumers were interested in verbal communication and simple advertisements to influence their buying decisions. In today's times of fierce business competition, one that is visually appealing is able to grab the attention of the buyers and sell in the market. According to graphic designers, "Since people are visual learners they will remember your brand better when they see it visually, instead of hearing or reading about it." The constant usage of graphic images over different social media platforms increases the visibility as well as the appeal of online social media messages which results in generating widespread brand recognition amongst the viewers. No matter whether they are interesting and informative blog graphics, attractive social media posts or any kind of online marketing materials posted on social media platforms. A graphic element can increase social media presence of a brand multifold and add to its brand perception by helping to promote their business by connecting back to the website that was attached along with the post. All popular social media sites like facebook, twitter, google plus, orkut & linkedin have been strong platforms being widely used by corporate organizations to popularize their products & services in a more effective manner by the use of effective images & contents whether its profile pictures or wall posts, graphic design plays a major role in the making of such attractive & appealing contents. To develop understanding about the various functions of graphic design on social media, a thorough review of existing studies would be employed in order to develop an overview about the significance of graphic design on social media sites as a branding tool and whether they have been successful in creating a differentiating and unique brand personality in front of customers. To further analyze the relevance of the topic the study would employ Survey Method and Questionnaires would be administered to a sample strength of 100 students of Journalism and Mass Communication who are regular users of various social media platforms and many a times their purchasing decisions are governed by social media contents which have high graphical representation.

Abstract ID: RSC-600

**Blogging as A Means of Science Communication—A Critical And Comparative Overview of A Few Eminent Science Blogs And Their Effectiveness**

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Many journalists and critics are of the opinion that news of science is not usually welcomed by the mainstream media, especially print media, unless some extraordinary and event like a nuclear explosion, some chemical disaster or strange disease increases TRP or draws people's attention. In this science communication suffers like many other issues of merit. However, in recent times blogs have taken over many of the functions of traditional media in dissemination of scientific knowledge. News, report analysis can all be accommodated in the blog. This has encouraged many journalists to take up serious issues and express themselves in blogs. Moreover, it has the additional advantage of publishing cheaply and being able to address an audience which is interested and educated. Access to internet and regular use presuppose a certain amount of education. The study would identify some popular and diverse Science Blogs to critically examine the reasons behind their popularity. In this attempt it would make an in depth study of five leading Science Blogs which are very different to each other and analyse them on the basis of various evaluative parameters.

Abstract ID: RSC-601

### **Sustainable development and Indian constitution**

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Sustainable development is development which meets the needs of the present without compromising the ability of the future generations to meet their own needs. The concept was given a definite shape in a report by world commission on environment, which was known as 'our common future'. The commission which was chaired by then Norway Prime Minister, Ms. G.H Brundtland defined it as future process. The report was popularly known as 'Brundtland' report the concept had been further discussed under agenda 21 of UN conference on environment and development held in June 1992 at Rio de Janeiro, Brazil. · "Man has the fundamental right to freedom, equality, equality and adequate conditions of life, in an environment of a quality that permits a life of dignity and well-being and he bears a solemn responsibility to protect and improve the environment for present and future generation". · That the constitution of India plays an vital role and gives a platform to this effect of sustainable development. It says that there are both the things present to protect the environment –1) Rights, 2) Duties

Abstract ID: RSC-602

### **Does the Growth of Food Processing Industry Lead to "Make in India**

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In New Delhi on 25th September 2015 our Prime Minister Sh. Narendra Modi initiated Make in India Campaign addressing an audience of national and international entrepreneurs. To draw in ventures from organizations everywhere throughout the world and changing India into a worldwide manufacturing Hub the PM of India has conceptualized it as an International market strategy. The point is to take manufacturing share in nation's GDP from stagnant 16% to 25% by 2022, as expressed in national manufacturing strategy, and to make 100 million employments by 2022. The significant goal behind the activity is to centre on 25 areas of the economy for employment creation and aptitude improvement. The areas are Automobiles, Roads and Highways, textiles and Garments, Biotechnology, Pharmaceuticals, Wellness, Défense, Manufacturing, Ports, Food Processing, Mining, Media and Entertainment, Renewable Energy, IT and BPM, Aviation, Railways, Thermal Power, Oil and Gas, Leather, Construction, Space, car parts, chemicals and Electronic System. The study has been carried out to understand the present scenario of food processing industries in India, investment opportunities, investments in food processing sectors and the Govt. further road map for contributing in Make in India concept. This paper also emphasizes on the role of food processing industries in generating opportunities of employment, raising income and improvement in standard of living.

Abstract ID: RSC-603

### **Environmental Protection through Sustainable Development: Policy and Parameters in India**

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Environmental protection is matter of great concern to the humanity and entire world. The human because of his human greed has exploited the nature like anything, if we peep into the generous of environment; it is altogether effect on environmental pollution deforestation, pollution explosion, carbonization, water pollution, global warming, acid rain etc. In our country,

environmental protection got focused attention after Bhopal Gas leak disaster. Now a day's environmental protection has been considering as a top priority issues in India. The Constitution of India is a fine piece of legislation which take care of environment through Article 48A and 51(A)(G). Indian Judiciary played very pivotal role in protecting the environment and safeguarding the interest of the nature. There are plethora of judgments where in the Supreme Court of India through public interest litigation evolved an innovative jurisprudence of environmental rights within the meaning and ambit of Article 21 of the constitution of India. We have accepted the sustainable development principle, which is constituent of our environmental jurisdiction. The available natural resources have great utility to the people and society and hence should not be exploited and brought under the private ownership. We do consider that environmental protection is the responsibilities of governmental agencies and people in general are careless about the environmental protection. Even in international level also the develop nations those who have developed through industrialized base has exploited nature has base comparatively more responsible than the developing nations they should control the carbon emission and set the marks and goal for others. In a way environmental protection is a contributively liability of an individual, states and entire world.

Abstract ID: RSC-604

### **Sustainable Living- Use Less or Be Useless**

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Sustainable living is a step towards changing our lifestyle that will attempt to reduce the individual's and community's use of the earth's natural resources. Global warming, depletion of natural resources and ozone layer reduction are real threats which can be improvised by practical and easy methods of sustainable living and not having to feel like one is living to the extremes. According to an on-going temperature analysis conducted by scientists at NASA, the average global temperature on Earth has increased by about 0.8° Celsius since 1880, two-thirds of which has occurred since 1975, at a rate of roughly 0.15-0.20°C per decade. A one-degree global change is significant because it takes a vast amount of heat to warm all the oceans, atmosphere, and land by that much.<sup>1</sup> This will further lead to several repercussions like melting glaciers (increase flood risk- then drought), crop yields to decline in tropics, rising sea levels and more frequent extreme weather patterns. According to new data compiled by WHO, approximately 12.6 million deaths each year are caused by avoidable environmental risk factors and further, between 2030 and 2050, climate change is expected to cause approximately 250 000 additional deaths per year, from malnutrition, malaria, diarrhoea and heat stress, and billions of dollars in direct damage costs to health.<sup>2</sup> Through this e-poster we would like to create awareness about how paltry regular refinements in our lifestyle will lead to beneficial long term results which will be on the lines of a balance between human's comfort and care for the environment.

Abstract ID: RSC-605

### **Right to Human Health and Sustainable Development**

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Human being are the centre of concerns for sustainable development they are entitled to a healthy and productive life in harmony with nature the goal of sustainable development cannot be achieved when there is a high prevalence of debilitating illnesses and population health cannot be maintained without ecological sustainable development in this article following aspects are studies in the light of provision of constitution of India and various other judicial pronouncement: directives of states given in article 42 of Indian constitution and article 47 of Indian constitution both the article of the constitution provides obligation to states to form there policy in such a manner so that people can have a fair and just working condition and maternity relief (article 42) and states shall also raise the standard of living and improvement of health (article 47); article 21 of Indian constitution as right to health it is also described as the procedural magna carta protective of life and liberty. It is also the fundamental right which is available to Non-citizen of the country ; Pollution and right to health care ; case of related to right to health ;Mentally ill person and right to health care; Health and sustainable development despites undoubted health advances in many areas, poor health continues to be a constraint on development efforts , HIV/AIDS is the fastest growing health threat to development today ; Future trends and challenges at the dawn of the new millennium poverty is likely to remain the number one killer worldwide, the globalization of trade ,travel and culture is likely to have both positive and negative impacts on health.

Abstract ID: RSC-606

### **Universal law of divisibility**

Meher Anudeep

Everything in this universe no bother how big or complicated it is, it follows the basic laws. And this happens with all the fields of science including mathematics. So, my research is based on a technique to prove that all the multiplications which we do, no bother how big they are and how many digits they have, they follow the basic single digit multiplication itself. And every multi digit numbers follow the basic single digit numbers. Using this technique, we can even find the whether the given number is divisible by the required number or not. The specialty is that we can also find the quotient of the division upto a certain probability. This technique includes a special type of addition called "suna samikarana"(which I gave name).

Abstract ID: RSC-607

### **Sustainable Development across the Globe in its International Scenario**

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The concept of sustainable development can be interpreted as, the development that meets the need of present, without compromising the ability of future generations to meet their own needs". The main object is 'implementing the internationally agreed goals and commitments in regard to sustainable development and identifying major challenges and the need to take actions. As we are facing the profound threat of climate change and the deterioration of our natural environment. We have to conserve and sustainably use the oceans, seas, and marine resources for sustainable development, protect, restore and promote sustainable use of terrestrial ecosystems. And to provide access to justice for all and build effective, accountable and inclusive institutions at all levels. We also have to strengthen the means of implementation and revitalize the global partnership for sustainable development. We all have a part to play, to achieve sustainability small actions taken collectively, can add up to real change. To achieve sustainability across the globe, I believe UNITED NATIONS needs to take the lead, and also it is working on it but some hard steps are needed to be taken to achieve sustainability across the globe. As it is time to adopt all the sustainable goals we have to adopt a climate agreement, we have to take further step to change world from high carbon to low carbon energy world. All the moral and ethical ideas to be taken for making a step forward to achieve sustainable development goals, and the increasing population is the primary obstacle as it also leads to poverty and most of the problems that world considered. As the goals of sustainable development, and also the inappropriate use of technology must be avoided to achieve all these goals so that the sustainable development can be achieved worldwide.

Abstract ID: RSC-608

### **Recent Trends of Sustainable Development in Rajasthan A Socio-Economic Approach**

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The paper aims to glance over the meaning and scope of sustainable development and the implementations of this approach in the context of Rajasthan. The geographic feature of this state makes it possess great diversity in every areana and never-ending tourist attraction. Bu t as its resource bank either remains unutilized or over utilized, demands the applicability of sustainable development as it is the cause and consequence of prosperity of any region. It is inclusive of both environmental and economic development leading to an accelerated human development. More than half of its landscape constituting a greater part of Thar deserts makes sustainable development a challenge for its prosperity due to high rate of migration in search of employment, education and better health. These hurdles can very well be cured by proceeding step by step from the grass root level development, by making the people aware of the deficient factors and the need for achieving prosperity through sustainability. Primarily the sectoral use of natural resources shall be taken into consideration in the reference of over exploitation of minerals, deforestation, land degradation, water pollution etc. in order to prevent ecological consequences and achieve environmental sustainability which will eventually help to alleviate poverty as availability of larger agricultural land and water has social value especially in a region like Rajasthan where feudalism and land holding played a crucial role in its history. Progress recorded in environmental sustainability will automatically cause economical sustainability in the form of technological up gradation, employment generation, mass production, expansion of trade and business and building human capital. Hence the only idea is to suggest the implementation of `judicious utilization ` of available resources because creation of balance speaks of sense of sustainability.

Abstract ID: RSC-609

### **International Laws and Environment**

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When attempting to determine the boundaries of international environmental law, no clear definition can be applied. Like many other branches of international law, international environmental law is interdisciplinary, intersecting and overlapping with numerous other areas of research, including economics, political science, ecology, human rights and navigation/admiralty. In the last forty years, international environmental law has evolved rapidly, as environmental risks have become more apparent and their assessment and management more complex. In 1972, there were only a few dozen multilateral agreements, and most countries lacked environmental legislation. In 2011, there are hundreds of multilateral and bilateral environmental agreements and all countries have one or more environmental statutes and/or regulations. Many actors in addition to States shape the development, implementation of, and compliance with international environmental law. Moreover, environment is increasingly integrated with economic development, human rights, trade, and national security. Analysing the evolution of international environmental law helps us understand the possibilities and the limitations of law in addressing environmental problems, whether globally, regionally, or locally.

Abstract ID: RSC-610

### **Sustainable Development and the Indian Constitution**

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The Stockholm Convention lay stress on the fact that the resources should be used in such a way so as to not compromise the ability of the future generations to meet their needs. The Indian Judiciary and Legislature took active steps thereafter to implement the same. The Apex Court has interpreted the Fundamental Rights of the Constitution<sup>1</sup> in a lot of different ways and paved way to cover the right to health and wholesome environment within the meaning of these fundamental rights. The interpretation of Article 21 has been landmark when right to health and wholesome environment were brought in its ambit, and therefore paved way for serious environmental legislations. The 42<sup>nd</sup> amendment to the Constitution brought drastic changes to our environment policy and the same stood as a part of the basic structure of the Constitution. The significance of the amendment lies in the fact that it was the beginning of the era of environmental protection and sustainable development, guaranteed not by an Act, but by the Constitution itself, deriving power from Part III of the Constitution. This empowered the Courts to exercise writ jurisdiction over matters of environmental concern. It becomes immensely important to discuss the provision of the Constitution along with the legislations and there by arrive at a conclusion as to how the Constitution of India enshrines rights with respect to the sustainable development of the environment, and to what extent the same has been enforced over the years. It is also of great significance to draw an analogy between what the International Conventions stipulated, and what our Legislators have adopted, and thereafter, appreciate the effectiveness of our Constitution in comparison to International Regime when it comes to Sustainable Development. In the light of these issues, it becomes imperative to look into the 42<sup>nd</sup> Amendment and the changes that it has had over years on India.

Abstract ID: RSC-611

### **Right to Dissent Under Indian Constitution: A Critical Study**

Anil Balhera

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Freedom of speech & expression under Art 19 (1) read along with Art 19 (2) is the hallmark of human dignity in a democratic set up across the world and Right to Dissent is a postulate of it. This concept may be alien in dictatorship as against the modern democracy. Without it no citizen can develop to its maximum potential & consequently a Nation. From a common man to Journalists, writers, and intellectuals are of course the backbone of a culture of dissent. "Our democracy" spirit will not sustain if freedom of speech & expression (right to dissent/difference/different view) is not ensured. Indeed, free speech is so ingrained that Amartya Sen's 2005 book, *The Argumentative Indian*, remains as relevant today as ever. It has been observed that govt uses draconian laws (Sedition, Information Technology Act, OSA, Hate speech, Hurting religious sentiments, Criminal defamation etc) to silence & limit the voice (right of dissent i.e. to have alternate view, different opinion,) of leaders of opposition parties, students union representatives (Kanyiya Lal of JNU Delhi), common men'peaceful protest( like protest

214

against the construction of a nuclear power plant in Kudankulam in T.N. and leading to arrest of 8,956 people including two former C.J. of Delhi & Madras H.C. under Sedition charges), cartoonist (Assem Trivedi in Mumbai on Sedition charges), Journalist & writers (IIPM filed a criminal case of criminal defamation against Maheshwer Peri, publisher of the Outlook & Careers 360 magazine), professor (Ambikesh Mahapatra at Jadavpur University in W.B. was arrested under Sec 66 A of I.T.Act for forwarding an email featuring a spoof of the state 'C.M.). India's hate speech laws are so broad in scope that they infringe on peaceful speech and fail to meet international standards. Despite various ruling by the Indian Supreme Court (Kedar Nath Singh vs State of Bihar in 1962, Romesh Thappar Vs State of Madras AIR 1950 SC) that freedom of expression can't be suppressed on account of threats of violence because "that would be tantamount to negation of rule of law & surrender to black mail and intimidation," the police routinely arrest individuals based on reaction to their speech. Actually, convictions for sedition are rare, as per National Crime Records Bureau 2014 report: 47 cases were registered across the country, 58 people were arrested but only one person was convicted. In 1979, India ratified the International Covenant on Civil and Political Rights, which sets forth internationally recognized standards for protection of freedom of expression.

Abstract ID: RSC-612

### **Right to Freedom of Speech and Expression under Indian Constitution**

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Freedom of speech & expression is the hallmark of human dignity in a democratic set up across the world. "Our democracy" spirit will not sustain if freedom of speech & expression is not ensured. It has been observed that government uses draconian laws (Sedition, Information Technology Act, OSA, hate speech, hurting religious sentiments, Criminal defamation etc) to silence & limit the voice of leaders of opposition parties, student's union representatives, common men 'peaceful protest, cartoonist, journalist & writers, professors etc. A nation which proclaims its commitment to democratic values can't allow the practice of using regressive colonial era laws to restrict free speech & expression. Countries like the U.K., New Zealand & Ghana have repealed their sedition laws, while in several other democracies like the U.S. and Canada, the law has been allowed to fall into disuse. In 1979, India ratified the International Covenant on Civil and Political Rights, which sets forth internationally recognized standards for protection of freedom of expression, Still, present draconian laws/provisions & directions of Hon'able Supreme Court are to be implemented by the govt, police, lower judiciary & citizen in letter and spirit in time to come to uphold true spirit of freedom of speech and expression. In fact dissent, defined as the public expression of disagreement with majority-held views, is the essential component of open democratic politics, as it underpins the operations of the various "freedoms" – the freedoms of association, media, religion, speech –Dissent in all organizations, minor and major, whether the local book club or the highest organs of government, is a forum for proposing alternate views, for bringing additional information to bear on decision-making processes which could have far-reaching consequences for those responsible for the administration of government. For example, had the late President John F. Kennedy not listened to dissenting voices, the unimaginable catastrophe of nuclear war with the former Soviet Union could have occurred in 1962 at the time of the Cuban missile crisis. Journalists, writers, and intellectuals are of course the backbone of a culture of dissent, the parameters of which have evolved from at least the time of the 15th-century printing press. Many have given their lives for their profession and their principles. In the major Western democracies, journalists, writers, and intellectuals are a reasonably protected species, safeguarded, at least in theory, by the framework of the First Amendment in the United States and similar legal entities in other Western democracies. And as a result, the Indian Supreme Court while dealing with one of the earliest cases concerning the right to Freedom of Speech in the case of Romesh Thappar versus State of Madras AIR 1950 124 SC, held that public order considerations cannot be justified under the security of state ground under Article 19(2) and therefore struck down a ban by the then Madras government prohibiting Romesh Thappar's Bombay-based journal from entering the state. Romesh Thappar's journal had been banned under the Madras

Abstract ID: RSC-613

### **Environment and sustainable development: a study of judicial role in realising sustainable**

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Sustainable development has been a challenge for human community. Safety of environment and its limited natural resources has been the confronting scenario within the technology of aggressive industrial improvement. Judiciary plays a very important role for the protection of environment. Although there are various legislative steps which have taken place to create a sound environment to live in. Protecting the environment is not only duty of the state but also each individual to ensure safe environment and should do things to conserve it. My undertaking, on this study, is to analyze the steps taken through judiciary

215

to forward this goal. The 'precautionary principle' and 'polluters pay principle' have been used by the judiciary as a major tool to fight with environment enemies and used to attain sustainable development. This paper brings out the approach of Indian judicial system in balancing the monetary centric approach and the environment centric approach in a harmony so as to achieve sustainable development. The present study concentrates on the indiscriminate use of scarce natural resource. The point of concern here is that the monetary centric approach of the government and private sector has completely ruined and degraded the environment. The illegal and ill-equipped techniques have led to the global imbalance of our atmosphere. The international and national commitments are signatory to make it obligatory upon us to realise our promises towards environment and promote sustainable development. The object of this research is to study the approach of Indian judicial system and to study the remedies available for environment protection and conservation and also some remarkable doctrines propounded by Indian Judiciary.

Abstract ID: RSC-614

### **Sustainable Development Across the Globe (International Scenario)**

Aayush Goyal Shreshtha Maheshwari

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Sustainable Development means an integration of development and environmental imperatives. It means development in harmony with environmental considerations. Sustainable Development is development that meets the needs of the present without compromising the ability of the future generations to meet their own needs. To be sustainable, development must possess both economic and ecological sustainability. It is a development process where exploitation of resources, direction of investment, orientation of technology development and institutional changes are all in harmony.

Abstract ID: RSC-615

### **Laws for Protection of Forest and Wildlife**

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In the Constitution of India, it is clearly stated that it is the duty of the state to 'protect and improve the environment and to safeguard the forests and wildlife of the country'. It imposes a duty on every citizen 'to protect and improve the natural environment including forests, lakes, rivers, and wildlife'. Reference to the environment has also been made in the Directive Principles of State Policy as well as the Fundamental Rights. The Department of Environment was established in India in 1980 to ensure a healthy environment for the country. This later became the Ministry of Environment and Forests in 1985. 1927 - The Indian Forest Act and Amendment, 1984, is one of the many surviving colonial statutes. It was enacted to 'consolidate the law related to forest, the transit of forest produce, and the duty leviable on timber and other forest produce'. 1972 - The Wildlife Protection Act, Rules 1973 and Amendment 1991 provides for the protection of birds and animals and for all matters that are connected to it whether it be their habitat or the waterhole or the forests that sustain them. 1980 - The Forest (Conservation) Act and Rules, 1981, provides for the protection of and the conservation of the forests.

