1st International Young Scientist Congress

IYSC-2015

8th & 9th August-2015

SOUVENIR

Global youth Empowerment: Opportunities & Challenges

Organized by

International Science Congress Association

Venue

Maharaja Ranjit Singh College of Professional Sciences,

Indore, MP, India

1st International Young Scientist Congress

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Krishnaashraya, 427, Palhar Nagar, RAPTC, VIP- Road, Indore-452005, MP, India

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IYSC- 2015 Inaugural Ceremony

Saturday, 8th August 2015, Time 10:00 am

Inauguration By

Dr. Saamdu Chetri
Executive Director of the GNH Centre
Thimphu, Bhutan

Dr. V. Ganesan
Centre Director, UGC-DAE Consortium for Scientific Research,
Indore Centre University Campus, Indore, MP, India

IYSC-2015 Valedictory Ceremony

Tuesday, 9th August 2015, Time 03:30 pm

Felicitation By

Dr. Saamdu Chetri
Executive Director of the GNH Centre
Thimphu, Bhutan

Dr. V. S. Bhatia
Director, ICAR-Directorate of Soybean Research,
Indore, MP, India

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Founder and Managing Trustee,
Maharaja Ranjit Singh College of Professional Sciences,
Indore, India

Chief Patron
Dr. B.K. Punjabi
Chairman,
Maharaja Ranjit Singh College of Professional Sciences,
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Indore, M.P., India

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Research Scientist, Maharaja Ranjit Singh College of Professional Sciences,
Indore, India

Coordinator Workshop
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Institute of Applied Science and Humanities,
GLA University,
Mathura, India

Prof. Dipak Sharma
Director and Editor-in-Chief
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5th International Science Congress (ISC-2015)

8th - 9th December 2015

Tribuvan University, Kathmandu, Nepal

www.isca.in, www.isca.me, www.isca.net.co

Focal Theme: Diverse Resources: Solutions and Advancements

There are twenty sections namely: Agriculture, Forestry and Horticulture, 2.Animal, Veterinary and Fishery, 3.Biological Sciences, 4.Chemical Sciences, 5.Computer and Information Technology, 6.Earth and Geology, 7.Engineering, Architect and Planning (Civil, Electrical, Electronics, Mechanical, Fire, Textile, CS etc), 8.Environmental Sciences, 9.Forensic, Medical, Dental and Nursing, 10.Family, Community and Consumer, 11.Material Sciences 12.Mathematical and Statistical Sciences 13.Pharmaceutical Sciences, 14.Physical Sciences, 15.Physical Education and Sports, 16.Educational Sciences, 17.Commerce, Law and Management, 18.Library Sciences 19. Language, Literature and Culture 20.Social and Humanity: Anthropology, Behavior, Sociology, Social Work, psychology, Economics, Political Science, Geography, Drawing, Music, Dance, Philosophy, History, Journalism, Media and NGO.

Please mention the section and preferences for oral or poster presentation

Abstracts will be published in Souvenir with ISBN.

Print Souvenir ISBN 978-93-84648-44-2 E-Souvenir ISBN 978-93-84648-43-5

After approval of two experts, we will publish full papers in special issue of an international peer reviewed journal "Research Journal of Recent Sciences" (ISSN 2277-2502)

Awards

International Young Scientist Award – For Best Oral Presentation (Each Section)
International Young Scientist Award – For Best Poster Presentation (Each Section)
International Best Oral Presentation Award (Each Section)
International Best Poster Presentation Awards (Each Section)

Important Dates

Conference Date	:	8th- 9th December 2015
Submission of Abstract (Print Souvenir with ISBN) upto	:	10th November 2015
Submission of Abstract (E-Souvenir with ISBN) upto	:	30th November 2015
Early Registration	:	31st May 2015
Acceptance of Abstract upto	:	5th December 2015
Last date of Submission of Full Paper	:	30th November 2015
Late registration fees	:	From 1st June 2015

Registration Fee:

	Indian	SAARC	Foreign
From June 1st, 2015 to July 31st, 2015			
Delegates	Rs. 2500/-	$40	$150
Students	Rs. 1550/-	$35	$100
Spouse/Others	Rs. 1050/-	$30	$ 80
From August 1st, 2015 to September 30th, 2015			
Delegates	Rs. 2750/-	$45	$200
Students	Rs. 1800/-	$40	$150
Spouse/Others	Rs. 1050/-	$30	$ 80
From October 1st, 2015 to November 30th, 2015			
Delegates	Rs. 3000/-	$50	$250
Students	Rs. 2050/-	$45	$200
Spouse/Others	Rs. 1050/-	$40	$ 80
From December 1st 2015 to December 7th, 2015			
Delegates	Rs. 3250/-	$60	$300
Students	Rs. 2250/-	$50	$250
Spouse/Others	Rs. 1550/-	$40	$100
From December 8st , 2015 to December 9th, 2015			
Delegates	Rs. 3500/-	$60	$350
Students	Rs. 2500/-	$50	$300
Spouse/Others	Rs. 1550/-	$40	$100

3rd International Virtual Congress (IVC-2016)
&
Workshop on Environmental Studies

5th to 10th April 2016

www.isca.net.co

Focla Theme: Global Research: Value, Impact and Outcome

There are twenty sections namely: Agriculture, Forestry and Horticulture, 2.Animal, Veterinary and Fishery, 3.Biological Sciences, 4.Chemical Sciences, 5.Computer and Information Technology, 6.Earth and Geology, 7.Engineering, Architect and Planning (Civil, Electrical, Electronics, Mechanical, Fire, Textile, CS etc), 8.Environmental Sciences, 9.Forensic, Medical, Dental and Nursing, 10.Family, Community and Consumer, 11.Material Sciences 12.Mathematical and Statistical Sciences 13.Pharmaceutical Sciences, 14.Physical Sciences, 15.Physical Education and Sports, 16.Educational Sciences, 17.Commerce, Law and Management, 18.Library Sciences 19. Language, Literature and Culture 20.Social and Humanity: Anthropology, Behavior, Sociology, Social Work, psychology, Economics, Political Science, Geography, Drawing, Music, Dance, Philosophy, History, Journalism, Media and NGO.

Please mention the section name

Abstracts will be published in Souvenir with ISBN 978-93-84648-78-7

After approval of two experts, we will publish full papers in special issue of an international peer reviewed journal "Research Journal of Recent Sciences" (ISSN 2277-2502)

Important Dates

Conference Date	:	5th to 10th April 2016
Submission of Abstract (E-Souvenir with ISBN) upto	:	4th April 2016
Early Registration upto	:	31st January 2016
Acceptance of Abstract upto	:	4th April 2016
Last date of Submission of Full Paper	:	4th April 2016
Late registration fees	:	From 1st February 2016

Registration Fee

For ISCA Fellower Members relaxation is 30% on every slot of registration.

Up to January 31st, 2016	**Indian**	**SAARC**	**Foreign**
	Rs. 1000/-	$ 40	$ 80
From February 1st, 2016 to February 28th, 2016	**Indian**	**SAARC**	**Foreign**
	Rs. 1550/-	$ 45	$ 100
From March 1st, 2016 to March 31th, 2016	**Indian**	**SAARC**	**Foreign**
	Rs. 2000/-	$ 50	$ 120
From April 1st, 2016 to April 4th, 2016	**Indian**	**SAARC**	**Foreign**
	Rs. 2250/-	$ 55	$ 150
From April 5th, 2016 to April 10th, 2016	**Indian**	**SAARC**	**Foreign**
	Rs. 2550/-	$ 60	$ 180

2nd International Young Scientist Congress (IYSC-2016) & Workshop on Scientific Writing

8th & 9th August 2016

www.isca.in, www.isca.me, www.isca.net.co

There are twenty sections namely: Agriculture, Forestry and Horticulture, 2.Animal, Veterinary and Fishery, 3.Biological Sciences, 4.Chemical Sciences, 5.Computer and Information Technology, 6.Earth and Geology, 7.Engineering, Architect and Planning (Civil, Electrical, Electronics, Mechanical, Fire, Textile, CS etc), 8.Environmental Sciences, 9.Forensic, Medical, Dental and Nursing, 10.Family, Community and Consumer, 11.Material Sciences 12.Mathematical and Statistical Sciences 13.Pharmaceutical Sciences, 14.Physical Sciences, 15.Physical Education and Sports, 16.Educational Sciences, 17.Commerce, Law and Management, 18.Library Sciences 19. Language, Literature and Culture 20.Social and Humanity: Anthropology, Behavior, Sociology, Social Work, psychology, Economics, Political Science, Geography, Drawing, Music, Dance, Philosophy, History, Journalism, Media and NGO.

Awards

Abstracts will be published in Souvenir with ISBN.
After approval of two experts, we will publish full papers in special issue of an international peer reviewed journal "Research Journal of Recent Sciences" (ISSN 2277-2502)
E-Souvenir ISBN 978-93-84648-43-5

Award
International Young Scientist Award

Important Dates

Conference and Workshop Date	:	8th & 9th August 2016
Submission of Abstract (E-Souvenir with ISBN) upto	:	30th July 2016
Early Registration	:	31st May 2016
Acceptance of Abstract upto	:	30th July 2016
Last date of Submission of Full Paper	:	30th July 2016
Late registration fees	:	From 1st June 2016

Registration and Workshop Fee:

	Indian	SAARC	Foreign
From May 1st, 2016 to May 31st, 2016			
Delegates	Rs. 1050/-	Rs. 1050/-	$ 40
Students	Rs. 750/-	Rs. 750/-	$ 35
Spouse/Others	Rs. 650/-	Rs. 650/-	$ 30
From June 1st, 2016 to June 30th, 2016			
Delegates	Rs. 1050/-	Rs. 1050/-	$ 45
Students	Rs. 750/-	Rs. 750/-	$ 40
Spouse/Others	Rs. 650/-	Rs. 650/-	$ 30
From July 1st, 2016 to July 31th, 2016			
Delegates	Rs. 1050/-	Rs. 1050/-	$ 50
Students	Rs. 750/-	Rs. 750/-	$ 45
Spouse/Others	Rs. 650/-	Rs. 650/-	$ 40
From August 1st 2016 to August 7th, 2016			
Delegates	Rs. 1550/-	Rs. 1550/-	$ 60
Students	Rs. 1050/-	Rs. 1050/-	$ 50
Spouse/Others	Rs. 650/-	Rs. 650/-	$ 40
From August 8st , 2016 to August 9th, 2016			
Delegates	Rs. 2050/-	Rs. 1550/-	$ 60
Students	Rs. 1550/-	Rs. 1550/-	$ 50
Spouse/Others	Rs. 650/-	Rs. 650/-	$ 40

CONTENTS

1. Agriculture, Forestry and Horticulture Sciences

ISCA-IYSC-2015-1AFHS-01

Pigeonpea Crop Production and Productivity in Next Generation

N. Rajesh
ICRISAT Development Centre, International Crop Research Institute for the Semi Arid Tropics, Hyderabad, INDIA

Abstract: In world population day by day increased simultaneously geographical area also condensed. All over the world food and water inadequacy was increased, especially in food and the nutrient security problem in developed and developing countries, affected the malnutrition in poor people, more than 60 % land in the world under dry land condition. In dry land condition suitable crops for legume crops only, it's easy to cultivate all over the world. Pulse crop is the main source for the malnutrients. Pulse crop is a poor man meat. In the world all over the agricultural research institute have good quality hybrid and varieties cultivar still we got in poor yield because the management practice its humble. In India Pigeonpea is second popular pulse crop, followed by Chickpea. In field conditions maintained plant population, it's very difficult in pigeonpea crop, after sowing pigeon pea crop affected the root rot diseases in-between one month period and crop duration also more than 160 days based on the investigation need the new and innovative technology in pigeonpea crop production. Transplanting technique is the new tool for the pigeonpea cultivation it will helpful for the improve the pigeonpea production; give the appropriate nutrition for the next generation.
Keywords: Transpalting pigeonpea, rainfed, protray nursery.

ISCA-IYSC-2015-1AFHS-02

Screening of Gladiolus varieties against *Curvularia trifolii* f. sp. *gladioli*

Hanuman Singh
Department of Plant Pathology, Maharana Pratap University of Agriculture and Technology, Udaipur, Rajasthan-313001, INDIA

Abstract: Host resistance is considered to be the most effective and economical method in disease management. In order to find the resistant sources, corms of gladiolus were planted in the field in the month of September. After 70 days the plants were covered under a polytunnel and artificially inoculated with spore suspension of the fungus at 4×10^4 conidia /ml of water. Data on per cent severity of disease were recorded after 21 days of inoculation on a 0-4 scale. Yield data on corm and cormel production were recorded at crop maturity. Among fifty varieties screened against the disease, none was found immune to the disease. Nine v*arieties, namely* SJN, Yellow Stone, Plum Tart, Jacksonville Gold, Pink Elegence, Delhi Pink, Shagun, Arka Kesar and Punjab Flame showed *very good level of genetic resistance* (disease reaction: d" 1.0) *against the disease. Nineteen* varieties were found to be moderately resistant (disease reaction: >1.0-2.0); while, eleven varieties were moderately susceptible (disease reaction :> 2.0-3.0) to the disease. Eleven varieties, namely Jester, Chandani, Punjab Dawn, Gunjan, Shobha, Solist, Jessica, Aldebaran, Purple Flora, Overture and Alexander the Great were susceptible to the disease (disease reaction: >3.0-4.0). Among the susceptible varieties, Alexander the Great and Overture were found to be the most susceptible to leaf spot having disease reaction of 4.0.The resistant sources may use as such or exploited in the breeding programme to evolve suitable varieties. These sources may greatly help in to slowing down the rate of epidemic build-up in the field.
Keywords: Gladiolus, Curvularia, Varieties, Host resistance and Leaf spot

ISCA-IYSC-2015-1AFHS-03

Effect of Different Combinations of Chemical Fertilizers (UREA, SSP, MOP, NP, NK, NPK) and biofertilizer on MDA, Peroxidase activity and Proline content in Wheat (*triticum aestivum* L.). Seedlings

Sharma Sandhya
Department of Biochemistry, Govt. Holkar Science College, Indore, MP, INDIA

Abstract: Normal growth and development of plants is greatly dependent on the capacity to overcome abiotic and biotic stresses. These stresses prevent plants from realizing their full genetic potential and limits food production. Fertilizers are sources of plant nutrient that can be added to soil to maintain its natural fertility. The application of chemical fertilizers over a period resulted in poor soil health, reduction in produce and increase in incidences of pest and disease and environmental pollution. Bio-fertilizers are eco-friendly, effective and economical alternate of chemical fertilizers. Peroxidase an antioxidant enzymes which have important role in the metabolic reactive oxygen species (ROS) and

defence against oxidative stress damage. MDA and proline are the stress markers increase in plant cells as a response to stresses. The objective of this study was to evaluate the effects of chemical fertilizers (N, P, K) in six different combination (N, P, K, N+P, N+K and N+P+K) and combinations with biofertilizers N+A, P+A, K+A, NP+A, NK+A, NPK+A on the peroxidase enzyme and stress markers in 7th day old wheat seedling. This experiment was carried out at holkar science college indore in 2013-14. Results showed that the activity of peroxidase enzyme, MDA and proline content was significantly different ($p<0.05$) between control and fertilizer treatments. The lowest value of MDA with NK and NPA combinations, proline with NK and KA combinations and peroxidase activity with NPK and NKA combinations were observed. Low level of MDA, proline and peroxidase indicates that wheat seedlings do not face any type of stress in presence of chemical fertilizers as well as biofertilizer.

Keywords: Fertilizers, Urea, SSP, MOP, *Triticum aestivum* L., Azotobacter, peroxidase, proline, MDA.

ISCA-IYSC-2015-1AFHS-04

Studies on High Biomass, High brix and juice yield in Sweet Sorghum (*Sorghum Bicolor* (L.) Moench)

R. R. Dhutmal
Sorghum Research Station, vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani 431401, INDIA

Abstract: Sixteen varietal entries, four hybrid entries of sweet sorghum along with two varietal checks i.e. CSV 19 SS and CSV 24 SS and one hybrid checks i.e. CSH 22 SS (Total 23) were evaluated in a randomized block design with three replication on medium black soil at Sorghum research Station, Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani during *kharif*, 2012-13. The object of this study was to identify the genotypes superior to juice yield, high brix and high biomass content. The results revealed that total fresh biomass ranges between 61.7 t / ha (SPV 2196) to 36.0 t / ha (SPV 2204). Entry SPV 2196 (61.7 t /ha) and SPV 2195 (57.3 t /ha) were found significantly superior over check CSV 24 SS (42.0 t /ha), but at par with each other. More over these two entries were found significantly superior over 13 entries, out of 20 test entries under evaluation. Juice brix value ranges between 20 ^{0}b (SPV 2197) to 13 ^{0}b (SPV 2204). Entry SPV 2197 (20 ^{0}b) was at par with SPV 2198 (19 ^{0}b), SPV 2135 (18 ^{0}b) and CSH 22 SS (18 ^{0}b but showed significant superiority over check CSV 24 SS (16 ^{0}b) and rest of the entries. With regards to juice yield none of the entry was found significantly superior over best check CSH 22 SS (16081 t / ha). While entry SPV 2196 (20459 t/ha) was found at par with SPV 2202 (16360 t/ha), SPV 2195 (15982 t/ha). It was significantly superior over rest of the entries and check CSV 19 SS (13063 t/ha).

Keywords: Sweet sorghum, High biomass, High brix and Juice yield.

ISCA-IYSC-2015-1AFHS-05

Impacts of Water and Temperature Stress on Physiological, Anatomical, growth, Photosynthesis and Yield processes of Soybean

Kanchan Jumrani
School of Life Sciences, DAVV, Indore-452001, INDIA

Abstract: Water and temperature stress are among the two most important environmental factors influencing crop growth, development, and yield processes. Soybean (*Glycine max* L. Merr.) is the most important oilseed crop of India. The main objectives of the current study were to find out the impacts of increasing temperatures and occurrence of water stress individually as well as their interaction on growth, anatomical, development, yield and yield attributes of soybean crop. Soybean variety JS 97-52 was planted in four green houses maintained at an average temperatures of 26, 29, 32 and 35 ^{Ú}C. At each temperature, pots were divided into three sets, one set was control (well irrigated) while second and third set were subjected to water stress at vegetative and beginning seed fill (R5) stage, respectively. Increasing temperatures and imposition of water stress significantly reduced seed yield and yield attributing characters. The highest yield (14.3 g/pl) was observed at 26 ^{Ú}C, which was significantly reduced by 21, 44 and 72% at 29, 32 and 35 ^{Ú}C, respectively. Similarly, compared to unstressed plants (15.1 g/pl) there was a mild reduction in yield in plants stressed at vegetative stage (27%) and a severe reduction in plants stressed at reproductive stage (87%). Reduction in yield was associated with severe reduction in seed size, pod number and seeds/pod. Leaf photosynthetic rate, pollen germination, Proline content, MDA, antioxidants and antioxidant enzymes was also affected with increase in temperature and water stress. Thus, the projected future climate in terms of increased temperature and drought could severely reduce the productivity of soybean in India and there is an urgent need to develop plants which could sustain such situations.

Keywords: Impacts, water, temperature, stress, physiological, anatomical, growth, photosynthesis, processes, soybean.

ISCA-IYSC-2015-1AFHS-06

Screening Soybean (*Glycine max* L. Merr.) Varieties for Resistance to Reniform Nematode, *Rotylechulus Reniformis*

Anes K.M
ICAR-Directorate of Soybean Research, Khandwa Road, Indore – 452001, MP, INDIA

Abstract: Reniform nematode (*Rotylenchulus reniformis*) is the most prevalent and economically important plant parasitic nematode in the soybean growing areas of India. A total of 12 commonly cultivated soybean varieties namely, JS-9560, JS-335, JS-9305, JS-9752, JS-2029, JS-2034, PS-1225, NRC-37, MAUS-158, Hardee, Punjab-1 and Improved Pelican were screened for resistance/susceptibility to reniform nematode under microcosm conditions. Among these varieties, PS-1225 was found to be the most resistant with RI (Reproductive Index = final population/initial population) value of 2, followed by Punjab-1 (RI: 4), Improved Pelican (RI: 5), NRC-37 (RI: 8), JS-9305 (RI: 8), JS-9560 (RI: 10), JS-2034 (RI: 12), Hardee (RI: 21), MAUS-158 (RI: 22), JS-335 (RI: 24) and JS-2029 (RI: 48) in the descending order of their resistance. The variety JS-9752 was found to be the most susceptible with RI value of 54. The information generated from the present investigation could be useful for the adoption of resistant varieties in areas with nematode problems as well as for future breeding programmes.
Keywords: Nematode, Resistance, Susceptibility, Screening, Soybean.

ISCA-IYSC-2015-1AFHS-07

Plant Resources of Barwani District and their Management

Seemavati Sisodiya
Department of Botany, Govt. Holkar Science College, Indore, INDIA

Abstract: Barwani district is situated on the South-West corner of M.P. It lies between 21°37' and 22°22' longitude and 74°27' and 25°30' Latitude. Topographically the district can be distinguished as 1) Satpura hill ranges and 2) The Narmada Valley. The forests are combined to Satpura Mountain ranges. Most of the area of Narmada Valley in under cultivation and forms the rich belt of cotton, wheat and chilly crops. The phytoresources include major and minor plant produce and their uses by human beings. The biotic resources of the area provide livelihood to all categories of people. The biological resources support and maintain the human population and supply the basic needs of food, fodder, fuel clothing etc. The convention on biological diversity laid stress on the inventorization and monitoring of plant resources of the earth and to formulate strategies for their conservation and sustainable utilization. In Barwani district 579 plants of phytoresources have been reported. These include of 225 species of medicinal value, 86 fodder, 18 fiber, 27 timber, 18 fuel, 32 wild food plants, 12 pulses, 11 condiments and species, 15 dyes and resin, 16 tannin, 21 oils, 27 agricultural and 33 horticultural elements. In addition to these 15 plants of miscellaneous uses such as beverage, bidi making, thatching and also reported. It is recommended that there must be careful utilization of phytoresources so that the needs for future generation are properly taken care of.
Keywords: Phytoresources, inventorilization, monitoring, horticulture elements, thatching.

ISCA-IYSC-2015-1AFHS-08

Evaluation of Growth and yield of Papaya cultivars under protected conditions in North Indian Plains

Tyagi Manu
Department of Horticulture, Govind Ballabh Pant University of Agriculture and Technology, Pantnagar, Uttarakhand, INDIA

Abstract: Protected cultivation technology alleviates climatic stresses and thus can provide a nearly ideal environment for cultivation of tropical fruit crops like papaya in Punjab and other parts of northern India. But, not much information is available regarding the performance of papaya under protected conditions. The present study was, thus carried out with the objective of determining the growth and yield performance of five papaya varieties viz. Surya, Madhu, Pusa Dwarf, Arka Prabahath and Red Lady 786, grown under poly net house in Punjab Agricultural University, Ludhiana. The varieties were assessed for their vegetative and floral traits as well as for their yield potential. No significant difference was found in terms of plant height, stem girth, number of leaves and number of fruits per node. But the varieties registered significant variations for leaf size, petiole length, type of flower and yield. The variety Red Lady 786 recorded highest number of fruits per tree and subsequently highest yield. Also, the variety took least number of days to flower and

harvest. This paper thus provides the essential information that can be exploited for boosting the papaya cultivation in Punjab and other north Indian states under protected conditions.

Keywords: Papaya, protected cultivation, vegetative and yield parameters.

ISCA-IYSC-2015-1AFHS-09

Diversity in Shapes of Somatic Embryos Obtained from Tissue Culture of Immature Cotyledons of *Hardwickia binata*

Bihani P.
Forest Research and Extension Circle, Indore, MP, INDIA

Abstract: Somatic embryogenesis in *Hardwickia binata* was obtained by culturing immature seeds in MS medium supplemented with 2,4-D within eight months of inoculation period. On replacing 2,4-D with plant growth regulators like GA_3, Kn, BAP, TDZ, NAA, IAA, IBA and ABA, Secondary somatic embryogenesis was initiated from the primary embryos. The embryogenic lines remained productive and repetitive induction of somatic embryos was obtained up to 11 cycles recorded, in two years of culture period. The primary somatic embryos acquired globular, torpedo, heart, and cotyledonary shapes during maturation. Along with this various other strikingly unusual shapes were also obtained during secondary embryogenesis like funnel, trumpet, rod, cauliflower, snail, rose shape etc. The embryos are still proliferating and it seems to be high productive embryogenic proliferation system which contributes to thousands of embryos from few explants. The high reproductive culture system of *H. binata* exhibits extreme embryogenic potential to fulfill the demand for synthetic seeds or transformation experiments for this endangered plant of commercial value.

Keywords: Hardwickia binata**,** somatic embryo**,** secondary somatic embryogenesis, auxin.

ISCA-IYSC-2015-1AFHS-10

Genetic Variability Evaluation in pearl Millet Genotypes

Sonali Sangwan
Department of Molecular Biology, Biotechnology and Bioinformatics, CCS Haryana Agricultural University, Hisar, Haryana, INDIA

Abstract: Thirty-six pearl millet lines were evaluated for grain yield and its contributing attributes in Randomized Block Design with two replications during *kharif* 2014 at CCSHAU, Hisar. The observations were recorded on each genotype for seven traits namely, days to 50% flowering, plant height, ear length, ear diameter, 1000 grain weight, grain yield per plant and dry fodder yield per plant. The data was subjected to statistical analysis to obtain estimates of variability parameters and correlation coefficients. A large variability was observed among the genotypes for nearly all the characters studied. Genotypic and phenotypic coefficients of variation along with estimates of heritability in broad sense were recorded highest in dry fodder yield per plant. Correlation studies revealed that the traits namely, plant height, ear length, ear diameter, 1000 grain weight and dry fodder yield per plant exhibited highly significant positive phenotypic and genotypic correlation with grain yield. High estimates of coefficient of variation along with moderate to high heritability coupled with genetic advance as per cent of mean for traits like dry fodder yield per plant and grain yield per plant are indicating importance of these traits in selection and crop improvement.

Keywords: Correlation, genotype, pearl millet, statistical analysis, variability.

ISCA-IYSC-2015-1AFHS-11

Characterization of Bt pigeonpea [*Cajanus cajan* (L) Millsp.] plants for resistance against its major pest *Helicoverpa armigera* (Hübner) using insect bioassay

Pratibha
Department of Molecular Biology, Biotechnology and Bioinformatics, CCS Haryana Agricultural University, Hisar, Haryana, INDIA

Abstract: Pigeonpea [*Cajanus cajan* (L) Millsp.] is an important protein rich legume crop grown in many semi arid tropical regions of the world. Its yield has been reduced over the past 2–3 decades, due to biotic and abiotic stresses. Much of its grain productivity is adversely affected by damages caused by a *lepidopteran* pest, the pod borer (*Helicoverpa armigera*). Unfortunately, extensive and very often indiscriminate use of chemical pesticides to control this insect has

resulted in development of resistance, environmental degradation, adverse effects on human health and other organisms. Transgenic pigeonpea plants of variety Manak (H 77-216) expressing *cry1Ac* gene were generated by tissue culture independent, rapid and efficient *in planta* transformation method. Putative transformants were selected on the basis of PCR amplification and Quantitative ELISA. The transformed and wild type pigeonpea plants were subjected to insect bioassay to assess their resistance to *Helicoverpa armigera*. Leaves from transgenic plants were fed to the first instar larvae and five promising lines were selected for further studies which showed maximum mortality.

Keywords: ELISA, Insect bioassay, *Helicoverpa armigera,* PCR, Pigeonpea.

