

ADDRESSING WATER POLLUTION COST EFFECTIVELY

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Nano-materials have been developed in variety of forms such as nanowires, nanotubes, films, particles, quantum dots and colloids. In wastewater treatment application, a variety of efficient, eco-friendly and cost-effective nano-materials have been developed having unique functionalities for potential decontamination of industrial effluents, surface water, ground water and drinking water. Since its discovery in 2004, graphene has attracted significant attention in various fields due to its unique physical and chemical properties. Though the physicochemical properties and the catalytic behaviour have been widely investigated, chemistry of its composites has received significant attention these days. Synthesis of different graphene composites, their characterization and applications have been reported in the recent past. India is an agricultural country and thus uses large quantity of fertilizers and pesticides. Due to the illiteracy and lack of scientific training, most farmers do not adopt scientific methods of their uses. Eventually this gives access of these fertilizers into water bodies. Amongst these Organochlorines are the compounds which contain a minimum of one covalently bonded chlorine atom. Organochlorines exhibit a large variety of structures with much diverse chemical properties. Due to high atomic weight of chlorine, these compounds are found to be denser than water. Organochlorines could enter an organisms' body across the skin, from the lungs and could also be absorbed from the gut wall. They affect central nervous system causing hyper-excitable state in brain, convulsions, tremor, hyper-reflexia and ataxia. Organochlorines may also interact with endocrine receptors like estrogen and androgens. These warrant the development of protocols / suitable methods to address such problems in water bodies. Now a days biodegradable nanocomposites of different combinations with nano metals, metal oxides and naturally occurring renewable feed stock have been employed in addressing water toxicity. The advantages of the present method are use of simple low-cost instrument for monitoring and low cost use of biodegradable nanocomposite synthesized for the removal of pesticides from ground water sample giving an excellent result.

Keywords: Surface and Groundwater Pollution, Nano Biodegradable Composite, Cost Effective Process, Organochlorines.

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ANTIMICROBIAL ACTIVITY AND PHYTOCHEMICAL SCREENING OFGYNANDROPIS PENTAPHYLLA

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Plants are capable of synthesizing an overwhelming variety of low molecular weight organic compounds usually unique and complex in structure. Phytochemicals produced in plants are

secondary compounds responsible metabolic activities and defense in purpose. Phytochemicals are produced by specific biochemical pathways, which occur inside the plant cells. These phytochemicals are significantly utilized as significant importance as these are having medicinal properties. These molecules/phytochemicals and plant extracts are utilized in Natural medicine for antimicrobial, antioxidant, wound healing, analgesic, anti-diabetic, anti-inflammatory properties. The present study describes the antimicrobial activity of the polar (hydro-alcoholic, aqueous, methanolic and ethanolic) extracts and non-polar extracts (hexane, chloroform and petroleum ether) of whole plant, *Gynandropis pentaphylla* against drug resistant strains of *Staphylococcus aureus* and other pathogenic strains (viz. *Pseudomonas aeruginosa*, *Bacillus cereus*, *Aspergillus niger* and *Candida albicans*) at 25 mg/ml. The results of the study showed that, amongst polar extracts, methanolic and ethanolic extracts of the plant showed significant antimicrobial activity against the all pathogens studied while no activity was found of hydro-alcoholic and aqueous extracts. There was no antimicrobial activity found of hexane, chloroform and petroleum ether extracts against any of the pathogens studied. The methanolic and ethanolic extracts showed MIC in the range from 5-7.5 mg/ml. The phytochemical screening of the polar extracts showed the presence of alkaloids, flavonoids, steroids, saponin and reducing sugars. The potent methanolic and ethanolic fraction results in the purification of compound. The single molecule was isolated and identified as Quercetin as determined by HPLC and FT-IR techniques

Keywords: Antimicrobial activity, *Gynandropis pentaphylla*, polar and non-polar extracts, phytochemical screening, Quercetin, HPLC, FT-IR techniques

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A GEOGRAPHICAL ANALYSIS OF HUMAN RESOURCE OF BILASPUR CITY

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Human resource is an important resource as producer & consumer of natural resources and he plays a vital role in the formation of culture. In many of the studies, population represent as a problem generate indicator, but in modern approach, it is an important resource which influence the developmental process. So it is essential to assess quantitative and qualitative aspects of the human resource for the regional development. Growth of Human resource, occupational structure, level of education is such indices through which planning for an area can be made. Development is an intra-functional process which includes the enhancement of basic facilities for the quality of life is necessary. Planning of an Urban area, Basic facilities and quality of human resource is equally essential inter-related parameters thus with this perception the present work is to study the human resource development in point of view of availability of basic facilities as a key parameters for regional aspects . Quality of human resource is the fundamental variable for Regional development .Literacy, male-female ratio, dependency ratio, that is the basic assessment units of quality of human resource growth and distribution have regional differentiation and In urban area the availability and extension of basic facilities are more and less dependent upon the quality of human resource hence the interactive study is essential for the urban as well as social development.

Aim of the Present study is to evaluate the various positive & negative elements of human resource with respect to Bilaspur urban area and assess the human resource development level of the city.

Study is based on secondary data collected from various government officials. Population data is derived from census 2001-2011. Statistical parameters used to summarize the data. For the measurement of human resource development level KNOX INDEX (1977) has been carried out. male-female literacy, work participation rate of male-female population (as positive variables), population of 0-6 age group, sex ratio, dependency ratio, density of population, size of the family, number of hospitals/schools (as negative variables) are the variables taken for the assessment of HRD in Bilaspur city.

Central region of the Bilaspur city , the HR level is high whereas the eastern part of the city level of HR is quite low. High density of population (274.1), sufficient Availability of basic facilities , Low dependency ratio(24.36), high literacy(73%) and work participation rate(23.8) family-house ratio(1.03)are the factors make this area qualitatively good.

Cities are the centers of civilization and the provider of basic and non basic functions to urban influence area. Bilaspur is one of the major urban centres of the Chhattisgarh Hence the high level of human resource is good sign of regional development.

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STUDY OF THE OPTIMIZATION AND PRODUCTION OF ANABENA AND CYLINDROSPERMUM IN DIFFERENT MEDIA FORMULATIONS

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Cyanobacteria/ Blue Green Algae (BGA) are rich sources of various compounds including pigments, lectins, fibers, halogenated compounds, steroids, antioxidants, vitamins, polyketides, polysaccharides, proteins, and essential lipids. Therefore, they are widely used in different countries due to their multifunctional applications in nutraceuticals as well as in pharmaceuticals. Cyanobacteria possess high nutritional values and pharmaceutical applications as its secondary metabolites have several therapeutic values such as antiviral, anticancer, and antimicrobial activities. The BGA biomass is widely used in bio-fuel, cosmetics, pharmaceuticals bio fertilizer etc. The BGA as photosynthetic microorganisms can be easily cultured, harvested, processed and can be used as a natural source of bio fertilizer. Blue green algal biomass is generally used in dried algal flakes forms. Different standard culture media are formulated and developed by different researchers. Large scale production of microalgal biomass depends on different factors, the most important of which are nutrient availability, temperature and light. The choice of the medium mainly depends on several factors that include chemical composition of the medium. The present study is focused towards developing ecofriendly technique for mass production and suitable bio-inoculum development for field application of Blue Green Algae (BGA) strains. The study was carried out for growth and

production of two genera, *Anabaena* and *Cylindrospermum* (isolated from Chhattisgarh region) in 10 different inorganic culture media. The objective of the study was to analyze the optimum growth (dry biomass) of cyanobacteria species in minimum duration and chlorophyll-a concentration in specific nutrient media concentration. The results of the study suggested the best 3 selective media formulations (Media – 103; Media- 106 and Media-109) for efficient growth and production of cyanobacterial strains

Keywords: Cyanobacterial cultures, Anabena, Cylindrospermum, water bodies, Chhattisgarh region, optimization and production of growth.

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COMPLEXATION OF SPARFLOXACIN WITH SOME TRANSITION METAL IONS - A SPECTROPHOTOMETRIC STUDY

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Complexation of Sparfloxacin with Fe, Co, Ni and Cu, is based on the formation of stable Fe(III), Co(II), Ni(II), and Cu(II) complexes. Sparfloxacin reacts with these metal ions in aqueous buffer solutions whereby coloured complexes are formed which absorb maximally at 430, 425, 421 and 415 nm, respectively. The different experimental parameters affecting the development and stability of the colour were carefully studied and optimized. The absorbance-concentration plots of complexes are linear. No interferences were observed from excipients and the validity of the method was tested against reference methods.

Keywords: Complexation, Spectrophotometry, Absorbance, Sparfloxacin, Stability constant.