Abstract ID: RSC-616

### **Right to Life, Liberty and Freedom of Expression**

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Children on account of their tender age and immature mind need special care and protection. They have certain special rights and legal entitlements that are being acknowledged nationally and internationally. The constitution of India recognized the rights of children for the first time and included several articles dealing with their liberty, livelihood, and development of childhood, non-discrimination in educational spheres, compulsory and free education and prohibition of their employment in factories, mines and hazardous industries. Socially and physically children are the weakest element of the society. They are not responsible for many of the cases and do not deserve to suffer. They have no say in any of the matters of evils like war or external debt. It has been rightly stated in the 1924 declaration of rights of the child (declaration of Geneva) that has now been used for all child causes "mankind owes to the child the best it has to give". Children are the future. By investing in them societies will have a bright future? As justice Bhagwati has rightly quoted "the child is a soul with a being, a nature and capacities of its own, who must be helped to find them, to grow into the maturity, into fullness on physical and vital energy and most breadth, depth and height of its emotional, intellectual and spiritual being". Children require guidance and support.

They do not know the technicalities of life. It is for citizens like us to take their hand and show them the right way. The social workers play an important role in eradicating social evils and thus they are need for stricter analysis on their qualification and professional capacity. The idea of codifying children's rights under the constitution has been severely criticized. It is argued that the different views stemming from the cultural divergences of the drafters cause vagueness, over breadth, lack of comprehensive planning and bring about a dilution of already established rights. But the aim of the convention is to set rules for the protection of minors whose application will be monitored by a UN body.

Abstract ID: RSC-617

### **Right to Life and Jainism-A Comparative Study**

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Right to life is the most cherished and pivotal fundamental human rights around which other rights of the individual revolve and, therefore, the study assumes great significance. The study of right to life is indeed a study of the Supreme Court as a guardian of fundamental human rights. Article 21 is the celebrity provision of the Indian Constitution and occupies a unique place as a fundamental right. It guarantees right to life and personal liberty to citizens and aliens and is enforceable against the State. The new interpretation of Article 21 in Maneka Gandhi's case has ushered a new era of expansion of the horizons of right to life and personal liberty. The wide dimension given to this right now covers various aspects which the founding fathers of the Constitution might or might not have visualized. The above stated revolution in the basic concept makes it imperative that the concept of right to life has been a basic ideal of Jainism since immemorial in the form namely "jio aur jine do."

Abstract ID: RSC-618

### **Ecology in literature: alliance between nature and conscious mind, as evoked in regional and Indian francophone**

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Ecology is the "branch of science dealing with the relationship of living things to the environment" was coined by German Zoologist Ernst Haeckel. Literature is the genre of creating a body of writing with language charged with utmost degree of meaning. "Ecocriticism" is a much newer concept of studying literature and environment from an interdisciplinary point of view. Now my point is, can we deny that nature was omnipresent and close-knit with literature even from the time when man started expressing his thoughts with gesture or calligraphic cave paintings? Till date it is only the continuous flux of the elements of nature that has seeped into our mind, percolated through our thoughts to be transliterated in literary works. Our exclusive consciousness makes us different from other animates. Our inner self, our consciousness, the very human psyche in us helps us to interpret the nature. Our mind, emotions, sentiments, our creative thinking is extremely influenced and propelled by mother nature. I want to show this liaison between human mind and nature citing some excerpts from the regional texts and Indian francophone writings of Manohar Rai Sardesai, K. Madhavan etc. With my presentation, I want to show how elements of nature evoke different nuances of feelings and sentiments in human mind. Literature itself is performative; by its virtue it can create a conscious world within us, so it can be used as tool for making people aware about demolition of nature and its detrimental effects. If one understands the relation between mind and nature it will be a great stride towards sustainable conservation of nature. Losing nature is losing our inner self in becoming a machine perhaps. Here lies the reason, why the philosophers with immense foresight, like 'Gurudev' Rabindranath Tagore founded Santiniketan, Viswabharati University amidst pure nature. Rousseau opined that nature is our real.

Abstract ID: RSC-619

### **Questioning and answering on Quora: science communication in the age of user generated content experiences**

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The equations of human and mass communication drastically changed post social media. The principles, pattern, verification and validation of communication gone through various paradigm shifts apart from Facebook, Twitter etc. there are various specific social media websites which makes changes in the way we communication and reach others. Quora is such a social media platform in which people can post questions and find answers. Users can also contribute to the questions. Quora became popular when it redefined the concept of online public forum which was largely depended on anonymous users. This paper is

focusing on science communication Question and Answer section in Quora. The study aimed to understand how a user generated content platform can contribute to the field of science and science communication. This study will also address to the larger on-going debate on credibility of social media. The paper is designed to study opinion of Quora users and analyse selected contents on Quora.

Abstract ID: RSC-620

### **Sustainable Development and Intellectual Property Right**

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Intellectual property rights (IPRs) have never been more economically and politically important and controversial than they are today. This is due to rapid introduction of high standards of protections of Intellectual Property Rights in most of the developing countries under the aegis of the WTO Agreement on Trade related aspects of the Intellectual Property rights (TRIPS Agreement). Since, India's accession to the GATT agreement in 1995, we have been increasingly hearing about intellectual properties in newspaper, journals, discussion and political parlours. It has often been a highly debatable issue among academicians, intellectual, economist. The convention establishing World Intellectual Property Organization(WIPO) which is the IPRs shall include the rights is Literary, artistic and Scientific works, Industrial designs, Trademarks, Service marks etc. So IPRs have a number of socio-economic impacts which require the adoption of a broader perspective, which sees intellectual property protection within the context of sustainable development rather than purely in terms of economic development.

Abstract ID: RSC-621

### **Communicating science in social media environment: direct and contextual implications and data verification**

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Accuracy of the information which we access through social media is a serious concern among social media debate and discussions. Even if people are exposed to accurate information, there's a whole psychological processing system where they might choose to reject what they hear or what they read, or they might confuse it. When it comes to science related news and information on social media, Internet commentators seems to shout their opinions without bearing factual data. In social media environment, journalist becomes social commentators through their news. In context of emerging media studies, this paper tries to study science news published in social media and its contextual and direct implications on users. This study is done on specific area of cancer and antibiotic medicine where various cases of medical and scientific reporting are identified. The proposed paper is planned to study news stories, its original medical and scientific data and user contextual and direct implications.

Abstract ID: RSC-622

### **Sustainable development goals in the international scenario**

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According to Søren Kierkegaard and Zabolotsky (1958), from Na zakate "Life can only be understood backwards; but it must be lived forwards. Two different worlds are owned by man: one that created us, the other which in every age we make as best as we can." We as people have different capacity and range to think of a better world for our children and grandchildren. There are different ways and various methods to create a better world which we deserve to live in. The scenarios are the reasonable and internally consistent pictures of the future. No one knows which path the world will take in the next 40 years and so. Following the current trend scenario, in most countries the top policy priority has to be the economic growth but an increasing number of social and environmental issues should be taken seriously and should be addressed within the growth-focused paradigm. This should also be reflected in an increasingly complex and wide-ranged system of regional and global institutions and companies. The trade, intellectual property rights, and investment and financial systems, including official development flows follow the assumptions in the dynamics-as-usual scenario that will help us to reach the dream of living in a better world and to have a better life that will be achieved by public awareness and public investments. As much the economic growth is being given the importance, Green sectors need to be supported by the government as well so as to develop faster and better. The world in 2050 will be one that continues to be repeatedly flowed by price shocks and supply disruptions. There will be a sudden rise to the National Energy Security and it is expected more to get dropped in the south Asian countries where there is

a lack of awareness for sustainable development. Pressure on exploration and opening of lower quality, unconventional fossil fuel sources should contribute to repeated major energy crises that will adversely affect the poor. According to laws of different regions a country cannot transfer electronic or chemical wastes to countries which are developed and such actions should be restricted. The land used for agricultural purpose must be increased until 2030, pressurizing on other uses of land, it might decline thereafter, in line with declining population growth and agricultural yield improvements deforestation rates will most likely continue to decline, especially after 2030, but most primary forests might be destroyed by 2050. Protected land and marine areas should continue to increase. Including in terms of climate change, many of the boundaries could be breached. Irreversible environmental events and social strife will be of increasing concern. Governments should start focusing on crisis response rather than structural change biodiversity loss that will remain undulated. In all, the policies existing should be stringent to overcome the above stated problems so as to build a life that is better than ours and a life that provides every aspect of nature to prosper. When we as citizens of a global economy join hands to overcome such problems, we show our concern towards being better persons. The paper presented in accordance to this abstract will deal with such issues.

Abstract ID: RSC-623

### **Writ jurisdiction and sustainable development**

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The constitution of India under article 32 and article 226 has conferred on Supreme Court and High Courts of India the power to issue writs. Writ jurisdiction of SC and HCs of India has wide extension starting be it a inferior court, tribunals or authority of any state or a person who is endeared with state authority. In accordance with writ jurisdiction in India, Sustainable development is the organizing principle for meeting human development goals whereas at an equivalent time sustaining the power of natural systems to supply the natural resources and system services upon that the economy and society rely. The fascinating upshot could be a state of society wherever living conditions and resource use still meet human desires while not undermining the integrity and stability of the natural systems. Writ jurisdiction are five in number, the order of which is habeas corpus, mandamus, prohibition, quowarranto and certiorari, as stated earlier the High courts of India under the empowerment of article 226 issues orders or writs, which may be issued for enforcement of fundamental rights or various other purposes mentioned under the article. The High court can refuse to grant such a relief even if the judiciary body is well aware of infringement of legal rights, under the availability of an alternative remedy which the high court might take into consideration for refusing to exercise of its jurisdiction but the above principle has no application in case of enforcement of fundamental rights under article 32 and 226 of the constitution. The Supreme court in Mohammed Yasiv. Town area committee (AIR 1952 SC115) held that “an alternative remedy is not a bar to move a writ petition in the high court to enforce the fundamental right this is only an exception”

Abstract ID: RSC-624

### **Indian society and women through the eyes of the French and francophone translators of premchand's short stories**

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Premchand (1880 –1936) is widely regarded as one of the greatest writers on the Indian literary scene. He initially wrote in Urdu and depicted in his works the patriotic upsurge that was sweeping India in the first decade of the 20th Century. In 1915, he switched over to Hindi and went on to write over 250 short stories and a dozen novels. Dealing with a wide diversity of themes, these works paint a very realistic picture of Indian society. Many of these writings focus on the status of women in India. Considered to be an irreplaceable introduction to Indian society, Premchand's literature is read and admired not only in India but also in many other countries. Two of his novels and more than sixty of his short stories have been translated into French by French and Francophone translators. These translators have undoubtedly done immense service to the cause of Indian literature by translating Premchand's works into French. But a close look at their translations reveals many interesting avenues for critical enquiries. This paper seeks to analyse the French translations of Premchand's short stories by French, Canadian and Swiss translators and examine how Indian society and women are represented in these translations.

Abstract ID: RSC-625

**An Ecocritical Approach to the Peninsular Spanish Poetry**

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The theoretical model of ecocriticism is placed among the recent phenomena of world literature. However there have been many authors and poets who have deliberated upon this issue even when this term was not used for such kind of interpretations. Looking for the existence of such interpretations in pre and post ecocriticism period of the Spanish literature and their analysis is one of the primary goals of this paper. It examines the depictions of our surroundings and nature in the literary works produced by different authors. This paper focuses especially on the critical approaches of the cultural ecology which gets reflected in the works of the Spanish poets. Interpretations of those poets will help us explore the subgenre of ecopoetry in the peninsular literature even further. Spain went through a lot of changes and that is why its literature transcends many time frames. One of the principal objectives of this work is also to identify the traces of ecocriticism in the diverse literary movements of Spain. Though a common trend has been to analyze the medieval texts from Spain as far as ecocriticism is concerned, an approach to the peninsular Spanish poetry cannot lack the analysis of ecopoetics in the time frame of Romanticism, realism, the Generation of 98 and 27 and the post war period.

Abstract ID: RSC-626

**Sustainable Development and Intellectual Property Rights**

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Sustainable Development in common parlance means economic development undertaken with minimum depletion of natural resources. Initially, the concept of sustainable development concerned with meeting today's need without compromising the future generation's need. However, the concept further evolved and included aspects like no poverty, zero hunger, good health, quality education, equality, clean water and sanitation, affordable and clean energy, decent work and economic growth, industry innovation and infrastructure, sustainable cities and communities, responsible consumption and production, climate action, life below water, life on land, peace justice and strong institutions, partnership for goals. Intellectual Property (IP) means the creations of the mind, which have both a moral and a commercial value. Intellectual property rights (IPRs) are the rights which are granted to the creators of IP, and include trademarks, copyright, patents, industrial design rights, and in some jurisdictions trade secrets. Intellectual property law basically grants the author of intellectual creation exclusive rights for exploiting and benefiting from such creation. However, these rights, are also called monopoly right of exploitation, and are limited in scope, duration and geographical extent. The protection of intellectual property encourages the innovative research and investments in development of new technology for its commercial exploitation. It further promotes publication, distribution and disclosure of the artistic creation to the public, rather than keeping it secret. IP law basically deals with the rules for securing and enforcing legal rights to inventions, designs, and artistic works. These rights are outlined in Article 27 of the universal Declaration of human rights and TRIPS Agreement.

Abstract ID: RSC-627

**The Constitution of India And Sustainable Development**Anmol Sharma  
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As the environmental crisis are increasing at a extreme rate day by day because of the people are becoming more greedy & trying to fulfil their desires without thinking about our upcoming generations and the Earth. The Earth, according to our Indian customs/mythology has been given as the status of mother. The Mother is in a great danger because of the depletion of the natural resources at a drastic rate, which is making the Earth totally dry and empty. If the depletion kept on happening/going at same, there will be nothing left that can help our future generations to survive. The main problem is that the people are using more than what is required for them, people have greed for more. This needed to be controlled, there is a need to formulate proper sustainable development strategies, which would help in development that meets the needs of the present, without compromising the ability of future generations to meet their own needs and also which will help in reduction of pollution but only strategies cannot do the work. It will be the laws, which will abide the people to obey the rules and the rules will help in achievement of sustainable development. According to Article 51A(g) of Indian Constitution (fundamental Duties) it shall be the duty of every citizens of India to protect and improve the natural environment, but fundamental duties are not enforceable.

220

Some laws or judgments should be passed to abide people to protect their environment just like few months before Uttarakhand High Court granted same legal status as humans to rivers. The same should be applied with some other parts of our environment. This article demonstrates, the principles of sustainable development, laws which are the major pillars of sustainable development, governmental organs (which regulates and imposes these laws), hurdles which are coming in the way of sustainable development and law which can be formulated to overcome these hurdles.

Abstract ID: RSC-628

### **Forest and wildlife laws: a critical analysis**

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India is in a phase of transition, wherein it is transforming itself from a developing country into a developed country. The three main natural resources i.e. land; water and forest are being adversely affected by the current process of industrialisation, urbanisation and globalisation. As a basic part of human development there is an utmost need to conserve and utilize these resources in sustainable manner. India being a developing country has loads of pressure on natural resources for economic development mainly constrained to forest resources. A number of steps have been taken by the Government and Non-Government Organisations to protect and conserve the forests and wildlife from degradation. Despite of all the efforts made by different government and non-government organisations and awareness spread among people we often hear news about seizure of elephant tusks, tiger skin etc. being smuggled. "According to a recently published book titled "State of India's Environment 2017: In Figures" there's a 52 per cent increase in poaching and wildlife crimes between 2014 and 2016. Over 30,382 wildlife crimes and mortality have been recorded till December 31, 2016, says the book by non-profit Centre for Science and Environment, which has sourced the information from the Wildlife Protection Society of India (WPSI). Even the number of species that are poached or illegally traded in the country increased from 400 in 2014 to 465 in 2016."3 Whether these laws for the protection and conservation of forests and wildlife are enough as a deterrent to control environmental degradation? The author through the medium of this paper will be discussing about the steps taken by the Legislative Assembly and the Supreme Court to protect and preserve forests and wildlife in the country. The Supreme Court, on the issue of forest conservation, has emerged as a lawmaker. Whether these laws and rules are adequate enough to conserve forest and wildlife?

Abstract ID: RSC-629

### **Sustainable Development and The Role of Environmental Law**

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Sustainable development means that the richness of the earth's biodiversity would be conserved for future generations by greatly slowing and, if possible, halting extinctions, habitat and ecosystem destruction, and also by not risking significant alternations of the global environment that might by an increase in sea level or changing rainfall and vegetation patterns or increasing ultraviolet radiation - alter the opportunities available for future generations. It may surprise you that people took so long to recognize the links between the economy, development and the environment - a relationship that is now called sustainable development. It seems that common sense would have told us long ago that we can't have continuing development, exploitation of natural resources, strong manufacturing, as well as protection and conservation of the environment unless we look at the economy and the environment as interdependent. That interdependence is exactly what drove the United Nations' World Commission on Environment and Development - chaired by Gro Brundtland, then Prime Minister of Norway. Six years ago, its report, *Our Common Future*, brought a new urgency and a new phrase into our thinking - sustainable development. The commission saw that the only viable possibility of economic growth was one based on policies that sustain and expand the environmental resource base. Canada was the first country in the world to endorse the commission's conclusions. Canada is building a balanced and integrated approach to economic development and a clean and safe environment. If we're going to make wise decisions about how we use the environment, we have to know and understand the physical world and its ecosystems, and the interrelationships between the natural environment and the economy. In the past, responses to environmental problems paid little attention to these important interrelationships. Today, we are correcting past errors by insisting on an integrated approach. The word "environment" is derived from the French word "environner", which means "to encircle" or to surround. "It is the sum total of water, air and land and the interrelationships that exist among them with human beings, other living organisms and materials". Today protection of "environment" is a global issue as it concerns all countries development.

Abstract ID: RSC-630

**Evaluation of communication skill development in college students to suggest study models for school students**Sumaiya Arfin, Baljeet Kaur, Muskan Kaushik, Garima Kumar, Shilpa Kapoor, Mehak Segan,  
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Communication is an integral part of life; without it, we would not survive. Verbal and non-verbal communication begins at birth and ends at death. We need communication not only to transmit information and knowledge to one another, but more importantly, to relate to one another as human beings around the world in the context of relationships, families, organizations, and nations. Four core skills are necessary for effective communication to occur: understanding communication from another's perspective, listening, emotional intelligence, and conflict management. All individuals have a unique skill set and depending on it they may have four different communication styles – Analytical, driving, expressive and the amiable type. Identification of Communication styles helps to narrow down the strengths and weakness which in turn opens pathways for further exploration and improvement. Amity University, Noida has self-development and communications skill development sessions as part of curriculum for all enrolled UG/ PG students. This helps the students to evaluate not just their inherent skill set but also identify and groom the skills which might have been overlooked so far. Such sessions focus not just on skill set building but on developing positive attitudes and visions for a better tomorrow. Inclusion of such sessions may prove to be helpful not just for the all-round development of the individual's personality but also for better and sustainable resource development for the nation. **OBJECTIVE:** To assess the communication styles of college students at Amity University and to establish the importance of a study mode I where self-development and communication skills are honed into individuals at school level.

Abstract ID: RSC-631

**Constitution of India and sustainable development- Right to Information & Its Impact Towards Sustainable Development of a Country**

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On 15th June 2005, Government of India passed "Right to Information Bill, 2004", in order to encourage, transparency and accountability. From 12<sup>th</sup> October, 2005, it become operational so as to enable Indian citizen to secure access to information under the control of Public Authority. This Act is a complete Code in itself and as such covers both substantive law and procedural law. It provides the machinery for time bound supply of information. It also provides an effective grievance-redressal mechanism, when information is not provided. It is a major step in empowering citizens and promoting transparency. Such a legislation, which may have enduring effect on all agencies of government, is bound to face execution related issues and problem areas. It is not the enactment of law which brings the fruits but it is the effective implementation which can make a difference. Any Law is said fruitful or have effective implementation if it is acknowledged by the public in the present research, an attempt has been made to carry out a study on "Right to Information & Its Impact towards Sustainable Development of a Country". The research is focused on the implementation aspects of this new legislation and study of its impact towards developed Country. The research is important as for developed country; empowerment of citizens is a basic and key element for any welfare State, especially in view of changing role of State due to globalization. Enactment of suitable Law is one step but its effective implementation as well as its optimum awareness among the public are another vibrant factor which are required to achieve the aims of Law. Therefore, an analytical study on both these aspects of Right to Information Act is important and necessary in the discipline of Public Administration as well as its mother subject Political Science.

Abstract ID: RSC-632

**Role of Government and other Authorities in Development of IPR**

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Intellectual Property Rights (IPR) mainly refers to the creation which results from industrial activity in the industrial, scientific, literary and artistic field. Through time different legal instruments have emerged for protection of intellectual property. These instruments differ in their subject matter, field of application, extent of protection to balance the needs of inventors with the societies interest. The objective of government with regard to IP policy should be to promote innovation and creativity and therefore to promote consumer welfare and economic growth in the country, and it can be ensured by granting Intellectual Property Rights which can be enforced in fair balanced judgement. Further government should have recognized and encouraged

222

the promotion of IP to economic well-being jobs and growth. The development of IP policy across government is not well coordinated though the purpose of IP is economic development of greater common goods as mentioned in Article 39(b) of Indian Constitution. Further in the Union list of schedules 7 entry 49 provides that Parliament has exclusive power to make laws with respect to patents, inventions and designs, copyright, trade-marks and merchandise marks. The government should ensure that high level of IPR protection is there for higher economic growth rate.

Abstract ID: RSC-633

**Citizen centric assessment of E-governance service delivery through E-Mitra between two cities**

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E-governance is very successful and powerful idea which was also implemented by Rajasthan government. E-Mitra is one of the e-governance service provide by Rajasthan government for the people of the state. This paper overviews the relationship between citizen creation and e-governance. This Research is done to overcome the issues and difficulties came to the user. Also, many limitations are overcome from the previous frameworks.