ISCA-IYSC-2015-1AFHS-12

Phenotypic analysis of WH711 × WH542 F_2 population of wheat (*Triticum aestivum* L. em Thell)

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Abstract: Stripe (yellow) rust, caused by the obligate biotroph fungus *Puccinia striiformis*, is one of the most damaging pathogens to wheat production worldwide. In susceptible varieties, yield losses can be considerable ranging from about 40% to complete destruction of the crop depending upon the growth stage at which the pathogen attacks. Therefore, to reduce the loss, there is an urgent need to develop varieties with durable resistance. The present investigation was carried out using two parental wheat genotypes WH711 (susceptible to yellow rust) and WH542 (resistant to yellow rust), that differ significantly for plant height (87.48-97.70 cm), grain yield per plant (7.44-8.95 g) and biological yield per plant (14.47-18.23 g). WH711 had bolder grain quality than that of WH542. This study was conducted to screen F_2 population derived from WH711 X WH542 for traits contributing to yield. Grain yield per plant in WH711 × WH542 F_2 plants ranged from 4.02-21.60 g. The statistical analysis for the F_2 population revealed a positive correlation between morphological traits, such as grain yield per plant showed a significant positive correlation with tillers per plant (0.816; $p = 0.01$), biological yield (0.891; $p = 0.01$) and grains per ear (0.526; $p = 0.01$).

Keywords: Correlation, F_2 population, *Puccinia*, resistance, yellow rust.

ISCA-IYSC-2015-1AFHS-13

Genetics of Yellow Rust resistance in Bread wheat (*Triticum aestivum* L. em. Thell)

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Abstract: Stripe rust caused by *Puccinia striiformis* f. sp. *tritici* (PST), is a devastating disease in common bread wheat. This disease causes signiûcant economic losses in terms of reduced production and/ enhances costs for chemical control. Stripe rust negatively affects the quality and yield of wheat grain. The wheat cultivars become susceptible to rusts due to their narrow genetic base for resistance and the rapid rate of evolution of the pathogenic races, making it necessary to search for new source(s) for resistance. Thus, the wheat production has been largely dependent on the development and the use of resistant cultivars having diverse and well characterized genes. To study the genetics of stripe rust resistance in wheat, F_1 and F_2 generations derived from a cross between Raj3765 (resistant parent) and Syn27 (susceptible parents) together with parental lines were evaluated in the field at Research Farm of Department of Genetics and Plant Breeding, CCSHAU, Hisar during the year 2013-14. The plant materials were inoculated with pathotypes 46S119 and 78S84 races of stripe rust. Data of parents, F_1 and F_2 population were recorded for yellow rust reactions. Chi square (X^2) test was used to test the goodness of fit of expected ratio in segregating generations. In F_1 generation all plants were resistant and F_2 population was segregated into 231 Resistant : 69 Susceptible, Chi square test revealed that the observed ratios were fit into hypothetical ratio of 13:3 which clearly indicated that the resistance is controlled by two dominant gene with inhibitory gene action controlling resistance against pathotype. This material can be forwarded to further generations to develop yellow rust resistant varieties or can be used as a source material for further use in the crop improvement programme.

Keywords: Wheat, stripe rust, chi square, resistant varieties and gene action.

ISCA-IYSC-2015-1AFHS-14

Production and Partial Purification of Cellulase Enzyme by *Aspergillusniger*

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Abstract: The aim of this paper is to determine the production of cellulase enzyme from fungal strain Aspergillusniger on lab scale. Microbial cellulases have show their potential application in various industries including pulp and paper, textile, laundry, biofuels production, food and feed industry , brewing ,and agriculture. Due to the complexity of enzyme system and immense industrial potential, cellulases have been a potential candidate for research. The availability of substrate for the production of these enzyme was abundant. The most abundant carbohydrate polymer in biosphere is cellulose, having an annual production that estimated to be over 7.5×10^{10} tones. Cellulases are inducible enzymes synthesized by a large diversity of microorganisms including both fungi and bacteria during their growth on cellulosic materials. As compare to bacteria; fungi was most suitable microbes for the enzyme production. Filamentous fungi are the preferred source for industrial enzyme because their excellent capacity for extracellular protein production. The analysis of production of cellulase enzyme was done by Di-nitosalycyclic acid (DNS) method. The present study aimed to screen fungi Aspergillusniger for the production of cellulase enzyme and further enzyme purification.
Keywords: Cellulase, cellulosic materials, Aspergillusniger, partial purification.

ISCA-IYSC-2015-1AFHS-15

Effect of Different Agricultural Management Practices on Carbon Sequestration in Vertisols under Soybean Based Cropping Systems in Central India

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Abstract: The arising concerns on global warming have motivated the researchers to search for efficient soil management and cropping systems to sequester the emitted atmospheric CO2 in soil. Agricultural practices can support the soil to perform as either a sink or a source of atmospheric CO_2, directly altering the greenhouse effect. Therefore, an effort was made to quantify the role of commonly adopted cropping systems, extent of tillage and integrated nutrient management practices on carbon sequestration in the Vertisols (0-15 cm) of Central India during the year 2009-2010. Among predominant cropping systems, higher C sequestration was noticed in soils with conservation tillage and integrated nutrient management. The cropping systems with higher carbon sequestration found were soybean-wheat as compared to soybean-multiple cropping system. The C fractions as well exhibited changes with cropping systems receiving variable tillage practices and nutrient management systems. Irrespective of cropping systems, conservation tillage practices stored significantly more SOC and available nitrogen than conventional tillage practices indicating that lesser the disturbances in these soils, higher the carbon sequestration. Integrated nutrient management also enhanced the accumulation of carbon in soil and reduced the loss of N under leguminous cropping system as compared to systems without legumes as component. The higher value of soil respiration was associated with soybean- wheat cropping systems irrespective of tillage and nutrient management practices. The soil under conservation tillage and integrated nutrient practices performed high activity of soil respiration than conventional tillage and fertilizer alone.
Keywords: Carbon sequestration, carbon fractions, nutrient management, tillage.

ISCA-IYSC-2015-1AFHS-16

Forest Conservation and Management: A new Challenge for a Sustainable Forestry

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Abstract: Natural forest conservation is a long term process with a potentiality to safeguard the primary vegetation and wilderness of the ecosystem. The biodiversity conservation is significant in the sense that it protects our ethical green values, age old traditional culture, along with shaping socioeconomic development of the community. The forest conservation programs including models, scientific techniques and community participation are preferred but need a maneuver in their designing and implementation. The cropping up of global warming and climate change is a great

challenge in front of forest managers however it's the right time to design a common global forest conservation program that can be applicable and acceptable in all type of biomes. The plight of forest is not a new issue but it needs an instant global attention. Therefore traditional as well as modern approaches for management of natural forestry should be given special emphasis for sustainable global wilderness.

Keywords: Forest, Conservation, Management, Challenge, Sustainable, Forestry.

2. Animal, Veterinary and Fishery Sciences

ISCA-IYSC-2015-2AVFS-01

In-Vitro Biofilm Assessment of Avian *E.Coli* Isolates

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Abstract: The ability of bacteria to form biofilms helps them to survive hostile conditions within host and is considered to be responsible for chronic or persistent infections. In this study, A total of 52 *Escherichia coli* isolates were collected from faecal samples of different broiler farm. These isolates were assessed for their ability to produce biofilm in-vitro by slime production on Congo red agar medium (CRA), microtitre plate assay (MP) and standard tube test (ST). The rate of production of slime factor in all of the *Escherichia coli* investigated with CRA, MP, and ST tests were 57.6%, 48% and 48%, respectively. Out of 52 isolates tested, 30 were slime producing on CRA as indicated by black colonies. The isolates of *E.coli* varied in their ability to produce biofilm on the surface of microtitre plate ranging from 0.111 to 0.743 ODm. Out of 52 isolates tested, 25 were positive for biofilm production employing criterion of blank corrected ODs9s > 0.1. In the standard tube test (ST) positive result was indicated by the presence of an adherent film of stained material on the inner surface of the tube. Seven slime negative isolates were also found negative in biofilm production while five slime positive isolates were found to be negative for biofilm production. This study concludes with variation in slime and biofilm producing capacity of *E.coli* isolates by Slime production on CRA and biofilm production in microtitre plate.
Keywords: Biofilm, *E.coli*, CRA.

ISCA-IYSC-2015-2AVFS-02

Causes and Consequences of Tiger Mortality in Corbett Tiger Reserve, Ramnagar, Uttrakhand, India

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Abstract: Tiger the ultimate animal in forest is a healthy sign of healthy habitat but on the other hand just opposite; the vanishing of tiger in habitat is a clear cut indication of destruction. Habitat destruction affects the carrying capacity of area. Livestock grazing, socio-ecological factor brings a big stress on tiger habitat and depicts conflict and develop anti conservation practice. On the other hand Kosi corridor disturbance also blocking the genetic viability between Corbett Tiger Reserve and Ramnagar Forest Division. Reconstruction of tiger's diet through scat analysis provides the food and feeding behaviour and movement pattern etc. Ecological pressure in habitat compels the tiger to come out from core zone to periphery which ultimately leads the conflict and death. In seven year total 26 tiger had been lost along with male cub, female cub, male and female tiger. Such a big loss on visage of Corbett the real land for its roar depicts the need of serious ecological monitoring.
Keywords: Socio-ecological factor, corridor, scat analysis.

ISCA-IYSC-2015-2AVFS-03

Assessment of Knowledge level of Breeding practices Adopted by Dairy farmers in Akola District of Maharashtra, India

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Abstract: Knowledge of basic breeding practices is key to successful dairy farming. A survey of 36 rural dairy farmers in Paras village of Akola district of Maharashtra was undertaken in February 2015 to assess their knowledge level about breeding practices adopted. Data was collected by direct interaction method using a preformed questionnaire. Study revealed that, the responding dairy farmers were belonging to age ranging from 27 to 72 years and with family size 3.5±0.27. All farmers were literate with average monthly income of Rs. 25000-60000/- and were interested in progressive dairy business. However, only 12.46% farmers knew local indigenous breed of dairy cow and 67.64% were well known to milch buffalo breed. Mostly dairy farmers were rearing buffaloes for milk and breeding was undertaken at veterinary dispensaries (51.62%) and at home (23.14%). 96.12 % farmers were knowing the importance of selection of animal and 53.40% farmers were knowing the role of pedigree, sire and progeny in selection of elite animals. About 40 % famers

expressed their difficulties about information and market as constraints in selection. Demonstration programmes (42.72%), television (26.7%), News papers (24.92%) and Radio (5.34%) were major sources of information. 97.9 % were having knowledge of data recording and 96.12% expressed the need of training programmes for better understanding of standard breeding practices. Study highlighted need of training programmes and provided baseline information for designing extension education programmes.

Keywords: Dairy farmers, knowledge level, breeding practices, selection, rural.

ISCA-IYSC-2015-2AVFS-04

Socioeconomic status and Knowledge level assessment of Women Dairy farmers in Akola District of Maharashtra, India

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Abstract: A sample survey was undertaken of women dairy farmers of village Sangavi Mohadi, Dist. Akola, where almost all villagers are dairy farmers and involved in supply of milk and milk products to Akola city in 2012-2013. In total 25 women dairy farmers were randomly selected as respondents for the study and data regarding their knowledge about dairy technology was collected by direct face to face interaction method using a preformed questionnaire. Study revealed that, women dairy farmers were belonging to age ranging from 27 to 62 years and with family size 4.36±0.14. 76 % women were literate; however all the women were interested in milk byproducts preparation business. 68% women knew preparation of dairy byproducts and 76% were having knowledge about milch breeds, however 92% were unknown about sanitary practices to be followed during milk production. Women knew about proper milking method (76%), importance of feed and fodder (72%), techniques to identify adulteration in milk (52%), however; 68% women were unknown about milk borne diseases. Almost all women farmers (96%) expressed need of training in this field. Apart from university efforts, self help groups and Shetishala (farmers' workshop) can be potential source for disseminating knowledge about dairy technology. The scores for knowledge level were assigned as poor (0 to 3), average (4 to 6) and good (7 and above) by judging correct answers given by dairy farmers during interview. 88% women farmers scored average when assessed for knowledge level. The preliminary knowledge of dairy farmers is essential for quality and hygienic milk byproducts preparation, improvement in traditional practices and raising income level.

Keywords: Women dairy farmers, Dairy technology, knowledge level, husbandry practices, rural.

ISCA-IYSC-2015-2AVFS-05

Donkeys in Western Vidarbha region, Nagpur, India: Status, Constraints and Conservation

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Abstract: Donkey is most neglected domestic equine germplasm and is kept by the communities belonging to lower strata of society in Maharashtra state of India. Poor economical status and neglected social status of donkey owner's communities along with unnoticed utility facets of donkeys have added negative attitude and approach at all levels. A study was undertaken to know the status of donkeys in western Vidarbha region and thereby finding constraints faced by donkey keepers to suggest conservation strategies. Phenotypic characteristics were recorded on pilot basis. It was found that, illiteracy in donkey owner's community have kept away them from adopting basic management practices which would be beneficial, economical and adoptable at their doorstep level. Lack of awareness of primary management practices including health cover and lack of knowledge about selection of elite germplasm for quality progeny production, unavailability of feed stuffs, unemployment or lack of alternate source for livelihood to donkey owners, theft of animals' etc. constraints has posed serious threat to existing donkey germplasm. The genetic potential of donkey is still un-explored. The population of donkeys is significantly declining in many parts of India and especially the Vidarbha region of Maharashtra state. The livestock census was indicating about dramatic decline in donkey population in five districts of Western Vidarbha region of Maharashtra state. However, no systematic and scientific study has ever been conducted in Western Vidarbha region for educating the donkey owners to adopt scientific rearing practices. The need of dissemination of technical knowledge about better management practices along with health cover is required to strengthen the socio-

economic status of donkey owners. Rearing of donkeys for better mule production by appropriate breeding techniques can be the potential area for employment generation to rural youth.

Keywords: Donkeys, Vidarbha region, population, socioeconomic status, constraints, conservation.

ISCA-IYSC-2015-2AVFS-06

Assessment of Knowledge level of Dairy farmers regarding Animal diseases in Akola District of Maharashtra, India

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Abstract: Healthy animals are the back bone of the livestock industry and apparently it makes a dairy industry economically strong. On the basis of survey of 40 dairy farmers in Sanjapur of Akola district of Maharashtra in February 2015 regarding the knowledge of disease and its management, the data was collected by direct face to face interaction method using a preformed questionnaire. The study revealed that the dairy farmers belonging between the age of 28 to 65 years with the family size of 3.53± 0.11. Among them the near about all farmers were literate. However all the dairy animals had the well knowledge of animal rearing and their diseases. The 12 % farmers had the knowledge about their native milch breed but 78.32% farmers were aware about the good milch yielding animal. The 67.64% farmers known about the diseases spread through the milch in buffalos. 52.4% farmers were aware about the mediums of spreading the disease and among them 51.62% farmers choose veterinary dispensary for treatment of their animals. 96.12% farmers knows the importance of vaccination and prefer regular vaccination. The 42.72% farmers use the government training programs as their reliable source of information where 26.7% depends on television sets and 24.92% on news paper as source of information. The 97.9% famers express the need of information about animal health and 96.12% farmers shows desire to get the information through training programs.

Keywords: Dairy farmers, knowledge level, animal diseases and its spreading, rural.

ISCA-IYSC-2015-2AVFS-07

Pasteurellosis in Goat in an Organized Goat farm Report

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Abstract: The outbreak was investigated in an organized goat farm situated in Nimar region of the Madhya Pradesh. The goats were kept in isolated fences with 30-40 animals per fence. The outbreak occurred in mid winter (last – December) 2014 in one band and comprised Jamuna pari and Barbari goats with different ages which were vaccinated against Septicemia pasteurellosis. Report from the farm included increasing deaths , among the morbid goats, with morbidity rate above 50% and mortality rate (10-15 %) within 24 – 48 hours from the initial occurrence of the illness. The observed predominant clinical signs included dullness, lethargy, and pyrexia (106-107^{0}F) difficulty in breathing with dyspnea at later stages and, profuse salivation. Following thorough clinical examination of the affected goats, blood samples were collected from the jugular vein of 05 morbid goats for blood smear preparation. Goats that died were subjected to post-mortem examination and gross pathological lesions in different organs were reported. Clinical signs and necropsy findings were described. Post mortem lesions were present in the morbid materials collected from morbid goats and staining of blood samples, collected from morbid animals, demonstrated the presence of Pasteurella multocida.

Keywords: Pasteurellosis, goat, organized, report.

3. Biological Sciences

ISCA-IYSC-2015-3BS-02

Bioremediation and Detoxification of Azo dye Containing Effluent by *Bacillus pumilus* SRS83

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Abstract: Present study illustrates the effectual decolourization and degradation of the textile industry effluent using *B. pumilus* sp. SRS83, originally isolated from dye contaminated soil. The dye decolourization and degradation activity of the culture was enhanced by optimization. Addition of optimized concentration of carbon, nitrogen and phosphorus to the effluent facilitated complete decolourization of textile industry effluent within 24 h, at pH 7 and at a temperature of 32±2 °C. Addition of 10 g/L of glucose, 6 g/L of urea and 0.4 g/L of potassium phosphates were found optimum for complete decolourization of BHM supplemented with 10% of the effluent by *B. pumilus* SRS83 in 24 h. The organism showed a 87.18% and 84.91% reduction in COD and ADMI values, respectively of the as it used effluent having an initial COD and ADMI value 5632 and 2674 respectively, after 48 h of incubation.
Keywords: *Bacillus pumilus*; Acid Black 210, decolourization, bioremediation, effluent.

ISCA-IYSC-2015-3BS-03

Impact of Temperature and pH Variation on in-Vitro Protocorm formation of Vanda Tessellata (Roxb.) Hook. ex. G. an Endangered Medicinal Orchid

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Abstract: The present research work is carried out to study the In-vitro protocorm formation of an endangered medicinal orchid Vanda tessellata at different temperature(15°C, 20°C, 25°C, 30°C) and pH (4.5, 5.5, 6.5,7.5) . Immature seeds obtained from green pods successfully shown protocorm formation on basal media MS without various combinations of growth hormones. Highest protocorm formation (94±0.17%) were observed at temperature 20°C and pH 5.5 , whereas the medium which is adjusted at temperature 15°C, 25°C, 30°C and pH 4.5, 6.5, 7.5 showed poor protocorm formation.
Keywords: Vanda tessellata, seed germination, protocorm, In-vitro.

ISCA-IYSC-2015-3BS-04

Antibacterial Activity of Fruit extract of *phyllanthus fraternus* Webster: An Ethnomedicinal Plant

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Abstract: The antimicrobial activity of plant extract has been recognized for many years. Plants are rich in a wide variety of secondary metabolites such as tannins, terpenoids, alkaloids and flavonoids which have been found *in vitro* to have antimicrobial properties. These herbal products are useful to discover new agents. *Phyllanthus fraternus* Webster, belonging to family Euphorbiaceae is a medicinally very useful plant species used by tribal of Gujarat to cure certain diseases like asthma, cough, diarrhea, diabetes, skin diseases and scabies. In the present study Ethanolic fruit extracts (1000 mg/10 ml) of *Phyllanthus fraternus* were screened against bacterial strains such as *E. coli, B. megaterium, B. cereus, B. subtilis, C. glutenicum, S. aureus, S. typhi, S. typhi A, S. typhi B, P. aeruginosa* and *P. vulgeris* by disc diffusion method. The result showed maximum antibacterial activities against *B. cereus* with zone of inhibition of 28 mm followed by *C. glutenicum* with a zone of inhibition of 27 mm and *S. typhi* A with zone of inhibition of 25 mm. Absolute ethanol were used as control during the experiments. This indicates that antimicrobial activities may be due to the presence of secondary metabolites. Hence, the plant can be used to discover bioactive natural products that may serve as leads in the development of new pharmaceuticals research activities. As far antibacterial work has been not carried out so far on *Phyllanthus fraternus*, the attempts were made to study the same.
Keyword: S. typhi, fruit extract, P. fraternus.

ISCA-IYSC-2015-3BS-05

Characterization of Lipase production by Staphylococcus sp. O1A from Oil spilled Soil

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Abstract: A bacterial strain isolated from an oil contaminated soil, identified as *Staphylococcus* sp. O1A with maximum lipase activity (3.1) was screened on tributyrin medium. Maximum lipase production was observed at 48 h of growth (2.30 µM/min/mg). Maximum lipase activity was observed at 37°C temperature (2.30 µM/min/mg) and pH 7.0 (7.96 µM/min/mg). Yeast extract (2.07 µM/min/mg) was found to be the best nitrogen source (1%) followed by beef extract. Lactose was used as a non Lipidic carbon source for optimum production of lipase (1.69 µM/min/mg) at a concentration of 1% followed by molasses. Of the natural oils, Sunflower oil was able to induce more lipase (3.87 µM/min/mg) followed by mustard oil and olive oil while optimizing the process for Lipidic C-source. On the basis of optimized parameters the lipase activity of isolate O1A in newly designed production medium was found to be higher (18.18 µM/min/mg) than tributyrin broth medium (10.40 µM/min/mg). This isolated strain has shown applications not only in detergent industry because of its alkalotolerant nature but also in bioremediation of lipid rich waste water and soil.
Keywords: Lipase, characterization, *Staphylococcus sp.* O1A, oil spilled soil

ISCA-IYSC-2015-3BS-06

Preventive Strategies for frequent outbreaks of Japanese Encephalitis in Gorakhpur, India

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Abstract: Japanese encephalitis (JE) is a non contagious mosquito-borne arboviral disease of major public health importance in Asia. Gorakhpur is a hyper-endemic region for JE and the first epidemic of JE was reported in 1978. Entomological investigations were conducted in JE affected villages of the following five districts namely Gorakhpur, Maharajganj, Kushi Nagar, Deoria, and Sidhartha Nagar from August 1, 2014 – August 30, 2014. The entomological survey showed the 3000 mosquitoes belonging to 5 genera and 25 species. The seasonality of JE virus (JEV) transmission depends on various factors amongst which the relative abundance of the vector species is one of the important parameters to sustain the transmission. In Gorakhpur, the major JE vectors *Culex tritaeniorhynchus* were abundant during JE epidemic season and breeding was noticed in rice fields, irrigation channels, fallow fields, rice field pools and grass lands. Integrated mosquito control methods need to be applied to tackle this situation in Gorakhpur division. A multi-pronged strategy need to be adopted for prevention of JE outbreaks in endemic areas.
Keywords: Arboviral disease, hyper-endemic region, Japanese encephalitis, JE virus, *Culex tritaeniorhynchus,*

ISCA-IYSC-2015-3BS-07

Exercise Enhancing effect of Nootkatone in Mice subjecting to Chronic Treadmill exercise

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Abstract: The present study was designed to evaluate the antifatigue activity and the behavioral and biochemical effects of nootkatone on Balb-C mice. The mice were randomly selected (36 mice) weighing from 33-41g divided into six groups; sedentary group, 50 mg nootkatone sedentary group, contol group(running control), 10mg/kg nootkatone group, 25mg/kg nootkatone, 50mg/kg nootkatone. The treatments were administered orally. Anti-fatigue activity was assessed using treadmill running test and biochemical parameter were determined by commercially available kits and some by manual method. Furthermore, the standardization of the nootkatone was ensured using High Performance Liquid Chromatography (HPLC). The nootkatone were shown to increase exhaustive running time in the treadmill running test and reverse the fatigue- induced reduction in liver/muscle glycogen, in addition to reduction in lactate dehydrogenase (LDH), Blood urea nitrogen (BUN), lactic acid. Moreover the Nootkatone enhanced Catalases, SOD and decreased lipid peroxidation. The results of this preliminary study indicated that nootkatone exhibits the anti-fatigue activity. This was reflected in the effects on the biochemical markers for fatigue.
Keywords: Exercise, Enhancing, effect, Nootkatone, Mice, subjecting, Chronic, Treadmill, exercise.

ISCA-IYSC-2015-3BS-08

Influence of Manganese and Salinity on Enzyme Activity and Seed Yield of Mungbean

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Abstract: The investigation was carried to study the influence of different levels of salinity (100, 200 and 300mM) alone and in combination with 0.15% Mn on mungbean plants. The results revealed that there was a slight increase in nitrate reductase activity and yield attributes (viz. number of seeds per pod, number of pods per plant, length of pods) at 100mM NaCl concentration as compared to control plants, whereas, an abrupt decrease was recorded at higher salt concentrations (i.e 200 and 300mM NaCl). However, increment in salinity level resulted in increased antioxidant enzyme activity. The foliar application with Mn (0.15%) restored the negative effects of high salinity and increased the yield parameters. Hence, the study indicates that foliar application of Mn efficiently mitigated the adverse effects of excess sodium present in the growing medium.
Keywords: Salinity, foliar spray, Mn, antioxidant enzymes, nitrate reductase, pods, yield.

ISCA-IYSC-2015-3BS-09

Study of Polyhydroxybutyrate producing *Bacillus* sp. isolated from Soil

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Abstract: Poly-ß-hydroxybutyrate (PHB), one of the polyhydroxyalkanoates is the most popularly used bioplastic. These, being biodegradable and biocompatible polymers, are accumulated as energy reserve granules by many microbia intracellularly under carbon rich and nutrient starving conditions. PHB has proved itself as a promising alternative to non degradable plastics. PHB as bioplastics serves advantage of biological origin and can be completely degraded by variety of microorganisms. In the present study, different PHB producing microorganisms were isolated from soil using E2 medium and its rapid screening for PHB production was performed by Sudan Black B dye plate assay. The PHB accumulators were then subjected to spectrophotometric quantitation method and the highest accumulator was identified and characterized. Isolate KOL IV showed maximum accumulation of PHB and was optimized for its ability to accumulate maximum amount of PHB. It was identified as one of the *Bacillus* species and could finally accumulate 48% of PHB against dry cell mass after optimization.
Keywords: Polyhydroxybutyrate, bioplastics, optimization, biopolymer, biodegradable, biocompatible.

ISCA-IYSC-2015-3BS-010

Bioindicators for Bio- Monitering

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Abstract: Nature follows its own pattern to regulate the dynamic ecosystem. If the process is closely monitored it provides indication for the cause and effect of the changes occurring owing to natural factors and anthropogenic activities. The bioindicators are potentially useful tool for the scientists, researchers and foresters to assess the sustainable forest management (SFM) in countries like India, which is rich in biodiversity at ecosystem, species and genetic levels. Although the concept of bioindicators is well known to indicate the change in the forest ecosystems but its application in monitoring the health of forest ecosystems and its documentation is limited in India. Despite of heavy anthropogenic and developmental pressures (2.1% of the land mass, about 1% forest area, 16% human population and 18% livestock population of the world); India is committed to SFM. In this study, an attempt has been made to classify and identify the range of bioindicators (plants and animals both). A bioindicator is an anthropogenically-induced response in biomolecular, biochemical, or physiological parameters that has been causally linked to biological effects at one or more of the organism, population, community, or ecosystem levels of biological organization. Bioindicators are organisms, such as lichens, birds, plants like bryophytes and bacteria that are used to monitor the health of the environment. The organisms and organism associations are monitored for changes that may indicate a problem within their ecosystem. The changes can be chemical, physiological or behavioural. Bioindicators, also known as biomarkers, are traditionally defined as organisms used to monitor the health of, or changes in, their surroundings or ecosystem.
Keywords: Bioindicator, biomonitering, keystones species, biomarker, bioassessment, endangered species, Environmental Indicator System, lichens.