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ASSESSING NATURAL FOREST HEALTH THROUGH FUNGAL BIODIVERSITY ANALYSIS

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Natural Forests harbor a large amount of dead wood, including branches, snags and stumps. These different types of dead wood represent a range of habitats for organisms, such as fungi, bacteria and invertebrates. Since they are largely managed in India the volume of dead wood is reduced tremendously as compared to natural forests which in turn reduces the available habitats and negatively affect the forest microbial biodiversity. In order to protect fungal biodiversity in managed forests the presence of large dead logs and the continuous supply of new dead wood are important. As per the reports available not only the amount, but also the size and type of

dead wood are influencing the number of fungal species. Both large logs and branches with a small diameter are able to maintain more stable microclimatic conditions required by some specialized species. In present investigation we have targeted the natural forest of Bilaspur district (Achanakmar region) for study. We have selected ten sampling sites for fungal biodiversity analysis and isolated almost one hundred fungal isolates. The isolates have been analyzed morphologically and biochemically for their identification for further studies.

Keywords: fungal biodiversity, snag, stumps, microclimatic condition, Achanakmar region.

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QUALITATIVE AND QUANTITATIVE ANALYSIS OF NIGELLA SATIVA L. SEEDS

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Medicinal plants are the richest bio-resources of drugs for traditional system of medicine. The present study deals with the qualitative and quantitative analysis of *Nigella sativa* L. *Nigella sativa* L., commonly known as black cumin seeds, are remedy for various diseases. It has antioxidants, anticancer, anti-inflammatory and anti-thyroid activities.

The extraction of seed oil was done by Soxhlet apparatus, using methanol as solvent and after extraction, its qualitative analysis is done by phytochemicals test of Alkaloids, Flavonoids, Terpenoids, Steroids, Phenols, Tannins, Saponins and Cardiac Glycosides. Quantitative analyses were also done to determine the amount of such phytochemicals.

Phytochemicals, alkaloids, flavonoids, terpenoids, steroids and cardiac glycosides are present in varying amounts which can be used in future for preparation of herbal medicine

Key words : Nigella sativa, Soxhlet apparatus, Cardiac Glycosides, Terpenoids

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A STUDY OF CONSEQUENCES OF CHANGING BIODIVERSITY IN THE KANGER VALLEY NATIONAL PARK, CHHATTISGARH

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India is one of the mega biodiversity regions over the world. The various protected areas in the country, the Kanger Valley National Park near Jagdalpur in the Bastar region of C.G. is one of the densest National Parks. It is well known for its Biodiversity land scape, waterfalls, subterranean geomorphologic lime stone, caves and home for the Bastar hill Myna the state bird

of Chhattisgarh. The flora in the Park Consists Chiefly of mixed moist deciduous type of forest with Predominance of Sal, Teak and Bamboo trees. To study the growth and composition of forest tree species, herbaceous biomass production and Kanger Valley National Park systematic quadrat sampling technique was used to reduce bias caused by intra site differences in structure and composition quadrat were laid out at different latitudes and longitudes in different forest area of different forest range in Kanger Valley National Park. The work has been done in floral diversity under Natural forest ecosystem Floral diversity index of the ecosystem denotes the richness of various plant Species growing in an area. Higher value of the index reflects that higher numbers of diverse species are associated with the ecosystem. The study shows that the plantation sites are comparatively more hospitable to support higher values of Biodiversity index in comparison to adjoining natural forest area. Study in ground flora diversity and under plantation of different tree species. The present observation may be used as base line data to monitor the diversity in future in the study area. In order to maintain forest in the face of increasing threats, including climate change in Vision of weed species etc.

Keywords: Biodiversity, Climate Change, Threats, Weed Species, Floral, Fauna

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QUALITY ANALYSIS OF BIOTECHNOLOGY RESEARCHES IN CONTEXT OF SCIENTIFIC RESEARCH PARAMETER

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The purpose of the study was to critically analyze the dissertations of M.Sc. Biotechnology students, Department of Biotechnology, Guru Ghasidas Vishwavidyalaya, Bilaspur, (C.G.), India. For the present study all M.Sc. Biotechnology dissertation reports of session 2009-10, to 2011-12 of the Department of Biotechnology, Guru Ghasidas Vishwavidyalaya Bilaspur (C.G.) were selected as a population of the study and a total three (03) dissertations were selected as a sample for the study through purposive sampling technique. For analysis of dissertations the researcher has adopted content analysis procedure on the basis of scientific research methodology. It was concluded that there was no any description about how researcher reaches to the problem and researcher not forming and framing any meaningful questions, graphical representations of the findings were not given and finding were not supported by latest reviews and no detailed description was done by the students in his dissertation reports.

Keywords: Biotechnology Dissertation report, scientific research methodology, quality analysis, scientific research parameter

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**SYNTHESIS, CHARACTERIZATION AND COMPLEXATION BEHAVIOUR OF
MIXED-LIGAND COMPLEXES OF TRANSITION METAL IONS WITH DRUGS AND
AMINO ACIDS**

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Mixed-ligand complexes of transition metal ions with drugs such as dapsone, norfloxacin and different amino acids were synthesized and characterized. For the characterization of these complexes various physicochemical methods are used. Elemental analysis data established the stoichiometry of complexes, which determine the molecular formula of complexes. FTIR and electronic spectral data confirm the coordination of ligands with the metal ions.

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**A STUDY ON CHRONIC KIDNEY DISEASE STAGE-V SPECIFIC
CARDIOVASCULAR RISK FACTORS AMONG UNDER AND NONDIALYTIC
PATIENTS OF CHATTISGARH**

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The study was carried out to see prevalence of Chronic Kidney Disease (CKD) specific cardiovascular risk factors and cardiovascular events among patients with Chronic Kidney Disease stage-V (CKD-V) before starting dialysis therapy in the Govt District Hospital, Bilaspur [C.G], CIMS and Dr Subha Dubey's Hospital of Nephrology, Shankar Nagar, Raipur [C.G]. Among CKD specific cardiovascular risk factors, anaemia showed the highest prevalence (96.7%) in study population. More than fifty percent of CKD-V patients had Calcium-Phosphate Product (CaXP) was elevated, C-reactive protein, an acute phase protein was positive in 78% of CKD-V patients. Besides, among traditional risk factors, Hypertension and Diabetes Mellitus were present in 83.3% and 23% of the study population respectively. The prevalence of cardiovascular events among CKD-V patients showed that 18.3% had ischemic heart disease, 38% heart failure, 4.7% arrhythmia and 9% left ventricular hypertrophy. Females were significantly prone to develop cardiovascular events than their male counterpart ($p=0.028$). Diabetes was significantly higher in patients with cardiovascular complications than in patients without cardiovascular complications ($p=0.021$). Also, Hyper-phosphatemia is highly prevalent in under and non-dialysis patients and has been targeted as an important area for improvement. Disorders of bone mineral metabolism, including hypo- and hyper-phosphatemia, have been shown to be associated with increased risk for all-cause and cardiovascular mortality and

morbidity in non-dialysis and even in dialysis patients. The risk for infectious morbidity and mortality has also been shown to be increased in patients with increased phosphate levels, this evidence is statistically proved in this study. As Chhattisgarh is economically and educationally deprived state, thus CKD patients are either non dialysed or they discontinue the dialysis procedure due to ignorance, Thus, cardiovascular diseases are the leading cause of morbidity and mortality among CKD patients. The result of this study suggests that both cardiovascular risk factors and events are prevalent among patients with CKD-V. Female sex and Diabetes Mellitus are significantly associated with cardiovascular events in same group of patients. A large scale study is essential for detection and management of CKD specific cardiovascular risk factors in the early stages of Chronic Kidney Disease to prevent and halt the morbidity and mortality of CKD patients.

Keywords: Arrhythmia, Chronic Kidney Disease (CKD), C-Reactive Protein, Dialysis, Diabetes Mellitus, Hypocalcaemia, Hyper-Phosphataemia, Hypertension, Hyper-Cholesterolemia, Left Ventricular Hypertrophy.

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A STUDY ON THE EFFECT OF CHLOROQUINE ADMINISTERED WITH INSULIN- EFFECT ON SERUM TRANSFERASES AND PHOSPHATASES ACTIVITY WITH HIGH CALCIUM SUPPLEMENTATION

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Chloroquine is a drug that is widely used in world for the treatment of malaria fever. Approximately 50-70% of chloroquine in plasma is bound to plasma proteins. The tissues exhibit particularly high binding to chloroquine especially those containing melanin, for example the retina. Significant binding also occurs in the liver, kidney and spleen. Chloroquine. It has been reported to be concentrated in the liver and many other tissues following its administration. It is an acidophilic weak drug that will accumulate in the acid environment of the intestine, raising its pH. This may interfere with the dehydration of the internalized insulin receptor complex. A direct interaction of chloroquine with insulin receptor, resulting in a reduced rate of dissociating insulin from the receptor has been reported.