Abstract ID: RSC-634

**Sustainable development and corporate social responsibility**

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Sustainable development refers to management of natural resources for a business or means of existence of human beings in a manner that it should meet the requirement of the present generation and the preservation of the same for future generations, while Corporate social responsibility refers to an organization's initiatives to examine and be liable for the company's effects on environmental and social welfare. This term generally implies to endeavors that go beyond what might be needed by regulators or environment preservation groups. The role of corporate sectors is not limited to the contribution in economy or in minimizing unemployment of the society but it goes beyond that, where public at large must be benefitted by corporate sectors without exploiting the natural resources. Therefore, the part of the Corporate Social Responsibility (CSR) for Sustainable Development has become a requisite today. In recent years, the deliberation about sustainability has risen above average and a large amount of various terms have been entrenched. This leads to very broad and unfixed discussions about the same, especially in economic science and business management. The motive of this research is to assess and highlight the relationship between Sustainable Development (SD) and Corporate Social Responsibility (CSR). The emergence of big corporate and their objective for the optimum utilization of individual profits has not only distinguished the society amongst the higher and lower classes but have also led to disparity between development and environmental sustainability. Many recent studies and researches have concluded that the earth is progressively becoming a treacherous place to survive because of unsustainable human induced activities. On that basis, the governments of numerous countries have taken steps to ensure that the on-going developmental exercises prevail in optimal harmony with environmental sustainability and human security as well. Though many steps have been taken in the theoretical domain to make Indian corporate sector conscious of social responsibility and environmental morals as an important component of their business activity but goals are yet to be achieved.

Abstract ID: RSC-635

**Apocalyptic Dali**

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India ArtVault Intl Gallery "Apocalyptic Literature has been witnessed from the time of Messianic period. Human race has and will continue documenting ideas of Apocalypse. These ideas may not necessarily be in textual forms; today other forms of art are also exposed to Apocalypse as a theme. Apocalypse may also not just be limited to the revelation of the end of the world but a revelation or a premonition of varied forms. Premonition will be of a catastrophic nature; one that could end the world but not necessarily it will. This paper intends to study the apocalyptic art works of a Surrealist Spanish artist named Salvador Dali. Dali was from Catalan, Spain; his works range in the category of Surrealism and some of them are of the revelation types that had shocked the society then. The paper will list down his famous Art works of apocalyptic nature. From the list one art

work named the “Soft Construction with Boiled Beans” will be studied in detail. It was a premonition of the Civil War; which was seen realized very soon in Europe. Paper will also understand and conclude the political, social and emotional impact on Dali that led some of his art work as forms of revelations. Surrealism as a style was surely an asset to paint apocalyptic art; how well it encouraged Dali will also be analyzed in the paper.

Abstract ID: RSC-636

### **Sustainable development and implementation of CSR**

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This research consists of a detailed study of sustainable development as an approach of economic planning that attempts to raise or foster the economic growth and on the same time preserves the environment for the upcoming future generations. The simple system of demand and supply has limited the vision to short term development. Though economically beneficial these are a threat to world ecology. Thus, overexploitation has become a major concern. The concept of Corporate Social Responsibility focuses on initiatives taken by the corporation to minimize the negative effect on environment. It was legalized in section 135 in Companies Act, 2013. To achieve this goal another interesting concept of sustainable development merges with the ‘larger good’ goal of the sector. Taking birth in The Conference in United Nations on Human Environment in Stockholm in

1972. The ideology seeks for the common future advocating the concept of “People Planet Profit. A balance in economic and ecological growth will not only ensure present development but also the availability of resources in future. Indeed, favouring the ecosystem and the rules by which it is governed may actually lead to highly efficient technology rather than following humanly rules. While some might conflict about the economic loss (which is temporary) but maintaining balance rather than testing the tolerance of nature is surely profitable. Is there really a conflict between economy and ecology or we just created one? The following research paper consists a detailed study on sustainable development and its relationship with Corporate Social Responsibility. To meet the regular and basic needs of the human population, the world has seen an expansion in the global economy or basically the corporate sector.

Abstract ID: RSC-637

### **Traditional knowledge: Path to its development & protection**

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Traditional knowledge is a collective on property and is an integral to the cultural or spiritual identity of the social group in which it operates and is reserved. Traditional knowledge is lamb at the centre of the discussions on intellectual property rights and has resumed immense significance. Any specific legislation for protecting traditional knowledge, patent Act, protection and farmers right biological diversity act, 2002 and geographical indications of goods (registry act) 1999 have provisions that can be utilised for protecting traditional knowledge. The concept of benefit sharing, which has enough traditional knowledge, the concept of benefit sharing which is enough which is an integral part of protecting traditional knowledge, with specific reference to the biological diversity act and also the plant variety protection and farmers right act. India song Battle against the grant of a patent on the use of me as a funky side has finally been one and the European patent office directors is (EP) or means fungicidal properties are part of the traditional knowledge(TK) of this country. Come on the bed rolling fungi on plants by the age of a hydrophobic extracted Neem Oil had originally been granted on 18th September 1994 to the United States Department of Agriculture and the New York based multinational patent. Unfortunately, this is only instance of such biopiracy of traditional Indian knowledge. In temporal cases of biopiracy have come to the force in the past. For instance, all properties of healthy, or an end property of Karela, Jamun angel or some such example of Britain power parity of Indian traditional knowledge that have generated considerable problems.

Abstract ID: RSC-638

### **Sustainable development: a scrutinized study on corporate social responsibility, strong institutions and future perspectives**

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In this era of growth and development, a developing nation like India needs to focus on various aspects of developments and its aftermath. The concept of Sustainable development which was used in the Stockholm Declaration in 1972 now has a vital role in development. The rise of big corporate and their desire for the improvement of individual benefits have not just separated the world between the rich and poor however have additionally led to an imbalance between development and environmental sustainability. An idea known as corporate social responsibility developed in the light of duty to protect and improve the environment. The rising idea of corporate social responsibility goes past charity and requires the corporation to act morally and ethically in the corporation's business affairs. The triple bottom line approach to corporate social responsibility emphasizes the organization's commitment to operating in economically, socially and environmentally sustainable manner. Various big and strong institutions and organizations like National Green Tribunal and Non-Government Organizations (NGO's) have also taken some steps towards environmental sustainability as well as have introduced and implemented some effective policies to achieve the goal. The idea of economic, social and environmental sustainability can also be achieved by educating and creating awareness in the society. Although much have been done in the hypothetical domain to make Indian corporations mindful of social responsibility and environmental ethics as a vital segment of their business affairs yet very little has been accomplished so far. The present paper provides a scrutinized investigation of the hypothesis that Corporate Social Responsibility (CSR) is an ideal lever for development therefore making CSR mandatory is an effective step to fully achieve the idea sustainable development and it will also shed some light on the theoretical and practical contribution of CSR toward accomplishing the objective of sustainable development in India. This paper will also make an attempt to achieve greater participation from Indian corporate sector to fulfil the idea of a perfect balance between development, environment sustainability & safety of future generations.

Abstract ID: RSC-639

### **Right to privacy- A Judicial Trend**

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Right to privacy has become a most important judicial concern in the present-day scenario. Judicial pronouncements have been made regarding to this issue i.e. Some say it is a fundamental right enriched under Article 21 of the Constitution of India, 1950, some say it is not but still it has not yet been interpreted that whether or not the right to privacy has to be considered an absolute fundamental right or not. Privacy is a fundamental human right, enshrined in numerous international human rights instruments. It is central to the protection of human dignity and forms the basis of any democratic society. It also supports and reinforces other rights, such as freedom of expression, information and association. The Constitution of India does not specifically guarantee a right to privacy; however, through various judgments over the years the Courts of the country have interpreted the other rights in the Constitution to be giving rise to a (limited) right to privacy – primarily through Article 21 – the right to life and liberty. Judges are best suited to apply the legal tests that ensure that any interference with the right to privacy carried out by intelligence or security agencies complies with the principles of necessity and proportionality. There is growing recognition by international experts and by national laws that surveillance should only be carried out on the basis of a judicial order. The judicial authority should also ensure that any surveillance carried out is in compliance with such order and, more broadly, respect the right to privacy. In this research paper, it would be highlighted that how the different judicial pronouncements given by the Supreme court in the recent past years have revolutionized the concept of right to privacy by giving different literal interpretations to it.

Abstract ID: RSC-640

### **Constitution of India and sustainable development**

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The Environment and right to Development are two sides of the same coin. In the name of development, the potentiality of natural resources should not be compromised. None can be sacrificed for the other as both are vital for our future well-being. As per Brundtland Report<sup>1</sup>, Sustainable development signifies “development that meets the needs of the present without compromising the ability of the future generations to meet their own needs”. The Indian Constitution guarantees justice, liberty and equality to all citizens of the country. the right to life guaranteed by Article 21 of the Constitution includes the right to a wholesome environment.<sup>2</sup> With the participation of India in United Nations Conference on the Human Environment held at Stockholm in 1972, in light of fulfilling its international obligations, 42nd Amendment to the constitution introduced Article 48A to the constitution. Article 48 of Directive Principles of State Policy directs that the State to take steps to organize agriculture and animal husbandry on modern and scientific lines. Again Article 48-A requires the State to take steps to protect and improve the environment and to safeguard the forests and wildlife of the country. Similarly, Article 51(A) (g) also cast

similar duty of every citizen to protect and improve the natural environment. This constitutional recognition of environmental protection was also followed by a number of important legislations geared to deal with specific environmental problems.

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**Writ jurisdiction a ladder to achieve sustainable development**

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The Supreme court of India and High courts have been empowered to issue writs under articles 32 and 226. The right to move to Supreme Court by appropriate proceedings for enforcement of rights conferred by this part is guaranteed. Notwithstanding anything in article 32, every High court shall have the power, throughout the territories in relation to which it exercises to issue orders and writs {including those of habeas corpus, Mandamus, prohibition, quo warranto, certiorari etc.

Abstract ID: RSC-642

**India @ Social Justice**

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India is a land where different beliefs, religion, culture live together with all their differences and diversities in harmony. People of India speak more than 700 languages, belong to different communities. There are different pluralities and diversities in India which makes social justice and equality a major requirement for India's development. Realizing the need, administration has taken various measures in order to establish parity among the people of India. The paper aims at understanding the concept and relevance of social justice in India and presenting an overview of major steps taken for this and discussing issues which are to be dealt with while implementing these measures effectively.

Abstract ID: RSC-643

**A Pragmatic Analysis of Conflict on Company's Corporate Social Responsibility Policy after Implementation of GST**

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Goods & Service Tax (GST), India's most ambitious Indirect tax reform has been rolled out from 1st July 2017. It has subsumed multiple Indirect taxes levied by both Central Govt. & State Governments, like Excise duty, Service tax, VAT, CST, Luxury tax, Entertainment tax, entry tax etc. Governments & Corporate have to parallel share the responsibility of building the Social infrastructures, providing basic amenities to the poor, improving sanitation & health care facilities & providing education etc., thus a Law had been enforced i.e. Companies Act, 2013, which states that certain classes of profitable entities are required to shell out at least two percent of their three-year annual average net profit towards Corporate Social Responsibility (CSR) activities in a particular fiscal. In case of non-spending, the company concerned has to clarify for the same to the ministry. An ambiguity arises here is that Government has given no specific exemption from levy of GST on expenditure incurred on CSR activities. It is pertinent to mention that the CSR activities undertaken by Corporate are mostly in the nature of Works contract service/pure service which attracts GST of 18%. It means out of the total fund earmarked for CSR activities, roughly 1/3rd will go to Government exchequer in the form of GST while 2/3rd will be actually spend on CSR activities, which may discourage Corporate from spending more on CSR activities. Thus present research paper is entitled to pragmatically analyze the possible Conflict on Company's Corporate Social Responsibility Policy after Implementation of GST. To commemorate with the aim of research, secondary research methodology has been adopted in the present research paper. The article concludes that in the short run, there will be a lot of issues and challenges expected to occur in CSR policy after GST, but on contrary it can also be postulated that in the long run GST would be beneficial for all stakeholders, and it will be good for India's economic growth.

Abstract ID: RSC-644

**Odd and even traffic scheme; Need to impose in Rajasthan**

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Air pollution is responsible for many health problems in the urban areas. As we see that air pollution is increasing day by day so the need arises to take some strict steps to reduce the air pollution in our state, Rajasthan. Recently we saw in Delhi that a very strong measure was taken last year by Delhi Government, known as odd and even formula. The odd and even formula has been very controversial as the name itself suggests something very unique and such acts are not so common in our country, although it is common in few foreign countries like China and others. The system of odd & even is that those vehicles whose registration number ends with an odd digit would be allowed to run only on odd dates and those ending with even digit will run on even dates only. Initially this system had been imposed for a trial period of 15 days in the month of January 2016. Few of the VIPs and class of people were exempted from this formula while some vehicles for example two wheelers, ambulance, fire brigade, etc. were exempted as well. This article focuses on the problems regarding increasing air pollution in Rajasthan, and suggests that the same formula that was imposed in Delhi should be imposed in our state as well.

Abstract ID: RSC-645

### **Sustainable development: A global perspective**

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The need for Sustainable Development and environment friendly resources has become the need of an hour. Decreasing petroleum reserves, increasing demands for energy and undesirable effects of greenhouse gas emission has led to increased worldwide interests into biofuels. This has resulted in the enormous use of biofuels an alternative choice that can link energy security with environment conservation without essentially compromising with the nourishment of the people. Substantial research and development programmes in biofuels for sustainable development have been initiated by many countries. Although sustainable development does not build the world which can be said to be well equipped for the future generations, it establishes a foundation on which the future world can be built upon. Biofuels, the sustainable energy system may be regarded as a cost-effective, trustworthy, and environmental friendly system that efficiently make use of local resources. Biofuels have additionally been lumped into first-, second- and third-generational categories. We use first-generation biofuels in our fuel tanks today. However, the use of biofuels does not imply that its production, conversion and use are sustainable. Biofuels are relatively similar to hydrocarbons and feature some of the similar emission problems like that of standard fossil fuels. If proper care is taken in their production and distribution, they can, nevertheless, be more environmentally friendly. Biofuels are an inexhaustible resource since the stock can be replenished through agriculture. One of the main detractors to the use of biofuels is that setting aside land for biofuel crops means less land for food production. Some foreign countries have said that it is unethical to use crops for biofuel when global hunger is an ever-present problem. Thus, this paper throws light on measures to be taken to maintain sustainable development globally.

Abstract ID: RSC-646

### **Sustainable development and international intellectual property laws**

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Intellectual property rights have never been as much in the news as they are today. Several controversies have arisen. For example, drug companies have been accused of taking advantage of their patent rights by charging exorbitant prices for essential medicines such as AIDS drugs. Indigenous peoples and advocacy groups supporting their rights condemn corporate 'biopirates' for making money out of their knowledge and claiming patent rights for 'inventions' essentially identical to knowledge acquired from tribal healers. Concerns are raised that patenting plants, animals, genes and gene fragments is not only unethical but may also be stifling innovation. Many developing countries complain about the pressure they feel is being imposed on them to introduce western-style IPR regimes before they feel they are ready for them, and worry that this situation places them at a serious disadvantage in an era of rapid technological change. And while the global trend is towards ever stronger intellectual property right protection, increasingly determined efforts are made to buck the trend, as exemplified by Napster and the Open Source and Free Software movements. During recent decades, the evolution of developed country IPR regimes has been characterized by three phenomena.

Abstract ID: RSC-647

**The psychology of adolescence - The science of adolescent risk-taking: Workshop report**

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The neurobiological processes that define adolescence and influence risk-taking are complex, and the role they play is emerging as a key factor in adolescent behaviour. These processes must be understood in the context of psychological development and social influences. B. Bradford Brown provided an overview of psychosocial development and adolescent risk-taking, and Valerie Reyna explored recent research on reasoning and decision making as it applies to adolescent risk-taking. PSYCHOSOCIAL CHANGES Brown began with the primary psychosocial tasks adolescents must accomplish. Put simply, there are four key tasks: to stand out—to develop an identity and pursue autonomy, to fit in—to find comfortable affiliations and gain acceptance from peers, to measure up—to develop competence and find ways to achieve, and to take hold—to make commitments to particular goals, activities, and beliefs. He identified two ways in which these basic tasks relate to the risks that adolescents take. First, many risk behaviours can either foster or impede the successful accomplishment of these tasks. Second, adolescents may turn to risky behaviours to help themselves cope with the failure to succeed in one of these areas.

Abstract ID: RSC-648

**Companies Act, 2013 & environmental sustainability: CSR as an alternative**

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Corporate social responsibility is the buzzing words in every sphere of the corporate sector. Corporate social responsibility has its ethos in the business self-regulation, which is considered as integrated and inseparable part of the business models. The Bhopal gas tragedy case has left the unending issue of the compensation to the victims, which is still an unanswerable question before the judiciary and the corporate sector regarding the social responsibility. Further the episode of Vedanta, Singoor and the measure mega projects again has to answer the damage to the environment, protection of the indigenous people and other similar social responsibilities are also annexed with the environment and the corporate social responsibility. The basic aim or object of the corporate social responsibility is to give the responsibility on the companies to give positive impact on environment, consumers, employees, communities, etc. through their business. Corporate social responsibility gives the responsibility to the corporate world to focus on the public interest by not harm the community through its product and increase or help in the development of community or the society. This paper will focus on the corporate responsibility on environment, how the corporate world helps in the environment protection and reducing the environment pollution and legal application for the protection of environment from the corporate world, which has emphasized on the 'sustainable development' principle. Further this paper will explore the various mediums of harmonious remedial measure to solve the entangled puzzle of the safe and healthy environment and the corporate social responsibility. This paper will provide the legal and ethical measures to curb the emerging environmental hassles by the panacea of the corporate social responsibility.

Abstract ID: RSC-649

**Well-Being of Medical Students in Relation to Self-Resilience**

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The present study is descriptive one and it has been conducted on Medical Students of Aligarh Muslim University (JNMC) India. The sample comprised 150 students of MBBS students. The data were obtained by using Psychological Well Being Scale by Bhogle & Prakash (1995), Self-Resilience Scale by Wagnild and Young (1993). The obtained data were analyzed by using Pearson's correlation and t-test. The major findings are (i) there exists significant positive correlation between Psychological Well-Being and Self-resilience among medical students and (ii) there exists significant difference between Psychological Well-Being and Resilience among medical students. The present study is descriptive one and it has been conducted in Aligarh District of Jawaharlal Nehru Medical College, Aligarh Muslim University (India). The sample comprised 150 students of MBBS course 75 males and 75 females of JNMC, Aligarh. The data were obtained by using Psychological Well Being Scale by Bhogle & Prakash (1995), Self-Resilience Scale by Wagnild and Young (1993). The obtained data were analyzed by using Pearson's product moment coefficient of correlation and t-test. The major findings are (i) there exists

significant positive correlation between Psychological Well-Being and Self-resilience among medical students and (ii) there exists significant difference between Psychological Well-Being and self-Resilience among medical students.

Abstract ID: RSC-650

### **Corporate social responsibility and sustainability**

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The present article is to analyze that how corporate social responsibility and the sustainable development is essential for the companies as well as the society. As the global problems are certainly increasing, the firms are continuously summoned for following their responsibilities towards the society, relating to the environment, economic and social aspects. Thus, the corporate social responsibility and sustainable development together are the solution to the global problems relating through the companies and industries. Recently, the ministry of corporate affairs (MCA) notified the Companies Act, 2013 that, the companies will have to spend 2% of their net profit for the welfare of the society. Here, according to the model, this rule will also be applicable on all the foreign companies registered within country. Besides the CSR, the idea of sustainable development was emerged and established at the political level, at the UN Earth Summit in Rio de Janeiro in 1992. At present, the companies are using their sustainability reports for linking to the outer world and thus, the CSR-Sustainability concept is gaining popularity at the international levels. These are used as a medium of communication for impacting the environmental and social issues positively. The laws relating to the environment will also be in the light of the research done, as the 80% of the destruction caused to the environment is due to the human intervention. Though, the development of the society is appreciated, yet the process through which the development was done, is always overlooked. And this contributes more towards the ignorance and negligent activities instigated by the human beings. Hence, the CSR will be looked with the environment and sustainable development so as to understand the balance between them. Moreover, the case laws unfolding the destruction aspects of the various spheres of the environment will also be analyzed.

Abstract ID: RSC-651

### **Constitution of India on sustainable development**

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Sustainability in development has been a challenge to the human community. Protection of environment and its limited natural resources has been the confronting situation in the era of competitive industrial development. So far India is concerned, the Environment (Protection) Act, 1986 is the central legislation. Besides, there are some other pollution controls and prevention laws and States have also framed their own anti-pollution laws according to their local requirements. The ultimate object is to ensure sustainable development for protection of environment from being degraded or polluted. Two articles relating to environment were incorporated in the Indian Constitution –Article 48-A and 51-A (g). Sustainable development and its component principles have been accepted as the law of land and have been applied under various situations so as to check and balance the development.

Abstract ID: RSC-652

### **Behavioural approach to law and economics**

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Behavioral economics has been a growing force in many fields, including public economics, labor economics, health economics, and law and economics. This paper describes and tells the current state of behavioral law and economics. Law and economics had been under recognized. Behavioral economics feature prominently and have been applied in many important legal domains. This article is to advance an approach to the economic analysis of law that is informed by a more accurate conception of choice, one that reflects a better understanding of human behavior. The earlier work in law is generalized, outlining behavioral findings by taking the two logical steps: bringing a systematic framework for a behavioral approach to economic analysis of law, and using behavioral insights to develop specific models and approaches. Economic analysis of law usually proceeds under the assumptions of neoclassical economics (is an approach to economics that relates supply and demand to an individual's rationality and his ability to maximize utility or profit. But empirical evidence gives much reason to doubt

these assumptions; people exhibit bounded rationality, bounded self-interest, and bounded willpower. This article offers a broad vision of how law and economics analysis may be improved by increased attention to insights about actual human behavior. It considers specific topics in the economic analysis of law and proposes new models and approaches for addressing these topics. The analysis of the article is organized into three categories: positive, prescriptive, and normative. Positive analysis of law concerns how agents behavior in response to legal rules and how legal rules are shaped and developed. Prescriptive analysis concerns what rules should be adopted to advance specified ends. Normative analysis attempts to assess more broadly the ends of the legal system: Should the system always respect people's choices? By drawing attention to cognitive and motivational problems of citizens and government, behavioral law and economics offers answers which are different from standard analysis.