ISCA-IYSC-2015-3BS-011

Identification of Conserved and Variable Residues in A Profile of Laccases From Different Sources

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Abstract: Laccases (EC 1.10.3.2) are copper-containing oxidase enzymes that are found in many plants, fungi, and bacteria. They catalyze the oxidation of a wide variety of organic and inorganic substrates including various phenols, aromatic amines and ascorbate with the associated four electron reduction of oxygen to water. The laccase molecule, in an active holoenzyme form, is a dimeric or tetrameric glycoprotein, usually containing -per monomer- four copper (Cu) atoms bound to three redox sites (Type 1, Type 2 and Type 3 Cu pair). The catalytic activity of laccases relies on Cu atoms disseminated among these three different binding sites, therefore the role of Cu atoms is very crucial in the catalytic mechanism of laccases. Previously, it has been reported that the laccases from different organisms react variably with different mediators and different substrates which leads to the investigation of new substrates and mediators in the working spectrum. For this purpose, it is very important to identify those residues which are present in highly conserved and variable regions in the combined sequence profile of bacterial, fungal and plant laccases. In the present study, we have characterized the conserved and variable residues in the combined profile of laccase enzyme collected from different sources (Bacteria, Fungi and Plant) by *Insilico* approach. Identification of these residues will inspire to identify the new substrates for testing to assess a novel activity of laccases.
Keywords: laccase, conserved residue, variable residue, profile.

ISCA-IYSC-2015-3BS-012

Biochemical Responses induced by Sub lethal concentrations of Carbaryl and Parathion on certain Enzymes of Fresh water Catfish *Clarias batrachus (*Linn.*)*

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Abstract: The main objective of the study was to determine the effect induced by carbaryl and parathion at sub lethal concentrations for 96 hours on biochemical parameters including serum glutamate oxaloacetate transaminase (SGOT) and serum glutamate pyruvate transaminase (SGPT) enzyme activity of catfish, *Clarais batrachus* (Linn.). The sub lethal concentration were 0.5 ml (1/5 of LC_{50}) of Carbaryl, and 0.09 ml (1/5 of LC_{50}) of parathion for which the fish were exposed at different time intervals 24, 48, 72 and 96 hrs. The LC50 of Carbaryl and parathion was calculated by probit analysis of Finney. The present study showed statistically significant increase value in serum glutamate oxaloacetate transaminase (SGOT) and serum glutamate pyruvate transaminase (SGPT) level.
Keywords: Carbaryl, parathion, *Clarais batrachus*, serum glutamate oxaloacetate transaminase (SGOT), serum glutamate pyruvate transaminase (SGPT).

ISCA-IYSC-2015-3BS-013

Comparative Study of Biochemical Alterations Induced by Carbofuran and Malathion on Liver of Snake Head Fish *Channa punctatus* (Bloch.)

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Abstract: Channa punctatus, fish were exposed to sub lethal concentrations of carbofuran (0.1ml) and malathion (0.09ml) for 96 hr. The biochemical effect induced by carbofuran and malathion pesticides on liver of fish, *Channa punctatus* (Bloch.) at different time intervals 24, 48, 72 and 96 hours showed statistically significant increase value in liver glucose and significant decrease value in total protein level. The LC50 of carbofuran and malathion were determined by the method of Finney.
Keywords: Channa punctatus, Carbofuran, Malathion, Biochemical parameters.

ISCA-IYSC-2015-3BS-014

Diversity of Fresh water Algae in river Narmada at Jalud (Mandleshwer) Indore, India

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Abstract: Phytoplankton is a fundamental component of aquatic ecosystem as they are major sources of biologically important and labile organic carbon, located at the base of the food chain. The density and productivity of the phytoplankton are greatly influenced by different physico-chemical characteristics of water. Algae are very useful for eutrophication estimation. Quality and distribution of algal flora in river have been carried out systematically to evolve algal indices of pollution. The present paper deals with the assessment of water quality and phytoplankton diversity of river Narmada at Jalud. Phytoplankton of the Narmada River consisted mainly of green algae (*Chlorophyceae*) Diatoms (*Bacillariophyceae).* In Narmada river the temporal succession of phytoplankton groups is noticed as *Chlorophyceae* > *Bacillariphycease* > *Cyanophyceae* > *Euglenophyceae* .The species composition, distribution, abundance of phytoplankton population are governed by various physico-chemical factors of the water body. The population of Plankton fluctuates in different seasons and months.

Keywords: Freshwater algae, Eutrophication, Phytoplankton, water quality

ISCA-IYSC-2015-3BS-015

Studies on the status of the Birds inhabitating Sirpur Lake Indore, India with reference to the changing Environment

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Abstract: Environmental changes are now a day's happening regularly day to day- increase in temperature, scarcity of rainfall , drying of lakes etc. have strong implication on biodiversity. Global warming has set in motion and is affecting the timing of migration of birds. Birds are reliable indicator of environment change for centuries and their arrival indicate start of winter and departure of summer in the present study area .There are many examples of the effect of climatic change on birds from all around the world which taken together provide compelling evidence that climatic change is already affecting birds in diverse ways. A status survey of birds from Sirpur Lake was conducted during the year 2014. Seventeen species of birds belonging to 7 different families were recorded. Coot (Fulica atria, Linnaeus) have been the most common and abundant species of family Rallidae in the reservoir. An attempt of this paper is to provide significant information's about the birds inhabitating Sirpur lake to recognize this site as globally important habitat for the conservation of bird population.

Keywords: Birds status, diversity, changing environment, birds habitat, conservation.

ISCA-IYSC-2015-3BS-016

Analysis of Some Zooplanktons with respect to Seasonal Variation from River Vena Distt. Nagpur, Maharashtra, India

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Abstract: Zooplankton plays an important role in the early monitoring and detection of water density and the pollution. They also detect the absence or presence of certain species of larvae and fishes. Zooplanktons occupy the major role of primary consumer in the aquatic food web. The present piece of work has been made to investigate the density of Zooplanktons in Vena River. Analysis of Zooplankton has been carried out at 4 site of Vena river samples were collected monthly. Population of Zooplankton is represented by groups viz. protozoa, Copepoda, Cladocera and Rotifera. The present investigation was recorded the maximum of Zooplankton in the month of February and minimum density of Zooplankton in the month of March. Density fluctuation was seen due to the concentration of water, Temperature fluctuation, industrial and domestic sewage.

Keywords: Analysis, zooplankton, population, density, Vena River.

ISCA-IYSC-2015-3BS-017

A study on the inhibitory Potential of DPP-IV Enzyme by apigenin through *in silico* and *in vivo* approaches

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Abstract: Dipeptidyl peptidase-IV (DPP-IV) inhibitors are promising incretin based therapies used to treat diabetes. Due to the undesirable side effects of DPP-IV inhibitors, there is a need for developing new agents preferably from natural sources with less adverse effects. Apigenin (API), a well known insulin-secretagogue and insulin-mimetic agent is abundantly present in fruits, nuts and plant derived beverages. The present study investigates the DPP-IV inhibitory potential and antidiabetic effects of API using various approaches. Through in silico study, we showed that API has binding efficacy at Glu206 in the inhibitory active site of DPP-IV. Further, the in vivo DPP-IV inhibition in plasma and hippocampal homogenate showed better inhibition by API than sitagliptin (STG). Upon administration of API (1.5 mg/kg b.w. for every alternate for last 30 days) to high fat, high fructose diet (HFFD) fed rats, the plasma glucose and insulin levels were lowered as compared to HFFD-fed rats. API has strong inhibitory effect towards DPP-IV enzyme and may have implications in the treatment of diabetes.
Keywords: Apigenin, docking, DPP-IV inhibition, HFFD, insulin resistance.

ISCA-IYSC-2015-3BS-018

Taxonomic Status of Spiders in Mehsana District North Gujarat- India

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Abstract: The ecological study was conducted in Mehsana district, north Gujarat. The climate of a study area is tropical arid to semi – arid. It is strongly periodical and seasonal. Overall the spider faunal status, occurrence and abundance are found rich in Mehsana district. It is due to its topography, climatic condition, and agriculture practice. 90 species were identified belonging to 46 genera and 18 families. Majority of available species belong to hunting group. Of the highest count of 18 families, maximum genera are of families Salticidae and Araneidae. Hippasa pisaurina, Pocoek is a pre dominant species in a district. Maximum population is found in Early Monsoon and during cold and dry season the population is very low. The impact of food availability, temperature, crop calendar and seasonal fluctuation has been observed on diversified population in different habitat of spiders. Habitat preference is very specific to different families. e.g. Areneidae family member are restricted to farmland.
Keywords: Season, habitat ecology, wetland, wasteland, genus, species, mimicry.

ISCA-IYSC-2015-3BS-019

UV Radiation Affects the Growth and Peroxidase Activity in Soybean

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Abstract: Soybean variety NRC-7 was grown under vinyl filters that could exclude UV-B and UV-A (<320 and 380 nm) part of the natural solar spectrum. Exclusion of UV-B and UV-A+B both from solar radiation promoted leaf area, internodal length and plant height. Among the antioxidant enzymes, the activity of guaiacol peroxidase was significantly reduced by exclusion of UV-B and UV-A+B both. Analysis of isoforms of antioxidant enzyme by native-PAGE and activity staining revealed isoforms of GPX in UV excluded soybean plant leaves and their intensity was reduced. Hence under the normal solar radiation the guaiacol peroxidase activity is kept higher in the control plants to counteract the oxidative stress caused by the presence of UV-A and UV-B in the solar radiation. By the elimination of UV-B 86% and by the elimination of UV-A+B both 91% reduction in the activity was recorded in NRC-7.
Keywords: Growth inhibition, isoforms, oxidative stress, Peroxidase activity, soybean, and UV-exclusion.

ISCA-IYSC-2015-3BS-020

Antimicrobial activity of Neem, Clove, curry leaves, Cardamom, Tulsi stem and Tulsi Leaves

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Abstract: Antimicrobial activity refers to the ability of a substance to reduce or inhibit the growth of microorganisms. Different substances have different extent of antimicrobial activity. The present study deals with the antimicrobial activity of different samples like neem, clove, curry leaves, cardamom, tulsi stem and tulsi leaves. The antimicrobial activity of these samples has been determined against *Escherichia coli* and *Aspergillus* and *Rhizopus* species of fungi. In this work, the *Escherichia coli* was cultured on nutrient agar plates and fungi was cultured on Potato Dextrose Agar plates. The aqueous and ethanolic extracts of samples were prepared and introduced in these culture plates by ditch method and disc method. The zone of inhibition was observed and measured in each case after incubation of 24 and 48 hours.
Keywords: Neem (Azadirachta indica), Tulsi (Ocimum tenuiflorum), Clove (Syzygium aromaticum), Cardamom (Elletaria cardamomum), Curry (Murraya koenigii).

ISCA-IYSC-2015-3BS-021

Screening of Hydrolytic Enzyme Production in *Escherichia coli*

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Abstract: Microbes are prominent source of enzymes. This present study deals with the isolation of bacterial cell i.e *Escherichia coli*, from soil and their screening for the production of various hydrolytic enzymes such as amylase, gelatinase, protease, urease, and hydrogen sulphide gas production. *Escherichia coli* is a gram negative, facultatively anaerobic and rod shaped bacteria. Attempts were made to isolate and pure culture of bacteria i;e *Escherichia coli* was prepared by pour plate and sector plate method. Different culture media were used for the screening of enzyme production by E.coli. Result shows that *Escherichia coli* gave positive results for amylase, gelatinase, protease, urease and hydrogen sulphide production.
Keywords: Escherichia coli, amylase, gelatinase, protease, urease, hydrogen sulphide.

ISCA-IYSC-2015-3BS-022

Isolation of Cellulose Degrading Bacteria from Garbage waste and their Molecular Characterization by 16 Sr RNA Technique

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Abstract: Cellulose is a polysaccharide that is found in abundant source of renewable polymer available on earth. Microbial cellulose utilization is responsible for one of the largest material flow in the biosphere. Therefore we carried out research t isolate the cellulose degrading bacteria from garbage waste and carried out their molecular characterization. The bacteria isolated on carboxymethyl cellulose media and their activity was checked by Gram's Iodine, observing for zone of clearance and identified by Gram's staining and biochemical tests. The isolated bacteria were labeled as P1, P2, P3, P5 and P12. Their molecular characterization of isolated cellulose degrading bacteria was done by phylogenetic analysis of the 16srRNA by bioinformatics tool like BLAST. The result showed that P1, P2 and P5 were 99% similar to *Bacillus licheniformis.* While P3 and P12 showed similarity to *Bacillus subitilis* and *Bacillus spps*. respectively. Isolated bacterial strains will be further used for bioethanol production.
Keywords: Cellulose, carboxy methyl cellulse, phylogenetic, *Bacillus* and molecular.

ISCA-IYSC-2015-3BS-023

Mathematical modeling offish productivity or bilawali pond, Indore, MP, India

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Abstract: The present study was aimed to deal with fish productivity of Bilawali Pond on 2014 to April 2015. Bilawali pond is perennial water body and fish productivity unit. The catchment area of pond is 117 hac and water area is 69 hac. 21 species belonging to 09 families of fish were collected fish are major group, minor group, cat fish, murrels, exotic and miscellaneous. Fish productivity can be increases with help of careful and scientific management. Fish productivity was assessed by" mathematical model of productivity" for the different species of fishes in Bilawali pond-
"$P_n = P_n - P_{n-1}$
P_n á f (P_{n-1})
"$P_n = B_n f_1 (P_{n-1}) - D_n f_1 (P_{n-1})$
Where: P_n= Population of the given species and domin after 'n' generation. F(P_n)=Fish population of the given species and domin after 'n'generation. B_n and D_n are respectively parameter for birth and death rate.
Keywords: Parameter, productivity unit, Scientific management, mathetical modeling.

ISCA-IYSC-2015-3BS-024

In Silico Structure Prediction and Molecular Docking Studies of Beta Secretase 2 - A Potential Drug Target Against Alzheimer's disease

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Abstract: Beta-secretase 2 is an enzyme that in humans is encoded by the BACE2 gene beta-Secretase is the rate limiting enzymatic activity in the production of the amyloid-beta peptide (Abeta) and is thought to be involved in Alzheimer's disease (AD) pathogenesis. In the brain, Alzheimer's disease involves degeneration of the cortical regions, especially the frontal and temporal lobes. There is currently no cure for Alzheimer's disease, but new medications and therapies appear to slow its progress and improve the patient's ability to function.Treatment option include Bace2 inhibitor Cyclopropyl, Dihydrooxine, Potentional Dihydrofolate Reductase. Tertiary Structure of BACE 2 is not present in PDB so Homology modeling of Beta Secretes had been done using different In-silico structure predication methods like Swiss pdb Viewer, Phyre2, Esypred3, CPH model server, 3D jigsaw, PS^2 etc. Sequence of BACE2 was retrieved from NCBI gene bank. Template search was performed by using BLAST .Structure validation is performed by procheck analysis. Best result is accepted this shows 91.4% residue in most favorable region and 8.3% allowed region in Ramachandran plot. Two best inhibitors have shown good docking result. First is inhibitor 2-(3- Nitrophenyl) acetyl chloride with RMSD value of 0.92 and MolDock score of -44.815 The next molecule of favorable activity found is inhibitor Methotrexate (MTX) with RMSD Value 0.97.
Keywords: Beta-secretase 2, BLAST, Homology Modeling.

ISCA-IYSC-2015-3BS-025

On Comparative Study on Bioremediation for Oil Spills Using Microbes

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Abstract: This review paper is designed to overview and compares the role of microbes in bioremediation for oil spills. An oil spill is a leakage from oceangoing tankers, pipelines or other oil sources. It occurs very frequently and causes enormous ecological harm. Bioremediation for oil spills is a technique that uses microbes to eliminate contamination of hydrocarbons from water and soil, thereby making them safe for aquatic and terrestrial species. Bioremediation can be used by bacterial species, fungal species (a process called mycoremediation) and plant species (by a process called phytoremediation). In this review paper, we only considered and compared the activities of a bacterial species (*Pseudomonas putida)* and fungal species (*Penicillium chrysogenum),* where the *Pseudomonas putida* is found to have the dominant role in marine ecosystems and the *Penicillium chrysogenum* becoming more important in freshwater and terrestrial environments. There are three methods to clean up oil spills; physical, chemical and biological (bioremediation), But Bioremediation is advantageous due to its time and cost saving than physical method, also unlike chemical method, no foreign or toxic chemicals are added to the site.
Keywords: Oil Spills, Hydrocarbons, Bioremediation, *Pseudomonas putida* and *Penicillium chrysogenum.*

ISCA-IYSC-2015-3BS-026

Antimicrobial Activity of Plant Products against Fungi and Bacteria

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Abstract: Present investigation is carried out to study the antimicrobial activity of methanolic extracts of different plant products like Zingiber officinale (ginger), Curcuma longa (turmeric), Allium cepa (onion), Allium sativum (garlic), Piper nigrum (black pepper), Syzygium aromaticum (clove), and Citrus sinensis (orange), Mangifera indica (mango), Ocimum sanctum (tulsi), Zingiber offinalis (Ginger) against bacteria E.coli, Klebsiella spp, Proteus mirabilis, Salmonella spp, Shigella spp, Bacillus spp and S. aureus and also against fungi A. niger, Alternaria sp.,T.purpurogenus, Fusarium spp. A. flavus and Curvularia spp.using Agar well diffusion method. Mangifera indica showed highest antifungal activity against Fusarium species and then against Curvularia and Alternaria species. In case of bacteria Zingiber offinalis showed activity against Escherichia coli, Pseudomonas aruginosa, Staphylococcus aureus, Klebsiella spp. and Salmonella spp. Methanolic extracts of Allium sativum and Zingiber offinalis showed inhibitory effect on E.coli and Salmonella spp.Thus, Pharmacological testing of active substances of these compounds may be further investigated for efficacy. Moreover, these extracts should be investigated in vivo to better understand their safety, efficacy and properties.

Keywords: Antimicrobial, pathogen, agar well diffusion method.

4. Chemical Sciences

ISCA-IYSC-2015-4CS-01

Effect of preparation method for $NiFe_2O_4$ Photocatalyst for the Degradation of Industrial reactive Torques Blue (RB21) dye and its Effluent

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Abstract: The $NiFe_2O_4$ spinel catalyst fabricated by conventional method citrate and new improved non-conventional method reactive grinding with high magnetic properties of separation and reuse. Characterized done by Thermo gravimetric/Differential thermal analysis, X-ray powder diffraction, Particle size analyzer. The energy band-gap were studied by recording the transmittance and absorbance's spectrum in range of (800-200 nm) using UV-NIR. Photocatalytic degradation of reactive dyes and actual industrial effluent with optimized operating parameters was carried out under UV quartz jacketed photochemical reactor with 450. $NiFe_2O_4$ spinel ferrite prepared by reactive grinding method possess very high degradation catalytic activity 92 % with dye degradation, 90 % TOC, 85 % COD removal compared to citrate method. Kinetic study shows the first order rate of reaction by best fitting the curve. Spinel catalyst is very stable and can be reused number of cycles with high efficiency.
Keywords: Industrial effluent, $NiFe_2O_4$ spinel, reactive torques blue (RB21), planetary ball milling; UV light irradiation.

ISCA-IYSC-2015-4CS-02

Trends on Groundwater Quality in Chennai City, South India

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Abstract: This chapter highlights the hydro-chemical trends of groundwater from Chennai city and sub-urban areas. 64 water samples with different seasons like pre-monsoon, monsoon and post-monsoon have been chosen for the investigation in the period from March 2012 to February 2013. The water quality parameters such as pH, EC, TDS, Ca^{2+}, Mg^{2+}, Na^{+}, K^{+}, Cl^{-}, HCO_3^{-}, CO_3^{2-}, SO_4^{2-} were analyzed using standard recommended procedures and it was compared with BIS and WHO standards. From the analytical results, the water quality trends were significantly varied with samples and locations. This might be influenced by hydro-geological pattern and anthropogenic activities. GIS and the ionic distribution trend in groundwater indicate that the quality is continuously varied with unsuitability.
Keywords: Groundwater quality trends, heavy metals, GIS, Chennai and geochemical process.

ISCA-IYSC-2015-4CS-03

Synthesis and Antibacterial Screening of Novel Mannich Bases of 2,4, diamino-6-Piperidino Pyrimidine-3-oxide (minoxidill)

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Abstract: 2,4, diamino-6-piperidino pyrimidine-3-oxide (minoxidill) with various biologically potent sulphonamides was carried out and then characterized by elemental analysis and spectral studies – UV, IR and ^{1}HNMR. The compounds were screened for their antibacterial activity against various pathogenic bacteria at varying concentrations. The antibacterial activity of derived Mannich bases was compare with parent sulphonamides. The toxicity of synthesized Mannich bases was ascertained by LD_{50} test.
Keywords: 2,4, diamino-6-piperidino pyrimidine-3-oxide (minoxidill), Sulphonamides, Mannich reaction, Mannich bases, Antibacterial activity, LD_{50} test.

ISCA-IYSC-2015-4CS-04

Synthesis and Antimicrobial Activity of Zinc Sulphide Nanoparticles

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Abstract: Semiconductor nanocrystals have got significant attention due to their distinctive structural, electronic and optical properties originating from their large surface/volume (S/V) ratio and quantum confinement effect. Cubic ZnS,

a semiconductor with a wide band gap, has attracted much attention for the reason of its electroluminescent applications due to its stability, low cost and low toxicity. In the current study, we demonstrated the synthesis and antimicrobial activity of zinc sulphide nanoparticles against oral pathogens. The nanoparticles of ZnS are prepared by chemical co-precipitation method at room temperature. The process for the synthesis of zinc sulphide (ZnS) nanoparticles is fast, novel, and ecofriendly. The sample was characterized by XRD and UV-visible spectroscopy. The average particle size was determined from the X-ray line broadening and by using Debye-Scherrer equation. The antimicrobial activity was assessed against oral pathogens such as Streptococcus sp. Staphylococcus sp. and Candida albicans and these results confirmed that the sulphide nanoparticles are exhibiting good bactericidal activity.

Keywords: Nanoparticles, zinc sulphide, XRD, UV-Visible, antimicrobial activity.

ISCA-IYSC-2015-4CS-05

Compartaive studies of various Properties of synthesized Biodisel with Petrodiesesl

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Abstract: Efforts are being made throughout the World to reduce the consumption of liquid petroleum fuels wherever is possible. Biodiesel is recently gaining prominence as a substitute for petroleum based diesel mainly due to environmental considerations and depletion of vital resources like petroleum and coal. According to world scenario, the demand for petroleum diesel is increasing day by day hence there is a need to find out an appropriate solution. By this paper we try to make one of the substitue of natural fuels and compare it with petrodisel.

Keywords: transition, renewable, nonrenewable energy, biodiesel etc.

ISCA-IYSC-2015-4CS-06

Electrochemical studies and Chemothreptutic application of some Metal complex of Hetrocyclic Ligands

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Abstract: In this research work we discuss electrochemical studies and chemothreptutic application of synthesized complexes with Hetrocyclic Ligands and their biological importance. All spectral characterization and thermal analysis confirms the structure of complexes, whereas conductance of complexes is throw light on electrolyte and non-electrolyte nature and the magnetic moment and UV-Visible studies suggest the geometries of the synthesized complexes. The complex shows better antimicrobial activity compare to ligand.

Keywords: Electrochemical studies, chemothreptutic, ligand, conductance, UV-Visible, spectral and antimicrobial.

ISCA-IYSC-2015-4CS-07

Utilization of Biodiesel Waste for the Preparation of Activated Carbon

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Abstract: Jetropha Curcus is an important plant for the production of biodiesel. In the production of biodiesel huge volume of jetropha husk is generated which are consider as biodiesel waste. In the present study an attempt was made to determine the optimum condition to convert this biodiesel waste into the activated carbon by chemical activation method using NaoH as an activating agent. The effect of activation temperature, Impregnation ratio and activation time were examined for the synthesis of activated carbon. Physico Chemical parameters viz moisture content, Ash content, volatile matter content and carbon content of prepared activated carbon were also examined. This study found that biodiesel waste is efficient raw material for the preparation of activated carbon.

Keywords: Jetropha husk, optimum condition, biodiesel waste, activated carbon, Jetropha husk.

ISCA-IYSC-2015-4CS-08

Annual analysis of carbon Footprint of Industrial areas of Indore, India by Capturing of Carbon dioxide in 2013

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Abstract: For decades it was a matter of debate, a point of uncertainty, whether humans could fundamentally alter the earth's climate system. Last year, 2012, was the hottest on record, continuing an accelerating warming trend that has brought the global mean temperature up 0.8æ%C over the past century. The objectives of this research are to quantify the relation between industries and environmental externalities of industries for a fast-developing metropolitan city in India, and derive urban policy recommendations towards low carbon industrial development. This paper has been operationalized taking Indore city in India as a case.
Keywords: GHG, carbon footprint.

ISCA-IYSC-2015-4CS-09

Phytochemical Investigation of Medicinal Plant Boswellia Serrata

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Abstract: The present communication deals with the identification of various sugars present in the roots of the plant Boswellia serrata. Their presence was confirmed by thin layer chromatography using authentic samples. Carbohydrate contents were found to contain 3.4 % reducing sugars and following sugars were found present D- galactose, D- mannose, D- glucose, D- fructose, maltose, L- rhamnose, and sucrose.
Keyword: Boswellia Serrata, roots, thin layer chromatography, sugars.

ISCA-IYSC-2015-4CS-010

Chlorination of Aromatic Compounds in Aqueous Media using N-Chlorosuccinimide

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Abstract: A proficient/effective method for the synthesis of chlorinated arenes is revealed. The system involves the use of N-Chlorosuccinimide (NCS) as chlorinating and oxidizing agent in aqueous medium under mild conditions to chlorinate the aromatic compounds in virtuous to excellent yields (75-96 percent). The reagent system is efficient, organic solvent-free and easy to handle. N-Chlorosuccinimide is an advantageous reagent for aromatic halogenation, while at the same time, circumventing electrophilic addition of chlorine to a pi bond.
Keywords: Chlorination, Arenes, N-Chlorosuccinimide (NCS), Halogenation, Aromatic compounds.

ISCA-IYSC-2015-4CS-011

Electrochemical Quantification of Pharmaceuticals at Chemically Modified Electrodes

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Abstract: Electrochemical techniques are well suited for the determination of drugs in various samples i.e., in pharmaceutical dosage forms (tablets, syrups, creams, ointments), environmental samples (waste water and sludge) and even in biological fluids (serum, plasma and urine). A Chemically Modified Electrode (CME) is an electrical conductor that has its surface modified for different electrochemical functions. CMEs are modified using advanced approaches to electrode systems by adding a thin film or layer of certain chemicals to change properties of the conductor according to its targeted function. At a CME, an oxidation-reduction substance accomplishes electrocatalysis by transferring electrons from the electrode to a reactant, or a reaction substrate. Chemically Modified Electrodes (CMEs) comprise a relatively modern approach to electrode systems. Characterization of the developed electrode has been done by SEM, TEM, FAB,

IR etc. In the present study, a CME has been fabricated with an aim to electrochemically investigate the properties of the compounds/drugs under investigation. The method was validated and a very low limit of detection and quantification was obtained with a wide range of linearity.

Keywords: Chemically modified electrode, electrochemical methods, pharmaceuticals, electrode system, biological fluids.

ISCA-IYSC-2015-4CS-012

Synthesis and Biological activity of some Novel Chalcone derivatives containing [1, 3, 4] Oxadiazole-2(3H)-Thione

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Abstract: Some new and biologically active chalcone derivatives were synthesized by Claisen Schmidt condensation of different benzaldehyde derivatives, synthesized from 5-p/o/m-tolyl-1, 3, 4-oxadiazole-2(3H)-thione with acetophenone. The structure of the synthesized compounds has been established on the basis of IR, ^{1}HNMR and elemental analysis. The compounds have been evaluated for antibacterial activity against Bacillus subtilis, Staphylococcus aureus, Pseudomonas aureginosa and Escherichia coli and antifungal activity against Aspergillus flavus, Aspergillus niger, Fusarium oxysporum and Collatotrichum falcatum.

Keywords: Chalcone, Oxadiazolethione, antibacterial activity and antifungal activity.