Subjects -35, divided in 5 groups, randomly selected by personal contacts and who were ready to volunteer themselves for this research. At the time of selection of the subjects the all Insulin Dependent Diabetics were suffering from Malaria. 12 of them had Falciparum Malaria, 8 had Ovale and 10 had Malariae Malaria. Diabetics infected with Malaria was the basis of their selection for this study. Age range 34-67 years, Male 29, 06 females They all are essentially Insulin Dependent Diabetics since atleast last 5 years., Study Area- Bilaspur City and outskirt area, Study Time –June 15-Sep 18. Before the commencement of the anti-malarial treatment with Chloroquine phosphate (Chlorolex-250 mgs), all the groups were taking high fat and good calcium containing diet, with 40 grams fat and 800 mgs calcium per day via diet and

continued till the end of the study. Insulin (0.5 to 1 unit/kg/day) was administered intramuscularly as a single dose daily into all subjects as per their requirements; this part of the study was not disturbed and continued as earlier before this study. Chloroquine phosphate orally administered into patients in groups over a period of 10 weeks. All treatments were made to commence 2 days after adaptation to respective diet. Two separate diets were used in the study. The diets were composed according to high and medium-low supplementations. The control diet consists of 55 % carbohydrate; 26 % protein; 10.5 % fats; 1.5% vitamins and 7 % salt mix (consisting of 21.7% calcium). Subjects in group labeled A were taking this diet. The test diet on the other hand consists of 44.5 % carbohydrate; 25 % protein; 22 % fats; 1.5% vitamins and 7 % salt mix (consisting of 51.97% calcium). Subjects in groups labeled B, C, D and E were taking this diet. Each group was maintained on their respective diet continued for 15 weeks. Increased dietary fat and calcium significantly increased ($p < 0.05$) the serum acid phosphatase activity but has no significant ($p > 0.05$) effect on the serum alkaline phosphatase activity. Separate administration of chloroquine and insulin apparently does not alter the phosphatase activity. However, combined administration of insulin and chloroquine significantly reduced acid phosphatase activity. The observed activity for the acid phosphatase was not significantly different from the normal control value and the activity observed for the enzyme in other test groups, that is, groups D and E. The observed activity for the serum alkaline phosphatase, following combined administration of insulin and chloroquine was significantly higher than the activity of the enzyme in all other groups.

The result of this study indicates that combined administration of chloroquine and insulin may result in hepatic injury. Based on the findings reported in this study, we thus opined that the role of combined administration of chloroquine and insulin in Malarial treatment in patients having Diabetes need to be further investigated

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INSULIN RESISTANCE CREATED BY HIGHER SODIUM INTAKE

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Sodium intake affects the working of Insulin by modifying the Renin-Angiotensin system, by increasing free fatty acid level of serum and by altering serum Cortisol level , Aldosterone level , by affecting Serum Potassium Level. High serum level of Sodium hampers the function of Insulin and makes cells resistant towards Insulin, creates a condition like Insulin Resistance. To test the hypothesis that activation of the endogenous renin-angiotensin-aldosterone system or exogenous aldosterone impairs insulin secretion in humans and also creates condition of Insulin Resistance.

The normo-tensive (20 + 20) age range 32-47 , non diabetic subjects are divided in to two groups –one group has given low salt (10-30 mg /day) and one group with high salt intake (2000mg/day). The high salt intake group ,after seven days of following this pattern, their serum

c-peptide level is measured along with other serum hormonal levels of concern, serum free fatty acid level is also measured by Alcohol washings. Subjects were provided a 20-mmol/dl sodium, calorie-controlled diet for 9 days and another group was given 160- mmol/d sodium diet for 9 days (which represents the typical sodium intake in our region). Diets were similar in caloric content from carbohydrate (55%), fat (27%), and protein (18 %) and were controlled for potassium (80 mEq/d) and calcium (10 mEq/d). The duration of diets was based on the time required to achieve sodium balance during respective low and high sodium intake. Compliance was assessed by measurement of 24-hour urine sodium excretion, plasma renin activity, and plasma aldosterone. A low-sodium diet increased endogenous aldosterone activity, and acute glucose-stimulated insulin $29.3 \pm 2.6\%$; $P = .007$) and C-peptide responses ($23.04 \pm 8.4\%$; $P = .014$) were decreased, whereas the high sodium diet produced reverse effect. Systolic blood pressure and serum potassium were similar during low and high sodium intake and during aldosterone infusion. Cortisol level was observed negatively associated with Insulin activity. In conclusion, the HS intake ameliorated hyperglycemia and insulin resistance in WBKDF rats, which may be due to enhancement of plasma adiponectin levels independent of the increase in BP. The WBKDF rat may be a useful model for examining the etiology of T2DM with salt-sensitive hypertension.

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PROTEASE: AN ENZYME WITH MULTIPLE INDUSTRIAL APPLICATIONS

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Proteases similarly named peptidases, proteolytic enzyme and proteinases are capable of hydrolyzing peptide bonds in proteins. Proteases represent for approximately 40% of the total enzyme sales in different modern market areas. Protease is of commercial value and various industrial applications. The enzymes accessible today in the market are gotten from microbial sources. This is due to their high profitability, limited cultivation space requirement, simple hereditary control, broad biochemical diversity and attractive qualities that make them appropriate for biotechnological application. Use of proteases as dynamic fixings in detergents, leather industry, medicinal diagnostics, recovery of silver from X-ray films, silk degumming, food and feed industry and so on. The development of new enzymatic systems which cannot be obtained from plants or animals is made possible and important progress in the food industry may be achieved through microbial enzymes. Proteases are widely used for production of protein hydrolysates for more than 40 years. As a result of their enormous applications in the advanced techniques, various associations began fabricating them at business level.

Keywords: Protease, Microorganisms, Food industry, Detergent

ANTIBACTERIAL ACTIVITY OF PYROGLUTAMIC ACID ON BACILLUS SUBTILIS (MTCC 10403) – INVITRO AND IN SILICO ANALYSIS

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Pyroglutamic acid which is also known as 2-pyrrolidone-5-carboxylic acid (PCA) is synthesized by different lactic acid bacteria species like *L.casei*, *L.plantarum* and *L.rhamnosus*. Penicillin (PCN) is an antibiotic with β lactum ring whereas PCA is with γ lactum ring. The antibacterial activity of both PCN and PCA is studied invivo on *Bacillus subtilis* (MTCC 10403). In silico docking studies are carried out using penicillin binding protein (PBP4) as receptor and PCN and PCA as ligand molecules. Amino acid residues involved in binding are identified and most of them are to be arginine residues. The solvent accessible surface area (SASA) analysis also shows that these residues have high SASA before docking when compared to after docking. Binding energy calculations are performed, which shows that PCN has more binding affinity with the receptor when compared to PCA. The in silico results coincide with the invitro analysis results where PCN has more activity when compared to PCA.

Keywords: Pyroglutamic Acid, Protein-Ligand Docking, MM-GBSA Penicillin.

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WOMEN ENTREPRENEURS IN INDIA- MAJOR EXTERNAL CHALLENGES-AN EMPIRICAL STUDY

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In recent years, women have been showing a keen interest towards taking self-oriented jobs and professions by enhancing their growing interpersonal skills, industrial exposure, family support, and financial assistance. Unequal access to education restricts them from acquiring the functional levels of literacy required to learn skills. The present paper is an attempt to analyze the reasons which prompt women to start business and the major challenging external factors which women entrepreneurs faces in Indian context. The study was conducted through online mode and required responses were received from women entrepreneurs across the country. The major findings were social acceptance towards the working women, marketing and promotional issues of their products and services, problems related to recourse procurement, funding issues and finally Indian Patriarchal social order. The study concluded by stating that the business arena is still a tough place for women in India. Despite the hardships faced by women, risk taking mentality and family support help them to find new

ways to beat the odds placed against them. It was found from the analysis that the foremost important factor of their success is their own will power and vision that makes it possible for them to overcome the social and professional challenges.

Keywords: Women entrepreneurs, Industrial Exposure, Professional skills, financial assistance.