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### **Role of U.N. Security Council in maintenance of peace and security of the world**

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Maintenance of Peace and security is the major concern in the era of globalization as to achieve the aim all the global powers need to cooperate against fighting the threats which are disturbing the peace of world. For the sustainable development of the nation's we must have a comprehensive approach towards major threats to the world peace. Terrorism and environment is the biggest threat to world peace in contemporary society. Non-state actors like terrorists, the biggest threat to international peace and security, one nation can't control or combat them without the support of other nations. Terrorism and environment disturbance is the biggest hindrance in sustainable development of the nations. And terrorism has led towards environment disturbance also, by bomb blasts, destroying natural resources, creating refuge population by making them homeless. Modifications of Eco-systems can be controlled if a modification of one or more factors is carried out to serve a special goal, such as land clearance for crop cultivation or land level-ling for irrigation, and if this modification is based on sound planning, taking into account the impact on environmental conditions, the newly established Eco-system is not necessarily inferior to the old one. But, if a sudden and unplanned change takes place, it may lead to a serious, uncontrolled imbalance with an impact on the whole Eco-system, both in the directly affected area and beyond. The mass movement of refugees is an example of a situation where the impact on the ecology is not fully under control, because the emergency character of the movement normally does not allow for early and proper planning of the new habitat. Terrorism has created such mass refugee population which has also led towards disturbance in Eco-system and ultimately an unavoidable and unattended environment disturbance. International Organization can play a major role in threat perception and combating them. The U.N. Security Council one of the most powerful organ of the U.N.O. is shouldered with the responsibility of maintenance of world peace and security. The U.N. Security Council has been given authoritative powers. Though U.N. Security Council has been vested with various powers but should be made more democratic in its conduct and response, as it still runs on the discretion of veto power nations. The U.N. has been playing a major role towards the aim of sustainable development of world by taking various measures.

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### **Writ Jurisdiction and sustainable development**

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Laws related to the protection of environment reflect a Country's stronghold against environmental exploitation and degradation. India being a developing country is showing an immense dedication towards environmental protection in recent periods. In India, the provisions regarding environmental protection have got their place in the Directive principles but the active role of Judiciary has included it under Fundamental rights guaranteed by the Constitution of India i.e. under Article 21 of the Constitution of India. Writs of Mandamus, Prohibition and Certiorari can also be filed under Article 32 and Article 226 by the Supreme Court and High Court respectively, in case of Violation. Thus, the judicial emphasis on the effective implementation on the environment laws, through instruments like writ jurisdiction, PIL, etc. has prompted judges to monitor compliance through periodic reports filed in courts by the government agency. Generally short interim order in the nature of a 'continuing mandamus' is passed at frequent intervals.

Abstract ID: RSC-655

**A critical analysis on IPR and biodiversity in India**

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Biological Diversity is the hallmark of life on earth. It is the backbone of the environment and it is very necessary to protect it. With the biodiversity rapidly decreasing day by day, it has become very important to understand our ecological system very seriously and take some necessary steps for the protection of our biodiversity. IPR and biological diversity are interrelated to each other. Various conventions and international treaties have contributed in the implementation of these steps for the protection of biodiversity. The Indian Legislature has also contributed in making some provisions about the protection of biodiversity under the IP law. In this article, the measures taken by the international conventions and treaties as well as the Indian Legislature would be discussed in order to protect the biodiversity. Further the impact of IPR on the biodiversity of India would also be highlighted in the following article.

Abstract ID: RSC-656

**Adolescence and the problems of puberty Psychology Today**Ansuman Sahrawat  
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Adolescence is that ten to twelve-year period of social and psychological growth that transforms the dependent child (beginning in late elementary or early middle school) into a functionally independent young adult in his or her early to mid-twenties. Puberty is the one to three-year process of hormonal and physical change that causes the young person to reach sexual maturity, girls usually entering it about a year earlier than boys. Among other changes wrought by puberty, there are growth spurts that create bigger bodies to manage. For girls' hips broaden, breasts swell, menstruation begins, and they can produce eggs. For boys' muscles enlarge, voice drops, ejaculation begins, and they can produce sperm. For both male and female there is more hair around sex organs, more body odor, and more active skin glands that can create acne. Article continues after advertisement. Now young people, as young as ten to fourteen are capable of participating in sexual reproduction, which doesn't mean that they immediately want to fulfill that potentiality. What it does mean, however, is that parents do need to start educating their son or daughter about socially managing sexual maturity and delaying sexual activity in a popular culture that glamorizes looking and acting sexual in every way. This is no time for a young person to be uninformed about what is going on in their bodies because in ignorance they will believe they are unique and wonder what is wrong with them, when nothing is. This is a time for parents to explain the process of puberty that unfolds for everyone and what changes to expect. An easy way to do this is for parents to search online for sites explaining puberty, find one that they like, and then read the information with their son or daughter, inviting any questions the young person may have. Normalize the process so the young person doesn't 'abnormalize' themselves. Adolescence does not depend on puberty to start. In fact, in most cases adolescence begins first. Parents notice the negative attitude (more criticism and complaining), the passive and active resistance (more delay and arguments), and the testing of limits (more seeing what can be gotten away with) that are the hallmarks of early adolescent change. But when puberty does begin, the adolescent transformation becomes emotionally intensified and more complex.

Abstract ID: RSC-657

**Human wildlife conflict; A critical analysis on the present legal mechanism**

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Historic evidences about codified laws about wildlife protection and conservation of forest resources were identified in India since third century BC, the earliest codified law was enacted by the Emperor Ashoka for preserving wildlife and environment (Joshi, Sardesai, Sharma, Mohmmmed, & Babu, 1997, p. 23). British enacted India's first codified laws for the protection of wildlife in 1887, the wild birds' protection Act 1887, which heralded the era of wildlife and protection. This Act identified as inadequate for the protection for the wild birds and animals, and the British Government passed the wild birds and animals' protection Act, 1912 and amended in 1935. Even after the independence, India devoted attention to wildlife protection; it is one of the few counties whose constitution includes some commitment towards protection and improvement of the natural environment including forests, lakes, rivers and wildlife, and some compassion for living creatures. A direct reference to environmental protection, by the Article 48A (forty-second amendment), Act of constitution has introduced, and specifically refers it as an obligation of the state; "The state shall endeavor to protect and improve the environment and to safeguard the forests and wildlife of the country". Even though, it was realized that the existing laws were inadequate to protect wildlife. The

231

Government of India brought out comprehensive legislation. The Wildlife Protection Act 1972, to provide protection to wild animals, birds and plants. Indian Forest Act, 1927, Prevention of Cruelty to Animals Act 1960; Indian Penal Code 1960; Customs Act 1962; Code of Criminal Procedure 1974; Convention on International Trade in Endangered Species of Wild Fauna and Flora 1975, Forest (Conservation) Act, 1981; Environment (Protection) Act, 1986 etc are other legal instruments available to administration agencies to control and prevent wildlife offences and trade, besides WPA 1972. Existing Wildlife laws & Forest laws are not addressing challenges of Human-Wildlife conflicts. Except Section 11 of WPA 1972, dealing with the private defense there is no other dedicated law for Human-Wildlife conflict because of this Government has to deal the conflict with existing law system. Due to the absence of provision for Human-Wildlife conflict in existing law is leading to the failure of the utility of law as a system of social defense. In other countries while making laws they make sure the harmony of the lives of human as well as wildlife and also consider the people's participation mainly who lives in forest. Where in India Human-Wildlife conflict are still dealing under Criminal Procedure Code, Indian penal Code and other laws.

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### **The constitutional mandates of environmental jurisprudence**

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The black ebony staves of judiciary which has thumped time and again for protection of man miniature against excruciating blows of evil is known on the aspiration for protecting environment. Although numerous legislative steps have been taken to give effect to the significant right of man to live in a sound environment and the corresponding duty on state and individuals to ensure environment preservation and conservation, my endeavor, in this study, is to analyze the steps taken by judiciary to forward this goal. The main objective behind this research is to identify the present scenario and study the nature and extent of till date developments in various environmental statuses through various statutes, law and convention and various issues regarding the court decisions and judicial process. This paper commences with the meaning and need for environmental laws. It also analyzes the judicial remedies available for environmental protection and some remarkable principles and doctrine propounded by the Indian judiciary. It further views upon the constitutional aspects and the new trends in judicial approach in environmental protection. The proposed study will lead to a more descriptive and comprehensive understanding of the environment law and the policy along with the role of Supreme in today's context to the new emerging threat which need to be combat effectively.

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### **Kinesics; An introduction to closed mouth speech**

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In the contemporary era where need of communication skills and techniques is observed and expressed in all personal and professional domains, there has been a surge to employ, execute and understand various facets of kinesics. The term Kinesics literally means, body movements, gestures and facial expressions and includes the study of conveyance of messages, feelings and emotions in non-verbal communication. The effective, natural and interesting study of body language movements to reflect human temperament as well as thought procedure forms the core of my present research paper.

Abstract ID: RSC-660

### **An E-Governance in Rajasthan: Performance of Citizen Centric Services**

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Initially the private sector played a big role in the use and development of internet in public domain but from recent past year's government also becoming part of this revolution through E-Governance. Government provides their services and information available to the public through on the Internet. A range of e-Government initiatives have been undertaken to improve the efficiency and usefulness of internal government operations, communications with citizens and transactions with both individuals and organizations. Government using ICT tools to make a significant impact on the development and growth of the nation. The main importance of integrating e- governance in the current system is to make country a successful and leading nation in this age of digital economy. The combination of Government, IT and communication resources, is a concept came in

existence which is known as e-Governance. According to the Geographical region and its diverse culture, the state of Rajasthan has its own unique importance in the country though it is a typical task to explore and integrated e-governance in Rajasthan but still this article is just an attempt to represents every aspect of e-governance in Rajasthan in summarized form.

Abstract ID: RSC-661

### **Mobile Phone Addiction Among Adolescents**

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The use of mobile phones has gained immense popularity in the modern world. Everywhere be it offices, colleges, schools, homes, parks, malls, trains, buses etc we see people hooked onto mobile phones. Especially young people or adolescents are spending most of their times on mobile phones these days. In fact, it would not be wrong if we say that people mostly adolescents are addicted to mobile phone. These addicts may manifest symptoms like low self-esteem, escapism and find it extremely difficult to maintain healthy social relationships but can establish very good relationships within the artificial or cyber world. A slight abandonment of mobile phones may result into anxiety, stress, sensitiveness, shivers, insomnia and other metabolic disorders in them. In this research paper, we attempt to study the relationship between psychological characteristics and mobile phone addiction amongst adolescents.

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### **Role of Fundamental Duties in Sustainable Development of India**

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As a student of law, I actually have been trained over the years to figure around and for equality. Equality is that the results of a balance that is earned by making a system of force and counter force. This is often precisely however fashionable civil and sovereign societies are designed to perform. Equality, liberty and sovereignty are the guiding principles of a decent state. The opposite essential feature of contemporary day society is that the rights that are given to the individuals. However, to determine a counter force similarly as balance the rights, there are duties. Jurisprudence, the science and philosophy of justice, says that rights are what the state owes its individuals, however duty is what the individuals owe the state reciprocally. It's an obvious and straightforward barter that maintains equilibrium and helps society progress. However, over the years there appears to be a continuing degeneration of the thought of duties, associate degreed currently an imbalance has are available to the image. individuals are becoming additional and additional protecting regarding their rights, primarily as a result of they are additional aware and lots of individuals of individuals like US at Lex lie with are operating arduous to create people responsive to their rights. However, they're obtaining additional and additional ignorant regarding their duties. Indian Constitution directs the citizen of Indian territory to performs fundamental duties (Article 51 A, part 4). But these duties are not binding to individual for enjoying fundamental rights. Indian State never examine or scrutinize individual performance in the act of performing fundamental duties but expect the best performance by an individual according to individual capacity. Compliance for fundamental duties varies with democracy to democracy. In advanced democracies compliance towards fundamental duties in higher. Indian State is an active member of UN and bounded with UN laws and targets for achieving global peace and egalitarianism. Indian state assured its compliance towards UNDP's Sustainable Development goals (SDGs). SDGs were born at the UN conference on Sustainable Development (Rio, 2012), to counter the urgent environmental, economic, political, and social challenges facing our world. Sustainable Development is a process of change, in which exploitation of resources, the direction of investment, the orientation of technological development and institutional change are all in harmony and enhance both current and future potential to meet human needs and aspirations. In present social, political and physical environment of global society, we need a more comprehensive approach to achieve sustainable Development goals. A gradual shift in development paradigms towards sustainable development has been observed in the history of development.

Abstract ID: RSC-663

### **Role and Contribution of corporate in Sustainable Development of India**

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Development, growth and prosperity of society and corporates depend upon each other as both go hand in hand and also share reciprocal responsibility towards each other. The responsibility which corporates have towards the society is called “corporate Social Responsibility” and utilising the resources keeping in mind the upcoming generations is known as “Sustainable Development”. CSR has become a worldwide concept whereby organisations consider the interests of society by taking responsibility for the impact of their activities on customers, employees, shareholders, communities and the environment in all aspects of their operations. It is one of the most important global issues with serious challenges and implications on almost all sectors. Surging economies, including India, are coping with issues related to poverty, child rights, community welfare etc and are a hotbed for an innovative CSR Scenario which is still shaping up. As India rides the wave of economic boom and commercial success, corporate social responsibility is presenting itself both as an opportunity and an important requirement for corporates to be engaged in. This will help corporate in their brand building and also contribute towards faster and more balanced growth of our society. CSR gained legal backing in India only few years ago when companies Act 2013 came into force. In this article an overview of corporate social responsibility and sustainable development will be taken along with the historical development of this concept on the various parts of the globe. Role and contribution of corporates in sustainable development of India will also be discussed. Authors will also critically analyse the provisions of companies act, 2013 in regard to CSR and provide their suggestions before concluding the article.

Abstract ID: RSC-664

### **Intellectual Property Rights and Sustainable Development**

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Intellectual Property Rights (IPR) and Sustainable Development are one of the two roles which play a significant part in innovation and development around the globe. There are various IPRs like Patents, Copyrights, Geographical Indications and others. Intellectual Property laws help any innovation or credibility of a person in protection and making it useful for general public and help in developing the nature and increases the standard of living of any individual. This paper will show us a journey of linkage between IPR and sustainable development, how the traditional knowledge of indigenous people and local communities utilize the natural resources and also preserves them for future consumption as well. The Sustainable Development Goals (SDGs), Convention on Biological Diversity (CBD), Traditional Knowledge Bill and the role of World Intellectual Property Organization (WIPO) with respect to IPR will be discussed further below. The amalgamation of these two will be showed through case laws and International treaties as well. Quoting the famous lines of Mr. Dan Shechtman, “Sustainable Development requires human ingenuity. People are the most important resources.” This shows us the influence of people on each other and their importance for developing and preserving the resources of nature completely. Public health also plays a major role in the development of sustainability. The 2030 Agenda for Sustainable Development which includes 17 goals and 169 targets to eradicate poverty, eliminate inequality, and most importantly fight against climate change. This agenda which is taken up by the United Nations helps us in public good and welfare. The agenda throws a light on the Sustainable Development and the need to fight against the change of climate. UN secretary general, Ban-Ki-Moon also said, the agenda which is being adopted here embodies the aspirations of people in their peace, security and dignity on this healthy planet. By the last few words mentioned and revising the importance of Intellectual Property Laws and their links between Sustainable Development and further developing and conserving the natural resources, the paper will discuss the TRIPS Agreement, WIPO, CBD and other laws related to IPR and how these laws helps in the development of sustainability.

Abstract ID: RSC-665

### **CSR, Human Rights and the Sustainability**

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Corporate Social Responsibility is concerned with triple bottom line i.e. profit, people and planet. It means corporations not only have their degree of responsibility in its economic terms but also for social and environmental aspects. Human Rights also have its sphere around economic, social and environmental aspect of corporate activities. CSR and Human Rights are interconnected. There are international Human Rights Standards for which government is duty bound to enforce such standards but it doesn't mean that corporations have no role to play in this direction. Corporate Sectors are the main source of economic growth, therefore many consumers and investors expect that corporations should enforce human rights through its activities and act like a socially responsible corporation. Thus, United Nation Human Rights Council also endorsed the guiding principles on Business and Human Rights in “Protect, Respect and Remedy” framework. This paper is an attempt to focus the relationship between CSR and Human Rights, role of corporations in respect of sustainability, UN guidelines and the role of other International Organizations in promoting human rights standards through corporate activities.

Abstract ID: RSC-666

### **Sound Marks in Indian Context**

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A lot has been said and discussed about Trademarks, as with the changing global scenario people are now more concerned about protecting their rights over goods, marks, food, taste, smell, sound, etc., which has always been regarded as Unconventional Trademarks. In India, the first statutory law relating to Trademarks was the Trademarks Act, 1940 which was similar to UK Trademarks Act, 1938, after which a lot of amendments took place. Presently in India the registration of Trademarks is done in accordance with the Trade Marks Act, 1999 which is in compliance with the TRIPS Agreement (WTO). This paper focuses on the registration of Sound Marks in India which has been under scrutiny for a long time and has now been accepted with its first registration done in 2008 of Yahoo and ICICI Bank became the first Indian entity to obtain Sound Mark registration. But it was a half victory as it was uncomprehended by common man.

Abstract ID: RSC-667

### **Right to Clean Environment under Constitutional Provisions: An Analysis**

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Environmental protection has now been wedded with human rights approach and it is now well established that, it is not only the Fundamental Right but it is the basic human right of every individual to live in pollution free environment with full human dignity. In view of the various constitutional provisions and other statutory provisions contained in various laws relating to environment protection, the Supreme Court has held that the essential feature of “sustainable development” such as the “precautionary principle” and the “polluter pays principle” are part of the environmental law of the country. When our constitution was drafted even the word “Environment” did not find a place in the constitution; but there are certain provisions which to great extent had direct bearing on the environment such as improvement of public health, organization of agricultural and animal husbandry on modern and scientific lines and protection of natural monuments. It was in 1976, based upon the International Stockholm conference on Human Environment, the Indian parliament passed the forty second amendment to the Constitution and incorporated specifically two Articles relating to protection and improvement of environment where in the Constitution of India obligates the “State” as well as “Citizens” to “Protect and Improve” the environment. In this Paper of mine I have tried to emphasize upon the the elaborated study of the Constitutional provisions and the related cases, demonstrating the active role of the Supreme Court and the High Courts in Protection of Environment. How the Court has successfully done its job, fulfilled its obligation and performed its duty. The Ratlam Municipality Case, Delhi Gas Leakage Case, the Ganga Pollution Cases, Dehradun Quarrying Case, Calcutta Taj Hotel Case are some of the examples where the Court, not only by liberalizing the traditional rule of locus-standi but has evolved the concept of public interest litigation. So the Judiciary has only been effective form to resolve environmental problem through public awareness. Thus, judiciary can and does play a role of catalyst and thereby speed up and gear up the process, but it has to be initiated by and from the public.

Abstract ID: RSC-668

### **Mahatma Gandhi National Rural Employment Guarantee Act, 2005 (MGNREGA)**

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The research scholar in the research paper is trying to explore the mgnrega Act, 2005. That is often blamed for the high inflation as money spent on the program since the inception Total expenditure Rs. (In cr.) - 4,20,793.25 has not led to the necessary assets creations and has been facing criticism with regard to non creation of durable and quality assets. The provision in the Act, regarding the nature of the work has been mentioned in the Schedule. This research paper will analysis whether the work done under mgnrega has created physical assets in the form of durability and quality assets and helped in sustainable development of environment. The objective of the mgnrega has categorically states to create substantial environment in the form of rural assets, create livelihood and restore environment. As the data suggests total no. of job cards issued under mgnrega are 12.53 (In cr.) and total no. of worker are 25.18 (In cr.) in total no. of GPs that are 2,26,682. So with such a huge no. of worker force to create assets and will they created in the form of durable and quality assets that will also help in the sustainable

development of environment. This research paper will also study with special reference to the assets created under mgnrega in the Rajasthan state.

Abstract ID: RSC-669

### **Sustainable development in India and corporate social responsibility**

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This research paper is an effort to elucidate the concept of sustainable development, and to discuss how the stakeholders of Indian governmental regime and commoners residing here can employ this very fundamental approach of meeting with the needs of present at the same time conserving resources for generation to come, While also spreading light on the idea of corporate social responsibility which matured with the consciousness that corporates and big market players holds a moral Responsibility to payback society at large. The concept of sustainable development developed at a UN conference and gradually acquired popularity across nations. It gave new perceptions to long worrying thoughts of conserving natural resources available at our disposal. The focus is on Indian context. Deliberating knee questions like propagation this policy of sustainable development, its fusion with Indian environmental laws for better implementation, Its sustainance in daily life of citizens; at their workplace, social gathering, Community etc. Questions like this and many more will be addressed. Corporates houses and big business player who earn profits exploiting resources, labour available in society incur a responsibility to payback to society. Although there are provisions of CSR in Indian Companies Act 1976, it need a review to add more provisions. The scope of CSR is yet to infiltrate the very vibes of Indian businesses as only few corporates run social benefit schemes. The difficulties and the disinterest arising due to it among the Indian business is talked about in this paper. Details of corporates like CAIRN INDIA, WIPRO INC, TATA etc who are playing Their parts in society building is sited in the paper.