ISCA-IYSC-2015-4CS-013

Kinetics of Oxidation of Acetaldehyde by $KMnO_4$ in Micellar Medium

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Abstract: The kinetics of oxidation of acetaldehyde by $KMnO_4$ has been investigated spectrophotometrically under pseudo first order condition in acidic medium and both in the presence and absence of cationic surfactant. The reaction is a first order with respect to oxidant. The rate constant increases with increasing aldehyde concentration and the addition of surfactant also enhance the reaction rate. Effect of temperature on the oxidation of acetaldehyde has also been investigated. The value of activation parameters calculated or summarised.

Keywords: Acetaldehyde, $KMnO_4$, cetyl pyridinium bromide (CPB), acidic medium, activation parameters.

ISCA-IYSC-2015-4CS-014

Lewis Acid-Catalyzed Tandem Diels-Alder Reaction: A Synthetic and DFT Study

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Abstract: A Lewis acid-catalyzed tandem Diels-Alder reaction between N-Mesylpyrroles with diene has been performed. N-mesylpyrroles exhibit a dienophile character producing the corresponding indoles through a Diels-Alder process. The structures of synthesized compounds were characterized by IR, ^{1}H-NMR and mass spectroscopy. Part of this work is specifically concerned with theoretical studies using DFT methods. A quantum computational study has been performed at B3LYP/6-311G (d) level to investigate mechanistic details of [4+2] cycloaddition reaction between N-Mesylpyrroles and butadienes. The global electrophilicity and nucleophilicity indices were calculated for the dienophiles and diene used in this study in order to evaluate reactivity.

Keywords: Pyrrole, DFT, Diels-Alder; electrophilicity index, [4 + 2] cycloaddition.

ISCA-IYSC-2015-4CS-015

Synthesis and *in vitro* Antimicrobial screening of substituted N-(9*H*-pyrido [2, 3-b] indol-2-yl) benzamide

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Abstract: The present paper elicits the synthesis of a novel series of pyrido [2, 3-b] indoles having benzamide group and

their screening as potent microbicidal agent. Compounds were obtained in a good yield ranging from 70-85% yield. The chemical structure of the compounds was elucidated and confirmed by FT-IR, ^{1}H-NMR, and ESI-MASS spectroscopy. The synthesized compounds were tested against E.coli, S.aureus, C.albicans, and A.niger microbes in comparison with standard drugs ampicillin and fluconazole, using serial dilution method. Compounds having fluoro and bromo substituents on the aryl groups were found to be more effective antibacterial than control antibiotic ampicillin and compounds with nitro and methoxy substituents found to be effective antifungal than fluconazole. Results from this study showed that the nature of the substituents on the armed aryl groups determines the extent of activity of the fused pyridoindole derivatives.
Keywords: Pyrido [2, 3-b] indole, benzamide group, MIC values, antibacterial, antifungal.

ISCA-IYSC-2015-4CS-016

Silica Bonded *N*-Propyl Sulfamic Acid Catalysed Solvent Free Synthesis of Indazoles and Verification of Experimental Results using Computational Tools

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Abstract: Indazole moiety is known to play an important role in medicinal chemistry due to its wide range of pharmacological activities such as nitric oxide synthase, HIV protease inhibitors, and also serotonin5-HT3 receptor antagonists. Present paper elicits a simple, efficient, and environmentally benign method for the synthesis indazoles using salisaldehyde and hydrazine as the starting materials. Synthesis of compounds was carried out without solvent using silica bonded *N*-propyl sulfamic acid as heterogeneous catalysts. The structures of all the synthesized compounds were corroborated on the basis of IR, ^{1}H and ^{13}C NMR, Mass, and elemental analyses data. To further verify these experimental results DFT like computational tools have been utilized.
Keywords: Indazole, Silica bonded *N*-propyl sulfamic acid, Heterogeneous catalysts, DFT, Computational tools

ISCA-IYSC-2015-4CS-017

Synthesis, Biological Evaluation and Docking study of substituted Triazole Derivatives

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Abstract: The copper (I)-catalyzed reaction between azides and terminal alkynes to form 1,2,3-triazole, considering "click chemistry" approach has been reported due to its reliability, specificity, and biocompatibility. This important reaction is widely applicable in organic synthesis, biochemistry, medicinal chemistry, and material science. Herein we have reported the synthesis of a novel series of 1,2,3-triazole compounds from aniline *via* 1,3-dipolar cycloaddition using click chemistry strategy. Structure of all the synthesized compounds were confirmed by ESI-MS, IR and NMR (^{1}H, ^{13}C) spectra as well as elemental analyses data. The synthesized compounds were screened for *in vitro* antibacterial activitie against a representative panel of Gram-positive (*Staphylococcus aureus* and *Bacillus cereus)* and Gram-negative bacteria (*Escherichia coli* and *Pseudomonas aeruginosa*). Bio-evaluation studies revealed that, most of the compounds exhibited promising inhibition towards Gram-positive pathogenic strains, while mild inhibitory effects were observed towards Gram-negative bacterial strains. Furthermore, the docking study for all synthesized compounds against *E. coli* FabH was also carried out.
Keywords: Triazole, Pyrazole, Antibacterial, Ciprofloxacin, Molecular Docking.

ISCA-IYSC-2015-4CS-018

Alloys and Eco-friendly Corrosion Inhibitors

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Abstract: Alloys are metallic materials consisting of two or more elements combined in a way that they are indistinguishable and inseparable by physical means. The mechanical and chemical properties of metal are considerably improved by alloying. Alloys are used in some applications, where their properties are superior to those of the pure components of elements for a given application. Corrosion is an electrochemical process of oxidation as well as reduction .It is the deterioration of metal or alloys by chemical attack or reaction with its environment. Corrosion degrades the structure and

properties of the material. Study reveals that, organic molecule containing heteroatom like sulfur, nitrogen, oxygen etc. show significant inhibitory effect. But most of the organic inhibitors are expensive and toxic so they are substituted by environmentally safe corrosion inhibitors. Drugs are non toxic, cheap, easily available, and also eco-friendly. Several classes of drugs are used as corrosion inhibitors in different media.

Keywords: Corrosion, drugs, electrochemical process.

ISCA-IYSC-2015-4CS-020

Physico–chemical characteristics of Ground water study of Coastal villages of Olpad and Choryasi Taluka, Surat district, India

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Abstract: Ground Water is one of the most important natural resources for drinking water. People can survive days without food but only about four to five days without water. Contamination of water resources is a big problem erecting health hazard in the areas where ground water is the only source of drinking water. This paper presents the ground water quality study of coastal villages of Olpad and Choryasi Taluka of Surat district. The ground water samples were collected from 20 different locations and analyzed for physico-chemical characteristics. In this study different parameters like pH, TDS, TSS, Alkalinity, Bicarbonate, Hardness, Ca hardness, Mg hardness, Chloride, DO, Sulphate, Cr were estimated. The obtained results were compared with the standard desirable limits prescribed by WHO, ICMR, APHA, GPCB, CPCB and BIS Standards of drinking water quality parameters. The results reveal that some of the samples were having high concentration causing deterioration in quality of dirking water.

Keywords: Ground water, physico-chemicals characteristics, water quality.

ISCA-IYSC-2015-4CS-021

Inhibition Effect of Ammonium Dichromate on the Corrosion of Aluminium in Phosphoric acid

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Abstract: The inhibition effect of ammonium dichromate on the corrosion of aluminium in phosphoric acid was investigated by Weight loss method, Potentiodynamic Polarisation and Electrochemical impedance measurement. It was conclude that inhibition efficiency increased with the increasing concentration of inhibitor. The investigation of adsorption isotherm indicates that the inhibitor fit Langmuir and Temkin isotherm, fairly good. The phenomenon of physisorption is attributed to the values of E_a, Q_{ads} and $\ddot{A}G^0_{ads}$. The potentiodynamic polarisation results reveal that the inhibitor acts as mixed type inhibitor. I.E. of inhibitor almost similar by weight loss method, polarisation as well as EIS methods.

Keyword: Corrosion, Aluminium, Ammonium Dichromate, Phosphoric acid.

ISCA-IYSC-2015-4CS-022

Azadirachta Indica Extract as Corrosion Inhibitor for Copper in Nitric acid Medium

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Abstract: *Azadirachta Indica* leaves extract (*AI*) was investigated as a copper corrosion inhibitor in nitric acid. Corrosion rate and inhibition properties were studied usinggravimetric weight-loss, effect of temperature and electrochemicalpolarization methods.Corrosion rate increases with the increase in acid concentration and temperature. The percentage of inhibition efficiency (I.E.) increases with increase *AI* concentration. The value of free energy of adsorption ("G_a) and heat of adsorption (Q_{ads}) obtained were negative. The inhibitive action of the extract is discussed in view of adsorption of *AI* molecules on the metal surface. It was found that this adsorption follows Langmuir adsorption isotherm in all tested systems. Polarization curve indicates that inhibitor act as mixed type (anodic and cathodic) and the IE up to 98% was obtained. The value of activation energy shows that *AI*acts as good inhibitor for copper in nitric acid medium.

Keyword: Copper, corrosion, inhibitor, *Azadirachta Indica,* leaves, extract.

ISCA-IYSC-2015-4CS-023

The Study of Corrosion Inhibition Behaviour of Alovere leaves for Mild Steel in Acetic acid

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Abstract: Alovera leaves extract was investigated as green corrosion inhibitor of mild steel in acetic acid solution using weight-loss, ac impedance and polarization technique. The experimental result shows that the alovera leaves extract is good corrosion inhibitor and inhibition efficiency increase with the extract concentration. The result obtained from weight-loss and electrochemical techniques were in reasonable agreement. The potentiodynamic polarization study shows that it is a mixed type inhibitor. The adsorption characteristic of the extract on mild steel surface obeys Langmuir adsorption isotherm. The calculated adsorption thermodynamic parameters indicated that the adsorption was a spontaneous exothermic process, accompanied by an increase in entropy.
Keywords: corrosion, alovera, mild steel, acetic acid.

ISCA-IYSC-2015-4CS-024

Extraction, Purification, Characterization and Anti malarial activity of Flavonoid Compounds obtained from Ageratum conyzoides Linn and Sphaeranthus indicus Linn

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Abstract: Flavonoids form a class of benzo-ã-pyrone derivatives that occur naturally in fruits, vegetables, and plant-derived beverages such as tea and wine. More than 6000 flavonoids have been identified to date. They have a wide spectrum of biological activities. They are currently attracting significant medical interest because of their antioxidant, antitumor, antiinflammatory, antimicrobial and antiviral activities. In the present study Two different flavonoid 8,3-dihydroxy-3-methyl-6-propyl flavone and 2-hydroxy-1-(2,6-dihydroy-4-methoxy-methylphenyl)-3-(3,4-dihydroxyphenyl)-prop-2-en-1-one are isolated from acetone extract of two different plant Ageratum conyzoides Linn and Sphaeranthus indicus Linn of the same family Asteraceae. Flavonoids are purified by column chromatography using a mixture of chloroform, methanol and water as a solvent. The structures of these flavonoids are determined by spectroscopic analysis. The flavonoids are tested against malaria parasite Plasmodium falciparum. Both the flavonoids showed significant activity against Plasmodium falciparum
Keywords: Extraction, Purification, Characterization, Anti malarial, Ageratum conyzoides.

ISCA-IYSC-2015-4CS-025

Percentage of water absorption in Cenosphere Solid discs with Talc

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Abstract: Cenosphere also known as Hollow Ceramic Microsphere and trade names like Cenolite, Spherelite and Lifefilletc Standard Grades. Cenosphere is a glass hard, inert hallow silicate spheres. Coal fired thermal power plants are the main source of electricity supply in India. The large quantity of coal burned in these power plants generates huge amount of fly ash cenosphere. Cenosphere are hollow aluminium silicate spheres between 10 um and 300 um in diameter the sintering characteristics of fly ash – talc – porous material (Naphthalene) mixtures having (0-100%) talc in the presence of 10% sodium hexa meta phosphate (SHMP) have been studied with increase in talc content, initially the % water absorption decreases to reach a minimum for a fly ash – talc, Naphthalene mix Containing 60% where after it starts again increasing.
Keywords: Fly ash, membrane, Naphthalene, absorption, SHMP.

ISCA-IYSC-2015-4CS-026

Comparative Study of various catalyst used in the Microwave Synthesis of Coumarins

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Abstract: Coumarins are the family of lactones containing benzopyrone skeletal frame that have enjoyed isolation from

plant as well as total synthesis in the laboratory. Coumarin derivatives can be synthesized by one of such methods as the Claisen rearrangement, Perkin reaction, Pechmann reaction, Witting reaction, as well as the Knoevnagel condensation. Microwave irradiation has since been proven to be extremely useful for promoting and simplifying many condensation reactions which can be carried out both in solvent and under solvent free condition. The essence of this work was synthesis of coumarin derivatives using various catalysts by microwave irradiation methods. In the past, several acid catalysts have been used in the von Pechmann reaction including strong acids like sulfuric acid, trifluoroacetic acid, phosphorous pentachloride, aluminium trichloride, zinc iodide, and many others of the same type including expensive metal halides of indium, palladium and recently $Bi_2(NO_3)_3$. This is an attempt has been made to compare various catalysts in synthesis so that it can spark new thoughts on synthetic methodologies and reactivity pattern.

Keywords: Coumarins, Microwave synthesis, various catalyst system- Oxalic acid, Montmorillonite-K10, Silica ball, and Amberlyst 15 dry.

Investigations on Single Phase Formation of RE Doped $Y_3Al_5O_{12}$ Nanoparticles

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Abstract: We report the preparation of single phase RE doped $Y_3Al_5O_{12}$ nanoparticles by modified sol-gel technique. The modified sol-gel method consists of a mixture of nitrates in an aqueous media and citric acid as chelating agents. Ethylene glycol was used for esterification. RE doping concentration was optimized and kept at 1 atomic % in the present work. Single phase nanocrystalline material obtained at 850°C. Prepared powder was annealed at different temperatures. These nanoparticles were characterized for size and microstructure using powder X-ray diffraction, scanning electron microscopy, and transmission electron microscopy techniques. Average particle sizes were found ranging _20-50 nm.

Keywords: Nanoparticles, Optical materials, Sol-gel, TEM, X-ray diffraction

ISCA-IYSC-2015-4CS-028

Preparation of Vermicompost at Home for Kitchen Gardening

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Abstract: Vermicompost is very common manure. But many people do not know how to make this at home. Vermicompost has been prepared in the home with the help of dried garden residues, cow dung, and kitchen waste. The study has been made with the help of Eisenia Fetida a special type of earthworm. Characterization of vermicompost has been studied in laboratory. Carbon/Nitrogen ratio has also been tested. Vermicomposting is a best technique to manage waste product of home. And it is also very helpful for our country's economic growth.

Keywords: Manure, earthworm, carbon/nitrogen ratio, kitchen waste and residue.

ISCA-IYSC-2015-4CS-029

Synthesis and Characterization of Fluorescent Carbon Dots from different Natural Precursors

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Abstract: Carbon dots are the most popular nonmaterials in recent years among the nanocarbon family, including fullerene, the carbon nanotube and graphene. Due to the special fluorescence property and biocompatibility Carbon dots were used in many applications such as biochemical sensing, fluorescent probes, environmental testing, photocatalytic technology, drug carriers and so on. For this purpose a variety of carbon precursors used for the synthesis of C-dots can influence the size, shape and photoluminescent properties of C-dots. Natural substance, such as Coconut Oil, Mustered Oil, Olive Oil and PEG were used as carbon precursors. The synthesized carbon nanoparticles have been characterized by AFM, XRD, FTIR, UV, and fluorescence measurements. We have also thoroughly investigated the effect of excitation wavelength, pH, and electrolyte concentration on luminescent properties. Interaction of C-dots with various substances such as dyes, nucleic bases and riboflavin were also studied.

Keywords: Carbon Dots, nanomaterials, fluorescence, luminescence.

ISCA-IYSC-2015-4CS-030

Synthetic Chromogenic Receptors for selective separation of some Biologicaly important Metal ions (Na^+, K^+), Amino Acids (Valine, Lucine and Glycine) and Urea

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Abstract: The Chromogenic crown ethers have discovered by Nakamura *et al*. Nitrophenyl azo-15-crown-5 has been used as colorimetric reagent for the determination of sodium and potassium. Chromogenic receptor shows instantly color change on interacted with metal ions and bio molecules. Such behavior will helpful in identification of various metal ion and neutral molecules by simple and convenient methods .We have synthesized Sudan I (azo dyes) derived receptors (J_1-J_3) chromomeric receptors by reported methods and characterized receptors by mp, TLC, elemental analysis, IR,[1] HNMR, C^{13} NMR ,MASS and X-ray diffraction analysis. These receptors further used in liquid- liquid extraction and transport of biologicaly important metal ions (Na^+, K^+) amino acid (Valine, Lucine and glycine) and urea. Liquid-liquid extraction and Bulk liquid membrane studies were performed by reported methods. The aqueous phase was removed, metal ions are analyzed by Flame photometer and a amino acids, and urea contents were analyzed by UV visible spectrophotometer (Lambda 55 Perkin Elmer). Distribution coefficient (D_M) and J_M values were calculated. The effect of various parameters like metal ion, ionophore concentration and pH variation were also studied. The blank experiments were carried out for the extraction and transport study of each Na^+, K^+ amino acid and urea in which membrane was devoid of carrier, no leakage of ions, amino acid and urea from the source phase into the receiving phase was observed. All measurements were performed in triplicate to check reproducibility. The results reveal that receptor J_1 extracts Na^+ at greater extent than K^+. Receptor J_1 and J_2 both extract as well as transport urea at greate rextent and the observed trend is $J_1 > J_2 > J_3$.The observed trend for the extraction and transport of amino acids by these receptors is valine > lucine > glycine ionophore . Receptor J1 and J2 both extracts valine at greater extent because J_1, J_2 possess tri and diethylene glycol chain length with rigid napthyl end groups. From the results of extraction and transport of Na^+, K^+ amino acid and urea, it seems that these receptors (J1-J3) complex with each Na^+, K^+ amino acid and urea by weak interaction and the complex dissociates at receiving phase in BLM .Receptors (J_1-J2) interact with urea and amino acids by hydrogen bonding between –N atom of amino acid and donor oxygen sites of the receptor. The extraction of amino acids observed to follow the sequence of hydrophobicity scale i.e. val> Luc> gly. Glycine displays less extraction due to its hydrophilic character in comparison to other amino acids.

Keywords: Chromogenic crown ethers, Liquid-liquid extraction and Bulk liquid membrane.

ISCA-IYSC-2015-4CS-031

A review on Measure of Randomeness and its Application in Context with Universe

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Abstract: Different measures give different notions of randomness. Flipping a biased coin does not produce a random sequence for the uniform probability distribution, but it does give a random sequence for an appropriately weighted distribution. In thermodynamics, a measure of the part of the internal energy of a system that is unavailable to do work. In any spontaneous process, such as the flow of heat from a hot region to a cold region, entropy always increases. The tenden-cy of a system to move toward randomness. In information theory, the negative of information, a measure of the disorder or randomness in a physical system. The increase of entropy is just how a scientist talks about the fact that the universe tends to do the most likely thing. For example, if you throw a bucket of dice you'll find that about a sixth of them will be 1, about a sixth will be 2, and so on. This has the most ways of happening, so it's the most likely outcome, and for the same reason it's the outcome with the highest entropy. Theory of statistical mechanics proves that this concept is equivalent to entropy as defined in thermodynamics. diminished capacity for spontaneous change, as occurs in the psyche in aging.Applying the concept of entropy to the universe as a whole is problematic, however in a stretch we might look at it as the amount of energy not available to do work in a general sense (not just thermodynamically), considering any overall thermal loss of a process as an increase in entropy. In that sense i disagree with the statement that structure

formation implies a decrease in entropy because it becomes "more ordered". What we start with is a fairly homogeneous gas of mostly hydrogen with quite some gravitational potential energy. As hydrogen cloud collapses that gravitational potential energy gets released in heating up the gas, and a share of it gets radiated away by thermal radiation. This represents a loss in the amount of energy available for work and thus an increase in entropy, not a decrease. Likewise when a star fuses hydrogen into heavier elements this decreases the amount of energy available for work (when it was still hydrogen you could put it in a fusion reactor to power a town). When that star goes supernova a fraction of the gravitational potential energy of the core gets tied up in fissionable elements (which means available to do work), but there's another part that gets thermally radiated away, again amounting to a loss of overall energy available for work, and an increase in entropy.

Keywords: Entropy and spontaneity, Hydrogen cloud, gravitational potential energy, entropy equivalence.

ISCA-IYSC-2015-4CS-032

A Comparative Study of Hazardous Effect of Fluoride Contaminated Water and its Treatment

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Abstract: This paper describes the comparative study of hazardous effect of fluoride on drinking water and its treatment by the use of natural adsorbents like Scolecite. Contamination of Fluoride ions in drinking water in concentration more than permitted limit is injurious to health. It is hazardous for biotic components of the ecosystem Human beings at their any age is being effected from this contamination if is present in drinking water Even children with very mild dental fluorosis performed less well on this specific mental development test, compared to children without fluorosis. Scientific and medical research stretching back to the 1920s has shown that fluoride can affect the thyroid. The levels of fluoride exposure known to lower thyroid function overlap with the levels of exposure known to occur in some people drinking artificially fluoridated water. Hypothyroidism is a very common disorder in the US. It can have serious adverse health effects. Reduced thyroid function in pregnant women is linked to reduced IQ in their children.There is accumulating evidence that fluoride, at levels within the range fluoridated populations are exposed to, is associated with lowered IQ. Fluoride's effect on thyroid function might be the mechanism by which it lowers IQ."The article notes that "thyroid dysfunction is a common endocrine disorder" The first time fluoride was labeled an endocrine disrupter was in the 2006 reportof the National Resource Council of the National Academies. According to the National Institutes of Health "Research shows that endocrine disruptors may pose the greatest risk during prenatal and early postnatal development when organ and neural systems are forming." As far as we know, promoters pushing fluoridation have never referred to this ominous label. FAN's study tracker also contains a number of previous studies showing fluoride has a detrimental effect on endocrine gland specially it is hazardous for thyroid .

Keywords: Fluoride contamination, Defluoridation, Drinking water, Scolecite, Hypothyroidism.

ISCA-IYSC-2015-4CS-33

Synthesis and Characterization and their Antimicrobial Activities of Metal Complex of Schiff Bases

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Abstract: The class of organic compounds containing the azomethine (–HC=N–) group in their structure is called imine compounds or the molecule containing carbon nitrogen (HC=N) double bond is called as imine or a Schiff base. Schiff base was first prepared by German chemist Hugo Schiff in 1864 and therefore, is referred to as Schiff base. Schiff bases are playing an important role in the development of coordination chemistry. In this paper we try to synthesised some metal complexes of schiff base and their charaterization.

Keywords: Schiff base ligand, conductance, UV-Visible, spectral and antimicrobial.

5. Computer and Information Technology Sciences

ISCA-IYSC-2015-5CITS-01

Enhanced AODV Threshold Apprehension and Link Breakage Mechanism for MANET

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Abstract: A MANET is one of the form of ad-hoc network. An ad hoc network is one that can change locations of network nodes .MANET is the wireless network because it is one of the mobile network in which the nodes are in the movable form .this can be used in the form of wi-fi or other connection type such as mobile or cellular transmission an ad hoc on demand distance vector routing protocol is offen used by mobile network. It respond to dynamic link condition like low processing, memory overhead, low network utility, determine unicast routes to destination within network AODV defines the route request (RREQ), route replies and route error (RERR) typed message now the responsibility to received these messages through UDP and normal IP header processing broadcast message have an source IP address and destination IP address (255.255.255.255) is used. This work proposes to generate an alarm before the link breakage occur and repair those route where the link break has occur between the source and destination with the help of local repair algorithm. Therefore the node does not chose any other route for communication and start sending packets from the original route that has already available after the link breakage.
Keywords: MANET, AODV, UDP, IP header, source repair, local repair.

ISCA-IYSC-2015-5CITS-02

Study and Analysis of Precedence Functions for Operator Precedence Parser in Compiler Design

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Abstract: In Computing Technology Compiler has become an active research area for the young researchers. Compiler is a program that reports any errors in the source program that it detects during the translation process. The performance of a computer system is dependent on compiler technology that compilers are used as a tool in evaluating architectural concepts before a computer is built. In compiler the parser obtains a string of tokens from the lexical analyzer and verifies that the string of token names can be generated by the grammar for the source language. Operator precedence parsing is implementation of shift reduce grammar. In this paper I have studied problem found in the operator precedence relation and precedence relation table. It takes a lot of space in memory to parse an input string. In this paper I try to design an algorithm by which one can construct a directed graph and derive the precedence function table for context free grammar by which less memory space is enough for parsing an input string and to motivate the researcher, while showing the future aspects in the area of Compiler designing and error solving.
Keywords: Compiler, Parser, Context Free Grammar.

ISCA-IYSC-2015-5CITS-03

Analysis of Recovery Techniques in Data Base Management System

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Abstract- As system continue to grow in size and complexity, they pose increasingly greater safety and risk management challenges. The danger of data being corrupted due to reckless application writes is increased. When a DBMS crashes, all or a portion of the data can become unusable**.** Appropriate procedures must be followed to restore, validate and return the system to normal. Recovery algorithms are techniques to ensure database consistency and transaction atomicity and durability despite failure. In this paper, i have studied when a user face the problems of failure, he may confuse which technique should be used. Soi compare the recovery techniques Log Based Scheme and Shadow Paging on the basis of their performance. Analysis of recovery techniques give the idea of modifying log based recovery technique to be used in multi-user environment more precisely if some problem of writing log each time might be solved. Shadow paging is an alternative approach in place of log based scheme Shadow paging may be considered to use for recovering

if its drawbacks of garbage collection and data fragmentation may resolve.

Keywords -DBMS, Transaction, Recovery, Concurrent Control Method, ACID, Checkpoint.

ISCA-IYSC-2015-5CITS-04

Simulation Based Performance Analysis of DSDV, OLSR and DSR Routing Algorithm in Wireless Personal Area Network Using NS-2

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Abstract: The IEEE 802.15.4 is a new standard defined for LR-WPAN which provides a low cost and very lesscomplicated solution. The targeted applications are wireless sensors networks (WSN), interactive toys, home automation and remote controls. ZigBee is one of the newest technologies developed by ZigBee Alliance, enabling Wireless Personal Area works (WPAN). ZigBee is the name of a specification for a suite of high level communication protocols using small, low-power digital radios based on the IEEE 802.15.4 standard. The main aim of this paper is to establish the communication in short-range by using wireless technology and using IEEE 802.15.4. It is designed to meet the needs for low cost, low power, simple and short range wireless networking. It does performance analysis of IEEE 802.15.4 topologies (mesh, star, cluster tree) of wireless personal area network (WPAN) using different parameters like good put, end-to-end delay, throughput with respect to DSDV, OLSR and, DSRrouting protocol using NS-2. Simulation result verifies that DSR gives the better performance in mesh topology whereas DSDV in cluster tree and star topology.

Keywords: WPAN, Topologies, DSR, OLSR, DSDV.

ISCA-IYSC-2015-5CITS-05

Analysis of Glutathione S-Transferase PI (GSTP1) Expression in Non Melanoma Skin Cancer Using Bioinformatic Tools

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Abstract: A bioinformatics study was carried out to study the expression of GSTP1 in non melanoma skin cancer (actinic keratosis and squamous cell carcinoma) by selecting non melanoma skin cancer research (record number GDS 2200) from the NCBI site. The experiment was analyzed using GEO data set and expression of GSTP1 in both control and actinic keratotic (AK) lesion, and squamous cell carcinoma (SCC) tumor biopsies data from 16 patients with non-melanoma skin cancer (NMSC) were analyzed. Known interactions for GSTP1 and coexpressed genes were also carried out using STRING database. The result shows that GSTP1 was over-expressed in the non melanoma samples (actinic keratosis and squamous cell carcinoma) compare with the control. Although one sample in the actinic keratosis shows higher expression, all the samples in squamous cell carcinoma show high expression of GSTP1. Result from STRING data base show that GSTP1interact and co-expressed with a number of genes which are important in understanding of cancer and progression of the disease. From the data generated, we concluded that GSTP1 was over-expressed in non melanoma skin cancer.