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STUDY OF THE PHYTOCHEMICAL AND ANTIBACTERIAL PROPERTIES OF LEAF EXTRACTS OF TRIDEX PROCUMBENS AGAINST PATHOGENIC BACTERIA

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Plants are one of the largest sources of herbal medicines. Most plants have capability to produce some bioactive constituents which gives defence against micro organisms like bacteria and fungi and also from some insects. *Tridex procumbens* is a wild plant which grows as weed plant. Leaves of *Tridex procumbens* have subjected for extraction in 4 different solvents viz. methanol, chloroform, aqueous, and ethanol. The aim of this study was to find out the phytochemicals and antimicrobial activity of methanol, chloroform, aqueous, and ethanol extracts which have prepared from leaves of *Tridex procumbens*. The antibacterial activity was tested by using the agar well diffusion assay against tested bacterial strain, *E. coli* and *Bacillus subtilis*. Phytochemical analysis has reported that *Tridex procumbens* have most of the significant phyto constituents like Saponins, Terpanoids, Flavanoids, Phenol, steroids, Anthraquinones, Tannins, Alkaloids, Glycosides and Carbohydrate. Zone of inhibition has measured and compared by standard antibiotic streptomycin. The outcome of the present work have revealed that ethanol extract at (500µg/ml) showed maximum inhibition against *E. Coli* (27mm) and methanol extract at (600µg/ml) and (550 µg/ml) showed maximum inhibition against *B. subtilis* (25mm). *B. subtilis* has also showed maximum inhibition with aqueous extract (25mm) at (400µg/ml). The result have disclosed the presence of antibacterial characteristics of different extracts of *Tridex procumbens* against human pathogenic bacteria. Thus, this plant has many active compounds which can be used for the development of various potent drugs.

Keywords: *Tridex procumbens*, *E. coli*, *Bacillus subtilis*, phytochemical tests, agar well diffusion

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A REVIEW OF ETHNO MEDICINAL PRACTICES FOR GYNECOLOGICAL DISORDERS AMONG THE GOND TRIBE OF DIFFERENT REGION OF CHHATTISGARH

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Gond is the dominant tribe of C.G. as well as of India. Gonds are the largest tribal group in terms of population and are mainly concentrated in the different part of the state, so their numbers are significantly high in the forest villages of Chhattisgarh. Like other tribal communities of the world the Gonds also have their well preserved age old traditions of folk healing practices. In present investigation the information gathered on 31 plant species traditionally used by Gond women of different region (Bilaspur, Gariyaband, Korba and Saraipali) of Chhattisgarh, for the treatment of various diseases and disorders related to gynaecological problems. Valuable information about the medicinal uses of certain plants against various diseases of the Gond women were obtained through personal interviews and collection. The botanical names, families, local name, and plant parts used for utilization are given along with medicinal uses.

Keywords: Ethnogynaecology, Gond women, Herbal Medicine

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DEVELOPMENT OF BDR-10, AN AUTHORIZED BREED OF ANTHERAEA MYLITTA THROUGH SELECTION BREEDING

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Tasar sericulture is dominated by the DABA BV & TV eco-race as a commercial crop and to some extent wild eco-races such as Sukinda, Sarihan, Laria, Modal, Simlipal, Raily, Bhandara, and Andhra local. Majority of these ecoraces are of green larval type, as a cryptic association with the ecological niche. Recently, a new bivoltine race of DABA called BDR-10 has been developed through recurrent selection of yellow larvae at Basic Seed Multiplication and Training Center (BSM&TC), Boirdadar, Chhattisgarh. The present study was intended to improve economic cocoon characters of BDR-10 through directional selection breeding process. Further, popularization of new improved BRD-10 through BSM&TCs in different tasar producing states. The initial parental stock of 800 BDR-10 dfls were obtained from BSM&TC, Boirdadar and multiplied at Central Tasar Silkworm Seed Station, Kargi Kota. Rearing was conducted at Amne farm, Kargi Kota for 1st crop and Pendari Farm, Bilaspur for 2nd crop. During the rearing process, the selection was imposed strictly for pure yellow larval types and higher economic cocoon characters. The results indicated that increased fecundity was recorded up to 247 to 270 compared to 215 - 230 during previous stock. The off-type larval(green) numbers reduced from 1.29 % during the beginning of the study to 0.55 % during the 4th generation. Average cocoon yield was 85.97 per dfls during 1st crop and 114 per dfl during 2nd crop, which is comparatively more than the set norms of 60 and 75 cocoons per dfls in the respective crop for BRD-10.

Cocoon weight ranged from 10.90 g to 12.25 g during 1st crop and 14.35 to 18.05 g during 2nd crop. The average shell weight ranged from 1.35 g to 1.55 g during the first crop and 1.72 g to 1.87 g during the second crop was recorded. Further, BDR-10 popularization is under progress in different regions in India.

Key Words: DABA eco-race, Tasar sericulture, BRD-10, Cocoon, Shell weight

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SOIL NUTRIENT STATUS AND GRAINAGE PERFORMANCE OF TROPICAL TASAR SILKWORM

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The tropical tasar silkworm, *Antheraea mylitta* Drury (Lepidoptera: Saturniidae) is a polyphagous insect, having 44 eco-races distributed in majority of the agro-ecological conditions in India (12-31°N latitude and 72-96°E longitude) with varied phenotypic, physiological and behavioral characters. Since, tasar silkworm is a means of life for many forest dwellers and rural populace in tropical part in India, this sector has great potential in India. Among different sectors in tasar sericulture, seed production is major income generating sector and it is influenced by soil nutrient status. Study conducted to know the soil status and seed production in block plantation and natural plantation in Bilaspur. Soil type was sandy clay loam with the low bulk density of 1.16 to 1.23 due to high soil organic matter content (>7.5 g/kg) in both locations. Soil pH was neutral in the natural *T. arjuna* ecosystem (pH = 7.39), whereas, moderately acidic in the *T. arjuna* block plantation at Bilaspur (6.33). Available Nitrogen was low in block plantation compared to natural condition and phosphorous and potassium was medium range. Similarly, Ca (C mol (P+) kg-1) and Mg (C mol (P+) kg-1) were optimum normal, S (mg kg-1) was high, Fe (mg kg-1) was normal in Natural *T. arjuna* ecosystem and lower than critical in the *T. arjuna* Block plantation, Mn (mg kg-1) was normal, Zn (mg kg-1) toxicity was recorded in both places, Cu (mg kg-1) was normal and Na (C mol (P+) kg-1) was also normal range. The Bulk Density and Particle Density was good situation in both the places, but moisture holding capacity was highest in the in Natural *T. arjuna* ecosystem compared to *T. arjuna* Block plantation. The pore space was also in the normal range of 44 to 48 in both locations. The texture of soil in both the location was sandy clay loam. Due to continuous consumption of leaves during rearing season in block plantation, there is excess demand of soil nutrients. As a result, the soil fertility gets reduced as compared to natural system. The performance of grainage was then evaluated for the seed cocoon produced from block and natural plantation. The grainage recovery was less than 2.5 in natural plantation due low nutrients depletion. Hence, in order to make soil sustainable, soil amendments like application of organic manure, lime, recommended NPK and green manuring crop mulching have been implemented and achieved the standard soil nutrient status in departmental farm. As a result of above recommendation, the cocoon yield increased to 106 per dfl compared to natural farm (63 cocoons per dfl).

Key Words: *Antheraea mylitta*, Block Plantation, Natural Plantation, Soil Nutrients, Grainage

PSEUDO-RUNGE-KUTTA METHOD FOR THE NUMERICAL SOLUTION OF HAMILTONIAN SYSTEM

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The present paper is intended to propose a pseudo-Runge-Kutta method (PRKM) which is quadratically invariant and preserves structural properties when the PRKM is applied to the Hamiltonian system of equations. These systems arise in various areas in physical sciences. We have inserted the area-preserving character in the implicit pseudo-Runge-Kutta method and derived the sufficient conditions for the pseudo-Runge-Kutta method to be symplectic and developed a qualitative numerical integrator. The proposed method requires less number of function evaluations than its counterpart symplectic Runge-Kutta method. The derivation of the sufficient condition is based on differential (exterior) form. These methods are best tuned to solve the Hamiltonian system of equations. Though these methods are not self-starting and require one past information together the initial solution to compute the solution at the next level. These methods are also used to solve numerically the dynamical system of equations of the Hamiltonian type such that the Hamiltonian is preserved in the numerical solution. Symplecticness along with cost efficiency enhances the usefulness of the proposed method to solve the Hamiltonian system of equations numerically.

Keywords: Pseudo Runge-Kutta method, Symplectic Runge-Kutta method, Hamiltonian system

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ISOLATION OF A NOVEL FUNGAL STRAIN HAVING HIGHER EFFICIENCY OF PHOSPHATE SOLUBILIZATION FROM PADDY CROP FIELDS OF KOTA (DIST.- BILASPUR) OF CHHATTISGARH

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Fungi occupy an important place among soil microbes as these constitute an important component of decomposers. These are essential for maintaining soil fertility as they solubilize many micronutrients from insoluble organic and inorganic forms. The present investigation was started with the objective to isolate some strains of fungi having higher efficiency of phosphate solubilization from paddy crop fields of Kota area of Chhattisgarh. Strains were isolated on selected culture media using standard culture methods. These were purified by the method of single colony isolation and maintained on slants containing similar culture media. In order to

make an insight into the efficiency of these fungal isolates to solubilize phosphate from insoluble forms, all of these were tested in-vitro for solubilization of PO₄ from inorganic calcium tri- phosphate. These were grown separately by stabbing in the middle of petriplates containing selected culture media having insoluble Ca tri-phosphate as the sole source of phosphate. And their growth shows that, they have the capacity of solubilisation by forming a halo zone.