Abstract ID: RSC-670

### **Sustainable Development and Human Rights (Right To Life)**

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Sustainable development is one of the major and fundamental principle of the human development and at the same time it maintains the ability of the natural systems to provide natural resources and services essential for the humans or other organisms to sustain life. In short the main agenda of this concept is to make sure that such a society should emerge where the resource use should continue to meet the human needs without endangering or exploiting the natural resources. It can also be defined as the processes of productivity indefinitely by replacing resources used with more valuable and efficient resources without endangering the existing ecosystems. Sustainable development formed the very basis of the United nation's conference on environment and development which took place in Rio de Janerio in 1992. This summit was the first international attempt to make and implement plans and actions for the rise of a sustainable pattern of development in all over the globe. It was attended by over 100 Heads of State and representatives from 178 national governments. The Summit was also attended by representatives from a range of other organisations representing civil society. This concept was the solution to a major problem known as the "Environmental Degradation". The concept received its first major recognition in the UN conference on human environment which was held in stockholm in 1972. Eventually the concept was discussed in detail by the Brundtland Commission in the 1987 report Our Common Future. The main agenda of the commission was to investigate the numerous concerns that had been raised in the past decades for which human activities has been responsible for severe and negative impacts on the nature and its resources. The report generated by the brundtland commission stated that, "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts: · The concept of 'needs', in particular, the essential needs of the world's poor, to which overriding priority should be given; and · The idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs." Furthermore the UN conference on environment and development published an Earth Charter which outlined the building of a just, peaceful and sustainable global society in the 21st century. Also the United Nation's Conference on Sustainable Development which aimed at achieving economic and environmental goals of the global community.

Abstract ID: RSC-671

### **Ecocriticism through Disney Movies**

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The magnanimity of the Disney movies have clinched the audience even more than the mythological books and stories ever could.. Disney movies and it's larger than life cinematography has led the path for audience to live with the nature. Through this paper our approach will be to understand the effects of Disney on its character's psyche and its treatment of nature throughout. Disney has always been a monumental part of our childhood. We Indians may have connected to it in different languages but nonetheless emotions and learnings are same as of the world. Ecocriticism is sensitive to nature. We learn about its role, definition, suffering and essentials. Every Disney story in its own creative way has taught us to be friends with the environment and nature. From Rapunzel's fostering to Mowgli's upbringing, the jungle has its own story. Where queen Elsa has acknowledged the Ice and its shimmering beauty, Fawn the animal fairy from Tinker Bell series harbingered the lifestyle and naturality of animal kingdom. Furthermore, Disney, through its graphic imagery and better VFXs has made many variant changes in visualization which helps the audience especially children to understand nature in more congruent way.

Abstract ID: RSC-672

### **Eco-Criticism in Kamla Das' Poetry**

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The term ECO-CRITICISM was coined by William Rueckert in a 1978 article which called for the formulation of an "ecological poetics". Eco-criticism is present extensively in many works of eminent narrators, playwrights and poetic figures. Being used in such vast amount the concept has a slight touch upon, and taught in curriculum. Cheryll Glotfelty's working definition in *The Ecocriticism Reader* reads, "ecocriticism is the study of the relationship between literature and the physical environment", and one of the implicit goals of the approach is to recoup professional dignity for what Glotfelty calls the "undervalued genre of nature writing. The paper focuses on the presence and usage of ECO-CRITICISM in works of one such pioneer of Indian English Poetry KAMLA DAS. It deals how the poetry of Kamla Das is a prominent reflection of ECO-CRITICISM and how she has mingled her art of poetry with the physical environment, the mother nature. The poems of Kamla Das deals broadly with an aspect of ECO-FEMINISM as well, which is a part of ECO-CRITICISM. The paper, furthermore deals with the portraying of the hybridisation of ECO-FEMINISM and POETRY. Her most prominent works such as A HOT NOON IN MALABAR (poetry from her collection of poems SUMMER OF CALCUTTA) justifies the usage of ECO-CRITICISM rightly.

Abstract ID: RSC-673

### **Ramayana: An Alternative Text to Ecocritical Readings**

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The Epic text like Ramayana is incomplete without the binding forces of Nature and reading Ramayana is like reading about the whole Ecosystem in one space! The varieties of forests as habitats of Ram and Sita, plants, trees are like delving deep into the wilderness of Nature and the coming generation got various illustrations from it How to 'Grow with nature by going through the nature'!! In Bhagavad Gita too, Nature is considered as supreme and Lord Krishna compares the world to a single banyan tree with unlimited branches in which all the species of animals, humans and demigods wander, which reflects the concept of community ecology. In modern age, there are many policies developing in many countries for forest and biodiversity conservation, but they are all directly or indirectly influenced by the traditional knowledge developed in the ancient India. The paper envisages to link the closeness between nature and culture in our Epic text Ramayana and how the text is the representation and preservation of nature and culture since that time by giving the world to look upon to worship, respect and providing a source of new history for Ecocriticism from Ancient perspective.

Abstract ID: RSC-674

### **Jean-Jacques Rousseau and French Eco-literature**

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Jean-Jacques Rousseau marked a turning point in the history of the human thought and literature. He wanted to track down the origin of the evil in society. In his essays "Discours sur les sciences et les arts" and "Discours sur l'origine de l'inégalité", he questions the false 'enlightenment' and the so-called progress of the society that leads to corruption of man and his morality. Rousseau believed in man's original goodness. In the 18th century, the century of the Enlightenment in France Rousseau stands out among intellectuals contesting the values and structure of the monarchic society. Despite differences the relentless spirit of criticism creates resemblance between Rousseau and Voltaire, another great enlightened philosopher of the time and consolidates the bond of fraternity among them. Each of them can be considered in some way or the other, as the mentor and the precursor of the ensuing Revolution. This is how the posthumous reconciliation of Rousseau and Voltaire is explained and their common sublime deification is understood. Although both of them belonged to the age of the Enlightenment sharp differences of opinion isolated Rousseau from Voltaire. The former's subjectivity and emotivity were in sharp contrast with the later's objectivity and trenchant rational wit. The "progressive" Voltaire condemned Rousseau for his "regressive" philosophy of nature.

Abstract ID: RSC-675

### **Woman Flower Man through the prism of Wolfgang von Goethe's poetries**

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Nature and women are the most flexible entities of the universe found on the planet earth. They both stretch to their maximum limit to surround their near ones and bear life too. The nature in itself has been termed as Mother Nature. The close association of women and Mother Nature has been coupled to each other with time immemorial. This close knitting has been a critical point in the literature in all the literary periods. Some writers and poets have penned down their marvelous works through the comparison between women and flowers. The beauty and tenderness of the flowers are similar to that of a woman. The human others –women and the earth other- flora, fauna etc have undergone male domination at times in these literary works. The following paper tries to put forward the poetries of Wolfgang von Goethe depicting the situation of women through flowers. At the same the triangular connectivity among women, men and nature has been highlighted by this paper.

Abstract ID: RSC-676

### **Corporate Social Responsibility in India**

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Corporate social responsibility is not new to our society. A good corporate social responsibility and society are inextricably interlinked. It is the duty of the corporate to provide good governance to the stakeholder and society at large. Corporate have a moral and social obligation towards the society. India's new Companies Act 2013 has introduced several new provisions regarding Indian corporate business. One of which is corporate social responsibility. The ideology of the concept of corporate responsibility is give and take. Companies take resources in the form of raw materials, human resources etc from the society. By performing the task of corporate social responsibility activities, the companies are giving something back to the society. Section 135 of Indian companies act 2013 discuss about the provisions of corporate social responsibility in Indian, the rules which are made by the government of Indian for the corporate business which is mandatory to follow by the corporate. This article is about "Do Indian companies care about the corporate social responsibility and the environment?". The need of corporate social responsibility in India, the role of the corporate sector towards the stakeholders, who could be both insiders and outsiders. A good corporate governance itself is a social responsibility.

Abstract ID: RSC-677

### **Ecological literature in China: an Overview**

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Human beings can only try to familiarize themselves to their environment without making an enemy of it. Contemporary Chinese literature seems to address these issues, providing a concept of literary ecology that is based on an ecological-systemic holism from which all human behaviors should be closely examined. Studying contemporary Chinese literature should thus transcend the scope of dominant anthropocentrism. In China, the model of sustainable development has experienced great

development and change at different levels of theoretical connotation and practical functioning since 1960s and 1970s when it was first proposed. Chinese Peoples understanding of the relationship between economy, society, and environment has been continuously deepened over the years. This paper analyses and summarizes the understanding of the ecological literature in China and also the concept of sustainable development from its origin, its significant development, to the proposition and development of the 2030 Agenda for Sustainable Development, and its strategic impact on China.

Abstract ID: RSC-678

### **Evils of Caste System and its repercussion in Indian Democracy: Continuities and Changes**

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The caste system is the most indispensable feature of the Hindu society. Looking back over the development of centuries since its unknown beginning, the system has exercised an insightful influence on the social and economic life of the people. In the beginning, it was introduced on the basis of division of labour in society and was calculated to promote its economic strength and efficiency. The separation was to begin with absolutely flexible and it was possible for a member of one caste to change to the other. But as time passed, the caste system became an impermeable compartment. Being a unique stratification system in the Hindu social organization system it has acted as a block in the nation's progress. It has unwarrantedly divided the Hindu society into mutually hostile.

Abstract ID: RSC-679

### **Science and Religion: Above and Beyond Their Way of Life**

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Science and religion are frequently presented as antagonists in the present day. This hostility goes back to the positivistic philosophy of the 19th century, but lacks historical support since science and religion have generally been refined by the same persons, notably in several ancient cultures. Regarding modern natural science, a number of scholars have stressed that its birth was favored by the fact that Christian religion had stimulated within Western culture the view of a universe reflecting the plans of an intelligent creator. Two infamous clashes occurred between natural science and religion; the trial and punishment of Galileo, and some controversies connected with evolutionism. Both depended on an insufficiently clarified distinction between the scope and ends of revelation, and of natural science. A parting of these two domains, advocated by Rene Descartes and renewed by Immanuel Kant, permitted a peaceful coexistence of science and religion, and even the adoption of the results of science as apologetic arguments in favor of the existence of God. Science, however, does not support religion rather than atheism both can be defended through philosophical arguments and can stimulate opposite interpretations of the results and theories of science. Being a valid but consciously delimited knowledge, science is unable to handle issues regarding the whole of reality that specifically concern philosophy and are of paramount importance for every rational being because they are profoundly associated with the existential need of giving a sense and a value to one's life, or to the Life World. Religion tries to content this same need through a faith that, however, is not blind because it has been essentially supported by rational arguments especially in the long tradition of Christian theology. Since science itself belongs to the Life World, scientific knowledge and activity are subject to value judgments that can be reasonably sensitive also to religious concerns.

Abstract ID: RSC-680

### **Sustainable Development and Constitution of India**

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With the ever growing economies and the want and hunger for more, the doctrine of Sustainable Development becomes the most pertinent principle at the present time. The doctrine of Sustainable Development has most commonly been defined as development that meets the needs of the present, without compromising the ability of future generations to meet their own needs. It contains two key concepts:- □ The concept of needs, in particular, the essential needs of the nation's poor, to which superseding priority should be given; and the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs. This definition derives from Our Common Future, also known

as the Brundtland Report published by World Commission on Environment and Development in 1987. For the first time, the doctrine of "Sustainable Development" was discussed in the Stockholm Declaration of 1972. Thereafter, in 1987, the World Commission on Environment and Development submitted its report, which is also known as Brundtland Commission Report where in an effort was made to tie or link economic development and environment protection. In 1992, Rio Declaration on Environment and Development codified the principle of Sustainable Development. Simply put, the principle of Sustainable Development attempts to maintain a balance between development and the environment. It promotes inter-generational equity, i.e. better quality of life in common both with present generation with other generation. The benefit from development ought to be equated with the impact on the environment for such development. While development is important or in fact necessary, the impact on the environment must to be studied before undertaking such development. The basic concept of sustainable development aims to maintain a balance between economic advancement while protecting the environment in order to meet the needs of the present as well the future generations. The two pillars of the doctrine of Sustainable Development are Polluter Pays principle and Precautionary principle.

Abstract ID: RSC-681

### **Art and Science: Development Process and Close Proximity with Humanity**

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Science is a philosophical presentation of human mind. Whereas art is a synchronised rhythm of colours poured in different shades. Here we can say that each has a symbolic relationship with each other. They both Endeavour with each other along with human nature, that is why many philosophers rightly say MAN IS A SOCIAL ANIMAL. Many artists through their brush have pictorial presentation of animals in correlation with human, science too plays a significant role in making their presence in close proximity with nature. But each illustration needs the help of artistic presentation to understand the concept which only an artist can satisfy with the right choice of colors and presentation in co-relation with nature. So science and art can never be put apart even though each has its own limits and excession. Science can never be complete without facts where as art is itself gives its own identity. One of the primitive natural need of humans is to understand the world around us and then share that understanding. Both art and science are human attempts to understand and describe that understanding. Their subjects, methods, and intended audiences are different but motivations and goals are the same. We need to understand because we are terrified by unpredictable things and we share because we are social creatures. Sharing our perception with others always make us successful as a species and we like it because it makes sense and then its science or art? Does that make it science or art?

Abstract ID: RSC-682

### **Environment protection and sustainable development**

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Right to environment is a fundamental right. On the other hand right to development is also one. Here the right to 'sustainable development' cannot be singled out. Therefore, the concept of 'sustainable development' is to be treated an integral part of 'life' under Art. 21. To ensure sustainable development is one of the goals of Environmental Protection Act, 1986 and this is quite necessary to guarantee 'right to life' under Art. 21. Deprivation of life under Art. 21 of the Constitution of India comprehends certain deprivations other than total deprivation. The guarantee to life is certainly more than immunity from annihilation of life. Right to environment is part of the right to life. Apart from the rights under Art. 21 and its refined articulations in Art 51 (g), it is to be remembered that in 1984, United Nations adopted a resolution, reading: "All human beings have the fundamental right to an environment adequate for their health and well being". A state of perpetual anxiety and fear of extermination of life is not an environment adequate for the health and well being of human race. While running hazardous industries using highly advanced technology, it is imperative that human safety be given prime importance. The Earth is the mother and we are her children. People of other religious traditions may not be used to such a reverence for nature. But they cannot ignore the fact that the human destinies inseparably linked with that of the Earth. It is therefore, our duty to maintain the nature of Nature. It is in our self-interest, if nothing else. Environmental crimes include air pollution, water pollution, deforestation, species decline and the dumping of hazardous waster. This article analyses the environment protection and Sustainable Development and Crimes committed against the nature or environment as a whole and try to provide solution for the same.

Abstract ID: RSC-683

**Role of company law in sustainable development of CSR**

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India is the first country in the world to make it mandatory for the companies to contribute to society and environment via Corporate social responsibility (CSR). This paper analyses the scope of section 135 of the Companies Act, 2013, which makes it compulsory for companies to spend 2% of their profits towards Corporate Social Responsibility ('CSR') initiatives. With effect from April 1, 2014, every company, private limited or public limited, which either has a net worth of Rs 500 crore or a turnover of Rs 1,000 crore or net profit of Rs 5 crore, needs to spend at least 2% of its average net profit for the immediately preceding three financial years on corporate social responsibility activities. Although it is mandatory, but the corporations have found the ways to get out of the compulsory requirement to spend its 2% profit and consequently, the tax evasive activities have been increased. While it is a welcome change to make the companies contribute to the society, this study determines the issues that have been neglected by the legislators. Also, certain suggestions are recommended that may help curbing the problems identified.

Abstract ID: RSC-684

**Shifting The Power Paradigm In La Barraca Through Nature & Its Forces, A Novel**

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Vicente Blasco Ibañez is considered an influential novelist of the Nineteenth century. Through the incorporation of thought and style of various foreign writers such as Emile Zola & Charles Dickens, Blasco Ibañez presents themes such as death, the fight for existence in a hostile environment, and violence by means of artistic description and a discourse that succeeds in expressing a valiant message regarding sectors of society that suffer injustices due to their condition that is economically and spiritually depressed. The Naturalism of Blasco Ibañez takes on the social cause of the injustices that Batiste Borrull, the protagonist of La barraca, suffers. Blasco Ibañez recounts from first-hand observation the harshness of life in the Valencian fields. The author places special emphasis on the occupation of the cabin by Batiste Borrull and his family, their struggles to maintain their home and their crops, their obstacles, and the defense of ideals – first through self defense against Pimentó, then through physical separation from the field worker community. The resulting presentation of details that the author has so minutely described places this society in the scientific equivalent of the Petri dish under the microscope. Conflicts of varying types – man against man, man against nature – emerge to display the problems that permeate this society. The initial arrival of the Borrull family is met with disdain. After all, they are occupying land that for ten years lay vacant due to the collective boycott of the fellow land workers in reverence to the former owner, Barret, whose death occurred as an indirect result of his problematic relationship with the landowners. From the very beginning, Batiste experiences the conflict that embodies the cyclical Naturalist scheme of history molding future events. To highlight this quality of nature as an independent marker of the injustices of society and also of its cyclical nature, nature's maternal role surfaces repeatedly in the novel. In a symbolic formation of society under this maternal influence, the metaphor may be extended to include all the workers of this community, past and present. For the former occupant of Batiste's cabin, the lands form part of his figurative heritage that originally appear to favor his success, in spite of the continuous hard work he must put forth, without the help of a male offspring. In conjunction with his inability to pay his rent, the land becomes an accosting agent. In my paper, for the ECOLIT conference, I would like to describe how, the novel's authorial perspective offers a detached glimpse of this society by viewing the collective notion of its totality, the presentation of the huerta community presents the circumstances of the workers as members of pre-modern society who battle the constraints of the landowners' control, the manner in which through thye deconstruction of the domain, in a specific system that is not susceptible to change, and what are the problems faced by the traditional agrarian society, when it decides to change. In brief, I would like to emphasize that Blasco Ibañez catapults the conditions of the huerta society to the forefront of a discourse of subversion.

Abstract ID: RSC-685

**Abhijanana Shakuntalam: Correspondence to Ecological Principles**

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The abstract highlights the use of environment in the settings and motion of the Sanskrit play Abhijanana Shakuntalam by Kalidasa who is famous as Shakespeare of India. The setting of the play Abhijanana Shakuntalam is before the industrial revolution made its way to society; home-grown society equivalent to culture of habitat, where people are genuinely engrossed in their direct surroundings and have the benefit of a harmonious affiliation with it. If one is to write on the ecological principles followed in ancient Indian literatures, 'Shakuntalam' is the correct work to contemplate on. The play focuses on the people living in the midst of nature. A symbiotic relationship between man and nature is been observed in the play. The celebrated poet has focused through his dramatic ideals, on the essential interconnection between nature and the world of human beings. Study of nature and culture is termed as Eco-criticism. Ecocriticism is not just a means to probe nature in literature: it implies a shift towards biocentric world view, an extension of ethics, an expansion of humans' conception of global community to comprise non-human life forms and the physical environment. The characters and the environment are seen to be integrated in order to form a romantic story of king and a girl brought up in the lap of nature.

Abstract ID: RSC-686

**Law and Policy of Sustainable Development in International Investment Agreements to Reforms ISDS Laws in India**

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ISDS and many other organizations believe that investment is a significant requirement globally, to attain more sustainable future. Investments are needed to add sustainable energy resources, sounder industrial processes, better natural resource use and harvesting processes, as well as to achieve the economic and social factors at the heart of the development agenda. Even the more direct relationship between international investment agreements (IIAs) and sustainable development but investment fundamental aspect is not straightforward. Traditionally, IIAs were seen and sold as a development tool and developing countries that sign IIAs with capital exporting countries were expected to see significant inflows of investments due to the security for foreign investors that the agreements provide. Regardless of the merit of such claims, they miss the wider question: Do IIAs actually contribute to the host country development objectives? Do IIAs actually attract investment? If so, does the resulting investment contribute to sustainable development? What other sustainable development impacts do IIAs have?

Abstract ID: RSC-687

**MOOCs: A Helping and Informative Tool for the Young Professionals with special reference to the Job Applications**

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It is an undeniable fact that human beings have an inherent tendency towards growth, development and integrated functioning and they are proactive in learning the required skills to show their potential. It is a universal want in the job market to remain updated and sharpen their skills time to time. Therefore, what we learn, must and need to be gradually updated as in both national and international markets the career opportunities and priorities have been changing drastically. This leads to the emergent and dire need to develop and sharpen the skills of the young employees or college graduates to meet the challenges and match the expectations and requirements of their employers and to prepare themselves for their future in the field.

**Theme # 07: Industry, Innovation and Infrastructure**

Abstract ID: RSC-688

### **Different aspects of solar energy in India**

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A developing nation like India needs a continuous source of energy which is reliable, low cost and produces no harmful residues. And renewable energy is that source which checks on all these 3 factors. Anyone who lives in India can understand that solar energy is very reliable as nearly 300-330 days here are sunny and India being the 7th largest country in terms of land mass. When we talk about the solar energy, the primary source is the Sun. Solar energy is green and economical makes it cheap. This in the long term will help us in less import of crude oil and coal, which are a polluting source of energy. This pollution in long term increases the greenhouse gases which are now increasing the average temperature of our country at an alarming rate. The Government of India has now stepped up and has launched appreciable missions like Jawahar Lal Nehru National Solar Mission which plans to cater a percentage of our energy needs through solar energy. With every technology comes some challenges, but comparing the benefits, the solar energy is having greater benefits. In this paper, the progress of solar energy uses in different areas is summarized. This paper also shows the different benefits with disadvantages of solar energy.