Keywords: Analysis, glutathione, S-Transferase PI (GSTP1) expression, Non melanoma skin cancer, Bioinformatic tools.

6. Earth and Geological Sciences

ISCA-IYSC-2015-6EGS-01

Gas Hydrates: Change them into a resource before they become a Hazard

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Abstract: In a gas hydrate, frozen water molecules form a cage-like structure around high concentrations of natural gas. When heated and depressurized to temperatures and pressures typically found on the Earth's surface (one atmosphere of pressure and 70 degree Fahrenheit), its volume expands by 150 to 170 times. But gas hydrates are both a potential resource and a risk, representing a significant hazard to conventional oil and gas drilling and production operations. If the solid gas hydrates dissociate suddenly and release expanded gas during offshore drilling, they could disrupt the marine sediments and compromise pipelines and production equipment on the seafloor. The tendency of gas hydrates to dissociate and release methane, which can be a hazard, is the same characteristic that research and development efforts strive to enhance so that methane can be produced and recovered in commercial quantities. Globally, the amount of gas hydrate to be found offshore along continental margins probably exceeds the amount found onshore in permafrost regions by two orders of magnitude. Problems may differ somewhat between onshore and offshore operations, but they stem from the same characteristic of gas hydrates. So a need for better understanding of how the geology in the permafrost regions and on continental margins controls the occurrence and formation of methane hydrates is there. It is important to understand fundamental aspects-porosity, permeability, reservoir temperatures-of the geologic framework that hosts the gas hydrate resource to improve assessment and exploration, to mitigate the hazard, and to enhance gas recovery. Together with advances in RandD, economic viability will depend on the relative cost of conventional fuels, as well as other factors such as pipelines and other infrastructure needed to deliver gas hydrate methane to market. Additionally, price volatility will likely affect the level of private sector investment in commercial production of gas hydrates. It will be beneficial to convert the gas hydrates from a reserve to a resource not only for unconventional energy sources but also for safer conventional resources exploitation. Keywords: Gas Hydrates, Permafrost, Conventional Resources, Unconventional Resources.
Keywords: Gas Hydrates, Change, resource.

ISCA-IYSC-2015-6EGS-02

Assessment of Ground Water Potential Zone Using Remote Sensing and GIS

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Abstract: Groundwater is a precious resource of finite extent. In order to ensure the judicious use of groundwater, proper evaluation is required. The occurrence and movement of groundwater is mainly controlled by many factors viz. rock types, landforms, geological structures, soil, land use, rainfall etc. Remote sensing and Geographical Information System (GIS) based groundwater study serves as a base for further exploration using hydrogeological and geophysical methods to locate potential well sites. Studies have shown that if Remote sensing data are used at first level to delineate prospective zones and further followed up by hydrogeological and geophysical surveys, higher success could be achieved besides savings in terms of cost, time and work. Madhya Pradesh is one of the major agricultural states of India with more than 70% of population dependent on it. Most of the cultivated land of Madhya Pradesh depends upon monsoon which is not uniform. The productivity of any crop mainly depends upon two natural resources Land and Water. Therefore the conservation of these two natural resources is essential for sustainability of rain fed agriculture. The investigations were carried out in 12 villages of Ujjain District Tarana (M.P.) namely Dobla, Kankariya, Jhirnia, Chakia, Ramnagar, Hazarpura, Moyakhera, Sarli, Manpura and Kapeli.
Keywords: Assessment, ground, water, potential zone, remote sensing.

ISCA-IYSC-2015-7EAPS-01

Effect of Intensity Dependent GVD Parameter on the Shape of the Pulse Propagating through an Optical Fiber

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Abstract: When a pulse is propagating in an optical medium, its shape changes basically due to dispersion and non linear effects. In this paper, we have considered only the effect of dispersion by incorporating the group velocity dispersion (GVD) parameter â2 in the pulse propagating equation. Since GVD parameter â2 is inversely proportional to dispersion length LD, a change in â2 due to intensity dependence will also change the dispersive length. Hence it is investigated that an intensity dependent GVD parameter â2 will influence the shape of the pulse as it propagates through the fiber.
Keywords: Dispersion, GVD, Dispersion length.

ISCA-IYSC-2015-7EAPS-02

Implementation of Multiple Data Bases for Privacy preserving Collaborative Data Mining

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Abstract: The Digital data collected by government, organizations, and persons has created marvelous opportunities for information based decision making. This original digital data gives benefit to the organization for filtering their information for doing anything with the help of these data. Whenever digital data publish publicly then it violates the identity of the individual so original data have sensitive information and its privacy is must. To ensure the collaboration will become especially important because it gives benefits for us. For this kind of collection of information, data's protection becomes importants. All parties with the collection provide their risk-free data for the collection; nevertheless they want not any one study or create something in these private files. One with the major troubles is confidentiality with the data on this huge collection of private files. The requirement of privacy may also be due for you to law or could be motivated simply by business pursuits. Performance of privacy conserving collaborative files using risk-free computation is evaluated along with attack reduction rate measured in terms of time, number of session and individual who participate that session along with memory pertaining to privacy maintenance. Present work indicates that privacy with the data have been lost on the whole way, especially for high-confidential facts. Bucketization, not evidently prevent account disclosure and clear break up between very sensitive characteristics.
Keywords: PPDM, collaborative data mining, secure multiparty computation.

ISCA-IYSC-2015-7EAPS-03

Total Productivity model for Improvement of throughput in Textile and Chemical allied Industries: A research Article from Management Perception

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Abstract: This paper provides an overview of the various processes in textile fabric industry. From analysis of data taken during the past three years, the company has noted that it has not achieved the targeted productivity. Total Productive Maintenance (TPM) has been a major component of improvement strategy to enhance the organizational productivity and profitability. Identification of Resources and uses resources play a critical role in any industry for the improvement of quality and productivity. For example fabric industry could not get the determined productivity since TPM was not followed. The objective of this paper is to present the result of past three years productivity data and discussed different results obtained after implementing the procedures of TPM in the sick textile industry. A systematic methodology is presented and analyzed for improvement productivity at the factory level. Metrics of Overall Equipment Effectiveness (OEE) is introduced and developed a structured robust frame work for improvement of quality and productivity.
Keywords: Productivity, fabric, textile, total productive maintenance, equipment effectiveness, maintenance.

7. Engineering Sciences-Electrical and Electonic

ISCA-IYSC-2015-7EAPS-EandEC-01

Graphene applied to IOT

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Abstract: The Internet of Things (IoT) is the network of physical objects or substances embedded with electronics, software, sensors, and connectivity to enable objects to exchange data with the manufacturer, operator and/or other connected devices based on the infrastructure of International Telecommunication Union's Global Standards Initiative. The Internet of Things allows objects to be sensed and controlled remotely across existing network infrastructure, creating opportunities for more direct integration between the physical world and computer-based systems, and resulting in improved efficiency, accuracy and economic benefit.
Keywords: Graphene, internet of things, wireless sensor networks, cyber physical system.

ISCA-IYSC-2015-7EAPS-EandEC-02

Nuclear Energy for powering Vehicles

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Abstract: Fossil fuels play a major role in today's economy, providing power to most of the vehicles we use. The entire process of turning remnants into fuel takes pu millions of years. This is why these sources can hardly be called renewable. The supply is rather limited which makes us concerned about the ability to use them for many years to come. Also, burning of these fuels causes emission of carbon dioxide which contributes to the changes that are taking place in the climate of earth. These concerns create a need for an alternative source of fuel- Atomic fuel. This research revolves around the use of atomic fuels for driving vehicles. We are familiar with nuclear powered submarines and ships; these use a nuclear reactor which provides heat to the steam engine. The available nuclear reactors are way too big for use in cars or any smaller vehicle. There are other methods to harness nuclear energy like radioisotope thermoelectric generator which converts atomic energy to electric energy which drive the electric motors, this type of generators are used on space probs and rovers, the problem with these generators is that they emit radiations which as harmful to humans. There are methods by which these radiations can be sealed, like shielding the radioactive fuel with alloys which keep the radiations sealed. Moreover, these generators use beta atomic waste as their fuel hence solving the problem of its disposal. Use of atomic fuel in cars will solve the problems related with fossil fuels and the need of refueling because these cars would run for a couple of decades once fueled. The future is Atomic.
Keywords: Nuclear, energy, powering vehicles.

7. Engineering Sciences-Mechanical

ISCA-IYSC-2015-7EAPS-Mech-01

Development of V-Belt Fatigue Testing Machine

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Abstract: Almost all the industries use belt either for the power transmission or for the load transmission with the belts. It is very much important therefore to ponder over the factors about the belt transmission system. In most of the cases the accidents do happen due to sudden fatigue failure of the v- belts. In case as a preventive measure the approximately higher side of the fatigue life could be known then accidents due to fatigue could be stopped. The efforts are made to develop a fatigue test rig for standard v-belts available in the market of different make. The equipment also considers the input load v/s output load and approximately gives indication of friction in transmission. It is very quick in shifting from no load to loaded condition for fatigue test. The equipment is suitable for industrial use and successful trial has been taken in a local v-belt manufacturing plant. The total cost of making is very less.
Keywords: V–belts, fatigue life, BIS specifications.

8. Environmental Sciences

ISCA-IYSC-2015-8EVS-01

Identification of Landslide Prone Villages around the Kalsubai Region of Maharashtra, India using Geospatial Techniques

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Abstract: This paper aims to identify the landslide prone village (LPV) around the Kalsubai region of Maharashtra, India. There are 8 weighted landslide parameters were collected from survey of literature method such as (1) lithology, (2) rainfall, (3) slope, (4) land use/land cover, (5) soil properties, (6) anthropological influence, (7) lineament and (8) aspect. All weighted parameters data were collected from topographical, geological, satellite imagery database as well as from field inventory also. Collected data were processed in geographical information system (GIS) software. Primary LPVs locations were identified from georeferanced topographical and geological maps, digital elevation model (DEM), field surveys and previous landslide inventories in the study area. LPVs were identified using superimposing of multiple databases in GIS software and statistical correlation of landslide occurrence parameters. Further, village population data were collected from census 2011 and villages Tahsils boundary from political maps for showing the administrative position of villages. According to reveled results, 09 villages under very high risk, 13 high, 12 moderate, 11 low and 14 very low risk respectively. Reveled results of LPVs were confirmed from past landslide record, field inventory and local interaction. Such LPVs identification and its database will support for pre landslide hazard mitigation and post landslide disaster management in the study area.
Keywords: Landslide prone village, Kalsubai region, GIS, RS.

ISCA-IYSC-2015-8EVS-02

Adsorption and Transformation of Lead in Coimbatore Urban Soils

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Abstract: Heavy metal pollution originating from industrial wastes is becoming a serious problem in many urban environments. These heavy metals, if not properly managed, could enter into food chain and cause a serious health hazards in animals and humans. Industrial wastes, sewage sludge and automobile emissions also contribute to heavy metal like Pb pollution in the urban environment. However, information is scarce on the heavy metal pollution in Coimbatore urban environment. Therefore, the current study was carried out to examine the extent of lead pollution in Coimbatore urban environment. The maximum Pb concentration in Coimbatore urban environment was found in ukkadam, whose concentration in soils 352 mg kg^{-1}. In many places the Pb concentration was found exceeded the permissible limit of 100 mg kg^{-1}. In laboratory closed incubation experiment showed that the concentration of different species of Pb viz., water soluble Pb(H_2O-Pb), exchangeable Pb (KNO_3-Pb), organic- Pb (NaOH-Pb) and organic plus metal (Fe and Al) oxides bound-Pb (Na_2EDTA-Pb) was found significantly increased during the 15 days incubation, mainly due to biotransformation processes. Both the moisture content of soil and ambient temperature exerted profound influence on the transformation of Pb. The results of a batch experiment has shown that the sorption data was adequately described by the Freundlich equation as indicated by the high correlation coefficients (R^2= 0.64) than the Langmuir equation (R^2= 0.33). A maximum of 86 mg of Pb was found adsorbed per kilogram of soil. Consistently, a soil column experiment result had shown that only a small amount of Pb (<1.0 µg g^{-1} soil) alone was found leached from the soil. This might be due to greater potential of the soil towards Pb adsorption.
Keywords: Lead pollution, transformation and adsorption.

ISCA-IYSC-2015-8EVS-03

Chromite Mining: Disbalancing the Aquatic Environment of Sukinda Valley, Gujrat, India

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Abstract: The Sukinda Valley of Odisha is renowned for its widespread chromite ore deposits. Different water bodies of this area is relentlessly receiving the effluents of mining activities and run-off or leaching from overburden. Different physicochemical parameters of ground water, surface water and mine drainage water along with bottom sediment of

Damsal Nala were analysed seasonally during the year 2010-11. Comparative and seasonal analysis of physicochemical parameters of its uncontaminated upstream and contaminated downstream regions were recorded in this study. Statistical interpretations were also carried out to access the level of contamination. Concentrations of heavy metals in the ground water (Cr^{+6}: 0.00-0.06 mg/l; total chromium: 0.01-0.11 mg/l; total iron: 1.03-1.50 mg/l), surface water (Cr^{+6}: 0.000 - 0.066 mg/l; total chromium: 0.01-0.21 mg/l; total iron:0.72-9.72 mg/l) and mine drainage water (Cr^{+6}: 0.98-1.42 mg/l; total chromium: 49.32-55. 24 mg/l; total iron: 0.75-3.56 mg/l) were crossed the specified limit of WHO, 1994 in many areas which caused severe menace to the inhabitants and aquatic organisms of this region. The bottom sediment of Damsal Nala was also found to contain high level of heavy metals like total chromium (0.29-31.03 g/kg) and total iron (0.63-89 g/kg) which may transfer to the entire food chain including human being.

Keywords: Chromite mining, damsal nala, enrichment factor, heavy metal, sukinda valley, water pollution.

ISCA-IYSC-2015-8EVS-04

Study of avifauna of Bhandup Pumping Station – A Habitat Conservation Initiative

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Abstract: Environmentally, a heterogeneous area with mangroves, interspersed with saltpans / marshland and scrubland offers wide range of opportunities to birds for feeding, foraging, loafing and breeding. The present study enlists the avian diversity of Bhandup Pumping Station, an area in Mumbai's central suburb. The study is based on observations carried out from October 2011 to March 2015, covering all seasons. A total of 165 species of birds belonging to 43 families were recorded from Bhandup Pumping Station in the study period including the residents, winter, summer and passage visitors. However encroachment and human interference pose serious threat to birds and their habitats. Disturbance of wildlife is of important concern if it affects survival and breeding success. Therefore threats in the habitats were noted. The recommendations for an urgent and stringent management plan for conservation of ecosystem are also discussed.

Keywords: mangroves, encroachment, conservation, Bhandup, birds.

ISCA-IYSC-2015-8EVS-05

Effect of Deficit Irrigation on growth and Physiology of Cassia Occidentalis L. Plants

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Abstract: Biotic and abiotic stresses exert a considerable influence on growth and yield of medicinal plants.Water stress is one of the most important abiotic stress factors. In this study the influence of deficit irrigation on growth and physiology ofCassia occidentalis Linn. was investigated. In this experiment plants were subjected to four water regimes with soil relative water content ranging from 65% to 12%. Plants were grown in pots and treated with three irrigation levels (100ml, 200ml and 300ml).The experiment was laid out in complete randomized design (CRD) with three replicates. Data were recorded and analyzed statistically. Physiological parameters like leaf area index, biomass accumulation and chlorophyll contentdecreased significantly with decrease in water levels, but mild level of water treatment enhanced the growth as well as accumulation of biomass and chlorophyll content of the plant slightly. Thus it can be concluded that deficit irrigation, as a possible technique for saving water, can be used to control growth and save water in Cassiacultivation.

Keywords: Stress, deficit irrigation, biomass, chlorophyll content.

ISCA-IYSC-2015-8EVS-06

Production of organic solvent tolerant Lipase from Bacillus SRR-11

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Abstract: Lipases are important enzymes and used as industrial biocatalysts in number of biotechnological applications in detergent, textile, oleo-chemical and food processing industries. Their catalytic reaction is hydrolysis of triglycerides at the water-lipid interface. Use of organic solvents provides advantage to improve the solubility of substrates and ease of product recovery in organic phase. It is known that most of enzymes easily lose their activities in organic solvent.

When enzymes are naturally stable and active in hostile environments, they would be excellent biocatalyst for application. Thus, bacterial strain which could grow in a medium containing organic solvents and produce lipolytic enzyme was isolated. The isolate Bacillus SRDR-1 is a Gram positive rod, producing lipase in the presence of 40% (v/v) solvents viz. benzene, toluene, butanol, acetone, methanol and xylene. The log P value of all these solvents is less than 2.5. In spite of this lower log P value, the lipolytic activity of the supernatant of the culture persists for 72 h in the presence of these organic solvents. As per our knowledge scanty reports in the literature so far are with the solvents having log P values less than 2.5.The isolate showed lipolytic activity at pH range of 6.0-9.0. Optimum lipase production was obtained at 37±2°C. Effect of different oils (ground nut oil, cotton seed oil, castor oil, sun flower oil, olive oil) on lipase production was also checked. Effect of temperature, pH, solvents, oils, different surfactants and chemicals were studied on Lipase activity. Further details will be discussed.

Keywords: Solvent tolerance, lipolytic bacteria, lipase, optimization.

ISCA-IYSC-2015-8EVS-07

Dissolution of Potassium from Silicate Mineral by Aspergillus Strain

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Abstract: Potassium (K) is the third most important macronutrient for plant growth and development. It is an essential nutrient of life on earth. It plays very important role in physiological and biochemical processes but the concentration of available potassium is very low below 2%. Soil of many areas of India have shown K deficiency. Agricultural practices, water runoff, erosion and leaching reduces the K availability in soil. In India resources of mineral particularly insoluble potassium are present in huge amount so they can be utilized as K fertilizer by application to the agricultural area. As a conventional process such as roasting, smelting etc involve high energy consumption and causes pollution. Biohydrometallurgy: bioleaching is emerging a natural choice for extraction of metals from minerals. The aim of the study was to isolate K solubilizing fungi, for which various rhizospheric soil samples were collected. From these samples total 25 fungal isolates were obtained, which were screened for K solubilization on Aleksandrov agar plates. Out of these, Isolate SDS7, an Aspergillus strain, showed zone of solubilization of 15 mm was selected. Parameter such as particle size of the mineral, pulp density, inoculum size, pH of the medium were optimized in shake flask study. Maximum biodissolution of K was achieved using particle of <44 µm size resulted in 28 ppm solubilization after 21 days of incubation. When pulp density was increased from 0.5% (w/v) to 0.8% (w/v) to 1% (w/v) gave 42 ppm and 53 ppm solubilization in 21 days at pH 6 with 10×10^7 spores / ml inoculum size. Qualitative and quantitative essay of organic acid detection was carried out by standard method showed maximum production of citric and tartaric acid whichcould be responsible for the K solubilization.

Keywords: Dissolution of potassium, minerals, bioleaching, fertilizer.

ISCA-IYSC-2015-8EVS-08

Characterizing Aedes Habitats Using Pupal Weight as Indicator: Implications for vector Management

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Abstract: Dengue/DHF is one of the resurgent tropical mosquito-borne diseases, with about 250 million people at risk worldwide. The vectors of Dengue and DHF, Aedes aegypti and Aedes albopictus, are expanding geographical distribution and abundance, increasing the probability of epidemic and development of hyperendemicity in different parts of the world. The pupal weight and related life history traits are used as surrogate to assess the fitness of the mosquitoes. Entomological surveillance using these parameters allows forecasting of the epidemics and framing of suitable precise control strategies. In view of these, an evaluation of the immature productivity of the dengue vectors from representative mosquito larval habitats was made to infer about the variations in the relative abundances and fitness levels of the vectors. Results of ANOVA revealed that the mean abundance and pupal weight varied with the larval habitats significantly. The variation in pupal weight was species and sex specific. Higher pupal weight of the female mosquitoes emerging from any habitat signifies the stability of sexual dimorphism in the dengue vectors. Thus source reduction of the habitats should be done without discrimination of habitats but with special and effective emphasis on the one that supports production of pupa with higher individual biomass.

Keywords: Dengue vectors, mosquito larval habitats, pupal weight, indicator sexual dimorphism.

ISCA-IYSC-2015-8EVS-09

An assessment of noise level and associated health effects in stone cutting industries in Kaski, Nepal

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Abstract: A study was carried out at Sardikhola VDC in Kaski district to assess the noise levels produced from stone cutting industries during their activity cycle and to predict the risk of environmental noise induced health effects to the workers. Noise levels were measured using a digital sound level meter in twelve industries (5 single machine and 7 double machine) during their activity cycle for three times a day for three days. Altogether, 35 questionnaires were subjected to the exposed group and 15 to the non-exposed group. The observed noise levels in all industries exceeded the allowed limit value of 85 dB(A) as recommended by WHO. The observed maximum and minimum noise levels for selected single machine industries for average equivalent sound pressure level (L_{Aeq}), nominal 8-hour noise exposure level ($L_{Aeq,8hr}$) and weekly average of the daily noise values ($L_{EP,W}$) were 110 dB(A), 108 dB(A) and 105 dB(A); and 104 dB(A), 104 dB(A) and 101 dB(A) respectively. Similarly, for the double machine industries it was 108 dB (A), 106 dB(A) and 103 dB(A); and 103 dB(A), 102 dB(A) and 99 dB(A) respectively. The major health effects induced by environmental noise were found to be tinnitus followed by speech interference, hypertension, irritation, loss of sexual potency, difficulty to concentrate and blood pressure rise. The crude OR and 95% CI for the exposed subject was 6.42 (0.75, 55.12).

Keywords: Nepal, stone cutting industries, noise level, WHO, health hazards and odds ratio.

ISCA-IYSC-2015-8EVS-010

Fix Bed Column Study for Removal of Fluoride from Water

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Abstract: This paper reports the results of the column study of bio adsorbent for removal of Fluoride from water. The bio adsorbent chosen was found to be an effective adsorbent for removal of Fluoride from water in continuous mode using fix bed column. The experiment was conducted in a column having a diameter of 4.5 cm with 5mg/l Fluoride solution at a bed depth of 36 cm maintaining a flow rate at 13ml/min. The breakthrough and exhaust time were found to be 19.2 and 35.84 hours respectively and the removal capacity was found to be 1.94 mg/g.

Keywords: Bio adsorbent, breakthrough time, exhaust time, bed depth.

ISCA-IYSC-2015-8EVS-011

Monitoring of Ambient Air Quality of Gwalior City, India and its Health Impact

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Abstract: Study deals with the quantitative effect of vehicular emission on ambient air quality during November 2013 to April 2014 in urban area of Gwalior city. In this study, NO_x was estimated at four representative locations in urban area and its health impacts were assessed. The 24 hour average concentration of NO_x was found to be 20.16 ?g/m^3 at Thatipur, 21.16 ?g/m^3 at Railway Station, 22.47 ?g/m^3 at Gola Ka Mandir and 17.47 ?g/m^3 at Kampoo respectively. The 24 hour mean of NO_x at each location were found to be lower than prescribed limit of National Ambient Air Quality Standard (NAAQS). These results indicated that ambient air quality in the urban area is affected adversely due to emission and accumulation of NO_x. These pollutants may pose detrimental effect on human health. A health survey was also carried out which demonstrated that symptoms were developed such as eye and skin irritation, coughing, shortness of breath, headache, fatigue, nose and throat irritation etc.

Keywords: Ambient air quality, NO_x, health effects, Gwalior city, vehicular emission.

ISCA-IYSC-2015-8EVS-012

Antioxidative Defense Response of Selenium by Hyper accumulator Plant *Brassica rapa* var. PS66 and Toria towards Phytoremediation

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Abstract: Natural processes such as volcanic eruptions, anthropogenic activities lead to emission of heavy metals in ecosystem. Brassica species have competency to absorb and sequester Se and harness to manage environmental Se contamination via phytoremediation. All the test species of Brassica were found respond to Se by registering changes in the expression of antioxidative enzymes, and tolerance level showed significant inhibition at higher concentration. The raised value of oxidative stress determinants - lipid peroxidation and hydrogen peroxide, near 100µM signified build up of stress at this concentration. Brassica rapa showed greater Se tolerance as was evident from the increased expression of glutathione peroxidase (GPX) in the treated plants, results corroborated with in gel assays for the enzymes, whereas little or no basal activity was found in the control plants. The positive correlation between Se concentration and GPX activity is suggestive for the presence of Se-dependent GPX despite the fact that most plant GPX studied so far have not been reported to require Se for their function. One special attribute of Brassica rapa PS66 and Toria is their ability to convert inorganic Se to volatile forms, predominantly dimethylselenide (DMSe), which is 500-600 times less toxic than the available form of selenium in the environment, thus a potential benefit for selenium phytoremediation.
Keywords: selenium, antioxidant, phytoremediation, hyper accumulator plant, Brassica rapa.

ISCA-IYSC-2015-8EVS-013

Optimization of Simultaneous Saccharification and Fermentation process Parameters for Bioethanol production from *Populas Nigra*

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Abstract: The present study reports the optimization of various factors viz., recombinant hydrolytic enzymes' dosage volume (ml) from Clostridium thermocellum, Candida shehatae inoculum volume, pH and temperature. The above parameters were selected and validated for improved production of bioethanol in simultaneous saccharification and fermentation (SSF) process through Taguchi Orthogonal Array design, from 1% (w/v) ammonia fiber expansion (AFEX) pretreated poplar (Populas nigra) leafy biomass in 100 ml medium at shake flask level. The best parameters for fermentation process comprises of, 2.0 ml recombinant Acetylxylan esterase (Axe) (0.37 mg/ml, 4.4 U/mg), 2.0 ml recombinant xylanase (glycoside hydrolase family 30, GH30) (0.31 mg/ml, 4.6 U/mg), 2.0 ml C. shehatae (~4.3 x 10^6 cells/ml), pH (6.5) and temperature (33°C). On the basis of p-value ($p < 0.05$), three most significant factors were, inoculum (C. shehatae) volume, temperature and pH, respectively. Optimized SSF conditions with 1% (w/v) substrate at shake flask level gave an ethanol titre of 1.06 g/l. HPAEC exhibited xylose release from hydrolyzed biomass. Increased substrate concentration to 5% (w/v) gave ethanol titre and yield of 6.10 g/l, 0.317 (g of ethanol/g of substrate) at flask level and its scale-up at bioreactor contributed ethanol titre and yield of 7.10 g/l, 0.369 (g/g) respectively.
Keywords: SSF, Taguchi Orthogonal Array design, HPAEC, Bioreactor, Bioethanol.

ISCA-IYSC-2015-8EVS-014

Composting v/s Vermicomposting

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Abstract: Kitchen waste is organic in nature which decomposes quickly producing foul odours and attracts rodents and insects. Poor collection and inadequate transportation are responsible for the accumulation of waste. Management of solid waste reduces or eliminates adverse impacts on the environment, human health and supports economical development for the better quality of life. Kitchen waste produced in large quantities and the storage and/ or spreading of this waste on land may cause contamination of the atmosphere, soil and water. The aim of the present study was to evaluate the effectiveness of the composting and vermicomposting for reducing the pollution by managing kitchen waste and convert them into useful product for better growth and quality of crops. For this, the physicochemical parameters of the resulting products after the active phase of composting and vermicomposting were analysed.
Keywords: Solid waste, kitchen waste, composting, vermicomposting.