Keywords: Ca tri- phosphate, PO₄ solubilization, Soil fungi.

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SYNTHESIS, CHARACTERIZATION & TEMPERATURE DEPENDENT IONIC CONDUCTIVITY OF HOT PRESSED NANO COMPOSITE POLYMER ELECTROLYTES

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A new nano composite silver ion conducting solid polymer electrolyte film was synthesized by using novel hot pressed technique based on Poly Ethylene Oxide (PEO) in the ratio of (1 x)[70PEO:30AgCl]: x SiO₂, where x is the content of SiO₂ in wt%. The conventional solid polymer electrolyte composition (70PEO:30AgCl) identified as the highest conducting composition film at room temperature. This composition has been used as Ist phase host matrix and nano sized (~8 nm) particles of SiO₂ as IInd phase dispersoid. As a result of dispersal of SiO₂ in SPE host, a conductivity enhancement of an order of magnitude was achieved in nano composite polymer electrolyte (NCPE) film. Optimum conducting composition of NCPE was identified. The complexation of the film was investigated through X –ray diffraction (XRD) and FTIR studies. The ion transport behaviour in NCPE membrane have been investigated on the basis of conductivity(α), mobility (μ), mobile ion concentration (n) and transference no. (tion) studies. Temperature dependent ionic conductivity have also been studied. The activation energy (E_a) of SPE have also been calculated with the help of Arrhenius equation below the transition temperature. Temperature dependent ionic transference number (tion) was determined with the help of dc polarization technique.

Keywords: Solid polymer electrolytes, ionic conductivity, ionic transference number.

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“ASSESSMENT OF NATURAL RESOURCE MANAGEMENT AND AN EMERGING ENVIRONMENT PROBLEM” (SPECIAL REFERENCE TO KELO RIVER PROJECT IN RAIGARH DISTRICT – CHHATTISGARH)

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Natural resource management is the heart of the issue of sustainable environmental development. A proper and scientific management of resource is required to achieve sustainability. Unfortunately many of the developing and poor countries are facing the grave problem of land degradation and environmental pollution due to increase in population growth which is turn result in greater pressure on natural resource base. The paper highlights the main cause and concern of natural resources management and indicates a few solutions for achieving environmental hazards.

Environmental Challenges can be related with air, water, soil pollution, toxic, emission and degradation ecosystem health. The damage, destruction and instance have a now passed serious problem of social, ecological, economic, regional and micro biological magnitude. Systematic analysis of environmental problems due to excess use of resource started to appear in 1960 and it was made clear that man land has damaged the nature for the sake of fulfilling its numerous established.

The study area Kelo Project is located in Raigarh district, across Kelo River, which is a tributary of Mahanadi River. The geo coordinate of project site are the study area Kelo project Facieses many environmental problems. Some are very harmful to human life Problem in a region.

The main objective of the study is to assess the environmental impact due to the proposed Kelo project on land water, flora and fauna, public evolves a suitable environmental management impact likely to occur due to construction of the project area. The main cause of air and noise pollution in study area, due to construction activity and the socio economic development. Due to this pollution eventfully there will be short term impact on surrounding. The activities that will increase the air pollution are the vehicular movement. Excavation and other related construction activities. The air pollution will also be generated due to activities of the temporary human settlements. The environment component (air and noise) are studied in details through various means by conduct of detailed ground level investigation by collection of primary data, discussion with official and non-official at state, district and project level, collection of secondary source of information from various relevant departments.

Assessment of impact on air environment and environmental information of ambient air quality status. The data has been collected analyzed and evaluated. The basic consideration for designing a surveillance program include information on micro-meteorological condition, quantity, quality, location, time, availability and resources, monitoring technology and operation criteria.

Keywords: resource, environmental problems, meteorological, technology.

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PHYSICO-CHEMICAL ANALYSIS OF WATER LOCATION OF ARPA RIVER IN BILASPUR CITY (CHHATTISGARH)

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Sushma Sinha

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Environment is the sum of social, ecological, biological & chemical components of nature. These parts constitute the surrounding in which men, animal and plant endure. Water is a colourless odourless and tasteless fluid. It appears greenish blue or bluish green when viewed through a thickness of 200-300 feet. This colour results not only from physical causes but also due to suspended impurities. Natural water like rain water, which is originally pure, absorbs certain gases, dust and other impurities while falling. When this water moves on to the ground, it carries salts, organic impurities, mixed sewage water and industrial effluents causing water pollution. Bilaspur district is located in the eastern part of Chhattisgarh and falls within latitude 21°47" to 23° 8" and longitude 81° 14" to 83° 15". The maximum temperature of Bilaspur district is 45°C and the average rainfall is 1,220 mm approximately. Major rivers which surround Bilaspur district are Agha, Maniyar and Arpa. Arpa River is a main tributary of Mahanadi which is known as the perennial source of irrigation in the state of Chhattisgarh. Water samples are collected from different water bodies of selected spots in pre-monsoon and post-monsoon seasons and analysis will be carried out. The present study was aimed to assess the water quality and to determine its suitability for drinking and also in the field of agriculture. In my research, the turbidity is up to very high at some places and the hardness is mainly due to calcium salts. The BOD and COD observed in these areas show contamination with biologically degradable and non-biodegradable matters.

Keywords: Water collection different location of Arpa river, Nephelometer-Turbiditymeter- 132 (Test tube), NTU.

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DRUG DISSOLUTION RATE OF IBUPROFEN

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The rate of dissolution is a key target for controlling the dissolution of the drug's effect and as such several dosage forms that contain the same active ingredients may be available, differing only in the rate of dissolution. If a drug is supplied in a form that is not readily dissolved, the drug may be released more gradually over time with a longer duration of action. Having a longer duration of action may improve compliance since the medication will not have to be taken as often. Additionally, slow release dosage forms may maintain concentration within an acceptable therapeutic range over a long period of time, as opposed to quick release dosage forms which may result in sharper peaks and troughs in serum concentration. Specifically, crystalline forms dissolve slower than amorphous forms. Also, coating on a tablet or a pellet may act as a barrier to

reduce the rate of dissolution. My experimented tablet is Ibuprofen which is most commonly used as a pain killer.

Keyword: Ibuprofen, Dissolutionrate, Drug

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MEAN EDGE ESTIMATION OF POPULATION OF HAMILTONIAN CIRCUIT USING NODE SAMPLING PROCEDURE

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Consider a graphical population of vertices(Nodes) and edges, where edges are connected with vertices in the form of an Hamiltonian Circuit. Hamiltonian Circuit in a connected graph is defined as a closed walk traverses every vertex of graph exactly once, except of course the starting vertex at which the walk also terminates. In real life there may thousands of cities where atleast two or more ways of reaching source to destination is possible such can be a representation of Hamiltonian graph the problem is to estimate the average distance between any two cities in the population. Using a random sample of some cities and by applying efficient estimation methodologies one can estimate the unknown population mean length between any two cities. This paper contains Hamiltonian Circuit sampling schemes and provides estimate of population mean. The confidence interval has been computed to strengthen the outcome of the result.

Keywords: Graph, Circuit Hamiltonian Circuit, Edge, Vertices(nodes), Class, Estimator, Bias, Mean Squared Error (MSE), Optimum Choice, Confidence intervals.

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ADVERSE EFFECTS OF POLLUTION ON MANKIND

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Pollution is one of the most horrible ecological crises of the environment to which we are subjected today. Pollution is unfavorable alternation of the environment, largely because of human activities and it is usually brought by the addition of waste products to the environment. Pollutants are biotic and physical component which adversely alters the environment by altering the growth rate of species.

Pollutants is a substance which has a potential to induce cancer, or Neoplastic effects, or to induce a permanent transmissible change in the characteristic, if they are exposed via respiratory tract, skin, eyes, mouth or any other routes in quantity which are reasonable to them.

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ELECTRON IMPACT IONIZATION CROSS SECTIONS OF C₂H₄ AND C₂H₆ MOLECULES AT LOW AND HIGH ENERGY RANGE

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The present work deals with the calculations of the total ionization cross sections of hydrocarbon molecules (C₂H₄, C₂H₆) due to electron impact. Electron impact ionization cross sections (EIICS) have been calculated from threshold ionization energy to high energy (10 MeV). Along with EIICS calculation, the values of collisional parameters are also calculated. The theoretical model, developed by Khare (S. P. Khare, M. K. Sharma and S. Tomar, J. Phys B: At. Mol. Opt. Phys, 32, 3147, 1999), has been modified to calculate the total ionization cross-section for molecules and atoms. Obtained theoretical cross-sections are compared extensively with a number of experimental and theoretical data. The obtained values of collisional parameter compared with the available experimental values. Present model prevails a high degree of goodness of cross-sections to the experimental data.