Abstract ID: RSC-689

### **Solar energy – applications**

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With about 300 clear sunny days in a year, India's theoretical solar power reception is 5000 trillion kW-hours. Even if we consider that PV-cells have 10% efficiency, the above mentioned energy is still 1000 times greater than demand of domestic electricity. In my paper, I will be focused on some large scale applications of solar energy. I will be discussing few ways in which the solar can be harnessed and put to use on large scale. These applications include Solar Crop Drying, Solar Cooling, Solar Heating of Biogas plant. I will also be discussing about Solar buildings, i.e. installing solar panels on houses and buildings, with some recent discoveries (coloured solar panels). Solar crop drying can benefit in the storage of food utilities. Solar cooling can greatly reduce the use of Air conditioners, and thus help in controlling pollution. Solar heating of Biogas plant can help achieve its maximum efficiency.

Abstract ID: RSC-690

### **Inculcating soft skills for Employability**

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Soft skills" are defined as cluster of personal qualities, habits, attitudes and social graces that make someone a good employee and compatible to work with. In the workplace, soft skills are considered a complement to hard skills, which refer to a person's knowledge and occupational skills. These skills are different from technical skills that help you to accomplish the operations and procedures of your job. Today's professional world has undergone a remarkable change. It has become more competitive and challenging. Many employees are losing their jobs due to lack of soft skills. In addition to hard skills, Soft skills are greatly required for a stable and successful Professional life. Integrated and blended approach of subject knowledge with soft skills is necessary rather mandatory to be successful in Competitive world of present arena. Soft skills are identified as the most critical skills in the current global job market especially in a fast-moving era of technology. The reorientation of education which is one trust of education for sustainability also relates the importance of these so-called soft skills. Soft skills help a person contribute greatly to organization's growth and climb the ladder of success in career. Interviewers look for these skills during the time of interview. Employers recruit outstanding, motivated individuals with enthusiasm, have the courage to lead, have values, skills, strong analytical and conceptual abilities and individuals passionate about learning. This present paper entitled "Inculcating Soft skills for Employability" focus on need and importance of soft skills in increasing employability.

Abstract ID: RSC-691

### **Scenario analysis of economics of battery storage technologies**

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Indian power sector is at cusp of transformation towards renewables; tariffs plummeting to all time low, record capacity additions of renewables in recent years, consumer now remains no more a consumer and halt in more thermal capacity as of now. No doubt Wind and Solar power offer emission free generation but everything comes with price. Increasing renewable penetration can cause grid instability due to variable and intermittent nature of Solar and Wind. Experts tout Storage technologies specifically batteries as foremost solution to integrate renewables into the grid but batteries are yet to find their niche in power sector. If we look ahead of 175 GW, renewables have gigantic potential. The total potential for renewable power generation in the country as on 31.03.16 is estimated at 1198.856 GW. Time moves ahead and technology commensurate with it. Moreover they can match small gestation periods of renewables as compared to other means of flexible generation like pumped hydro and expensive gas power plants. It manifests the fact that Batteries are a future proof and bee line solution to renewable integration. This study not only examined selection, applications and classification of various battery storage technologies but proposes a methodology to arrive levelized cost of storage. It also considers two scenarios to envisage fall in LCOS of Lithium-ion up to 2025.

Abstract ID: RSC-692

### **Potential of renewable energy in India**

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Renewable energy sources and technologies have potential to provide solutions to the long-standing energy problems being faced by the developing countries. The renewable energy sources like wind energy, solar energy, hydel energy, geothermal energy, tidal energy, biomass energy and fuel cell technology can be used to overcome energy shortage in India. Since India is a developing country, the energy requirement would increase to 3-4 times the current requirement in future and the requirement can be fulfilled by renewable energy resources. India is increasingly adopting responsible renewable energy techniques and taking positive steps towards carbon emissions, cleaning the air and ensuring a more sustainable future. India hosts the world's largest small gasifier programme and second largest bio gas programme. After many years of slow growth, demand for solar water heaters appears to be gaining momentum. Small hydro has been growing in India at a slow but steady pace. In this paper, efforts have been made to summarise the availability, current status, major achievements and future potentials of renewable energy options in India. This paper also assesses specific policy interventions and government efforts for overcoming the barriers and enhancing deployment of renewable for the future.

Abstract ID: RSC-693

### **Low cost adsorbent for dye removal from industrial effluent: A review**

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Dyes which can even be recognized by the human eye even at a very low concentration in water is a vital class of toxin or pollutant. Disposal of dyes in precious water resources must be avoided, however, for that various treatment technologies are in use. The removal of dye (pollutant) from waste waters of textile, paper and printing and other chemical production or manufacturing industries has been addressed by the various researchers. Adsorption techniques are widely used to remove certain classes of pollutants from waters because adsorption has been found to be superior than other techniques for water re-use in terms of initial cost, adaptability, flexibility and simplicity of design & ease of operation to toxic pollutants. More common adsorbent used for removal of dyes from wastewater is activated carbon. Now a day, a large number of low cost adsorbents from agricultural wastes have been prepared and investigated for the removal of colour or dye from aqueous solution by various researchers. The adsorption of dyes on this adsorbent was studied as a function of various parameters such as contact time, dye concentration, pH, adsorbent dose and temperature by batch process. Researchers also analyzed the adsorption data by using Langmuir, Freundlich, Redlich and Peterson, Temkin and other isotherms.

Abstract ID: RSC-694

**A study on solar photovoltaic cell models and evolutionary computational techniques**

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Solar Photovoltaic (SPV) is the most significant solar energy application because photovoltaic conversion is the direct conversion of sunlight into electricity. Maximum conversion is mandatory for full utilization of source energy and to make a cost effective system. It can be made possible by optimizing the SPV cell model parameters and their correct estimation because these parameters give the actual estimation of the output of a system and help in designing a good SPV cell, module, and system. These SPV cell models are optimized by different techniques but evolutionary optimization techniques gives the best results. Single-diode model, double-diode model, and some other models are also designed and proposed by various researchers in recent past. In this paper, some models of SPV cell and some evolutionary optimization techniques are described.

Abstract ID: RSC-695

**Urban sustainability and efficiency of adaptive building envelopes through kinetic architecture**

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In the context of world witnessing an irreversible trend of increasing urbanization, it has been recognized that two major directions are emerging in the construction industry globally to manage its impact on human health, environmental quality and urban productivity. The opportunity of reconfiguration of spaces as per the varying environmental context and user needs on one side, while the focus on increasing efficiency and optimization of materials to attain reduced energy utilization in buildings on the other. The energy statistics 2013 of India's National Statistical Organization (NSO) confirms that more than 40% of the total electricity consumed in all of India occurs in the building construction industry and is expected to increase to 76 percent by 2040 and the Urban sector of the state of Rajasthan is no exception. A large quantity of incremental energy demand will come from the residential sector in Rajasthan. India is now the world's seventh largest energy consumer, sixth largest source of greenhouse gas (GHG) emissions, and second in terms of annual GHG emissions growth (Bureau of Energy Efficiency, 2011). India's building energy use accounts for 40% of the nation's energy use, and this is growing by 8% annually (Climate works, 2010). The skin of the structure or the Building envelope is considered as a medium of regulation linking internal conditions and exterior environmental changes, and hence is tremendously significant in the progress of novel approaches to sustainable design strategies which will help buildings to adapt to a changing environmental context and mitigate the very causes of climate change, urban heat island effect, and sick building syndrome. This paper presents a convergence of ideas of climate adaptive building envelopes and shading systems functional in contemporary urban architecture and offers a study of diverse design approaches and concise examination of case studies to understand the dynamics applied to architecture and its value in an environmental sustainability point of view for effective design, especially in the case of a hot and dry climate such as the state of Rajasthan.

Abstract ID: RSC-696

**The integration of Bio inspiration into the development of architectural design towards sustainability of the built environment**

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Bio inspiration is a theory about ideas inspired from nature and transfers those to create sustainable design solutions. This concept is considered as one of the most promising solutions for sustainable development especially towards adaptation and mitigation towards Climate Change and other impacts of rapid urbanization. In this paper, a brief literature review on Bio inspiration and Architecture has been arranged into rational system and has been systematically customized to find the application of Bio inspiration in the design processes involved in architecture. The main objective of this paper is to find out how Bio inspiration principles help in architecture of space, structure or enclosure, its experience in space & time, technological achievement, program or strategy development and compatibility to its context. Mapping of research literature has been done on the basis of a framework of the system of Inquiry, Strategies and Tactics. This paper examines research literature on Bio inspiration principles in Design of spaces/structures/enclosures based on technological advancements, to accommodate a program and these three systems compatible to its context. It includes a comparative analysis of available literature to understand the application of Bio inspiration

in architecture. It is assumed that application of Bio inspiration to the architectural design becomes a platform to create a sustainable built environment. This is an effort to explore recent research developments of the application of Bio inspiration principles in process design, object design and realization design which are the inherent part of architectural design.

Abstract ID: RSC-697

### **Solar Energy – A Journey**

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A nation's stability depends on its energy security. Conventional methods of energy production have limitations on being exhaustible and also being responsible for production of greenhouse gases. The trend, thus, is to move towards a more reliable, renewable source of energy. We, in this article consider Solar Energy which is one of the components of renewable source of energy. India, realizing the importance of Solar Energy has taken up the cause in right earnest spearheaded by few states, prominent amongst them being Rajasthan. We, in this article present a perspective on Solar Energy production with special emphasis on Rajasthan.

Abstract ID: RSC-698

### **Rooftop hybrid solution for home automation using Solar, Nano and Micro technology**

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There is a tremendous demand of electricity now a day. We are in the age of less or decaying fossil fuel as greater demand. Since twentieth century, we have much focus on renewable sources such as wind, solar, water etc. The main problem with those sources its less efficiency. So with the literature review of various groups, we have focused on use of micro and nano material to enhance the capacity or efficiency. From the start of the day till the end of day, in daily used devices, appliances and other things, the role of solar, micro and nano technology would be the boon for making home automated and smart, i.e. also leads toward smart home, followed by smart city, under the main group called Digital India.

Abstract ID: RSC-699

### **Jacket In-Place Strength Evaluation by Optimization of Bracing Configurations**

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Fixed platforms are enormous steel structures used for the exploration and extraction of oil and gas from the earth's crust. The jacket-type structures are suitable for a relatively small depth of water i.e. up to 100m. These structures will be fastened to the seabed by means of tubular piles either driven by jacket legs or skirt sleeves attached to the bottom. Weight optimization is very important as it reduces the total cost of the project since Jacket structures and their installation are very expensive. This paper deals with the in-place analysis of an four legged jacket platform at Mumbai high and optimization of the bracing configurations by comparing the weight and base shear of jacket platform with different bracing configurations. Typical 4 bracing configurations are selected for optimization. The jacket platform is modeled in SACS Software and in-place analysis is carried out. Critical load conditions are taken into account, which include structure and equipment weight, wind load, hydrodynamic (wave & current) load using Morison equation. After in-place analysis, the members are redesigned by varying the diameter and thickness until unity check ratio becomes less than 1. The weight of jacket for each bracing configuration is determined, and the relevant bracing configuration of the jacket with minimum weight and all member and joint unity less than 1 is selected as the optimum one.

Abstract ID: RSC-700

### **A review on sustainable metal Nano catalysed organic transformations for the generation of biologically active heterocycles**

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Chemical science for the synthesis of various chemical products is highly inefficient and rising environmental and health concerns to the chemical waste, necessitates the process and 'greener' chemical products. Manufacturing protocols, with the support of green chemistry program, can be made economic, greener and more sustainable, by vigilant use of Nano catalysis, which reduces or eliminates the chemical waste harmful to human health and the environment. Nano catalysts have emerged as sustainable alternatives to conventional materials, as robust high surface area heterogeneous catalysts and catalyst supports. The nano-sized particles increase the exposed surface area of the active component of the catalyst, thereby enhancing the contact between reactants and catalyst dramatically and mimicking the homogeneous catalysts. Several reviews have been published on the use of Nano sized metal particles as catalysts for green chemical organic reactions. Accordingly, this review briefly introduces the production of heterocyclic compounds catalysed by metal nanoparticles separately and/or in combination with the various green chemical techniques.

Abstract ID: RSC-701

**Nuclear energy- Industrial development a Boon or Threat to Human and Economic Development from A Legal Dimension**

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Environmental issues being increasing day by day creates a threat to the life of the people all over the world, deterioration of the environmental wealth through various mechanisms both by natural and anthropogenic exertion makes the planet unhealthy to live in. Degradation resulted from different sources contribute to depletion of natural resources such as air, water, land etc., development of industries and technologies also had a upper hand in this degradation process. Industrial revolution commenced during the 18th century has been contributing for various environmental destructive mechanism in present days, by taking this study in a circumscribed approach the advancements in the nuclear energy which is profitable for economic growth but a impedance for the environment has been a growing trend in today's global economy. The negative environmental factors of industrial activity are air, water and land pollution. In the context of Indian constitution, Article 48(A) provides the state shall endeavour to protect and improve the environment and to safeguard the forest and wildlife of the country. Article 51 A(g) - deals with the fundamental duty with respect to environment, it says it shall be duty of every citizen of India to protect and improve the natural environment including forest, lakes, rivers and wildlife. This study analyse whether the industrial development in nuclear energy favourable for ecological development, by specifying the Kudankulam nuclear power plant situated in Tamil Nadu, India, this paper pose a analytical study upon the growing trend of nuclear energy usage and its legal implications imposed upon the project because of its adverse effect on environment and further discuss about livelihood of people in the nearby areas and its adverse effect on those people.

Abstract ID: RSC-702

**Innovation of Air Dyeing changing the future of Fashion**

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Air Dye is a revolutionary, cost-efficient sustainable technology that enables water-free dyeing and printing on textiles. It is made up of various proprietary technologies that make custom coloration and printing easy and effective. It solves the modern day problems of excessive water pollution and clean water scarcity, and provides customers with a sustainable and responsible method to color and print fabrics. Conventional dyeing, such as jet dyeing, can produce good-looking results. However, these processes use polluting heavy metals, a huge amount of precious water, and do not provide permanent coloration. Other methods such as sublimation printing (heat transfer), have been used to color and print textiles without water, but have been limited in application due to poor color matching and poor color penetration. AirDye advances both methods. AirDye technology heats up fabric, then injects dye directly into the fibers in the form of a gas. AirDyed fabrics do not leach colors or fade as easily as vat dyed fabrics, because the dye is actually inside the fibers. Depending on the fabric, and type of dyeing, AirDye uses up to 95% less water, and up to 86% less energy, contributing 84% less to global warming, , AirDye could prove a major environmental boon. Every year, dyeing synthetic fabric consumes 2.4 trillion gallons of water, with untold environmental effects. Now many of those countries are waking up to the environmental damage caused by dyes; AirDye could be a way for companies to meet new environmental standards while controlling costs.

Abstract ID: RSC-703

### **Solar Energy Potential of Rajasthan**

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Rajasthan is endowed with substantial amount of solar energy potential. The most challenging thing the world is facing is how to accomplish the energy requirement. Due to the limitation of conventional resources, the world has to think of alternate energy sources. Emphasis should be made on renewable energy resources in which solar energy plays a key role. Solar energy is extremely beneficial as it is non-polluting. The state of Rajasthan receives the maximum solar radiation intensity in India, as the average rainfall is low, hence perfect for solar power generation. Rajasthan is favourably placed to become the largest provider of solar power among all sources of energy in India at a competitive cost and achieve the height on solar power generation, which can change the face of the state and transform the complete economic situation for the betterment of the people. Rajasthan is likely to emerge as the global hub for solar power in the country.

Abstract ID: RSC-704

### **Urban Sustainability in a developing country like India**

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By next one decade, more than half the world's population will be living in cities. The United Nations has already stated that this will threaten cities with social conflict, environmental degradation and the collapse of basic services. Hence, the economic, social, and environmental planning practices of societies embodying urban sustainability have been vividly proposed as antidotes to these negative urban trends. Urban sustainability is a doctrine with diverse origins. Some commentators define this concept narrowly in terms of the economic sustainability of a city, its potential to reach qualitatively a new level of socio economic, demographic and technological output which in the long run reinforces the foundations of the urban system. And on the other hand, for environmental planners, the pursuit of urban sustainability becomes a matter of placing the development of land into cities and the protection of natural systems into a state of vital equipoise. When they speak of urban sustainability, they mean the pursuit of urban form that synthesizes land development and nature preservation.

Abstract ID: RSC-705

### **Industry, Innovation and Infrastructure**

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At these ages, humankind has evolved to its maximum possible limits and still going on gaining dominance not just on earth but in the outer space as well. Not just our needs but our curiosity made us outreach to something new, better, powerful and sometimes may be harmful also. Our existence is very relevant to what we innovate, so to create more and more job opportunities and boost industries for better and faster output for our own well being. Innovation leads to rise of industries, and for both we need infrastructure, which is susceptible to the availability of raw resources or input materials from the surrounding. Geographically, the three factors have an empirical model, which suggests that the spatial concentration of resources, furthermore, reinforces the capacity to innovate. So, is why, growth can be considered more or less geographically oriented. Letting ourselves to exploit resources is surely not an option but planning innovative measures for sustaining our resources and fulfilling our needs. So, fostering prudent efforts in innovation of developing technologies is equally important to withstand healthy growth of our race.

Abstract ID: RSC-706

### **Solid Waste Utilisation in Cement Concrete Using Rubber Waste**

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The present work illustrates the outcomes, after substitution of fine and coarse aggregate, in our structure with using tire elastic. The tire elastic, which has been utilized as a fine aggregate. Analysts have examined, throughout the years, the utilization of reused tire elastic waste as a substitution for total in cement and its adequacy. "Rubcrete-Mix" which would come about because of such substitution is found to have numerous building applications and holds guarantee in future. Rubcrete additionally has great mechanical properties and is considered to be one of the best methods for reusing the utilized tires. The present test think about has the point of landing at the ideal amount of the trade material for the totals in solid waste, for different designing applications. For accomplishing an appropriate bond with the used solid waste, the reused waste has been planned regarding their size, shape and degree.

Abstract ID: RSC-707

### **Expansions in Structures with Integration of Vernacular Materials and Modern Materials**

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Traditional construction techniques are sustainable, nature-based, i.e. environmentally conservative and maintaining a local culture with a contribution to the well-being of nature. Different features of vernacular practices evolved in hilly areas are the use of local materials, thermal comfort, environment-friendly design with a small footprint, related appropriate development and considered as the essential conditions for sustainable development. Structures with vernacular materials are dynamic and can facilitate the future expansion. Generally, expansion occurs in horizontal as well as vertical direction as per the requirement of user and availability of land parcel. Existing structures do not require major changes for expansion with vernacular materials results in the formation of a single large unit. While modern material structures require more civil works for expansion comparatively. Now a day, people are integrating modern materials with vernacular material for construction and expansion in structures. Skilled masons are able to do construction work, without the requirement of heavy plant and machinery. Ease of expansion with vernacular material helps in social and economic benefits. As a family grows, additions to structures are required, results in an increase in density within the vicinity of villages. We are documenting the study of buildings constructed with the integration of vernacular materials and modern materials at villages of Kangra district, Himachal Pradesh, India. This study specifically aims at identifying and understanding the methods of expansion in structures constructed with vernacular materials in addition to modern material. Study of the traditional vernacular architecture/ practices should contribute to new methods, solutions, achievements for the future built environment.

Abstract ID: RSC-708

### **Inculcating Soft Skills among Young Learners of Rural Areas**

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For employment, both hard and soft skills are required. It is aptly said that soft skills help to get one's job and hard skills help to maintain one's job. Soft skills are intuitive but can be acquired and learned by proper involvement into the activities. In present era, in urban areas, schools and colleges are emphasizing on soft skills but students of rural areas are deprived of it. In our country, mostly students belong to the rural background so it is not healthy from employability aspect to ignore them. During primary education, students are more receptive and curious about their learnings. The approach is not to include one more module to their curriculum but to incorporate soft skills in form of activities in their daily schedules of rural lives. Along with talking about the importance and right time to introduce them to these skills, this paper aims at the introduction of more practical and innovative activities in order to make students feel more involved with their learning soft skills.

Abstract ID: RSC-709

### **A comprehensive review on solar water heaters**

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As hot water are required for many industrial process i.e. cleaning, bleaching, coloring, cooking, painting, surface treatment, evaporation, distillation and pasteurization etc. as well as for many domestic applications i.e. bathing, washing, cooking and

cleaning of kitchen utensils etc. In general water is heated by electricity, coal, wood or LPG which are not only expensive but also producing environment pollutions. Solar water heater is playing a vital role in above or many applications where requirement of water temperature is less than 100°C. In this paper various types of solar water heater are compared and suggested that which type of solar water is best suitable for any domestic or industrial applications.

Abstract ID: RSC-710

### **Soft Skills and Folklore**

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The advent of globalization has brought about sea changes in job industry. Now, employer emphasizes on soft skills besides technical skills. Soft skills do not only mean communication skills. Soft skill comprises of many things such as time management, attitude, responsibility, values, ethics, teamwork, leadership, communication skills etc. All these components instill some traits in human beings which make them liable to perform their work effectively. But, human beings have been performing all these duties since their inception. Our folklore does mention all the traits of soft skills. There are many stories, songs, fables, ballads, sayings, and idioms etc. which substantiate the fact that soft skills existed before. The paper aims to find out the traits of soft skills in folklore.