ISCA-IYSC-2015-8EVS-015

Auxin Production and Plant Growth Promotion by Phosphate Solubilizing Bacteria of Groundnut Rhizosphere

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Abstract: Phosphate solubilization had screened for Groundnut rhizosphere. Total fifty phosphate solubilizing bacteria were isolate. All the phosphate solubilizing isolates were screened for auxin production and quantitative estimation of auxin was by colorimetric method with 2 days interval for upto 10 days of incubation period. Thirteen isolates were found to show the production of auxin by salkowaski reagent. Among these thirteen organisms five were remarkable for their high levels of auxin production. All auxin producer showed different optimum periods for auxin production. Strain GST 3 was the best producer of IAA with 7.18 µg/lit whereas strain GSH 3 was least in amount of auxin production. Strain GST 3, was also efficient for phosphate solubilization. The isolate GST 3 found most promising in promoting plant growth. All PSBs isolates were also screened for plant growth promotion by seed germination assay and pot experiment. Bacterial isolate with high potential for phosphate solubilization and auxin production were found to show the enhanced seed germination and plant growth promotion for groundnut seeds, as compared with uninoculated control. In conclusion the study suggests the auxin producing bacteria as efficient biofertilizer inoculants to promote plant growth. Therefore, there is a need for these isolates for further study due to their potential to be developed as plant growth promoting rhizobacterial inoculants in the field application.
Keywords: Auxin Production, Plant Growth Promotion, Phosphate Solubilizing Bacteria, Groundnut Rhizosphere.

ISCA-IYSC-2015-8EVS-016

Screening of oleaginous Microalgal Isolates and analysing the upshot of Organic Nitrogen sources on Lipid Accumulation

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Abstract: Microalgae has been proposed as a potential renewable fuel source. They are of particular interest as a sustainable source of biodiesel due to their ability to synthesize and accumulate significant quantities of lipids. Considering this aspect twenty four microalgal samples were collected from natural locations of Haryana, and were further enriched and isolated using the Kuhl's medium. They were purified and screened for lipid production using staining technique with Nile red. The effect of different organic nitrogen sources was studied on the screened microalgal isolates. Peptone supplementation showed maximum lipid content of 38.2 and 22.1 per cent from 0.04 and 0.10 g/l biomass produced by microalgal isolates HMA-2 and FMA-2 in Kuhl medium respectively.
Keywords: Biofuel, Kuhl medium, Lipid, Microalgae, Nile Red.

ISCA-IYSC-2015-8EVS-017

Development and Performance analysis of Low - Cost Stirred Tank and Helical Photobioreactor for Algae Production

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Abstract: Algae has become popular in the recent years for development of biofuels, nutraceuticals, aqua feed etc. Photobioreactors available for algae production have complicated design, high cost and are difficult to operate. Two simple, low cost yet efficient photobioreactors a) Stirred Tank Photobioreactor and b) Helical Photobioreactor were developed and their performance evaluation was carried out for the production of Chlorella minutissima.The performance of photobioreactors was evaluated every 24 hours by measuring the growth of algae through a) Optical Density and Transmittance Method b) Dry Weight Method through centrifuge. The highest optical density observed for helical photobioreactor was 0.264 while for stirred tank photobioreactor, it was observed to be 0.247. Lowest transmittance observed for helical photobioreactor was 48.75 % while for stirred tank photobioreactor, it was observed to be 59.21%. The average dry weight per day through centrifuge method for helical photobioreactor was found to be 9.33 $gl^{-1}d^{-1}$, while for stirred tank photobioreactor it was found to be 6.06 $gl^{-1}d^{-1}$. The study finds both photobioreactors suitable for the production of algae. Also the simplicity in design and operation makes them a suitable candidate for algae production.

Growth analysis of other algae species needs to be carried out in these photobioreactors in order to upscale them for the mass production of different algae species.

Keywords: Development, Performance analysis, Low-Cost Stirred Tank, Helical Photobioreactor, Algae Production.

ISCA-IYSC-2015-8EVS-018

Biogas Production from local Agricultural waste by using Laboratory Scale Digester

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Abstract: In rural areas, particularly in Jalgaon district region, plenty cellulosic biomass in the form of agricultural residues, are available. It has a very good potential to cater the energy demand, especially in the domestic sector. Biogas technology offers a very attractive approach to utilize such biomass to fulfil partial energy needs. Variety of regional lignocellulosic material is available whose biogas potential is to be unexplored. Production of biogas from such renewable lingocellulosic resources may improve energy availability, decrease air pollution and diminish atmospheric CO2 accumulation .So there is need to find uses of waste which is eco-friendly and does not create any type of pollution. Economically feasible and efficient small scale biogas digesters could be the answer of solving some of these problems and need. In biogas unit we can use any type of biodegradable waste such as agricultural waste, waste food, garden waste etc.The production of biogas depends to a large extent, on the choice of feedstock and its parameters with carbon to nitrogen ratio. Bio energy potential of local agriculture waste or residues sample was studied by physical, chemical and thermal analysis. Chemical analysis of this agriculture waste showed small difference in total solids, volatile solids and moisture content while higher in and total nitrogen content and calorific values with carbohydrate content. On the other hand the chemical, physical, thermal treatment does improve neither the quality nor quantity of biogas by using agriculture residues as renewable source of energy. The present work is an attempt to study on the chemical analysis of agricultural waste with respect to its various parameters for biogas production to make an active feedstock. The paper highlights also the general presentation for a small-scale biogas unit design and pilot installation both intended to be used for the further analysis of the characteristics the presented materials

Keywords: Lignocellulosic, biogas digester feedstock, nitrogen ratio, total solids, volatile solids, calorific values, moisture.

ISCA-IYSC-2015-8EVS-019

Impact of Crop Residue Burning on Climate Change: A Scenario of MP, India

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Abstract: Crop residues are generated after harvesting the crops. The main reason behind burning of crop residues is due to difficulty in collection of crop residue. If collected, these residues then may be use in different forms like industrial/ domestic fuel, fodder, packaging, bedding, wall construction, and green manuring etc. Burning of crop residues emitted many of the gases (SO_2, NO_2, CO etc) other than green house gases also. This paper is focussed on impact of crop residue burning on the green house gases and climate change in Madhya Pradesh. Green house gases (GHGs) emitted from agricultural / crop residue burning such as carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O). The total green house gases emitted due to crop residue burning from Madhya Pradesh is around 5676.46 kg/year out of which carbon dioxide released is approx. 5666.1 kg/year, methane approx. 10.10 kg/year and about 0.26 kg/year of nitrous oxide. It is also compared that the impacts of these green house gases over a 20 year time horizon. These gases are responsible for the green house effect or global warming which may cause climate change.

Keywords: Crop residue burning, GHGs, climate change.

ISCA-IYSC-2015-8EVS-020

Heavy metal Toxicity and its Harmful effects on Human being

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Abstract: Heavy metals and other contaminants that might affect human health as well as health of ecosystem. Which is dangerous for every human being and living organisms. Pollution resulted in waste discharged from industrial activities,

automobile exhausts and atomic power generation caused radioactive. Other reasons are climate changes such as uneven rain, droughts, extreme heat is summer and cold in winter. Heavy metal can have toxic effect on different organs. They can enter into water via drainage, atmosphere, soil erosion and all human activities by different ways. This paper reviews certain heavy metals and their biotoxic effects on man and the mechanism of their biochemical activities.

Keywards: Redox imbalance, heavy metal, toxicity, environment.

ISCA-IYSC-2015-8EVS-021

A theoretical Approachfor river Cleansing by Diversionmechanism

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Abstract: Water pollution has become one of the major points of concern nowadays since the availability of fresh water is very less and furthermore the degradation of water has put forward the challenges for the survival of aquatic life. The holy and sacred river in India the GANGES, with its largest drainage basin in India, has been listed as the world's 5th most polluted river in the world. In such a developing country, such degradation of the natural resource is catastrophically both for present and future generations. On the other hand river TSANGPO, in China which is much more populated than India, is much less polluted. In such conditions an alternative has to be found to maintain the holiness of the river and basic amenity of the people. DIVERSION SYSTEM emphasizes on how the river can be prevented from pollution and maintains the eco-balance. River path is diverged into parts and is then treated separately.

Keywords: river pollution; eco-balance; cleaning the flowing river; diversion of river path.

9. Forensic and Medical Sciences

ISCA-IYSC-2015-9FMSDN-01

Identification of Headlight and Windshield Glass of Car

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Abstract: Glass fragments represent a valuable class of trace evidence. The work involved identifying the headlight and windshield of the glass obtained during a hit and run case. Experimental analysis like thermal properties, density, refractive index, infrared spectroscopic studies, Laser Ablation Inductively Coupled Plasma –Optical Emission Spectroscopy measurements were conducted on the glass pieces obtained from the site. The observations revealed that the glass pieces collected were from the headlight and the windshield of the glass. This could be concluded because of the overlapping results obtained from almost all the studies conducted. Also both the glasses were found to contain almost same elements. Only the composition was differing and the configuring elements also differed. The variation in the composition gives more strength to the windshield glass as compared to the headlight glass.
Keywords: Glass fragments, headlight, windshield, Refractive index.

ISCA-IYSC-2015-9FMSDN-02

Bioaccumulation and Ecological risks of Organochlorine Pesticides in water Sediments and Fish from Mahi river, Vadodara, Gujarat, India

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Abstract: Conservational pollutions by pesticides of inland water have been a worldwide issue, and then most of these compounds are very persistent, bio-accumulative and poisonous. Pesticides could allot to the components of the ecosystem, such as water and sediment, and accrue in the biota. The carefulness of pesticides could be serious and chronic. In this study, we have investigated the heights of selected pesticides such as DDT (dichlorodiphenyltrichloroethane), HCH (hexachlorocyclohexane) and Endosulphan in surface waters, sediment and fish samples by Gas chromatography in the Mahi river of Vadodara, India which was passed out in several periods from 8 pre-determined positions. Organochlorine Pesticide (OCPs) remains concentration level in sediment is pointedly different from that of water and fish tissue, which had the maximum residual concentration. Detected residues are generally higher than stipulated limit of 0.01 µg/L by USEPA for pesticides of aquatic life-cycle therefore, possess an ecological risk to the ecosystem and consequently human health.
Keywords: Bioaccumulation, Ecological risks, Organochlorine Pesticides, water Sediments, Fish, Mahi river.

ISCA-IYSC-2015-9FMSDN-03

Flexor Digitorum Brevis - An Anatomical Variation

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Abstract: Flexor digitorum brevis (FDB) is one of the three muscles of the first layer of sole of foot. The muscle usually divides into 4 tendons, which pass to the lateral four toes. This paper reports a case in which the muscle variates with 3 tendons of the same muscle. The action of flexor digitorum brevis is flexion of the lesser toes at proximal interphalangealjoint. The muscles of second layer, flexor hallucislongus and flexor digitorumlongus (FDL) of the foot presented with normal anatomy and FDL had 4 tendons. This variation is important from an evolutionary aspect that explains the atrophy of the muscles that are not used over time and may be a result of bipedal evolution, which emphasises the gradual reduction in use of little toe. These kind of variations are also important for anatomists, sports people and surgeons for tendon transfer and designing foot prosthesis etc.
Keywords: Flexor digitorum brevis, variation, evolution, anatomy, foot.

ISCA-IYSC-2015-9FMSDN-04

Effectiveness of Music Therapy on Blood Pressure and Anxiety among Haemodialysis Patients

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Abstract: High blood pressure and anxiety level during haemodialysis remains a common problem in Chronic Kidney disease patients. The present study was conducted to assess the effectiveness of music therapy on blood pressure and

anxiety on haemodialysis patients at selected hospitals of Indore. Through simple random sampling (lottery method) a total of 60 samples were selected from the accessible population and then the subjects were assigned to experimental and control group through randomization (lottery method). After the pre-test, music therapy was given to the experimental group and routine care was encouraged to be continued in control group. The values of blood pressure score in each group before and after the intervention were measured using blood pressure apparatus (mercurial sphygmomanometer) and anxiety level was assessed with the help of Beck Anxiety Inventory-I. Findings of the study revealed that the mean post test blood pressure score in experimental group was 2.075 and the pre test score was 4.815 which was statistically significant at t29=4.840 at the level p <0.001 and the mean post anxiety score was 18.35 and the pre test score was 32.74 which was statistically significant at t29 = 19.32 at the level p< 0.001. The values revealed that there is a significant reduction in blood pressure s well as anxiety after the administration of music therapy.

Keywords: Music therapy, hemodialysis, blood pressure, anxiety and hemodialysis patients.

ISCA-IYSC-2015-9FMSDN-05

Does a Heterochromatic variant affect the Human reproductive Outcome?

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Abstract: To study the association of chromosomal polymorphic variations with recurrent miscarriage. Recurrent miscarriage becomes a problem that affect an increasing number of couples, almost 1% of the people who want to conceive. This study is based on comparison of chromosome Heteromorphism in the karyotypes of two groups. The first group with 400 individuals with the history of more than two miscarriages and no live birth and as control group 200 individuals with one or more than one normal child. The study revealed that the frequency of chromosomal abnormalities and variations leading to recurrent miscarriage in couples was 18% Chromosomal rearrangements constituted 27.78% of the cases while heterochromatic variations constituted 72.22% of the chromosomal cause for recurrent miscarriages. The most common findings were pericentric inversion of chromosome 9, heteromorphism of heterochromatic regions of chromosomes 1. Present study indicates that there is need to evaluate the known heterochromatic variants as these variants play an important role in reproduction failure.

Keywords: Chromosomal variations, infertility, recurrent miscarriage.

ISCA-IYSC-2015-9FMSDN-06

Knowlwdge and Practice of ANMs regarding Cold Chain Management for different Categories of Vaccines

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Abstract: A Cold Chain is a temperature controlled supply chain. An unbroken cold chain is a interrupted series of storage and distribution activities which maintain a given temperature chain. As a cold chain handler ANMs play an important role in improving the immunization coverage. A pre experimental research approach is used having pre experimental one group pre test post test design is used. There is no control group, independent variable is planned teaching programme and dependent variable is knowledge. Study was conducted in CHCs,PHCs and subcentres in Chhindwara (M.P.) Target population was 60 ANMs who are working in rural areas, non probability convenience sampling technique were chosen for the study. Reliability was r=0.86. As counting the result 34% of the ANMs (20) had poor, 50% (30) had inadequate,(16%)10 had adequate and not a single ANM had excellent knowledge and 24% of ANMs (15) had poor practice group, 42%(25) had inadequate, 34%(20) had adequate and not a single ANM had excellent practice before administration of planned teaching programme. After administration of planned teaching programme not a single ANM had poor knowledge, 17%(10) had inadequate 59%(35) had adequate, 24%(15) had excellent knowledge and not a single ANM had poor knowledge and only 16% of the ANMs (10) had inadequate practice, 50%(30) had adequate, 34%(20) had excellent a single ANM had poor practice. The mean score of pre test knowledge was 13.18 with SD-5.41 and the mean score of pre test practice was found to be 17 with SD-5.92. The mean score of post test knowledge was 24.43 with SD-5.16 and the mean score of post test practice was 26.1 with SD-6.22. The t test value of knowledge is 23.64 and practice is 24.57 with 0.05 level of significance. So t calculated >t tabulated that means planned teaching programme is effective for increasing the knowledge and practice. Cold chain management for different categories of vaccines for the improvement of knowledge and practices using planned teaching programme was effective for the

ANMs who are working in the CHCs, PHCs and subcentres.research findings were found that the knowledge and practice in positively improve beyond he significance level. That will show the study success and effectiveness.

Keywords: Knowlwdge, Practice, ANMs regarding Cold Chain Management, different Categories, Vaccines.

ISCA-IYSC-2015-9FMSDN-07

Effectiveness of Heparin lock Flush on Chemotherapy Induced Thrombophlebitis among Patients receiving Chemotherapy

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Abstract: Rate of catheter related thrombus formation is 66% in chemotherapy receiving patients while 32% in patients suffering from other disorders. (Mark N. Levine, M.D, 2000). Heparin lock flush is used to flush an intravenous catheter which helps to prevent clot in the tube after intravenous infusion. Therefore, an experimental study was undertaken to assess the effectiveness of heparin lock flush in prevention of chemotherapy induced thrombophlebitis by Baxter's scale among patients receiving chemotherapy at selected hospital of Indore. Research design was post test only control group design and sample size was 40 patients receiving 3 day chemotherapy cycle selected by using random sampling (lottery method). Comparison among experimental and control group in terms of development of chemotherapy induced thrombophlebitis in 3 days cycle of chemotherapy, the '$\chi 2$' Value was 6.82($P< 0.01$). The findings inferred that heparin lock flush is effective in reducing the development of chemotherapy induced thrombophlebitis.

Keywords: Chemotherapy induced thrombophlebitis, chemotherapy cycle, Baxter's scale and Heparin lock flush.

ISCA-IYSC-2015-9FMSDN-10

Effect of Structured Teaching Programme on knowledge regarding prevention of accidents among mentally challenged children on knowledge of care givers in selected institutes of Indore

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Abstract: Mental illness account for nearly a sixth of all health-related disorders but India spends less than 1% of health budget on mental health. A pre-experimental research approach used one group pre-test and post-test design. The population comprised of 30 caregivers of mentally challenged children. In this one group pre-test and post- test design was observed before and after the manipulation. There was significant association between the pretest knowledge scores and selected demographic variables, ie X^2=15.97 between the number of children of caregivers, X^2=20.21training taken for mentally challenged children and X^2=20.75 duration of training taken by the caregivers. The 't' test value t_{29}= 42.56 showed highly significant difference between pre test & post test knowledge score .Thus indicating structured teaching was effective in increasing the knowledge score among the caregivers.

Keywords: Caregivers, mentally challenged Children, Training, Structured Teaching, Knowledge.

10. Family, Community and Consumer Sciences

ISCA-IYSC-2015-10FCCS-01

Digitalization of Motifs based on Indian Folk Paintings through CAD and their Adaptation on Apparels using Digital Printing Technique

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Abstract: India had always been known as the land that portrayed cultural and traditional vibrancy through its conventional arts and crafts. Every region in India has its own style and folk art which are very ethnic and simple, and yet colorful and vibrant enough to speak volumes about the rich heritage. Folk art in India apparently has a great potential in the international market because of its traditional aesthetic sensibility and authenticity. The two most famous folk painting are Warli art of Maharashtra and Madhubani art of Mithila. Traditionally these paintings were done by hand which is time consuming and laborious process, but with technological advancement, these designs can be created directly with the help of CAD and applied on textiles through Digital Printing. It is now possible with CAD and digital printing to go straight from an initial idea to visual representation of fabric showing these designs in combination of colors within minutes. The present study was an attempt to develop fusion designs from these two folk paintings using CAD and adapt them on apparels using digital printing. It will be an effort to reveal the unexplored treasures to the world by introducing the newly developed fusion designs from the Plethora of these arts and to open new avenues for artisans to revolutionize the Fashion world and empower them.
Keywords: CAD technology, Fusion Designs, Madhubani Painting, Warli Painting, Apparels.

ISCA-IYSC-2015-10FCCS-02

Clothing Designs for Elderly using Catheter

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Abstract: The persons above 60 years of age till the end of life are considered as elderly. The older age is mainly characterized by declining physical activities and occurrence of many diseases like cardiovascular diseases, kidney failure, dementia, unconsciousness etc. The outcome of many of these diseases is the use of urinary catheter. Elderly people are required to use these urinary catheters for longer period of time which causes difficulty in wearing clothes. So there is requirement of such clothing styles which does not cause difficulty in dressing and undressing to the elderly person using urinary catheters and their caregivers. The researcher has designed some clothing for such elderly so that dressing and undressing could be made easier and simpler for them.
Keywords: Clothing, elderly, catheter.

ISCA-IYSC-2015-10FCCS-03

The effect of Treatment, adjustment and their Interaction on Emotional Maturity

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Abstract: There are individual differences in every human being, which are affected by heredity and environment. Environment may be social, cultural or familiar having an influence on emotional maturity. The aim of present study is to study to about "The effect of treatment, adjustment and their interaction on emotional maturity". For this study 233 students of B.A. and B.H.Sc. second and third year from kasturbagram rural institute were selected by random sampling method. Present study is an experimental research. Where pre-treatment, post-treatment and control group design was used. Emotional maturity of the students of experimental group and control group was measured by Emotional Maturity Scale (EMS) by Singh and Bhargava. Students of Experimental group were treated through a specially designed programme "Emotional Maturity Enhancement Programme" for 40 days. Control group was not given any treatment and continued with their routine activities. After 40 days of treatment, the emotional maturity of students of experimental group and control group was again measured. Adjustment of the students was also measured by Adjustment Inventory by Dr. Mittal.

2×2 Factorial Design ANOVA was used to analyse the data. Results revealed that the emotional maturity of experimental group is significantly different in comparison to the students of control group. The Emotional Maturity Enhancement Programme was found to be effective in improving the emotional maturity of the students of experimental group. No significant effect of adjustment was found on emotional maturity. Results also revealed that there was no significant effect of the the interaction between treatment and adjustment on emotional maturity.

Keywords: Treatment, adjustment, interaction, emotional maturity.

ISCA-IYSC-2015-10FCCS-04

The Role of Nutritional Rehabilitation Centers in Reduce Malnutrition

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Abstract: Malnutrition is the word which is use to describe a medical condition of a person that result from unbalanced and insufficient nutrition Mostly it is cause due to poor quality of food and lack of Nutrients in the food consumed by the person. At present Malnutrition is a big concern for the government in the society, specially among low socio economic group. 45% children in the world dying due to malnutrition between the age of 1 to 5 year, In Asia malnutrition rate is 0.8%. Currently government is running various programs to fight against malnutrition under the central government scheme. Nutrition Rehabilitation centers are playing an important role in fighting against the Malnutrition among low Socio economic group children. Currently in Madhya Pradesh 316 centre are running under this scheme and they are taking good care of malnourished children and trying to treat the children. In Rehabilitation centre following facility are provided for the various income groups people. i. Malnourished children are admitted in centers For 14 days and they get Treatment and nutrition supplements for 14 days. ii. Centers provide mothers of the admitted children's accommodation food and compensation daily, these facilities are given free of charge. Children from 1 month to 5 years who suffer from Malnutrition get treated and benefited in those centre (Nutrition Rehabilitation Centre) Government Hospital of Burhanpur started the Nutrition Rehabilitation Center on 19.09.2007, In the year of 2012-13, 278 serious Malnourished children's were admitted out of which 147 children were fully cured, Every year Serious Malnourished children's are treated in the centre and they were fully cured in the centre.

Keywords: Role, nutritional rehabilitation centers, reduce malnutrition.

ISCA-IYSC-2015-10FCCS-05

Health Status of College Students as Assessed through BMI

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Abstract: Youth is the true wealth of any nation. The youth are critical for a nation's continued economic development and demographic evolution. With India, projected to be the youngest nation in coming decade, health of its youth becomes even more important. The present study was planned with the objective to assess health status of female students in universities of Hisar city. BMI was chosen as indicating parameter. Majority of subjects belonged to general category (56.6%); had private schooling (68.3%); belonged to nuclear families(71.1%) and had a family income of Rs.10-30,000/month (46.1%). Total respondents under study had mean height of 157.47±12.60 cm, mean body weight 48.52±7.51 kg, mean BMI 19.44 ±2.92 kg/m² and mean body fat per cent 24.61±5.46. Of the total 180 subjects; 42.2, 52.8, 3.3 and 1.7 per cent were underweight, normal, overweight and obese respectively.

Keywords: Adults, Anthropometrics, BMI, India, Socio economic status.

11. Material Sciences

ISCA-IYSC-2015-11MatS-01

The Study of Rare-Earth Bismuthide (RBi, R=Ce and Pr) with the NaCl Structure at High Pressure

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Abstract: The Phase transition and elastic properties of Cerium and Praseodymium Bismuthides have been investigated under pressure by means of a three body interaction potential model which incorporates the Coulomb screening due to the delocalization of f-electron of rare-earth atom leading to many-body interactions, along with Coulomb interaction, overlap repulsion extended up to second-nearest neighbours. These compounds undergo transition from NaCl structure to high pressure body-centered tetragonal (BCT) structure (distorted CsCl-type P4/mmm). Our calculated results of phase transitions and volume collapses of these compounds is found to be close to the experimental results.
Keywords: Rare earth pnictides, three body interaction, phase transition, volume collapse.

ISCA-IYSC-2015-11MatS-02

Analysis of Structural Phase Stability of Strontium Sulphide under High Pressure

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Abstract: A three body interaction potential ($TBIPZ_{pe}$) model is developed to study the high pressure phase transition of SrS having NaCl (B_1) structure at room temperature. This model includes the long range Columbic, three body interaction forces, short range overlap forces operative up to next nearest neighbors and zero point energy effects. We have reported the phase transition pressure, volume collapse and second order elastic constants and found results well suited with available experimental data.
Keywords: Phase transition, second order elastic constants, three body interaction forces and volume collapses.

ISCA-IYSC-2015-11MatS-03

Synthesis and study of Magnesium Oxide and Cadmium doped Magnesium Oxide nanoparticles using different concentration of reactants

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Abstract: Magnesium Oxide play a very important role in many areas of chemistry, physics and material science. Like other metal oxides, MgO have good reactivity. They have a vast number of structural geometries with an electronics structure that can show metallic, semiconductor and insulator character. It exhibits a rock salt structure. Nanoscale MgO and Cd-MgO powders are generated by quick precipitation technique. Magnesium Nitrate, Cadmium nitrate, Sodium hydroxide and Sodium hydrogen carbonate were used as precursors and PVP as capping agent. Effect of the relative reactant concentration ratios on characteristics of MgO and Cd doped MgO nanoparticles are also investigated. The characterization was done using UV-Vis Spectroscopy. The UV-Results discloses that MgO size increase remarkably with the increase in reactant concentration ratio from 1:1:1 to 1:3:3. The band gap was calculated using Tauc plot for both the samples with different concentrations.
Keywords: Synthesis, Magnesium Oxide, Cadmium, Magnesium Oxide, nanoparticles.

12. Mathematical and Statistical Sciences

ISCA-IYSC-2015-12MSS-01

Measuring Multi-facet Students Involvement in the Technical Colleges: A Fuzzy Mathematical Approach

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Abstract: A Technical colleges trying to adopt so many salient features to attract students to get admission especially in private education and due to market competition. In this paper, we propose a new version of the study of student's involvement of selection of a college on the basis of the various dimension qualities. A mathematical definition for student's involvement and their degree of involvement is created in this paper to replace the traditional semantic definitions so that a single synthetic index ranged in [0,1] can be manipulated to measure the degree of multi-facet student's involvement for the selection of technical colleges/institutes.
Keywords: Syntax index, student involvement, multi-facets, fuzzy mathematics, membership functions.

ISCA-IYSC-2015-12MSS-02

Laplacian Eigenvalue of Connected Graph

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Abstract: The Laplacian Matrix L(G) =D(G)-A(G), where A(G) is the (0,1) adjacency matrix and D(G) is the degree matrix of connected graph G, has many application in different branches of science and real world. In this article, we present some applications of connected graph and relation of Eigen value of Laplacian matrix of connected graph and its subgraph. In addition to this, we also present the normalized Laplacian Eigen values of a connected graph.
Keywords: Eigen value, eigenvector, isolated vertex.