Keywords: Ionization cross section; Molecules; Electron impact; Collisional parameter.

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DIGITAL BANKING AND ITS IMPACT ON INDIAN FINANCIAL SERVICES

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The buzzword in India today is creating a cashless future. Buoyed by the successful acceptance of demonetization, the Government of India (GoI) is now pushing digital transactions. The GoI had set a target of 25 billion Digital transactions in the financial year (FY18) through multiple facilities, including platforms such as Aadhar Pay, Unified Payment Interface (UPI), Immediate Payment Service (IMPS) and debit cards. GoI has also launched a mobile application (Bharat Interface for Money - BHIM) for facilitating e-payments through bank accounts. The payments industry is thus seeing a lot of action from various fintech players to leverage on GoI's digital push. The traditional banking industry is thus facing the impact of digital technology. Several commercial banks have already started aggressively innovating digital products and services for

customers to remain contrary and relevant. Meanwhile, India offers a unique architecture for digital banking. This architecture includes an existing eKYC (electronically know your client) system and the Aadhaar authentication framework, a signature and digilocker, the Unified Payments Interface - which allows for swift payment across banks - and finally, a consent architecture system, where information is made freely available for use to everyone else. Thus today India stands at the cusp of a banking revolution through rapid penetration of digital banking.

Keywords: Digital Banking, Innovation, India.

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CASE STUDY ON CORPORATE SOCIAL RESPONSIBILITIES OF JINDAL POWER LIMITED

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The company strongly believes that sustainable community development is essential for harmony between the community and the industry. It endeavors to make a positive contribution to the underprivileged communities by supporting a wide range of socio-economic, educational and health initiatives. Also committed to integrate its business values and operations to meet the expectations of all its stakeholders. The company serves communities by ensuring they benefit from its presence by proactively responding to their needs, building and strengthening community institutions and Panchayati Raj Institutes (PRIs), working in partnership with civil society organisations (CSOs) and government bodies to widen the reach and leverage each partner's individual experience and expertise, providing all assistance during times of disasters, encouraging its employees to volunteer, building an authentic corporate identity and brand, attracting and nurturing leaders and motivating employees to innovate, be dynamic and provide leadership on issues critical to the state of the world.

Keywords: Corporate, Institution, Leadership.

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A GENERALIZED PREDICTIVE ESTIMATOR OF FINITE POPULATION MEAN USING MEDIAN OF THE STUDY VARIABLE

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Use of median of the study variable as an additional information may be a better option for improving the efficiency of sampling design. It is preferred over auxiliary information since it increases the efficiency without increasing the survey cost. In many situations the median of the study variable is known as this parameter does not require the complete information on the population units of the study variable unlike the other parameters like population mean, population variance, etc. In the present manuscript a generalized ratio type predictive estimator of the population mean using population median of the study variable has been proposed. The expressions for the asymptotic properties like bias and mean squared error have been derived up to the first order of approximations. The minimum value of the mean squared error of the proposed estimator has also been obtained for this optimum value of the characterizing scalar. An efficiency comparison of the proposed estimator has been made with other competing estimators. To justify the theoretical finding, a numerical study is also carried out and it has been shown that the proposed estimator performs better than other competing estimators of population mean under predictive modeling approach.

Key words: Bias, Prediction, Ratio estimator, Mean squared error, Simple random sampling, Efficiency

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CONSUMER'S ANALYSIS (WITH SPECIAL REFERENCE TO E-COMMERCE)

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E-commerce is definitely forwarded in many countries. To know more about the perceptions of different countries towards it, a survey was conducted with 500 respondents who were randomly selected .The conclusion drawn on the basis of what they answered a questionnaires. According to the table, many prefer e-commerce, and the number of those who don't prefer using it and those who do not know how to use it is similar. It can be said that the number of those use it in relatively high as compared to those who don't prefer using it. Whereas, the number of people who lack information about it in somewhat more than those who don't prefer using it but less than those who use it. For instance, graduates who prefer it because it can be useful in business, functioning and purchasing. doctors use it to purchase the medical sot wares thought it, it is also used as it is based on academics. The survey is taken worldwide, like it is found that is American & South Africa number o people using e-commerce for purchasing power is relatively

higher than those who do not use it or its purchasing power .This varies with countries.The number of people who use e-commerce on the basis of purchasing power is relatively high of those doesn't like using it on the basis of purchasing power and those who lack information about it is has not much difference. Hence, this surveys it proven worth to know the involvement of people of different criteria in digital world.

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M - COMMERCE AND ITS VARIOUS ASPECTS - A STUDY CONDUCTED IN BILASPUR DISTRICT AMONGST VARIOUS MOBILE USERS

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Since the ancient times, exchange of goods was necessary for once livelihood as nobody could maintain it by himself or herself alone. This exchange later turned into buying and selling of goods, services, information and later on, term changed into business or commerce. With the development of electronic devices and internet services, people could buy and sell the products, get services while sitting at their home only. This brought the concept of ecommerce and now with the development of internet based mobile devices which could be taken anywhere anytime and with good internet support, can be used for assessing internet and its services for purchase of goods, services, banking, knowledge, information, bookings, etc. Internet based mobile devices have brought the concept of m-commerce in 1990s, which actually is a subset of e-commerce which started in 1970s. m-commerce with the emergence of 3G, UMTS and 4G network connections, users can remain in constant touch with internet and are able to use internet and its services to the fullest. After demonetization in India and emergence of concept of cashless economy, m-commerce has gained importance and is helping in building Indian economy. The study was conducted among 127 mobile users in Bilaspur district. The study concludes that the respondents uses m-commerce once in 24 hours and the respondents mostly use it for shopping, bookings and reservations as it provides 24 X 7 service availability and has easy payment options.

Keywords: Mobile, Technology, Network, Economy.

IDENTIFYING THRUST AREAS FOR WORKLIFE BALANCE AMONG EMPLOYEES IN SENIOR SECONDARY INSTITUTIONS- AN INDIAN PERSPECTIVE

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Work-life balance could be observed as a phenomena that's involved with providing scope for employees to balance their work with the responsibilities and interests they need outside their work. It permits them to reconcile the competitory claims of work exertions and residentiality by meeting their own desires furthermore. Worklife Balance may be a method by which staff and employees within the organization can learn the way to figure, a way to verify for themselves what activities, changes and enhancements are fascinating and effective to the institution to be additionally efficient.

Secondary institutions in India lays itself as foundations in building proliferating and prosperous citizens. Secondary institutions are increasingly expanding and diversifying their work-life benefit programmes in an attempt to help employees improve their work and non-work demands facing them. Thinkers and experts have paved ways for the support policies and procedures provided by organizations in helping employees and staff achieve a better work-life balance. This paper tries to focus on the thrust areas of Worklife Balance in some instances of senior secondary institutions from an Indian perspective. It is an attempt to identify whether it is as easy as it is assumed for employees to balance between work and life in the so – called conventionally suitable work – life balance.

Keywords: Worklife Balance, Secondary Institutions, Benefit Programmes

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THE BARRIERS OF DIGITAL COMMUNICATION IN MODERN BUSINESS MANAGEMENT : A REVIEW

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The digital communication is a result of new change in present communication environment in society and every sector of our developing economy is adopting digital communication. Today modern business management are also using digital communication and functioning for achieving their goal. But there are many barriers of digital communication in modern business management which are restricting and bounding to business management for their functioning and achievement of objectives. In this environment modern business management are facing physical, emotional, identity, semantic, accessibility, attention and credibility barriers during functioning as planning, organizing, commanding, co-ordinating and controlling business

activities. In this paper I have reviewed all important barriers of digital communication in business management.

Keywords: Digital Communication, Management Function.

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EFFECTIVE WAYS OF CONTROLLING NPAS IN BANKS: A BANKERS' SURVEY

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Rising NPA level is a matter of concern for every bank. In this direction, banks adopt various measures to manage and control rising level of NPAs. Based on survey of bank managers, this study identified effective methods of NPA management. Analysis of data collected from 52 respondents indicates that effective credit appraisal, rapport with the borrowers and Corporate Governance practices are statistically significant method of effective management of NPAs in banks. However, involvement of institutional bodies in bank's decision making process is found not to be statistically significant. Banks should stay continuously engaged with borrowers and check the problem at early stage and manage accordingly. Complying with corporate governance norms would keep the assets turning non-performing at bay. The analysis points towards the need to incorporate more and more proactive measures for managing and controlling NPA.