Abstract ID: RSC-711

### **Next generation Solar Cells the Revolution In Solar Energy**

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The majority of electricity we use these days come from fossil fuels, which are a non-renewable source of energy. Not only do they take years to form, but the rate of use is far greater than the rate of formation, and one day we will run out of it. As well as being non-renewable, fossil fuels also produce billion tons of CO<sub>2</sub> per year. According to scientists and environmentalists, CO<sub>2</sub> emission is our main global warming contributor that causes the rise in temperature of our planet's surface and atmosphere. So major technological challenges for human race in 21st century are, the transition from fossil fuel based energy economy to a renewable (sustainable) energy source. Today's solar power technology has no or little chance to compete with fossil fuels or large electric grids. Solar cells are simply not efficient enough and are currently too expensive to manufacture for large-scale electricity generation. Cost is an important factor in the success of any solar technology. Nowadays revolutionary techniques are being developed for the design and fabrication of solar cells that could boost the efficiency of solar cells and thus accelerate the process of switching to renewable sources.

Abstract ID: RSC-712

### **The Character of Satan in Milton's Paradise Lost: An Exemplum for Imbibing Soft Skills**

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Satan emerges as a towering personality, a visionary and a character remembered for his leadership to arouse confidence and spirit among his people. When it comes to soft skills, it also comprises of many things such as time management, attitude, responsibility, values, ethics, teamwork, leadership, communication skills etc. All these components instill some traits in human beings which make them liable to perform their work effectively. In Milton's Paradise Lost, Milton has portrayed character of Satan in such a way that he seems to have imbibed all the qualities what a Hero has. He is courageous proud, strong willed and responsible leader. Yet his character degenerates as the poem ends. Though, being a villainous character, he accomplishes his goal of corrupting humankind but he also struggles to overcome his own doubts and weaknesses. The paper aims to find out the traits of soft skills imbibed in Satan's character.

Abstract ID: RSC-713

### **Is teaching a performative art?**

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Over the last decade, the number of people taking online courses and therefore using technology as a tool to enhance their education has increased dramatically. The range of technology used inside the classroom has also boomed, with the rise of smartboards, digital textbooks and, most notably, the tools offered on the Internet. Teachers provide pastoral care, recognize and assist vulnerable pupils, cover break-time duty, mentor new teachers, collate data about pupils' attendance and behavior, mark homework, rig lights and dress sets for school performances, order resources such as textbooks and classroom equipment, write newsletters, take school trips, assess pupil attainment, meet parents, lead assemblies, make endless photocopies, and appraise other members of staff. This list is incomplete and already sounds like a lot for a piece of technology to cover. Technology is helping students to learn and understand in better ways, agreed but can it be a replacement for the teachers? Is technology self sufficient to teach? This paper will throw light on all these questions and try to find the answers as well. Teaching is a performative art, it's reading the room and working it. This is where technology really falls short. Technology definitely can dictate but it can never teach. Neither it can provide the special guidance which poor pupils need nor it can know what more brilliant students needs to do even better.

Abstract ID: RSC-714

### **Role of Nanorobotics In Nanotechnology**

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Nanorobotics is nothing but the technology of making machines or robots close to a scale of a nanometre based on the nano technology. So far no artificial robots have been created based on this technology due to which this remains to be a hypothetical concept. But the futurists who have been doing research predict that if these robots were to become real there would definitely be used in molecular manufacturing and also as medical nanobots which can pass through our blood cells protecting the body against various infections. But they will be definitely used for various vicious reasons like spying and many other activities. They will be very helpful in the field of medicine. As they are programmable devices we can program it to build more of them or build anything that we want even an atom. So whether this hypothetical concept will be beneficial or not only can the future decide.

Abstract ID: RSC-715

### **Energy Based Architecture for City of Jaipur**

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Global climate change is making climate significantly warmer, and a substantial impact on building energy usage is anticipated. Studies on building cooling and energy demand have been increased and the climate change impacts on different building also have been increased. There is always a disconnection between commercial architecture and environmental thinking, where green features can be included as part of a strategy for gaining approvals and marketing projects, but those features are not reviewed after completion of the building. In Jaipur City, high levels of air conditioning are still considered unavoidable. Double skin façades and shading systems are adopted; often cope an underlying lack of basic environmental thinking. Certain types of buildings will be more sensitive to climate change than other building types. The aggregated total building energy consumption, including both heating and cooling, will increase only slightly. This study returns to the physics of comfort in buildings and the passive and active strategies which can help achieve this with a low energy and carbon footprint. Passive and active design strategies are outlined as the basis of a critical tool and a design methodology for new projects. A new architectural sensibility can arise based on modeling the inputs of sunlight, daylight and air temperature in time and space at the early stages of design. These strategies can be tested and modified using advanced environmental modeling techniques. In the design process architecture and environmental thinking can proceed step by step.

Abstract ID: RSC-716

**Carbon Emission- Impacts, Mitigation Action and Plans in India**

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Human activities, especially the burning of fossil fuels such as coal, oil, and gas, have caused a substantial increase in the concentration of Atmospheric carbon dioxide CO<sub>2</sub>. This increase in atmospheric CO<sub>2</sub> —from about 280 to 407.25 parts per million (ppm) as of July 2017 over the last 250 years—is causing measurable changes in global climate. Potential adverse impacts of Climate change ranges from sea-level rise; increased frequency and intensity of wildfires, floods, droughts, and tropical storms; changes in the amount, timing, and distribution of rain, snow, and runoff; and disturbance of coastal marine and other ecosystems to increasing the absorption of CO<sub>2</sub> by seawater, causing the ocean to become more acidic, with potentially disruptive effects on marine plankton and coral reefs. As Climate change being the greatest challenge but it is also the greatest opportunity of our lifetimes to change our systems to become climate resilient. In order to abate this challenge of Climate Change 193 countries across the globe came on the singular platform of CoP21 in the form of ‘Paris agreement’ by UN Framework Convention on Climate change or UNFCCC whose intent was to settle and control human induced Global warming and other issues related to climate. A mitigation plan was set out by United Nation on which world agreed to accept and work on Sustainable Development Goals (SDGs) on September 2015. All 193 countries promised to adopt 17 SDG’s in the Paris Climate Agreement in December 2015 in which SDG 13 talks about controlling human induces Climate Change. With the backdrop of Paris Agreement and Climate change we shall discuss the mitigations plan in context of India in this paper. Also we shall talk about all these issues, its impacts and respective mitigation action plans under three headings of- first, “Energy efficiency”, to get more economic output per unit of energy; second, “1 the electricity systems” to understand our role in production of non fossil fuel energy and potential of wind, solar, hydro, geothermal or nuclear power and third, “Fuel switching” which is related to Zero-carbon energy sources. India being one of the 193 countries to ratify the Paris agreement, we need technically and economically feasible strategies to mitigate the consequences of increased atmospheric CO<sub>2</sub>. The same shall be discussed in this paper.

Abstract ID: RSC-717

**Learning a Second Language in conventional classroom and Digital Classroom:  
A Study**

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Language is a skill to be acquired but not a subject to learn. English language in India is being taught but not being exposed to be acquired. Acquisition of knowledge and language skills enhances the learners’ autonomy. It also boosts up learners’ confidence. Whether Conventional classroom allows learners to be exposed to the second language acquisition? Does the digital classroom felicitate the exposure to the second language acquisition? In this study, the research has conducted the comparative study of digital classroom and conventional classroom in respect to second or foreign language acquisition.

Abstract ID: RSC-718

**Indian Sustainable Architecture is shaped as a ‘Circle’**

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Going Green is Common Sense says Ar. Anil Laul in a book written by him called “Green Is Red”. He said he was called a ‘green architect’ after forty years of his practice when aggressive marketers of the green rating systems started publicizing ‘green architecture’, till then he said he was just designing through a common – sensical approach. If going green is just common sense according to Laul then why there are so many arguments being heard about its promotion, is one of the major questions that need to be answered. India has been a key partner of OECD (The Organization for Economic Co-operation and Development) and is actively participating to achieve sustainable development goals by 2023 and the Indian Government came up with NITI Aayog (National Institution for Transforming India) which has a major task of data collection on Sustainable Development Goals and also act actively in achieving the high quality set of standards. There are steps being taken by the government at global and national level but a drastic change in terms of going green is still unseen, which can be said from a citizen’s perspective or maybe one of the arguments can be that, if every citizen of the country is sensitive towards the concept

253

of sustainability then an active participation in terms of sustainable development growth can be seen. If progress was somewhere seen, we wouldn't have reached a stage where sustainability has been introduced as a chapter in the NBC where people are forced to be sensitive.

Abstract ID: RSC-719

**Impact of Modern Day High Rise Residential Complexes on Transition of Cultural and Social Lifestyles of Inhabitants in Context of Historical Cities- Case Study of Jaipur**

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Challenges of urban congestion in growing cities of developing countries have steered the evolution of high rise complexes which are significantly distinct in character with the traditional planning and vernacular architecture of old residential settlements particularly in historical cities like Jaipur. During the past decade the shift in the urban population from old city of Jaipur to newly constructed mid or high rise residential complexes has been merely apparent but might be huge in future times. People shifted to high rise residential units have been experiencing an altogether different lifestyle to what they used to have while living in the old city. Apart from the above, city's growing economy too had, if not active but passive, impact on the cultural and social values of traditional city. However on the other hand it is evident that trend of shifting to high rise in such cities is still not been highly accepted. The study aims to investigate following aspects-The ingredients of architecture in those low or midrise housing complexes in old city of Jaipur which catalyzed development of this enriched cultural heritage. Impacts of urban sprawl over decongestion of city. The trends of modern day lifestyles which are not catered in traditional housing complexes of old city. In the high rise housings-how does built environment caters to the socio - cultural needs of inhabitants in contrast to living in old 'havelis' of city (supplemented with suitable examples). The aspects which still impede living in high rise complexes.

Abstract ID: RSC-720

**How Nanotechnology can change concrete Industry**

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In recent years, the world of science has started to produce new materials and to research their properties with nanotechnology. The use of nanotechnology has become wide spread in all branches of science. So, studies of nano-scale should be increased for concrete technology. In this study, the use of nano powders in concrete in the world have been summarized and evaluated. The influence of nano particles such as silicon dioxide added to polymers mixed in concrete was studied for both high-performance and self-compacted concrete with reference to normal size particle concrete. The progress from sulphonated polymers to polycarboxylate was studied and has resulted in higher water reduction and higher strength Also, the influence of nano particles on the properties of fresh and hardened self-compacted concrete are studied in comparison with normal size ones. The morphology of nano particles was studied using Transmission Scanning Election Microscopy (TEM). Also, X-ray diffraction (XRD) of all the mineral additions was studied. The results indicated that the addition of nano particles improves the properties of concrete. During the period of the second half of the previous century, the terms "nano-science" and "nono-technology" were not yet familiarly used as today, however they were really practiced and successfully applied to the progress in the field of material science and technology. Concrete performance is strongly dependent on nano-size dimensions of solid material such as C-S-H particles or voids such as the gel porosity in the cement matrix and the transition zone at the interface of cement paste with aggregate or steel reinforcement, typical properties affected by nano-sized particles are strength, durability, shrinkage and steel-bond. The word nano means anything of size 10<sup>-9</sup>, nano particles is a solid particle of having size in the range 1 to 100 nm. The purpose of the present work is to study a new material in the dimension range between "micron " and " nano " size , this material is nano silica (Nano-SiO<sub>2</sub>) which added to new super plasticizer (polycarboxylic ether polymer based PCE Sky) to improve workability , strength , flexibility and durability of high-performance and self-compacted concrete.

Abstract ID: RSC-721

**Solar Photo Voltaic Production**

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"Solar Photovoltaic (SPV) Cells converts sunlight directly into electricity. These solar cells can be used in solar power system (off grid type, grid type, and hybrid), solar submersible and surface pumps, etc. The entire SPV manufacturing process involves production stage (materials management, production) and inspection stage (quality checks). The first step involves conversion of silica into a solar cell. In it poly silicon is casted and sliced to form a multi-crystalline silicon wafer which is p- type. The wafer is then subjected to surface treatment. The p-type wafer is combined with n-type layer to form a p-n junction. The wafer is then coated with anti-reflective coating. The finished solar cells are later combined to form SPV panels. Panel manufacturing involves tabbing and stringing of the solar cells, using copper wires. The solar cells sheet is then laminated followed by curing, trimming, channelling, and soldering. The finished solar PV panel is then subjected to quality checks like high voltage test and sun simulator test. Solar cells used for the panels can be 1st Generation (wafer based), 2nd Generation (thin film) or 3rd Generation (dye synthesized) solar cell. With advancement in technology, SPV panels have become more cost effective and efficient.

Abstract ID: RSC-722

### **Effect of Climate Change on the rural livelihood of Rajasthan**

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Climate change can have a dramatic impact on our natural resources, economic activities, food security, health and physical infrastructure. India is one of the countries most affected by climate change. The threat is especially severe in places where people's livelihoods depend on natural resources such as rural areas of Rajasthan. In this area people major occupation circles around agriculture, livestock herding and labourers etc. Rajasthan as suffering from water scarcity, drought and extreme heat has deeply affected the livelihood of the people. Unreliable monsoon and declining ground water level have decreased the profit on agriculture for large farmers, and risked food security for subsistence farmers. Rise in temperatures lead to physiological stresses on livestock that would reduce their productivity. . Water scarcity lies at the root of most of the adaptation challenges that people in the state are facing. This scarcity has its origins on the continuously increasing water demands, inequity of access, low water use efficiency; hence, leading to unsustainable usage patterns of water. As seen in a study those climate impacts have also affected a group of nomad's. External factors are pushing them to the limits of their resourcefulness and threatening their livelihood with extinction. Today Rakias are facing bigger challenges for survival than ever before. Current situation demands some immediate action in order to re-balance the life of the people. Adaptation techniques require flexibility and options to cope and recover in the face of changing and unpredictable climatic conditions.

Abstract ID: RSC-723

### **Anti Vandalism and Architecture**

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The impact from a terrorist attack against a structure can be devastating, causing damage to nearby people, and to the structure itself, up to a progressive collapse. During any terrorist attack, building design, its elements, structure and construction materials "may" play vital role in safety of people and property. Research aims to seek insights within architectural design to bring forth planning strategies for safety of life and property during any terrorist attack. Research will profess study of buildings which experienced terrorist attack, both successful and failed models in the past, major historic events, existing codes and regulations. The concept of smart cities require rapid urbanization which is needed to support India's swiftly growing economy, it has also become a cause of concern because Urban centres are facing increasing security complexities and threats. With careful planning and design approaches structures can be "hardened" and can stop terrorism from reaching its goal. Research provides an important opportunity for architects to think creatively about how design can help to prevent and mitigate the effects of terrorist attacks.

Abstract ID: RSC-724

### **The Language of Space**

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There was a time in our cities and towns when getting from one place to another was a pleasant and often enriching experience. Streets and open spaces were places, where people like to walk, to shop, and even just to enjoy. As the automobile enriched, walking from here to there became a tough task, and the friendly quality of streets began to disappear. But now people want a healthy and fun environment and want to interact with the community. This is what language of space is all about, giving streets and spaces back to the people. It takes a place to make a community and a community to make a place. This research paper covers the factors of great public places and also the social and economic importance of public spaces. This research paper is to investigate what are the problems and major issues against a good public place. Also attempt has been made to find simple solutions as how public spaces can be considered as liveable, hospitable and socializing places and how can we transform a space to a place. Also a study of elements and principles which makes a normal public place to a great public space is been discussed. Case studies have been done on different public spaces and further design guidelines to create good streets and open places in smart cities of Rajasthan which makes the place more healthy, economical and social. A public space is detailed out as making them pedestrianized zone and encourage social interaction.

Abstract ID: RSC-725

### **Sustainable and Resilient Infrastructure for Jaipur**

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Since the very beginning of the human civilization, there have been many innovations and inventions. At that instant those inventions would have been the reason for survival but they were frequently followed by innovations and new techniques. These innovations gave better and more effective solutions for the requirements and unarticulated needs. But only a thought or a solution doesn't work unless implemented. It needs technologies, services and processing. Our industries and infrastructure is a result of such innovations which got modified day by day from "discovery of fire - LPG/CNG", wooden club – rifles , caves – skyscrapers, sun dried bricks – prefabricated building materials. Industries in the second half of the 18th century brought mechanized cotton spinning powered by steam, mechanized loom powered by a line shaft, cotton gin for removing seed from cotton, replacement of wood with coal, coal reverberatory furnaces, development of the stationary steam engine, production of sulphuric acid all these helped people to carry out their daily works easily and early. Also, these industries increased the need of engineers, scientists, and accountants, decreased the need of labourers. Trade was carried near the ports, hereby to decrease transportation charges manufacturing was done there in the port cities people migrated there for employment and education. Need for living spaces increased and the construction of houses and buildings prevailed. People became dependent on technologies and new innovations. Hence post-industrial society's continuing struggle with issues of resource scarcity, overpopulation, and environmental degradation. Since industrialization we are over using our resources and carbon emission is increasing day by day and we are at a stage of losing our resources. Ozone layer is degrading. Ice bergs are melting. We are at a stage where we need sustainable industries and infrastructures. To secure our resources for the future generations and to slower environmental degradation. Sustainable businesses aim to meet present market needs without compromising the ability of future generations to meet their needs. This project aims to identify and promote sustainable industries for the Central Coast, aiming for sustainable job creation and business growth. The concept of sustainability rose to prominence in the late 1980s and became a central issue in world politics, when the construction industry began to generate the first sustainable building assessment systems with more or less equally weighted environmental, economic, and social aspects for office buildings over their life cycles. On the other hand, resilience is usually connected to the occurrence of extreme events during the life cycle of structures and infrastructures.

Abstract ID: RSC-726

### **Planning Strategy for the Sustainable Sports City in Rajasthan**

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The future of our cities is directly linked with the health of its residents. Cities where people actively participates in sports and physical activities, has a healthy future. It is also observed through the researches that providing adequate sports infrastructure and organising sports events leads to a participative and healthy society. In addition, a good performing sportsperson inspire the whole country to participate in the sports activities. In Indian scenario, besides few sports we are not performing well at International level. One of the barriers for such inability is lack of exposure to international level sports infrastructure. Many players don't get the opportunity to go abroad for quality training. They don't get international level infrastructure and training in India, because most of our cities lack such sports facilities. Therefore, to bring up our country as a leading sporting nation and make our future cities healthy, we need to create international level sports infrastructure and training facilities in India

256

itself. This will make our cities capable to host large scale sports events also on a sustainable basis. The paper attempts to identify the essential planning parameters required to be considered for planning of an international sports city, capable of hosting international events as well as provide training facility during the non-event periods. One of the major challenge for planning such sports city is to bring flexibility in its use. Such expected flexibility between short term and long term activity with regular training activities makes the planning more challenging for network & mobility, logistics etc. For doing this, it considers parameters like Land use, Public Transportation, Walkability and Usability. The paper analyses two case studies on the basis of identified parameters and shows planning strategy for such sports city. The final outcome of the paper will indicate a possible sustainable sports city model which can be used as permanent hosting place of major national and international events on continuous basis.

Abstract ID: RSC-727

### **Vernacular architecture of Kumaon Himalaya: sustainable design lessons for professionals**

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The Kumaon hills lies in lesser Himalaya which falls under central Himalayan realm with varied climatic conditions, terrain, water availability and fragile ecosystem throughout the belt. In correspondence to these, the vernacular architecture practices were evolved with different building typologies and construction techniques in harmony to the influencing severe conditions. These practices were oriented along minimalistic approach and tend to be sustainable with little impact on environment. Although being sustainable the vernacular architecture has been withdrawn from present practice due to the change in lifestyle, unavailability of workmanship, easy availability of the contemporary construction material and fast construction techniques. In the last few decades the high socio-economic shift has evolved the contemporary building design and construction practices irrespective of the prevailing geomorphology and climatic conditions. The haphazard planning and irregular building design have resulted in degradation of fragile ecosystem and wellbeing of habitants. In contrast to modern design techniques, the vernacular practices were based on holistic approach towards the social, economic and environmental values and impose little load on carrying capacity. Hence it becomes necessity for the professionals to take lessons from the vernacular architecture and regain the effective architectural elements in context with contemporary requirement to develop climate responsive and sustainable building design. **METHODOLOGY:** To identify the vernacular design elements to incorporate in contemporary practices the building typologies of three villages of Kumaon Himalaya from different altitude is surveyed. The cases are then comparatively analyzed in order to find out the possible sustainable design measures. The comparative study is carried out on the basis of building form, orientation, siting, w/w ratio, s/v ratio, roof, wall, and floor design and construction material.

Abstract ID: RSC-728

### **Employability through Impressive Vocals**

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In the present aura of the global village, employability skills largely depend on the impressiveness of the communicative skills in the given contexts. Language expresses a vast range of human relationships and some are more formal than others. Official or serious situations are often signaled by the use of formal language, while ordinary or relaxed situations are signaled by the use of informal language. To enhance employability, it is mandatory to have excellent communication skills. The present paper is divided into three parts. The first part discusses about the Formal speech. In English relative formality is less a question of grammar than of vocabulary and syntax. It is signaled by complex, complete sentences, impersonality, avoidance of colloquialisms or slangs, and a consistent preference for learned words, often derived from Latin. Informal language is characterized by a simpler grammatical structure i.e. Loosely connected sentences and phrases, personal evaluation, colloquial terms and slangs. The second part focuses on the difference between Formal and Informal speech by maintaining that the syntax and morphology of formal speech often tends towards being somewhat archaic in comparison to informal speech. The concluding part discusses whether the distinction between Formal and Informal speech is maintained by the job aspirants or not. As employability in the present scenario is dependent upon communication skills to a great extent, it would be apt to find out ways towards improvement in the aforementioned skill.