ISCA-IYSC-2015-12MSS-03

Friendly and Solitary numbers

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Abstract: In number theory, friendly numbers are two or more natural numbers with a common abundancy, the ratio between the sum of divisors of a number and the number itself. Two numbers with the same abundancy form a friendly pair; n numbers with the same abundancy form a friendly n-tuple. Being mutually friendly is an equivalence relation, and thus induces a partition of the positive naturals into clubs (equivalence classes) of mutually friendly numbers. The abundancy of n is the rational number ó(n) / n, in which ó denotes the sum of divisors function. A number n is a friendly number if there exists m '" n such that ó(m) / m = ó(n) / n A number that is not part of any friendly pair is called solitary. The numbers 1 through 5 are all solitary. The smallest friendly number is 6, forming for example the friendly pair 6 and 28 with abundancy ó(6) / 6 = (1+2+3+6) / 6 = 2, the same as ó(28) / 28 = (1+2+4+7+14+28) / 28 = 2. The shared value 2 is an integer in this case but not in many other cases. A number that belongs to a singleton club, because no other number is friendly with it, is a solitary number. All prime numbers are known to be solitary, as are powers of prime numbers. A sufficient (but not necessary) condition for n to be a solitary number is that (ó(n),n)=1, where (a,b) is the greatest common divisor of a and b.No general method is known for determining whether a number is friendly or solitary. The smallest number whose classification is unknown (as of 2009) is 10.
Keywords: Abudancy, Tuple, Prime Number.

ISCA-IYSC-2015-12MSS-04

Assignment Problem for Admission Process in Educational Institutions

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Abstract: The purpose of this paper is to illuminate different type of assignment problem in educational institutions. For admission process .Now a day we are facing many problems in education system. But this problem affecting all factors

of education. In this paper we have tried to make easy admission process by assignment technique and Student admission process is studied to optimize the assignment of vacant seats with important objective. Assignment is a different type of mathematical technique. In other word assignment problem relates to problem where the objective is to assign a number of jobs To an equal number of persons so that the time is minimum or the cost minimum or profit is maximum.

Keywords: Assignment problem, education system, admission process, educational organization, Hungarian assignment method, assignment model.

ISCA-IYSC-2015-12MSS-05

Retailer's inventory model with Advance payment and Trade Credit

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Abstract: Many inventory models on trade credit have been developed in recent years. This paper tries to develop retailer's inventory model under advance booking and permissible delay in payments policy. We assume that the retailer can obtain cash discount with order quantity at the time of advance booking. Under these conditions we want to investigate and develop a mathematical model to study the retailer's optimal ordering policy within the EOQ framework. The optimal ordering policy is established by maximizing the total net profit of an inventory system. Finally, sensitivity analysis is performed on several inventory parameters.

Keywords: EOQ, Inventory, Advance booking, Permissible delay in payments, Trade credit.

ISCA-IYSC-2015-12MSS-06

Effect of Discounting on Ordering Policies for the Items with Freshness Dependent Demand

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Abstract: A major part of retail industry deals with items whose freshness declines with time, leading to a decline in demand at the same price. When freshness has been declined to certain extent it is customary to offer discounts in order to boost sales. Hence, it is important to discuss discounting policy for inventory models with demand dependent on freshness condition and price. Motivated by this, we have developed and analyzed inventory model for such items, where decline in freshness is modeled as a general function of time. Shortages are allowed and are assumed to be lost. Numerical example is presented.

Keywords: Inventory model, freshness dependent demand, discount.

13. Pharmaceutical Sciences

ISCA-IYSC-2015-13PCS-01

Formulation and Evaluation of Lorazepam Fast Dissolving Tablets using Synthetic and Natural Disintegrants

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Abstract: The aim of the present work was to formulate and optimize lorazepam fast dissolving tablets using synthetic and natural disintegrants. Crossprovidone, Crosscarmellose Sodium, Sodium Starch Glycolate and Low-Substituted Hydroxypropylcellulose were used as synthetic super disintegrants. Fenugreek Mucilage and Plantago Ovata Mucilage were used as natural super disintegrants. Tablets were made by using direct compression method and the formulation of tablets was optimized to get minimum disintegration time and maximum drug release. From in vitro dissolution and drug release studies, Crosscarmellose Sodium was found to be the best superdisintegrant at all concentrations as it showed maximum drug release; while Low substituted Hydroxypropylcellulose was found to be the poor superdisintegrant with least drug release. Plantago Ovata Mucilage and Fenugreek Mucilage were found to be better super disintegrant than L-Hydroxypropylcellulose, but poor than Crosscarmellose Sodium, Crossprovidone and Sodium Starch Glycolate.
Keywords: lorazepam, natural super disintegrants, synthetic super disintegrants, disintegration time, drug release study.

ISCA-IYSC-2015-13PCS-02

Quality Control Evaluation of Ethambutol Hydrochloride and Isoniazid Combination Tablets

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Abstract: Ethambutol Hydrochloride and Isoniazid drug are used as antituberculosis agent. It is mainly used in the initial treatment of pulmonary tuberculosis. In the present study a commercially available kit of Rifampicin capsule, Isoniazid, Ethambutol, Pyrazinamide tablets was collected. AKT-4 (Lupin laboratories) each strip contains 1 capsule of Rifampicin, 2 tablet of Pyrazinamide and 1 tablet of Ethambutol Hydrochloride and Isonoazid tablet. In the analysis Pyrazinamide tablet was evaluated for weight variation, hardness, friability, disintegration, dissolution and drug content (assay) as per Indian Pharmacopoeia and found within the limit as per mentioned in their individual monographs.
Keywords: Ethambutol Hydrochloride, Isoniazid, antituberculosis agent, weight variation, hardness, friability, disintegration, dissolution study, drug content (assay).

ISCA-IYSC-2015-13PCS-03

Structure Based Drug Design on Mycobacterium Tuberculosis targeting unsaturated-Phospholipid methyltransferase – An silico analysis

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Abstract: The ability of bacteria to control the biophysical properties of their membrane phospholipids allows them to thrive in a wide range of physical environments. Mycobacterium tuberculosis has an Unsaturated-phospholipid methyltransferase other name Cyclopropane-fatty-acyl-phospholipid synthase belongs to the family of transferases, specifically those transferring one-carbon group methyltransferases. Inactivation of a gene coding for a cyclopropane synthase, pcaA, was reported to attenuate the virulence of Mycobacterium tuberculosis hence our target was to stop the function of Unsaturated-phospholipid methyltransferase. This study helps to understand the effective inhibitors that can stop the function of Unsaturated-phospholipid methyltransferase. Protein sequence of Unsaturated-phospholipid methyltransferase has been retrieved from swissprot. Structural similarity searching has been performed for finding a template by standalone BLAST against PDB database. Blast shows the protein 3D structure of Unsaturated-phospholipid methyltransferase, hence it has been downloaded from PDB database and docking studies have been carried out with the same. ADMET studies were carried out for the calculations of properties of the effective drugs for binding the Unsaturated-phospholipid methyltransferase. The current study focused in silico approach for identification and variation in drug bindings with HMG-CoA reductase.
Keywords: BLAST, docking, database.

ISCA-IYSC-2015-13PCS-04

Application of Aromatherapy on Textile

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Abstract: In recent year textile materials have been found application in the field of aromatherapy**.** Aromatherapy is art and science of using naturally extracted aromatic plants essential oils to balance, calm, cure infections and promote the health of body and mind. Aroma compounds are present in food spices, fragrance oil, and essential oil. By these applications pharmaceutical and environment friendly ingredients are impregnated to the fabric so that when the body moves it will give feeling of freshness to the wearer and reduce several skin infections. Natural essential oil of medicinal aromatic plants is used for aroma finish to textile material which adds lots of value to textile material and provides feeling of freshness to the wearer.
Keyword: aromatherapy, essential oils, lemongrass oil.

ISCA-IYSC-2015-13PCS-05

The effect of Permeation enhancer in Ciprofloxacin eye Drop

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Abstract: The eye drops has suffer the problem with naso-lacrymal leakage during instillation and most of the drug lost through tears so required multiple dosing. The present study deals with to develop an ideal ophthalmic formulation by using permeation enhancers provide deep penetration and long lasting antimicrobial effect. The bioavailability of ciprofloxacin can be improved by addition of penetration enhancers. The Ciprofloxacin has the broad-spectrum, especially for aerobic gram-negative bacilli high antimicrobial activity, having BCS class IV drug. Ciprofloxacin ophthalmic eye drop is used to treat conjunctivitis, worked by eradicating the micro-organisms that induced infections. The eye drop was optimized with 2^2 factorial design by design expert software.There are five formulation F_1-F_5. The EDTA and PG are compatible with ciprofloxacin. The PG play dual role enhance solubility as well as penetration enhancer. All preparation are isotonic by using 0.9% sodium chloride solution which isotonic with tears, and properly sterilize under autoclaving. The zone of inhibition showed that the F_3 is best among all. The ideal formulation formulated and evaluated in various parameters and results was compared with standard marketed preparation.
Keyword: Bioavailability, EDTA, Ophthalmic, Polyethylene glycol.

ISCA-IYSC-2015-13PCS-06

Earthworm as a New Wound Healing Agent

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Abstract: The relationship between earthworms and human beings is as old as human civilization. Long before man learned to cultivate crops in the soil, the soil has been inhabited and tilled by earthworms. Since ancient times (< 4000 years, 2600 B.C.), earthworms have been used as food and as medicines for a number of human diseases in various parts of the world including China, Japan, Korea, India, Cambodia, Myanmar (Burma), Vietnam, Iran and Middle East. For external applications, they can be used in healing wounds, chronic boils, piles, sore throat etc. and for internal intake they can be prescribed for chronic cough, diphtheria, jaundice, rheumatic pains, tuberculosis, bronchitis, facial paralysis and impotency. Being impressed with the versatile potential of earthworm in the treatments of various diseases especially as anti-oxidant and anti-inflammatory agent, this study was planned to demonstrate earthworm's ability to heal wounds. Excision wound repair model of rats was used and compared with wound treating agent "Betadine". Three parameters were evaluated: wound contraction percentage, epithelialisation time and histological study of healed skin of wounded area. The rats treated with Betadine showed satisfactory healing influence with 97.95±0.30% wound contraction percentage and epithelialisation time of 16.80±0.21 days. The wounded rats treated with EW extract ointments showed progressive healing process and even better results than Betadine were obtained. Rats treated with 50 mg earthworm extract ointment showed 100% wound contraction percentage and epithelialisation time of 14.17±0.30 days. Results of lower (25 mg) and higher (100 mg) doses of earthworm extracts showed comparatively lower influence on these parameters. The results of histological study were consistent with parameters (wound contraction % and epithelialisation time) of wound healing. Results were confirmed by histology of healed skin. Best results of healing were depicted with 50 mg of earthworm extract ointment; showing the presence of squamous epithelium, fibro-collagenous tissues, containing significantly higher

amount of collagen fibers, lesser lymphocytes, copious tiny blood vessels, and enormous and well formed sweat glands and hair follicles, all of these parameter are considered as indication of complete healing. In other groups of rats varying degrees of healing conditions were noticed. In this way it was concluded that earthworm based ointment helps in faster healing of excised wounds.

Keywords: Earthworm, Wound healing agent, Excision wound, EW extract ointments.

ISCA-IYSC-2015-13PCS-07

Formulation and Evaluation of Berberine Nanoparticles for Administration through Nasal Route

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Abstract: Berberine is a protoberberine type, isoquinoline alkaloid, derived from medicinal plants such as Hydrastis Canadensis L, Coptis rhizome and barberry plants (Berberis vulgaris). Berberine is used in Indian and Chinese medicines as an antimicrobial, stomachic and in treatment of cancer, diabetes mellitus and neurodegenerative diseases. Literature review shows that berberine distributes readily in various tissues and hence very low amount of berberine reach to the systemic circulation which accounts for its low bioavailability (0.68 %). Bioavailability of berberine can be improved by formulating it as nanoparticles. Present study aims to prepare and evaluate nanoparticles containing berberine using chitosan as polymer and administration of this nanoparticle preparation through nasal route so as to improve its bioavailability. The nanoparticles were prepared by ionic gelation method and evaluated for particle size, zeta potential, entrapment efficiency, In-vitro drug release and drug release kinetics. The formulation A5 showed particle size – 104.52 nm, zeta potential – 32.40 mV and entrapment efficiency – 30.05 %. In-vitro release studies showed improved bioavailability of 80.23 %. The drug release kinetic studies showed that berberine nanoparticle formulation followed Higuchi and Korsmeyer-peppas model of drug release.

Keywords: Formulation, evaluation, berberine nanoparticles, administration.

ISCA-IYSC-2015-13PCS-08

Cost Effective Green chemistry Approach to Large scale synthesis of Dapsone using Microwave Chemistry

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Abstract: Healthcare demands the affordable medicines that led the phenomenal growth of pharmaceutical production unfortunately at the expense of environmental wellness up to great extent. The pharmaceutical industry has become one of the most waste producing sectors with one of the highest unfavorable E-factors as a measure of the quantity of waste produced, compared to the amount of useful material obtained. Significant amounts of the chemistry that are practiced to produce the active pharmaceutical ingredients (API) are old, obsolete and waste producing. As a result, the vital environmental elements are often compromised and become a casualty of speed of development and short term gain. Global demand for environmentally friendly pharmaceutical processes and products requires the development of novel and cost-effective approaches to pollution prevention. Strategies for large-scale synthesis of physiologically active compounds are of great interest to pharmaceuticals companies. So keeping in mind the importance of environment safety and a large scale demand of pharmaceuticals, we have developed microwave assisted cost effective ecofriendly process for the large scale synthesis of Dapsone (DDS) which is widely used for the treatment of leprosy. This process is simple, economical, environment friendly, non-hazardous and can be used for large scale synthesis of Dapsone. This is an approach towards Green organic synthesis.

Keywords: Cost effective, green chemistry, approach, large scale synthesis, dapsone, microwave chemistry.

ISCA-IYSC-2015-13PCS-09

Docking studies on some Benzimidazole and Triazole analogues as Antihypertensive agents

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Abstract: The incidence rate of hypertension continues a phenomenal rise and so, there is a growing need to identify novel therapeutic agents with improved efficacy and reduced side effects. In these circumstances, drugs acting on multiple

targets could offer superior efficacy profiles compared with single target drugs. using insilico approach Docking studies of the constituents were carried out using surflex-x 2.1.1 and the targets used were angiotensin-converting enzyme, angiotensin receptor, aldosterone receptor, renin enzyme, beta receptors(b1/b2). Surflex-docking studies were performed on a series of substituted benzimidazole fused triazole ring as antihypertensive activity. Surflex-docking studies revealed that the nitro group, flouro group on benzimidazole, and nitro group of triazole were significant for binding to the all receptors, and some essential substituted group were also identified. This studies may paves a new way for better treatment for hypertension.

Keywords: Docking, antihypertensive activity, angiotensin-converting enzyme, angiotensin receptor, aldosterone receptor, renin enzyme, beta receptors (b1/b2).

ISCA-IYSC-2015-13PCS-10

CoMFA, HQSAR, Pharmacophore and Docking Studies On N-(3-Arylaminopyridin-4-Yl) Alkanesulfonamides as Pyridine Analogs of Nimesulide

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Abstract: Non-steroidal anti-inflammatory drugs (NSAIDs) exert their anti-inflammatory, antipyretic and antinociceptive effects by blocking the production of prostanoids from arachidonic acid through inhibition of cyclooxygenase (COX) enzyme. Molecular modeling studies were carried out on a dataset of 22 pyridinic analogs of nimesulide. The molecules were randomly divided into a training set of 16 and a test set of 6 compounds. The COX-1 activity expressed in IC_{50} was converted into pIC_{50} and used as a dependent variable in the QSAR study. The molecular modeling studies were carried out using SYBYL X 2.0 software running on a core-2 duo Intel processor workstation. The CoMFA model displayed good statistical significance in terms of internal cross validation (q^2) 0.458 and non-cross validation (r^2) 0.982 respectively. Also, the predicted r^2 values (r^2_{pred}) of 0.77 for the test set for the developed model suggested significant predicting ability of the models. In the HQSAR analysis, better statistical results were obtained in fragment size 5–7 and A/B/C/H distinct (q^2 0.987). Partial least square regression studies were carried out by using COX inhibitory activity as dependent variable and structural properties of CoMFA and HQSAR as independent variables. Also, PLS of CoMFA was carried out with additional descriptors like ClogP, CMR and total dipole. Pharmacophore was developed using Galahad module of Sybyl and seven pharmacophoric features were depicted in molecules. The docking studies were carried out on pdb 1CQE (COX-1 with Flurbiprofen) and the interaction was obtained with Arg120. The studies revealed the importance of nitrogen as linker and triflouromethanesulfonamido group attached to pyridine ring.

Keywords: NSAIDs, Nimesulide, CoMFA, HQSAR, Docking, Pharmacophore.

ISCA-IYSC-2015-13PCS-11

Synthesis and Biological Evaluation of some Benzoxazole derivatives as Antioxidant and Antiproliferative agents with its docking study on Estrogen receptor Alpha

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Abstract: In the present study benzoxazole derivatives have been synthesized and their in vitro antioxidant activities were investigated by measuring their 2,2-diphenyl-1-picrylhydrazyl (DPPH)and 2,2-azinobis (3-ethyl-benzothiazoline-6-sulfonic acid) (ABTS) free radical scavenging capacities. The in vitro cytotoxicity study of the synthesized compounds on human estrogen positive (MCF-7) breast cancer cells were evaluated. Molecular docking of compounds were performed on estrogen receptor alpha.(E) 2 [(4 hydroxy 3 methoxyphenyl) methylidene] hydrazin 1 yl 2 (1,3 benzoxazol 2 ylsulfanyl) acetate PM 4 and (E) 2 [(2 hydroxyphenyl) methylidene]hydrazin 1 yl-2 (1,3 benzoxazol 2 ylsulfanyl)acetate PM 2 out of 10 synthesized compounds (PM 1-PM 10) showed potent antioxidant activity in comparison to butylated hydroxyl anisole. For cytotoxicity study also PM 4 and PM 2 showed excellent antiproliferative effect as compare to adriamycin. Molecular docking study revealed that docking of PM 4 and PM 2 into the active site of estrogen receptor alpha suggest that it could exert anti breast cancer activity by inhibiting the effect of estrogen. It appears that PM 4 and PM 2 may serve as new potential sources of antioxidants and antiproliferative compounds and could be of therapeutic use in treating several diseases including cancer.

Keywords: Benzoxazole derivatives, DPPH, ABTS, MTT, molecular docking.

ISCA-IYSC-2015-14PhyS-01

High Energy K X-Ray Hypersatellites

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Abstract: This study focus on the weak lines that appear on high energy side of the diagram lines which is called High Energy K X-ray hypersatellites i.e., a particular category of characteristic X-ray due to splitting of fine structure levels. It's resulted from the interaction of spin of an electron with the spin of the nucleus. They are emitted when an atom that has undergone a spontaneous transitions from the higher hyperfine level to the lower one to a radiation of =1.42 X 10^9 Hz frequency and =21 cm wavelength. Simultaneous double ionization in the K-shell and multiple ionization in the L-shell gives rise to Ká X-ray hypersatellites. These can be studied only by high energy resolution instruments like WDXRF spectrometry. Fundamental experimental procedures were outlined in this field by several workers due to different excitation modes. The theoretical models to predict their energies and intensities were developed. And also this review can show a clear discrepancy between theoretical and experimental results in the case of hypersatellites formation from different shells. In case of experimental instrumentation, WDXRF is the most accurate for determining the energy and intensity of X-ray hypersatellites. All sources of data was literature done by different scholars..
Keywords: X-ray hypersatellites, Energy Ratio, Intensity Ratio.

ISCA-IYSC-2015-14PhyS-02

Effects of Molecular Weight on structural and optical properties of polyvinyl alcohol (PVA) films

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Abstract: In recent years, studies on optical properties of polymers have been gaining attention in view of their application in optical devices. Poly (vinyl alcohol) is, one of the most interesting among vinyl polymers. Poly (vinyl alcohol) (PVA) is a synthetic water soluble polymer which is gaining increasing importance due to its eco-friendly and has good film forming capability; this also acts as a good host. Molecular weight (M.Wt) plays an important role in determining the physical properties of the polymers. In the present paper, effect of molecular weight on the structural and optical properties of PVA films is reported. PVA films with M.Wt 14kDa and 72kDa were prepared by casting method and characterized by XRD, FTIR and UV-VIS-NIR spectroscopy. UV-VIS-NIR spectra were recorded using Shimadzu 2450 double beam spectrophotometer in Absorbance (A) and Transmittance (T) mode in the wavelength range of 190-1100 nm. These films show their characteristic absorption bands and edges. The various optical parameters like absorption coefficient, extinction coefficient, bandgap energy, refractive index etc. have been calculated. The parameters are discussed in light of M.Wt. of PVA.
Keywords: Polymer, Molecular weight, UV-VIS spectroscopy.

ISCA-IYSC-2015-14PhyS-03

Optical Studies on ZnSe/PVK Polymer Nanocomposite

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Abstract: Nanocrystal -polymer composites of ZnSe/PVK have been successfully prepared by chemical method.SEM and XRD indicate spherical particles with size in 72nm to 88nm range. Photoluminescence of ZnSe/PVK nanocomposite film shows a peak in UV-VIS region and violet-green light emission in electroluminescence studies. The intensity of EL cell varies rapidly with increasing voltage.
Keywords: Nano composites, Zinc Selinied, Polyvinyl Carbazole, photoluminescence, electroluminescence, XRD, SEM.

ISCA-IYSC-2015-14PhyS-04

Annealing induced Variation in Optical Properties of Methyl Orange dye doped Poly (vinyl) alcohol Films

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Abstract: The effect of annealing at different temperature (80ºC, 120ºC, 160ºC) on optical properties of methyl orange doped PVA films were investigated. The films were prepared by solution casting method. Absorption and transmission spectra for all samples were measured by Schimadzu 2450 double beam UV-Visible spectrophotometer. In absorption spectrum of pure PVA film the absorption band is present at 206 nm which is absent in doped films while in doped films MO absorbance band is present at around 446 nm. The indirect optical energy gap (E_{opt}) have been obtained from Davis and Mott Rule and it was found that optical band gap decreases with increasing temperature. All optical constants affected by temperature such as refraction index, extinction coefficient, complex dielectric constants, and optical energy band gap which decreased with increasing temperature. The refractive index shows a general decreasing trend with increasing wavelength but with modified values upon annealing. Overall results are interpreted in terms of bond modifications of PVA.
Keywords: PVA, Methyl orange, annealing, optical properties.

ISCA-IYSC-2015-14PhyS-06

Study of Copper Sulfide Nanoparticles prepared by Chemical Precipitation Method

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Abstract: Copper sulfide nanoparticles (CuS) were successfully prepared by the chemical precipitation method in liquid medium at room temperature. CuS nanoparticles were then analyzed by means of X-ray diffraction, Raman and UV-VIS-NIR spectroscopy. XRD analysis revealed formation of CuS nanoparticles with hexagonal phase. The size of CuS nanoparticles ranged between 10-30nm. Copper sulfide nanoparticles have hexagonal shape as seen in TEM images. Raman spectra show a sharp peak at 469.69 cm^{-1}, conforming the formation of CuS nanoparticles. The UV-Vis spectra showed presence of absorption band in NIR region.
Keywords: Nanoparticles, CuS, TEM, Raman spectroscopy, UV-Vis-NIR spectroscopy, XRD.

ISCA-IYSC-2015-15PESS-01

Role of Traditional Indian Sports in Developing Sportsman Spirit: A Comparative Study

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Abstract: The aim of the present study is to find out the effect of participation in traditional Indian sports on sportsman spirit. To conduct the study, 250 interuniversity players (Ave. age 23.42 yrs.) from traditional Indian sports such as Kabaddi, Kho-Kho, Wrestling, Malkhamb and Yoga were selected as sample. To fulfil the objectives of the present study, another set of 250 varsity sportspersons taking part in cricket, tennis, badminton, basketball etc. were also selected. Random sampling method was used for selection of subjects. To assess sportsman spirit of selected subjects, Dubey's Sportsman Spirit Scale (1983) was used. Results indicate that sportsman spirit is significantly higher in a group of varsity sportspersons taking part in tradition Indian sports as compared to varsity sportspersons taking part in non-traditional Indian sports. It was concluded that traditional Indian sports develop sportsman spirit more as compared to non traditional Indian sports.
Keywords: Traditional, Non-traditional, sportsman spirit, sportspersons.

ISCA-IYSC-2015-15PESS-02

Relationship on Breath Holding Time and Resting Heart Rate with Selected Physical Fitness Components of Residential Female Students

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Abstract: In general terms the resting heart rate of a person is a strong indicator of that person's basic level of fitness. Breath-holding ability becomes extremely important in some sports. And Physical fitness a state of physiologic well being that is achieved through a combination of good diet, regular physical exercise, and other practices that promote good health. So, the purpose of the study was to find out the relationship between RHR and BHT with selected physical fitness components of the residential females. Forty (40) residential female students were selected from the P.G.G.I.P.E, Banipur of West Bengal. The Age ranges of the subjects are 19-23 years. RHR was measured by count in one min. in the early morning, Breath holding time was taken by stop watch in sec, Speed was measured by 50 yards dash in cm, Agility was measured by 4*10 yards shuttle run in cm through stopwatch and Explosive Leg Strength was measured by Standing Broad Jump in cm. Data was collected by the researcher himself with an supporting expert in a day starting from morning. The subjects were oriented about the purpose well in advance. The subjects were tested one by one. Data collected by the subjects were converted into standard scores for better statistical calculation and interpretation. Mean, S.D. and coefficient of correlation was calculated for analysis, interpretation and discussion. A statistical calculation was conducted through SPSS and Excel Spread Sheet of Windows version 7 was used as statistical software. Statistical significance was fixed at 0.05 % level of confidence. At the result shows that there was no significantly relationship found in among the variables in respect of the subjects selected of the residential females.
Keywords: RHR, Breath Holding Time, Physical fitness variables and residential females.

ISCA-IYSC-2015-15PESS-03

Efficacy of Specific Physical Fitness Program on Agility of Male Cricketers

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Abstract: The present study was planned to investigate the effect of selected fitness training program on agility of male cricket players. To conduct the study, 40 male cricket players (Ave. age 18.03 yrs) from Christian Eminent Cricket Academy in Indore (M.P) were selected as sample. These selected subjects then divided into two groups i.e. experiment and control group with equal number of subjects assigned randomly in each group. The subjects of experimental group received three weeks specific physical fitness training program while subjects grouped into control group did not receive such programme apart from their routine exercise. To assess agility of selected male cricket players "Run a Three" protocol of Bourdon et al. (2000) was chosen. The scores on test protocol were assessed before and after the completion

of study period for both the groups i.e. experimental and control group. Gain score (post-pre test) indicate that agility of male cricket players belonging to experimental group has improved significantly as compared to their counterparts belonging to control group. Therefore it may be concluded that specific physical fitness training is beneficial for improving the agility of male cricket players.

Keywords: Fitness training, agility, cricket.

ISCA-IYSC-2015-15PESS-04

Effect of Yoga on Flexibility, Reaction Abiliy and Kinesthetic Perception of Deaf and Dumb Students

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Abstract: The study was to find out the effects of yoga on flexibility, reaction ability and kinesthetic perception of deaf and dumb students. The following components were taken as variables for the study flexibility, reaction ability, and kinesthetic perception. The subjects for this study were total 200 and age categories 12 to14 years. The subjects of the study were selected at purposively. The computed by employing the statistics of 't' ratio at 0.05 level of significance with 58 degree of freedom. The experiment was conducted for a period of sixteen weeks. The subjects had undergone through selected Yogic asana, Pranayama and Omkar practices for 30 min and 4 days per week. Frequency, duration, and repetition of asanas pranayams and Omkars were determined in a steady progressive manner from the first day to last day of the treatment.

Keywords: flexibility, reaction ability, kinesthetic perception, Pranayama, Omkar.