Keywords: NPA, Banking, Corporate Governance, India

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EMERGING TRENDS IN INDIAN FINANCIAL SERVICES INDUSTRY

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Financial services are a crucial portion of financial structure. Financial services are the backbone of the present economy. The financial service industry is essential for a country's growth. The sector includes commercial banks, cooperatives, pension funds, mutual funds, and other smaller financial institutions. The financial services sector is a highly dynamic field that is directly affected by numerous factors including technology, government regulations, fiscal and monetary policies, tax changes, and so on. India has diversified financial industry that is currently experiencing rapid growth, both in terms of the formidable progression of present financial services companies as well as new market entrants. Since evolving marketing needs greater financial flexibility, it will be necessary for banks, insurance, and other microfinance institutions to readjust rapidly to survive. Several evolving trends in the financial services industry such as digital payment, security, robo-trending, artificial intelligence, is enabling financial institutions in delivering creative solutions.

Keywords: Financial Services, Recent Trends.

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CONSUMER CENTRIC APPROACH IN DESTINATION MARKETING FOR PROMOTING TOURISM INDUSTRY IN MAURITIUS

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Destination marketing is an effective and efficient approach to simplify the complex relations between consumer demand and company capability to supply the products and services in a competitive manner by keeping the price, ideal time low and overall quality high. In this era of Industry 4.0 the design and development of online marketing strategies to promote the destination as the choicest place for leisure and fun has attracted the researcher's attention. The destination may be defined as a separate geographical area that has unique and distinct amalgamation of products and services designed to attract the local and global customers, supported by the conducive political, social and economic and legal environment. It is very evident from the market studies that the perception of the consumers has a vital role in the success of any company strategies. This is very true in destination management and marketing also.

This research article is an approach to study and identify the different online strategies which may be used to create an impact on the overall online marketing campaign of a company to harness the best out of the available resources. The study further will analyze and assess the online marketing opportunities and challenges in order to be competitive and sustainable in dynamic conditions. The papers will test the hypothesis if the online advertising (design and its contents) has an impact on consumer's, the decision to visit Mauritius.

Keywords: digital marketing, destination marketing, sustainable marketing, global tourist, advertising design and its contents, Industry 4.0

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CASE STUDY ON CORPORATE SOCIAL RESPONSIBILITIES OF JINDAL POWER LIMITED

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The company strongly believes that sustainable community development is essential for harmony between the community and the industry. It endeavors to make a positive contribution to the underprivileged communities by supporting a wide range of socio-economic, educational and health initiatives. Also committed to integrate its business values and operations to meet the expectations of all its stakeholders. The company serves communities by ensuring they benefit from its presence by proactively responding to their needs, building and strengthening community institutions and Panchayati Raj Institutes (PRIs), working in partnership with civil society organisations (CSOs) and government bodies to widen the reach and leverage each partner's individual experience and expertise, providing all assistance during times of disasters, encouraging its employees to volunteer, building an authentic corporate identity and brand, attracting and nurturing leaders and motivating employees to innovate, be dynamic and provide leadership on issues critical to the state of the world.

Keywords: Corporate, Institution, Leadership.

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A ROADMAP FOR EFFECTIVE ADOPTION OF INDUSTRY 4.0 VISION BY SME

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It is very evident from the surveys and reports that many companies globally have steadily developed sound and matured understanding of the Industry 4.0 phenomenon and its relevance to smart manufacturing practices. Yet very few have been able to translate their profound knowledge of actions in the smart business practices. The preliminary survey by the researcher revealed that only 10% of the total companies have embarked on I4.0 initiatives to improve business performance. This is mainly because of the incomplete and unclear understanding as well as lack of guidance and vision. Companies are still dwelling around the questions like, where to start? What are the direct and indirect benefits? Which skills are required? How to assess the readiness and so on? The gap between having sound knowledge and execution or implementation seems to be due to the missing Industry 4.0 roadmap.

This research paper is an attempt to help companies' priorities systematically the focus areas to formulate an effective I4.0 roadmap. As an outcome, the companies will become more aware of the key aspects of the adoption of I4.0. Hence the journey to fully imbibe I4.0 vision eventually will be a reality.

Keywords: Industry 4.0 phenomenon, business performance, assess the readiness, Industry 4.0 roadmap, focus areas,

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DIGITAL BANKING AND ITS IMPACT ON INDIAN FINANCIAL SERVICES

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The buzzword in India today is creating a cashless future. Buoyed by the successful acceptance of demonetization, the Government of India (GoI) is now pushing digital transactions. The GoI had set a target of 25 billion Digital transactions in the financial year (FY18) through multiple facilities, including platforms such as Aadhar Pay, Unified Payment Interface (UPI), Immediate Payment Service (IMPS) and debit cards. GoI has also launched a mobile application (Bharat Interface for Money - BHIM) for facilitating e-payments through bank accounts. The payments industry is thus seeing a lot of action from various fintech players to leverage on GoI's digital push. The traditional banking industry is thus facing the impact of digital technology. Several

commercial banks have already started aggressively innovating digital products and services for customers to remain contrary and relevant. Meanwhile, India offers a unique architecture for digital banking. This architecture includes an existing eKYC (electronically know your client) system and the Aadhaar authentication framework, a signature and digilocker, the Unified Payments Interface - which allows for swift payment across banks - and finally, a consent architecture system, where information is made freely available for use to everyone else. Thus today India stands at the cusp of a banking revolution through rapid penetration of digital banking.

Keywords: Digital Banking, Innovation, India.

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A GENERALIZED PREDICTIVE ESTIMATOR OF FINITE POPULATION MEAN USING MEDIAN OF THE STUDY VARIABLE

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Use of median of the study variable as an additional information may be a better option for improving the efficiency of sampling design. It is preferred over auxiliary information since it increases the efficiency without increasing the survey cost. In many situations the median of the study variable is known as this parameter does not require the complete information on the population units of the study variable unlike the other parameters like population mean, population variance, etc. In the present manuscript a generalized ratio type predictive estimator of the population mean using population median of the study variable has been proposed. The expressions for the asymptotic properties like bias and mean squared error have been derived up to the first order of approximations. The minimum value of the mean squared error of the proposed estimator has also been obtained for this optimum value of the characterizing scalar. An efficiency comparison of the proposed estimator has been made with other competing estimators. To justify the theoretical finding, a numerical study is also carried out and it has been shown that the proposed estimator performs better than other competing estimators of population mean under predictive modeling approach.

Key words: Bias, Prediction, Ratio estimator, Mean squared error, Simple random sampling, Efficiency

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CONSUMER'S ANALYSIS (WITH SPECIAL REFERENCE TO E-COMMERCE)

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E-commerce is definitely forwarded in many countries. To know more about the perceptions of different countries towards it, a survey was conducted with 500 respondents who were randomly selected. The conclusion drawn on the basis of what they answered a questionnaires. According to the table, many prefer e-commerce, and the number of those who don't prefer using it and those who do not know how to use it is similar. It can be said that the number of those use it in relatively high as compared to those who don't prefer using it. Whereas, the number of people who lack information about it in somewhat more than those who don't prefer using it but less than those who use it. For instance, graduates who prefer it because it can be useful in business, functioning and purchasing. doctors use it to purchase the medical sot wares thought it, it is also used as it is based on academics. The survey is taken worldwide, like it is found that is American & South Africa number o people using e-commerce for purchasing power is relatively higher than those who do not use it or its purchasing power. This varies with countries. The number of people who use e-commerce on the basis of purchasing power is relatively high of those doesn't like using it on the basis of purchasing power and those who lack information about it is has not much difference. Hence, this surveys it proven worth to know the involvement of people of different criteria in digital world.

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M - COMMERCE AND ITS VARIOUS ASPECTS - A STUDY CONDUCTED IN BILASPUR DISTRICT AMONGST VARIOUS MOBILE USERS

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Since the ancient times, exchange of goods was necessary for once livelihood as nobody could maintain it by himself or herself alone. This exchange later turned into buying and selling of goods, services, information and later on, term changed into business or commerce. With the development of electronic devices and internet services, people could buy and sell the products, get services while sitting at their home only. This brought the concept of ecommerce and now

with the development of internet based mobile devices which could be taken anywhere anytime and with good internet support, can be used for assessing internet and its services for purchase of goods, services, banking, knowledge, information, bookings, etc. Internet based mobile devices have brought the concept of m-commerce in 1990s, which actually is a subset of e-commerce which started in 1970s. m-commerce with the emergence of 3G, UMTS and 4G network connections, users can remain in constant touch with internet and are able to use internet and its services to the fullest. After demonetization in India and emergence of concept of cashless economy, m-commerce has gained importance and is helping in building Indian economy. The study was conducted among 127 mobile users in Bilaspur district. The study concludes that the respondents uses m-commerce once in 24 hours and the respondents mostly use it for shopping, bookings and reservations as it provides 24 X 7 service availability and has easy payment options.