Abstract ID: RSC-729

### **Comparative Analysis of Workability of Conventional Concrete & Light Weight Concrete Mixed with Brick Aggregate**

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The increasing value of conventional construction materials needs more research and implementation of different alternative materials in civil engineering construction. By far the required coarse aggregate which was used in concrete is obtained from crushed natural rock, but this type of rock which is suitable for concrete making is not accessible everywhere. In a north-eastern state of India brick aggregate concrete are used conservatively for ordinary concrete due to shortage of aggregate from natural resource. Due to development of concrete technology and to complete the resilience necessity it necessitated to use standard concrete, for which only stone aggregate is used, as a result, cost of construction has been skyrocketed as these are transported from other states. A mid this study, brick aggregate is utilized as light weight mix in concrete. The undertaking paper goes for workability characteristics with partial replacement of coarse combination with brick aggregate to supply light weight concrete with different percentage (0%, 15%, and 30%) to urge smart strength like standard concrete. The employment of brick aggregates as for standard aggregates ought to be inspired as an environmental protection and construction value reduction measure.

Abstract ID: RSC-730

### **Eco City Concept for Planning and Developing a City: A Case of Jaipur**

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Global population growth is one of the serious threat of 21st century, rapid urbanization is the one factor that is changing the world more dramatically than we have ever known, which in turn increases greater demand for urban infrastructure and urban land for accommodating the future urban growth and development which ultimately causes environmental degradation, urban expansion and depletion of the conventional energy resources. In current knowledge Eco city concept is a viable strategy that combines all conceptual characteristics of the cities of the future. This paper aims to apply Eco city concept in planning and developing of Jaipur city to minimize the existing problems of Jaipur city and to fulfill future demand of Jaipur city without damaging the urban ecology and environment to achieve sustainability.

Abstract ID: RSC-731

### **Digital Architecture: A Sustainable Approach**

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Digital architecture refers to the computationally based processes of form origination and transformations. In this information age, apart from what we are designing, it is also challenging about how we design. This study aimed to evaluate the effects of digitization on contemporary architecture and cities, primarily by examining the course of procedures in which architecture can be transformed with the help of digitization. Principal focal point is to analyze digital architecture progressions which aspires to actualize the components of sustainable development. Architecture must be in a position to confront with the concerns and necessity of existing and upcoming generations. Digital technologies are facilitating a direct association with what can be designed and what can be constructed, moreover they enable a real image for the building before it is actually built. As digital infrastructures are being shaped into cities and buildings, advanced design layouts along with the techniques of spatial organizations are unfolding. The generative and creative potential of digital media is opening up new emergent dimensions in architecture. This area of architecture has efficiently led to adequate savings in economic, social and environmental costs and reduced environmental pollution, climate changes, and mental problems of humans. They have also played a significant role in providing a healthy life to humans as one of the major components of sustainable development. This research is an analysis on the sustainable impact of digital devices within architecture.

Abstract ID: RSC-732

### **An Analysis of the Urban Planning Of Jaipur City**

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In ten years, more than half the world's population will be living in cities. The United Nations (UN) has stated that this will threaten cities with social conflict, environmental degradation and the collapse of basic services. The economic, social, and environmental planning practices of societies embodying 'urban sustainability' have been proposed as antidotes to these negative urban trends. Cities are engines of economic growth. Indian cities are suffering from unplanned economic development due to several factors. The city plans which are prepared tend to focus merely on physical development. In this process the other important aspects, such as, social, economic, ecology, environment, infrastructure and institutional are omitted without giving proper importance. As a consequence, the city plans concentrated only on physical aspects of the city development, which caused existing alarming situations in almost all the Indian cities. The sustainable development concept was evolved in the year 1980, and since then the world started to move towards giving importance on resource mobilization, conservation of resources, avoiding over exploitation of scarce resources, etc. In the planning stage itself. Indian city planners also took a note of these events and started to prepare sustainable development plans for the development of the urban system. Being recently nominated in the smart city mission, Jaipur presents itself as a dichotomy of tradition and modern, of wealth and inadequacy. A regal city containing clean, stately, tree-lined streets; traditional and contemporary architecture; heritage palaces and forts; five-star hotels; and a thriving tourism industry. However, being the capital of the largely rural and agricultural state of Rajasthan, Jaipur inevitably reflects this reality. The focus of this paper is to study and analyze the issues in the urban design of Jaipur, and to propose socially, economically, and environmentally sustainable solutions to battle the same.

Abstract ID: RSC-733

### **Establishing the Relevance of Soft Skills in the Changed Job Scenario**

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It would not be an exaggeration to say that we have moved a complete circle in terms of the use of soft skills. This fancy phrase catches the attention of most of the employers who are looking for leaders with good interpersonal communication skills in today's commercial world but they are unable to find any or too many. This is so because we have shifted from our rich past traditions of the Vedic times – when in the gurukul system of study, the emphasis was on the comprehensive development of the pupil's personality – to an impersonal, mechanical, academic world. Keeping this as the base, the focus of the presentation will be on addressing the following questions: 1. What are soft skills? 2. Do soft skills have a history? 3. Why are soft skills gaining importance in the present times? 4. What are the expectations of the employers in terms of soft skills and why? 5. What are the gaps between prospective employees and employers' expectations? 6. Why despite having professional degrees the students are not found suitable for employment? 7. How can their chances of employment increase? 8. How can technology contribute in bridging the gap?

Abstract ID: RSC-734

### **Sustainable development by an amalgam of Urban & Architectural designing (Look beyond the site & basic functionality of buildings)**

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Nowadays, Architecture has been limited to designing & constructing the building within a limited physical periphery. Surrounding buildings & open spaces forming a micro social impact are not consciously considered while designing a building. The study emphasizes on how an integration of Urban Design with architecture can create a sustainable development. We are therefore first enumerating the issues occurring by not considering the surroundings. And hence specifying urban design principles, which can help to make better & sustainable built environment for the people including few theories of modern-day user interface for example: (1) Users Requirement beyond the building's Functionality, (2) Relative rather than absolute design product, (3) Public activities oriented built environment, which are discussed to describe the interrelationship between the two phenomena's. With the help of some steering urban design factors: Urban Canyon Ratio, Urban Heat Island, Sky view Factor, explaining the transformation of the basic building study and that how it affects the orientation, form & shape of buildings and it thereafter effects on the surrounding environment & users in reverse is examined. The outcome of the research supports that it very important for the architect to consider urban design aspects to make a sensible & sustainable design.

Abstract ID: RSC-735

**Social cost-benefit of the Natural and Built Heritage**

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The real wealth of any city lies in its heritage. Predominantly, Rajasthan is perceived as deserted area however, only 1,43,842 sq.km falls in the arid climatic region of the total 3,42,239 sq km and has nearly 33.94 bcm surface water resources off the total 44.09 bcm (Central water ground board, 2011). Traditionally, in the semi arid region of Rajasthan covering the area of 66,830 sq km in the districts of Alwar, Jaipur, Bharatpur, Ajmer, Kishangarh, Tonk, Sawai Madhopur, Bhilwara, Bundi, Kota, Chittorgarh, Udaipur, Sirohi, Dungarpur and parts of Jhalawar and Banswara, recreational activities were induced in the form of Gardens and pavilions by the royals. Heritage properties like Jal mahal, Vidhyadharji ka Bagh, Deeg Palace are few examples of the pavilions surrounded by the water bodies, baolis, lakes and ponds. Natural heritage like forests, pastures, aquifers etc. was the only sources of the recreational activity for the citizen residing in the neighborhood, especially the socially weaker section of the society. The built heritage is now converted into public spaces and acts as an asset to the city. However, with rapid transition and adaptive reuse of the built heritage and in the quest of conservation, loss of natural heritage has been observed, raising various environmental concerns. Traditionally, parks forests, pastures and other open spaces belonged to the community and they were responsive and responsible for their sustained maintenance. However, with urban areas engulfing such green spaces resulted in notion of restricted access and conservation of such spaces through regulatory mechanisms. The preservation and conservation activities were executed by the government authorities or in partnership with the public sector. However, the entire process of management and conservation of the sites resulted in ticketing of the space, challenging the affordability and limiting the accessibility of the public realm. Thus in the quest of preserving the natural and built heritage through PPP models such public spaces, by default or design are slowly being relegated to private use. Public domains are exclusively available to those who can afford them. In this context the paper outlines the case study of heritage properties in Jaipur and Ajmer and gives geospatial data analysis of the shrinkage of the water bodies due to urban sprawl. The study further elaborates if a balance be created in terms of preserving the heritage and providing social benefit to all the classes of the society.

Abstract ID: RSC-736

**Education VS Employability-Need to Bridge the Skills Gap**

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It would not be an overstatement to call soft Skills as Sine qua non for employability of an individual in this modern set up. In this vigorous commercial era, we find ourselves lost in the rat race. To excel in the field of employability, mastering over one's soft skills has become mandatory. Today, mere knowledge of technical skills of a subject doesn't make you employable. It is the art to convince others which makes you indispensable. The soft skills like, negotiating skills, communication & interpersonal skills, organizational skills, behavioral skills etc. are requisite for an individual, which not only lead to an enhancement of a person but also in the growth of an organization in the corporate world. The survival in the competitive scenario, challenges one to possess these distinctive traits it is through employability skills that our graduates become capable enough to climb the ladder of success in their respective occupation while navigating their way through a dynamic labour market. The paper attempts to draw our attention on the importance of soft skills which bridge the gap between academic strides and employment, so the responsibility lies on us to include the soft skills training, mandatory at the initial level.

Abstract ID: RSC-737

**Soft skills in learning French as a foreign language: The cherry on the cake**

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Learning of foreign languages is always accompanied by the learning of the mannerism and the lifestyle of the people of that land. This wisdom not only encompasses the culture, tradition, festivals and linguistic acquisition but at the same time one tries to fit oneself in the foreign society by adopting the same set of soft skills that are being practiced by the local people in the surroundings. It may be possible that the skills sets that are considered good and acceptable in one culture are not accepted in another. This forms a strong base in foreign language acquisition as the learners need to deeply understand the way in which

260

they need to carry themselves while interacting in the foreign language with the foreign people in the foreign land. The poor comprehension of the soft skills or the, mismatch of these skills could lead to a disastrous situation. The following paper tries to put forward the importance of acquiring soft skills in learning of French as a foreign language and the same time it would focus on the similarities and the differences of the soft skills that a French language learner could find between the Indian and the French society.

Abstract ID: RSC-738

### **Architecture of Physically Challenged**

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The field of architecture has its roots deeply rooted in the past. The architect or the engineer of the past used to serve royals or tribunals fulfilling their social or political needs by depicting their reign in form of different monumental sculptures. With time this tradition has changed and spaces have immersed more as functional elements for the commoners. Thus, in order to replicate the architecture in an enabled form different organisations of WHO & UNESCO etc. have assimilated the society with the combination of influential and eminent group of architects to lead them towards a humanly habitable environment. This ideology technically aims at the study of providing barrier free environment for the physical and social independence of the disabled, Thus, concerning disabled and the abled to promote effective measures for prevention of disability, rehabilitation and realisation of the goal of their full participation in social life and for their development too. This process is initiated with the study of different case studies of building design for and by the people of past n present. Which basically concerns "Are they designing by keeping in notice that there are having enough facilities for such people? Cities like Chicago, Oregon, Seattle expended their land area significantly for physically disabled people. This should be reflected in concept of design in practice like enough space, easy access, etc. "Through this qualitative research aiming at understanding various type of architectural attributes which can be used for physically challenged with the help of literature case studies. This paper henceforth represents a framework of accessibility, features that have been incorporated in new buildings or retrofitted in existing buildings. The guidelines are based on detailed observations and evaluations of accessibility provided within recent years in public buildings. the evaluation objectives focus on safety, functional ease, technical accuracy, operational requirements of the attributes that are reflected by the solutions provided and the visual impact they have"

Abstract ID: RSC-739

### **Automation in lighting system in a building to increase its sustainability**

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Automated lighting system is one of the major components of building automation system which helps in enhancing the sustainability rating of the building. Various lighting techniques and being developed throughout the world but not implemented properly in developing countries thus providing a method for implementation of these techniques are important. Few of these techniques are: chronological lighting system, astronomical lighting system, lighting on the basis of occupancy using occupancy sensors, alarm lighting system. The major advantage of a lighting control system over stand-alone lighting controls or conventional manual switching is the ability to control individual lights or groups of lights from a single user interface device. These systems can be used both in digital manner as well as analog manner; however digital manner is more preferable because of its ease to access. This helps in saving the energy consumption of the building.

Abstract ID: RSC-740

### **Role of soft skills in technological sector and how it gets better employability**

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Human performance in organization reflects on the knowledge skills, behaviors and values. Since the abilities and skills will help the organization to superior performance and productivity, any expenses on education and development is a long term investment that as long as the organization can profit from it. Skill development cell has been entrusted the responsibility to train youth by providing them skills through different government schemes. While decades ago the market requirement focused

mainly on the candidate's technical expertise currently there is an increased attention to the soft skills as well. This paper reflects the importance and requirement of soft skills and was to map the various soft skills at the work place.

Abstract ID: RSC-741

### **Business Intelligence**

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Business Intelligence (BI) comprises the set of strategies, processes, applications, data, technologies and technical architectures which are used by enterprises to support the collection, data analysis, presentation and dissemination of business information. BI technologies provide historical, current and predictive views of business operations. Common functions of business intelligence technologies include reporting, online analytical processing, analytics, data mining, process mining, complex event processing, business performance management, benchmarking, text mining, predictive analytics and prescriptive analytics. BI technologies can handle large amounts of structured and sometimes unstructured data to help identify, develop and otherwise create new strategic business opportunities. They aim to allow for the easy interpretation of these big data. Identifying new opportunities and implementing an effective strategy based on insights can provide businesses with a competitive market advantage and long-term stability. Business intelligence can be used by enterprises to support a wide range of business decisions - ranging from operational to strategic. Basic operating decisions include product positioning or pricing. Strategic business decisions involve priorities, goals and directions at the broadest level. In all cases, BI is most effective when it combines data derived from the market in which a company operates (external data) with data from company sources internal to the business such as financial and operations data (internal data). When combined, external and internal data can provide a more complete picture which, in effect, creates an "intelligence" that cannot be derived by any singular set of data. Amongst myriad uses, business intelligence tools empower organizations to gain insight into new markets, to assess demand and suitability of products and services for different market segments and to gauge the impact of marketing efforts. Often BI applications use data gathered from a data warehouse (DW) or from a data mart, and the concepts of BI and DW combine as "BI/DW" or as "BIDW". A data warehouse contains a copy of analytical data that facilitates decision support.

Abstract ID: RSC-742

### **Building Charisma through Soft Skills**

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There are many people who endorse training for its important role in improving a firm's performance, yet at times it has been called unnecessary, fashionable or too expensive and not transferring to the job. Many studies have remained inconclusive and some have failed to find the desired results. This paper aims to highlight the effects of specific training in soft skills on firm and individual performance by reviewing theory and previous empirical studies on the relationship between this training and firm performance. The paper aims to describe the importance of soft skills, the myths and truths of soft skills, the types of training modules to be designed and discusses a framework for analysing training and firm performance issues. The analysis indicates that there is a positive relationship between soft skills training and firm performance which may be mediated by employee knowledge and organization attitude. Furthermore, capital investment or organisational strategy does moderate the training-- performance relationship. Finally, the article discusses and identifies the limitations of previous studies and directions for future research on this topic.

Abstract ID: RSC-743

### **Issues and Challenges in Indian Urban Transportation Sector**

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The urban development in most of the Indian cities is the result of laissez-faire development with ribbon extension along the major arterials emerging out of the city core, the Central Business District (CBD). Work trips constitute majority of the trips in urban areas and these are originating from residential locations to the work places most often called as the CBD areas. Work

mean trip length and Passenger-Km are used as proxy to measure energy consumed in transportation sector. Increase in spatial separation between the residential location and work places result in long commuting distance and poor accessibility to the peripheral residential locations are encouraging more dependence on private and intermediate public transport. In this paper the problems associated with urban transport and the possible solutions are discussed. Also the concept of Compact City as an attempt to integrated – land use transportation is also presented.

Abstract ID: RSC-744

### **A Comparable Study of Brts for Ahmedabad and Delhi**

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This paper on sustainable urban transport attempts to overview an all-inclusive set of indicators which are taken up by planners, authorities in order to help cities for developing an integrated and sustainable transportation system. Developing countries like India, where unplanned urbanization and unparalleled growth in motorization have led to increased focus on sustainable use of mass transit systems like commuter rails and bus transportation. An integrated transportation strategy is most needed so that these modes of transport are integrated efficiently to facilitate the sustainable transportation. The vision of planners is to ensure easy access, safe, affordable, quick, comfortable, reliable and sustainable mobility for all sections of the society in our cities. The present transport system in most of the Indian cities is stressed under an urban environment which is made up of different sub-systems. Hence it is obvious to understand how these sub systems perform in order to have a sustainable mass-transit transportation network. The various modes of urban transportation – BRTS, Metro, Bicycle-sharing, usage of CNG fuels – currently available in the city of Ahmedabad and Delhi are discussed in the paper in context of urban transport characteristics, public transport and non-motorized transport. For promoting sustainable urban transport in a holistic manner it is equally important to understand the social, economic and environmental sustainability of each of these sub-systems.

Abstract ID: RSC-745

### **Statistical analysis of renewable energy with special reference to solar energy in Rajasthan**

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Renewable energy has become an important agenda of India's energy planning process especially since climate change has taken center stage in the domestic and international policy arena. To demonstrate its commitment to renewable energy, the government has set aggressive targets for renewables, which have shown progressively increasing share in the energy mix. This achievement has been possible because of the policy framework and guidelines put in place by the central and state governments. Despite provisions for several incentives, policy initiatives and overall enabling environment, there are certain bottlenecks that need to play a significant role in India's energy future.

Abstract ID: RSC-746

### **Climate responsive buildings in Avadh architecture: transformation from traditional to modern architecture**

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Culture and region have major influence in shaping architecture; Tradition is a part of society's heritage, culture which shows its impact on architecture also. From many years natural resources were main source of energy used in buildings, which subsequently had positive impact in its surrounding. This paper is concerned in studying the climate responsive behavioral of buildings in past and role of vernacularism in Awadh region. Architecture in its nature based expressions has been inspiringly cultivated in Indian architecture through ages. This study investigates to identify the design tools and techniques used in Awadh architecture. The author adopted descriptive, analytical and spatial methods to analyze energy efficiency techniques. This paper focuses on valuable vernacular knowledge which is required for modern construction to achieve sustainability and how transformation in Architecture took place from traditional to modern in Lucknow.

Abstract ID: RSC-747

### **Performance Evolution of concrete and mortar containing plastic waste: A Review**

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A major concern these days is the disposal of plastic wastes. These wastes are non-biodegradable in nature bringing about ecological infirmity and cleanliness problems. The reason for this review study was to resolve the solid waste issues created by plastics. This review paper present the plastic waste utilization in concrete for making concrete more economical and light weight on the other hand it is viewed as the best ecological option for taking care of the issue of waste disposal. This review paper shows a detailed review about utilization of plastic waste in concrete and mortar. The influence of plastic on varied properties (fresh density, workability, dry density, compressive strength, splitting tensile strength, and ultra sonic pulse) of concrete and mortar is discussed in this paper.

Abstract ID: RSC-748

### **Sustainability of concrete and structures**

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Today sustainable development has become important issue for the engineers around the world due to non availability of natural resources. The approach of RRR (reuse, recycle and reduce) is the most significant approach towards the sustainable construction. In the construction sector, cement and steel consign massive energy claim for the production itself. That's why it is important to make the structures sustainable without compromising with the future need as national wealth is directly belongs to it. The most widely used material concrete facing the challenge and concern all over world. The sustainable construction requires both the concrete and structure would be design durable to meet the future need. This study concentrates on the introduction of sustainable concrete and structures. Also in this study general introduction is given about some modern method and techniques for achievement of sustainability in concrete and structures.

Abstract ID: RSC-749

### **Active Listening: A Significant Soft Skill in the Organization**

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The demand for and the necessity of soft skills is on the constant increase due to the sudden changes in the work culture, information based economy and globalization. However, Soft skills cannot be a substitute for hard or technical skills with the employees in the organization. In fact, these skills are complimentary to each other. The knowledge of soft skills is significant especially when there is intense competition in almost all walks of life. For years the focus has been on imparting hard skills and a very little attention has been paid to the development of soft skills among the students who are the budding employees in organizations. Among several soft skills, listening skill emerges to be one of the most significant soft skills these days as we come across people who seem difficult in our workplaces. They are considered difficult for a number of reasons: they seem hard to get along with, they step on our toes to get to the top, they interrupt us, or more simply, they just do not seem to listen. These difficult people can be our superiors, our colleagues, and our subordinates. These people seem difficult to us, the one major reason found thereby is lack of communication, specifically, lack of effective listening skills. Furthermore, poor listening is also one of the most important problems faced today and this ineffective listening leads to ineffective performance or low productivity of the employees in the organization. So, there is a need of effective listening skills and awareness on such skill in the classroom for the students and at the workplace for the employees. It can be said as a highly desirable workplace skill. Listening involves hearing and cognition and assumes the ability to perceive, interpret, understand, assign meaning, react, remember, and analyze what is heard.

Listening is the most significant form of communication, yet it is still often ignored, probably more attention should be fixed to the subject of listening. Both students and the employees may need to further identify the significance of this communicative factor as listening behavior is one of the most vital interactive skills for members of every organization.

If you have ever experienced the frustration of not being listened, the reason for this has been that most people believe themselves to be good listeners, but they are not.

Also the research by the International Listening Association indicated that humans generally listen at a 25% comprehension rate, it means that unless we train ourselves to listen effectively and efficiently, we are likely to miss more of what people are saying than we understand. This is so for active listening is very different to hearing. Consequently Active Listening involves effort and drill as a skill. However this crucial skill is not something that is formally taught at schools, universities and business houses.

Active listening is a manner of listening and responding to other person which encourages him or her to communicate clearly and completely. It is listener orientated. We have to focus our efforts on the speaker and aim to talk no more whilst encouraging the speaker to finish the talk.