16. Educational Sciences

ISCA-IYSC-2015-16EduS-01

A Study on School Environment in Relation to Academic Achievement of Higher Secondary School Students

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Abstract: In the view of Vivekananda, "Education is the manifestation of perfection already existed in man". Education is the complete development of individuality of the child, so that he can make his original contribution to human life according to his best capacity. The position at higher secondary level is still worse than any other class, because the marks in the higher secondary course decide the future of the child. Admissions to professional courses are lost for some students failing to secure an additional 0.1% mark. So, students at this cadre are considered to be the mark producing machines rather than a human. Due to the want of marks and get admission in better courses in better colleges, parents and students in higher secondary class usually run after the books and coaching centers to secure good marks. Survey method is used for the study. Stratified random sampling technique was used. 300 samples were collected from 6 schools in Tiruppur District. Sample Consists of students studying XI Standard in Tiruppur District.
Keywords: A Study, School Environment, Relation, Academic Achievement.

ISCA-IYSC-2015-16EduS-02

Utility of Innovative Techniques (Smart Class) in Learning Mathematics among Secondary School Students

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Abstract: Education is the social process by which an individual learns the things necessary to fit him to the life of his society. The students learn to use the computer in solving difficult problems and also they changes on the individuals with respect to positive question, different types can take a test with the computer and can obtain immediate meaning full feedback. The computer can be used the teacher in many innovative ways to improve the effectiveness of instruction. The advances claimed of using computers in education in saving time and effort. Smart class is a comprehensive solution designed to assist teachers in meeting with their day to day classroom challenges and enhancing student's academic performances with simple, practical and meaning full use of technology. It is simplifies the problems of teaching abstract curriculum concepts that are difficult for students of visualize or relate through the provision of three dimensioned interactive multimedia modules. The investigator used by survey method and simple random technique are followed. The Sample of 300 IX standard students in Erode District from Tamil Nadu State. Descriptive and differential statistics are used this study.
Keywords: Utility, innovative techniques, smart class, learning mathematics and computer.

ISCA-IYSC-2015-16EduS-04

A Study on Scientific Attitude among Pre Service Teachers

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Abstract: Scientific attitude is open-mindedness, a desire for accurate knowledge, confidence in procedures; seeking knowledge and expectation that solution of the problem will come out through the use of verified knowledge (Singh, 1988). The teacher bears the responsibility of developing scientific attitude among students. Without scientific attitude aims of science cannot be attained (Sharma, 2005). Scientific attitude, now days, is found to be lacking even in highly educated persons, teachers and students. This is a hindrance in the path of acquiring knowledge. The teachers and students need to have a scientific outlook. This study investigated the scientific attitude among science students in senior secondary schools. The survey research design was used to carry out the study. A sample of 300 pre service students from Erode district of Tamil Nadu. Samples were selected using stratified random sampling technique. In this study the investigator used by the scientific attitude scale was standardized by Sood, J.K. and Sanadhya, R.P. (1978). The collected data were analyzed using the mean, standard deviation and t-test. It was revealed from the study that there are significant differences in the level of scientific attitude among pre service teachers based on gender and subject group of the students and not significantly influenced by locality and age of the students.
Keywords: Scientific attitude, curiosity, superstitions, exaggeration, rationality.

ISCA-IYSC-2015-16EduS-05

Socio-Demographic Variables as Predictors of Women Social Freedom

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Abstract: Today the role of women in the society is changing and the change in their traditional role is great demand of time it has rapidly gained momentum since the government of India had ushered in the new millennium by declaring the year 2001 as 'Women Empowerment Year'. It is a well known fact that in almost all developed country women has played equal role in its development. It is a great challenge for the women of 21st century to face the resistance shown by conservative people of closed type society like India. Women have equal rights to enjoy freedom in terms of social, personal and professional life. Women empowerment is meaningless if it is not equated with their social freedom. Although our constitution has provide several laws and orders to in favour of women but the situation is critical yet. Women are still socially deprived from their rights of taking decision about career and life and have to phase violence either at domestic , professional or at physical level it may arises in the form of sexual harassment or may take cases of honour killing. People still consider the housekeeping and serving their families as the prime important work for women. Keeping in view the importance and seriousness of the above cited matter the investigator has decided to put forth a small sketch about women social freedom in the current status the study aimed at to examine the women social freedom in relation to some socio-demographic variables like locality, marital status, type of family, educational qualifications and profession. Descriptive survey method was employed. A sample of 160 women from different educational institutes and locality (rural and urban area) of Rohtak district of Haryana state was selected by random sampling technique. Women Social Freedom Scale constructed and standardized by Bhusan L. was used for collection of data. It has been revealed from the analysis and interpretations of the present study that desire for social freedom is not influenced by locality and type of family, but marital status; educational qualifications and profession have a significant influence.
Keywords: Women social freedom.

ISCA-IYSC-2015-16EduS-06

The Role of Emile Durkhiem in Socilogical Aspect

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Abstract: David Emile Durkhiem, the maker of modern sociology, the founder of sociology of education and the great French philosopher, sociologist has had a significance influence on society including education in Emile Durkhcim's view, educational system reflect undertaking Chanks in society because the system are a construct built by society, which naturally seeks to reproduce its collectively held values belief, norms and conditions through its institutions. Thus, as time unfolds, educational systems come to contain the imprint of post stages in the development of society, as each epoch leaves its imprint on the system. By uncovering these imprints and analysing them. The development of a society can be reconstructed form the educational system.
Keywords: The Role, Emile Durkhiem, Socilogical Aspect.

ISCA-IYSC-2015-16EduS-07

Comparative study with reference to achievement of the D.Ed. students teaching educational psychology with module method DIET Bijalpur Indore

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Abstract: Under the research presented in the subject of education psychology in D.Ed course taught by modules at the selected episodes thereof certified by traditional teaching of the effectiveness of law with respect to the achievement of study habit in the course of reaction was studied .In this research 60 students studying in 2nd year of D.Ed course at District Institute of Education and Training (D.I.E.T), Indore were taken as sample. For researching pre–test and post-test controlled group design were used in which experimental groups with module method and controlled group with traditional method were used for 20 days (except holidays) daily for the time period of 50 minutes the study was conducted. For data-collection self- made achievement test by researcher was used. Data analysis was conducted with the help of Correlated 't'-test.
Keywords: Comparative study, reference, achievement, students, teaching, educational, psychology.

17. Commerce, Law and Management

ISCA-IYSC-2015-17CLM-01

A study of awareness of Net Neutrality among students in University Teaching Departments of DAVV, Indore

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Abstract: Network neutrality is the idea that you're cellular, cable, or phone internet connection should treat all websites and services the same. Network neutrality is the principle that Internet users control what content they view and what applications they use on the Internet but Without statutory or regulatory requirements to the contrary, broadband network owners are allowed to require consumers to pay for the owner's Internet service just to access the ISP they do prefer network operators might prevent their broadband subscribers from accessing an alternative ISP altogether Consumers are expressing a great deal of concern about discriminatory practices of communications network operators. This study focuses on revealing the awareness about net neutrality among the Students of DAVV department and result showed a remarkable result on some issue which are further elaborated in the research finding
Keywords: Net neutrality, Comcast, TRAI, OTT services, Airtel Zero, TRAI

ISCA-IYSC-2015-17CLM-02

Spiritually Empowered Youth for Business Opportunities and Challenges

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Abstract: Spirituality and business are taken as two distinctive areas of human life. Business, at one hand, demands monetary outlook towards activities while spirituality is related to ascetic practices in life. Nurturing the two different and distinctive dimensions of human life together in a personality may be felt difficult and unacceptable to some thinkers due the possibility of overshadow effect of spirituality on the essential professional passion to avail business opportunities and face the challenges of rapidly changing business world. The youth in business world today is expected to be empowered with academic, technical and professional skills. Introduction of spirituality in the ideology of empowering youth can bring miraculous results in terms of ability of young entrepreneurs to see the opportunities and challenges in different perspectives and keep them undistracted and adhered in observing their dharma as entrepreneur. This combined nurturing among young entrepreneurs may show better results as the desired qualities of a successful entrepreneur can be better shaped and refined through spirituality as a practical psychology. The feature of the present youth to be passionate about manifestation of their business dreams is sufficient enough to accept this apparently impossible combination as spirituality is all about values for ultimate satisfaction. Thus, implementation of the learning from spirituality can ensure the business youth the ultimate satisfaction in their ventures and bring out more empowered youth for business opportunities and challenges.
Keywords: Spirituality, young entrepreneurs, empowering youth, business opportunities, business challenges.

ISCA-IYSC-2015-17CLM-03

Role of SIDCO in Developing Employment Opportunities in Jammu and Kashmir, India

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Abstract: Jammu and Kashmir State Industrial Development Corporation Ltd. (JandK SIDCO) has been incorporated as a fully Govt. owned Company. The activities of the company are to develop of infrastructure for establishing large sized Industrial complexes and Estates besides implementing centrally sponsored schemes for Industrial Growth Centers, Export Promotion Industrial Parks, Food Processing Zones, Software technology parks etc. Jammu and Kashmir is an industrially backward state without a strong industrial base. However, many small, medium and large-scale industries have come up both in the traditional and new areas in the state. State Industrial Development Corporation (SIDCO) was brought into force to take care of the industrial development of the Indian state of Jammu and Kashmir. Unemployment is a social issue of serious concern at the present, both at National as well as State levels. The state of Jammu and Kashmir like most of the states of the country has been facing the problem of unemployment, since long. To overcome

the problem of unemployment SIDCO furnish ways to generate various employment potentialities in J and K.
Keywords: SIDCO, Unemployment, employment opportunities, small, medium and large scale industries.

ISCA-IYSC-2015-17CLM-04

Customer Satisfaction in Organized Retailing: An Empirical Study

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Abstract: Retailing is a distribution channel function where the retailing organization will buy products from certain manufacturers and then sell it directly to consumers. India is the emergence of organized retail. There has been considerable growth in organized retailing business in recent years and it is poised for much faster growth in the future. The organized retail industry in India is to grow 15-25 per cent annually and would triple times in size by 2015. Retailing is gradually inching its way towards becoming the next boom industry. The purchase of goods or services includes a number of factors that could affect each decision. Customer satisfaction is defined as the number of customers, or percentage of total customers, whose reported experience with a firm, its products, or its services (ratings) exceeds specified satisfaction goals. Customer satisfaction is more complex and even more important for retailers today than in past. The objectives of this study were to investigate the effects of sales promotion mix and group of factors with respect to product, price, place and promotion on customer satisfaction in shopping malls of Ujjain city and to study the variations in these factors across gender wise. Mall intercept survey was conducted to study of sales promotion mix and group of factors on customer satisfaction in shopping malls of Ujjain city. The sample included 200 active mall shoppers. The sales promotion mix on customer satisfaction were identified by a structure questionnaire and captured in 5 factors of sales promotion mix and 11 factors of group of factors. The study will help the managers of shopping malls to understand the underlying sales promotion factors on customer satisfaction of the shoppers in the malls and help them to craft their marketing strategies, also study will help to understand the factors, which mostly influence the male or female customer to purchase the products from shopping malls with respect to price, place product and promotion. Profiling customers by their choice of sales promotion mix provide more meaningful ways to identify and understand various customer segments and to target each segment with more focused marketing strategies.
Keywords: Customer satisfaction, sales promotion mix, shopping malls, organized retailing.

ISCA-IYSC-2015-17CLM-05

E – Commerce Emerging Trends

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Abstract: The new report has shown that there is a steady rise in the disposable income and proliferation of internet across the country happen to be the primary market drivers for E-Commerce Business in India. It is anticipated that the semi metro and urban cities will contribute the most in shaping up the demand curve in the ensuring years. A thorough research on the market shows brimming opportunities for vendors from the mobile internet and social media space.
Keywords: E-Commerce, emerging, trends.

ISCA-IYSC-2015-17CLM-06

Role of Bank in Indian Economic Development

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Abstract: Commercial banks play a vital role in the economic development of a country like India. Indian economy in general and banking services in particular have made rapid strides in the recent past. However, a sizeable section of the population, particularly the vulnerable groups, such as weaker sections and low income groups, continue to remain excluded from even the most basic opportunities and services provided by the financial sector. To address the issue of such financial exclusion in a holistic manner, it is essential to ensure that a range of financial services is available to every individual. Financial Inclusion should not be seen as a social responsibility of the Governments and the banking system, but it is a potentially viable business proposition today which provides the poor with opportunities to build savings make investments and get credit.
Keywords: Agriculture credit, economic development, poverty.

ISCA-IYSC-2015-17CLM-07

Role of Banking in Economic Development

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Abstract: Commercial Banks are considered not merely as dealers in money but also the leaders in economic development. They are not only the store house of the country's wealth but also the reservoirs of resources necessary for economic development. They play an important role in the economic development of a country. A well-developed banking system is essential for the economic development of a country. The "Industrial Revolution" in Europe in the 19th century would not have been possible without a sound system of commercial banking. In case of developing countries like India, the commercial banks are considered to be the backbones of the economy.
Keywords: Role, banking, economic, development.

ISCA-IYSC-2015-17CLM-08

A Study on Production and Productivity of Organic Cotton (with reference to Khargone District in M.P. India)

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Abstract: Cotton, most important fibre crop of India plays a dominant role in its agrarian and industrial economy. It is the backbone of our textile industry, accounting for 70% of total fibre consumption in textile sector, and 38% of the country's export. Although area under cotton cultivation in India is 11.7 million hectare which is the highest in the world i.e. 25% of the world area but cotton productivity and profitability in India is quite low as compared to world standards. Thus in order to increase the productivity and profitability, organic cotton is widely grown now a days in India, as the production cost reduces due to lack of usage of fertilizers and pesticides and at the same time the yield hectare also increases. The present study is taken up in Khargone district of MP, India. In Khargone district of India the area under the cultivation of normal and organic cotton is 1, 90,000 and 62,000 respectively and its total production 22,40,000 and 2,15,000 respectively. Per hectare cost of cultivation of normal and organic cotton is 55000 and 16500 respectively and. The profitability of normal and organic cotton in Khargone district is 1000 and 3500 per quintal respectively. Therefore we should produce organic cotton as it increases our profitability and reduces our cost due to less use of fertilizers and pesticides.
Keywords: bio cotton, production, profitability, crop, cultivation, economy.

18. Library Science

ISCA-IYSC-2015-18LS-01

Study of university library Websites of Madhya Pradesh, India

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Abstract: The recent years have seen the emergence of websites as an ideal medium through which knowledge and information can be disseminated very efficiently to every corner of the world. Libraries also use their websites for dissemination information among users and to popularize their services. This features are collectively referred as content awareness of library websites. Evaluating library websites through is one of the methods for measuring usefulness of websites. With libraries shifting their role from being custodians of collection based traditional information resources to being providers of access based digital information resources. The university website have assumed importance to have to disseminate and facilitate access to variety of information to their users.

Keywords: Evaluating, Library Websites, University Library.

19. Language, Literature and Culture

ISCA-IYSC-2015-19LLC-01

भारतीय संस्कृति में देवालय प्रतीक जैन संस्कृति के विशेष सन्दर्भ में

पवन शुक्ला
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सारांशः तत्वदर्शी ज्ञानीजनों की प्रतिमा जहां पर विशेष विधि से प्राण–प्रतिष्ठा (पंचकल्याणक) पूर्वक स्थापित होती है, उसे हम देवालय कहते हैं। भारतीय संस्कृति में देवालय का परमोच्च स्थान हैं देवत्व के प्रगाढ़ निष्ठा और सम्मान की भावना देव भूमि भारत की प्राचीन परम्परा है। देवत्व का अर्थ है– विश्व कल्याण की भावना, जो सबके हित में अपने हितों को होम कर दे, वह देव पुरूष है। देवत्व के प्रति श्रद्धा और पारस्परिक सद्भावना के प्रतीक के रूप में ही देवालय का निर्माण किया जाता है। देवालय का अर्थ है– देव का निवास। दिव+अच् से निर्मित देव शब्द का अर्थ दिव्य, स्वर्गीय देवता, दिव्यपुरूष, ब्राह्मण, राजा आदि अनेक अर्थ है। आ+ली+अच् से निर्मित आलय का अर्थ है– आवास, घर, आशय, आसन या जगह आदि है। जैन मन्दिरों के संदर्भ में 'आयतन' शब्द का उल्लेख हुआ है। 'आयतन' का अस्तित्व तीर्थंकर महावीर के समय में भी था। विहार के समय विश्राम के लिए महावीर के यक्षायतनों में ठहरने के संदर्भ प्राप्त होते हैं। बाद में आयतन शब्द का प्रयोग जिनायतन के रूप में होने लगा और इसके बाद मन्दिर, चैत्य, आलय, वसतिगृह आदि शब्दों ने इसका स्थान ग्रहण कर लिया। पद्मचरित्र में राम व रावण द्वारा अनेक स्थलों पर जिन मन्दिरों व प्रतिमाओं की स्थापना, पूजन एवं जीर्णोद्धार के उल्लेख है। आदिपुराण में जैन मन्दिर के लिए सिद्धायत शब्द प्रयुक्त हुआ है। अमरकोश में आयतन और चैत्य का एक ही अर्थ बताया गया है। जैन आगमग्रन्थों में चैत्य शब्द का प्रयोग देव मंदिर के लिए हुआ है। आदिपुराण में चैत्यवृक्ष के समीप जिनमन्दिर के होने का उल्लेख है। पडमपुराण में चैत्यालय को महापवित्र बताया गया। वस्तुतः जिनेन्द्रालय का वृहताकार ही चैत्यालय है। जिनेन्द्रालय के स्थान पर 'जिनवेश्म' शब्द भी प्रयुक्त हुआ है। अरहन्त, सिद्ध, आचार्य, उपाध्याय, साधु धर्म, आगमशास्त्र, चैत्य प्रतिमा, चैत्यालय (देवालय) इस प्रकार कुल नव देवता जैनदर्शन में कहे गये हैं। जिन का अर्चन, पूजन, भजन, स्तवन, नित्य किया जाता है। ये पूज्य नवदेवता साक्षात् जहाँ विराजमान रहते हैं। इसको समवशरण मन्दिर, चैत्यालय, देवालय, जिनमन्दिर, जिनगृह आदि कितने अनेक शुभ नामों से कहा जाता है। साक्षात् नवदेवों के अभाव में इनके प्रतिनिधि रूप (प्रतिमा) (मूर्ति) जिन स्थानों में स्थापित की जाती है उस स्थान को भी जिन मन्दिर चैत्यालय आदि कहते हैं। देवालय में पूजन अर्चन के माध्यम से चारों कषायों के शमन तथा पंचेन्द्रिय विषयों की तृष्णा का अभाव हो जाता है। कर्मों का प्रक्षालन करके अपनी आत्मा को पवित्र किया जाता है। जैन परम्परा में द्रव्यपूजा एवं भावपूजा का विधान है। वीतराग भगवान की पूजा की जाती है। उनके गुणों को मूर्ति के रूप में प्रतिष्ठित करते हैं जिसे जिनबिम्ब कहते हैं, जहाँ पर जिनबिम्ब मूर्ति स्थापित की जाती है उस स्थान को जिनालय या मंदिर कहते हैं।

देवतायतनं कुर्याद् धर्मार्थकाममोक्ष्दम्।

देवालय बनाने से धर्म, अर्थ, काम और मोक्ष की प्राप्ति होती है।

जैन संस्कृति में देवालय समवशरण सभा का प्रतीक है। समवशरण धर्म सभा का प्रतीक है। जहाँ सभी जीवों को समान रूप से शरण मिलती है तथा जहाँ तीर्थंकर की दिव्य ध्वनि खिरती है जिसमें सभी जीवों (पशु, पक्षी, मनुष्य और देव) को समान रूप से शरण प्राप्त होती है, जहाँ वे अपनी अपनी भाषा में तीर्थंकर के दिव्योपदेश को ग्रहण करते हैं। इस प्रकार देवालय वह पावन स्थल है जहाँ प्रत्येक जीव आत्मशक्ति प्राप्त करते हैं और आत्मोन्नति का मार्ग प्रशस्त करते हैं।

शब्दखोजः भारतीय संस्कृति, देवालय, प्रतीक, जैन संस्कृति, सन्दर्भ।

20. Social and Humanity Science

ISCA-IYSC-2015-20SHS-01

Research Paper on Effect of Fun@ work over act of making Friend in Organization: A Factual study of Print Media Organization

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Abstract: Fun @ work is a newly emerging concept in the literature of organization behaviour and social psychology. Despite an increasing number of studies on Employee Engagement, no unifying work is focused on the Fun at work and its effects. The general behaviour of employee and his/her interpersonal with colleague is usually not been observed or studied. Chatting over lunch and joking with coworkers may not seem like more than pleasant distractions at the office, but they could have an enormous impact on your work life. When employee do not have friend to talk, discuss, share, argue and chat about, the engagement level start deteriorating and the employee start feeling stressed and the productivity also declines. This paper and study aims to investigate that "fun at work activities" helps an employee to make "friend at work" on media employees. This study surveys 8500 employee of Dainik Bhaskar "a largest hindi print media house" covering its all onroll staff working across country. The results showed that in media industry employees are either Strong agree or agree that fun at work activities" helps them to make "friend at work" The purpose of this study is to invoke concern over fun at work activities which would result in making "friend at work" which will leads in increased employee engagement and finally result in Higher Job Satisfaction, Better performance and Career Success. Since this is an untouched area in research and nearly dark area for HR professionals. This study will reveal the importance of "fun at work activities" in helping employees to make "friend at work" in media industry.
Keywords: Fun@ Work, Friend @ Work., Employee Engagement, Job Satisfaction, Employee Performance, Career Success.

ISCA-IYSC-2015-20SHS-02

Indo-Iran and US: A New Strategic Triangle

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Abstract: India and Iran have a long close historical relation right from the ancient times. Nuclear weapons are an essential part of India's national security and will remain so, until non-discriminatory and global nuclear disarmament. Iran insists that it only intends to develop its nuclear programme for peaceful purposes, but the International Atomic Energy Agency (IAEA) claims that it has not been able to verify the country's claims. Iranian nuclear issue came into the international attention in August 2002, when the existence of the Natanz uranium enrichment plant was exposed by an Iranian opposition group. India voted against Iranian Nuclear issue in IAEA which in long run hampered bilateral relations between the two countries. Recently, the signs of nuclear deal with US ended the draconian sanctions on Iran and boosted her confidence to the heights and gave the later an edge in the region. If Iran continues on its current path, Iran will be a nuclear state within near future and it is very close to be called a power hub of Central Asia due to its energy rich resources, strong military and strategic developments.
Keywords: IAEA, Nuclear Deal, Nuclear Non-Proliferation Treaty, Nuclear Weapons, Technology.

ISCA-IYSC-2015-20SHS-03

Keraka Mural Paintings Intertwinings with Nature

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Abstract: State of Kerala holds second place in having largest collection of mural paintings. It has close connection with nature. Only five colours are used. Red, Green, blue, black, and yellow. Those paints are extracted from various plants, leaves, stones etc. Pictures have certain speciality. They are following mathematical relations. Mainly picture of Gods and Goddesses are made using natural colour. Kerala mural tradition can be traced back to 8th century AD. Each mural painting is drawn based on invocatory verses (dhyana slokas). Subjects for murals were derived from religious texts. Palace nd temples were adorned with pictures of Gods and Goddesses of Hindu religion. Now pictures of Christian Gods and others are also drawn in mural paintings. Flora and fauna and other aspects of nature were also pictured as backdrops

in highly stylised manners. This paper try to analyse various invocatory verses and they are thought to have much power likeastrology. If we worship these pictures with the help of dhyana slokas, result will be beyond imagination. Effects of certain meanings also are excavated.

Keywords: Keraka Mural Paintings Intertwining with Nature.

ISCA-IYSC-2015-20SHS-04

Self-help skills for Pre-Scholars in Haryana, India

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Abstract: Pre-school period is very crucial development of learning competency because it is a time for the development of foundational movement skills. Child learns to walk, to talk, to think and reason and to solve problems. This leads to develop the learning capacity in pre-school children learning competencies involve the skills like sensing, perceving, recognizing, conceving, conceptualizing judging, reasoning and problem solving. The data report in this paper was collected in small area in preschool laboratory, College of Home Science, CCSHAU Hisar. The measure obtained on the children included the McCarthy Scales of children's abilities. Sample size was 20 respondents which were taken on random basis. We found that age appropriate things match the students. The children have age wise ability.

Keywords: Pre-school, children, skills, development and age wise ability.

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The Status of KAP for Infancy Nutrition Vs. Technological Development among Rana Tharu Schedule Tribes

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Abstract: The tribal section of Indian population is characterized as isolation in ecology, demography, economy, politics, family structure, culture, tradition, social behavior, health and nutrition etc. The Tharu Tribe is the most popular tribe of Indian and Nepal. They are indigenous people living in the Terai plains on the border of Nepal and India. The population of Tharu in the state of Uttar Pradesh in 83544 and 85665 in Uttarakhand. They are mostly populated in Champaran district of Bihar and in Udham Singh Nagar district of Uttarakhand, Kheeri, Peelibheet, Gonda, Balrampur, Gorakhpur, Bahraich, Shravasti district of Uttar Pradesh. The Tharu are recognized as a schedule tribe by the Govt. of India and constitution of India gives many special rights in all fields of development because they are the primary victims of backwardness. Inspite of the above the tharu life is very 'eco-friendly', the quality of life are deeply related with nature, culture and traditional rituals. Due to traditional infants care practice based on traditional rituals, infections, anaemia, nutritional deficiency and other diseases are very much common due to unhygienic living, unbalanced diet among pregnant women and lactating mothers and their infants, that is a alarming issue to policy formulation and implementator. The supreme court also found it a serious issue and given direction by order passed for infants, children, pregnant women and lactating mothers. But the ground reality still as it is. This paper aims to analyze the status of knowledge, attitude and practices (KAP) for infants care practices vs. technological advancement among Rana Tharu families. The paper was prepared at Bhoorh village of Khatima development block of district Udham Singh Nagar state Uttarakhand (India). The validation cohort n=100 (all child bearing women). The academic status of respondents was better; graduate; 14%, intermediate; 27; High School 21% below high School; 17% and rest; 21% illiterate. The knowledge for infancy care practices among 37% women. The source of their achieving knowledge during study period (academic institutions) regarding health, hygiene and nutrition. The attitude towards healthy infants care practices found only 16% among respondents. For practices for infants care it was found negligible because of the adamant of traditional taboos and ritual present utmost in this society. A cent-percent rejection of modern clinical services among this community and bound to take these clinical services either by magica-religious or traditional practitioner termed as 'bharare'. All the deliveries were carried at home that was carried by traditional dies, bharare, and old women. There were a sad story for disabled and abnormal babies that was killed at the time of birth and that baby considered as a symbol of Rakash. For twins, some times accept the babies twins. Therefore, this society's quality of life is based on traditional beliefs, rituals and taboos. Prohibitions were very much common. Every working were carried by a magico religious priest and the quality of life of such society termed as primitive society. On the other hand, the technological development was found marvelous. Every houses were pucca and well designed with equipped by T.V., cable, bridge etc. The agriculture equipment tractor, harvestor, thresher etc. are also very much common in this society. The household transportation was carried by bike and cars that

were very much common. Therefore this society needed very much attention for social, psychological, health, clinical and nutrition awareness programmes that should be adopted in their quality of life for attitude and practices in mother and child care services.

Keywords: Status, infancy nutrition, technological, development, schedule.

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A Study of Learning Abilities in Urban Pre-Schoolers

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Abstract: The first five years of life are crucial for physical, social, emotional, cognitive and language development. Development of knowledge and skills of children are associated with growth in the number of words that represent and convey the fact and processers. Late in life well developed fine movement skills are as important as gross movement's skills. This study was conducted in preschool laboratory run under the department of Human Development and Family Studies I. C. College of Home Science, CCS HAU Hisar district of Haryana State, India. The sample for the study was 10 pre-schoolers, which were selected on random basis. In the age group between 3-5 years enrolled in the preschool lab was selected for the present study. McCarthy Scale was used to assess their learning abilities. The result showed that gender wise comparison of children for their mental age against chronological age, girls (66.6%) were mentally below their chronological age than boys (57.14%).

Keywords: Pre-school, children, learning abilities, development and gender wise ability.

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