Keywords: Mobile, Technology, Network, Economy.

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IDENTIFYING THRUST AREAS FOR WORKLIFE BALANCE AMONG EMPLOYEES IN SENIOR SECONDARY INSTITUTIONS- AN INDIAN PERSPECTIVE

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Work-life balance could be observed as a phenomena that's involved with providing scope for employees to balance their work with the responsibilities and interests they need outside their work. It permits them to reconcile the competitory claims of work exertions and residentiality by meeting their own desires furthermore. Worklife Balance may be a method by which staff and employees within the organization can learn the way to figure, a way to verify for themselves what activities, changes and enhancements are fascinating and effective to the institution to be additionally efficient.

Secondary institutions in India lays itself as foundations in building proliferating and prosperous citizens. Secondary institutions are increasingly expanding and diversifying their work-life benefit programmes in an attempt to help employees improve their work and non-work demands facing them. Thinkers and experts have paved ways for the support policies and procedures provided by organizations in helping employees and staff achieve a better work-life balance. This paper tries to focus on the thrust areas of Worklife Balance in some instances of senior secondary institutions from an Indian perspective. It is an attempt to identify whether it is as easy as it is assumed for employees to balance between work and life in the so – called conventionally suitable work – life balance.

Keywords: Worklife Balance, Secondary Institutions, Benefit Programmes

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THE BARRIERS OF DIGITAL COMMUNICATION IN MODERN BUSINESS MANAGEMENT : A REVIEW

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The digital communication is a result of new change in present communication environment in society and every sector of our developing economy is adopting digital communication. Today modern business management are also using digital communication and functioning for achieving their goal. But there are many barriers of digital communication in modern business management which are restricting and bounding to business management for their functioning and achievement of objectives. In this environment modern business management are facing physical, emotional, identity, semantic, accessibility, attention and credibility barriers during functioning as planning, organizing, commanding, co-ordinating and controlling business activities. In this paper I have reviewed all important barriers of digital communication in business management.

Keywords: Digital Communication, Management Function.

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EFFECTIVE WAYS OF CONTROLLING NPAs IN BANKS: A BANKERS' SURVEY

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Rising NPA level is a matter of concern for every bank. In this direction, banks adopt various measures to manage and control rising level of NPAs. Based on survey of bank managers, this study identified effective methods of NPA management. Analysis of data collected from 52 respondents indicates that effective credit appraisal, rapport with the borrowers and Corporate Governance practices are statistically significant method of effective management of NPAs in banks. However, involvement of institutional bodies in bank's decision making process is found not to be statistically significant. Banks should stay continuously engaged with borrowers and check the problem at early stage and manage accordingly. Complying with corporate governance norms would keep the assets turning non-performing at bay. The analysis points towards the need to incorporate more and more proactive measures for managing and controlling NPA.

Keywords: NPA, Banking, Corporate Governance, India

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EMERGING TRENDS IN INDIAN FINANCIAL SERVICES INDUSTRY

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Financial services are a crucial portion of financial structure. Financial services are the backbone of the present economy. The financial service industry is essential for a country's growth. The sector includes commercial banks, cooperatives, pension funds, mutual funds, and other smaller financial institutions. The financial services sector is a highly dynamic field that is directly affected by numerous factors including technology, government regulations, fiscal and monetary policies, tax changes, and so on. India has diversified financial industry that is currently experiencing rapid growth, both in terms of the formidable progression of present financial services companies as well as new market entrants. Since evolving marketing needs greater financial flexibility, it will be necessary for banks, insurance, and other microfinance institutions to readjust rapidly to survive. Several evolving trends in the financial services industry such as digital payment, security, robo-trending, artificial intelligence, is enabling financial institutions in delivering creative solutions.

Keywords: Financial Services, Recent Trends.

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CONSUMER CENTRIC APPROACH IN DESTINATION MARKETING FOR PROMOTING TOURISM INDUSTRY IN MAURITIUS

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Destination marketing is an effective and efficient approach to simplify the complex relations between consumer demand and company capability to supply the products and services in a competitive manner by keeping the price, ideal time low and overall quality high. In this era of Industry 4.0 the design and development of online marketing strategies to promote the destination as the choicest place for leisure and fun has attracted the researcher's attention. The destination may be defined as a separate geographical area that has unique and distinct amalgamation of products and services designed to attract the local and global customers, supported by the conducive political, social and economic and legal environment. It is very evident from the market studies that the perception of the consumers has a vital role in the success of any company strategies. This is very true in destination management and marketing also.

This research article is an approach to study and identify the different online strategies which may be used to create an impact on the overall online marketing campaign of a company to harness the best out of the available resources. The study further will analyze and assess the online marketing opportunities and challenges in order to be competitive and sustainable in dynamic conditions. The papers will test the hypothesis if the online advertising (design and its contents) has an impact on consumer's, the decision to visit Mauritius.

Keywords: digital marketing, destination marketing, sustainable marketing, global tourist, advertising design and its contents, Industry 4.0

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A ROADMAP FOR EFFECTIVE ADOPTION OF INDUSTRY 4.0 VISION BY SME

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It is very evident from the surveys and reports that many companies globally have steadily developed sound and matured understanding of the Industry 4.0 phenomenon and its relevance to smart manufacturing practices. Yet very few have been able to translate their profound knowledge of actions in the smart business practices. The preliminary survey by the researcher revealed that only 10% of the total companies have embarked on I4.0 initiatives to improve business performance. This is mainly because of the incomplete and unclear understanding as well as lack of guidance and vision. Companies are still dwelling around the questions like, where to start? What are the direct and indirect benefits? Which skills are required? How to assess the readiness and so on? The gap between having sound knowledge and execution or implementation seems to be due to the missing Industry 4.0 roadmap.

This research paper is an attempt to help companies' priorities systematically the focus areas to formulate an effective I4.0 roadmap. As an outcome, the companies will become more aware of the key aspects of the adoption of I4.0. Hence the journey to fully imbibe I4.0 vision eventually will be a reality.

Keywords: Industry 4.0 phenomenon, business performance, assess the readiness, Industry 4.0 roadmap, focus areas

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DESIGN OF RESEARCH TOOL TO ASSESS MATURITY LEVEL IN KEY AREAS AND OVERALL INDUSTRY 4.0 READINESS

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Artificial Intelligence, 3D printing, Internet of Everything and Big data, are some of the technologies leading the integration of the physical world with the virtual world in every sector like production, service, and utilities globally referred to as Industry 4.0. This interconnected dense network of standalone factories will not only create new opportunities for smart business but also will transform the overall ecosystem of doing business. While this is true, and also companies have recognized the opportunities, many still are standing on the crossroad to know where and how to start. There may be many reasons for companies' passive and reluctant attitude i.e. uncertainties about business standards, capital investment and return on investment in a time-bound manner despite high or moderate levels of awareness.

The overarching objective of this research paper is to design and develop a research tool that will help factories leverage Industry 4.0 vision and concepts to stay relevant and competitive in an increasingly digital age. The research paper has the potential to direct the manufacturing facilities to identify the key elements that a company should consider while imbibing the Industry 4.0 vision. In the absence of global benchmarks to assess Industry 4.0 maturity, this research tool will be an immense help to establish the objective reference points against Industry 4.0 leaders and laggards thereby helping a company to assess the current position in correlation to set Industry 4.0 objectives.

Keywords: Internet of Everything, Digital age, Assess Industry 4.0 Maturity, Global benchmarks, Industry 4.0 leaders and laggards

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A STUDY ON SECURITY AND DATA PRIVACY ISSUES OF IOT BASED APPLICATION IN MODERN SOCIETY

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An IoT system consists of devices that communicate with other devices, applications, and services that use a spread of protocols, which expose application programming interfaces (APIs) to access information and services across the net. Devices vary from basic individual sensors that square measure directly connected to the net or that square measure connected via some variety of easy entree, to more powerful, and complex process nodes capable of autonomous process. as an example, a connected vehicle may be a complicated device that consists of various electronic subsystems and sensors that can method autonomously, however may also connect wirelessly to the net. IoT applications are wide utilized in several field of social production and social living like care, energy and industrial automation. whereas enjoying the convenience and potency that IoT, new threats from IoT even have emerged. There square measure increasing analysis works to ease these threats, however several issues stay open. to higher understand the essential reasons of recent threats and also the challenges in current analysis, this survey initial proposes the idea of “IoT features”. Then, the protection and privacy effects of IoT new options were mentioned together with the threats they cause, existing solutions and challenges however to be solved. this paper finally illustrates the developing trend of IoT security analysis and divulges however IoT options have an effect on existing security analysis by investigation most existing analysis works associated with IoT security.

Keywords: IoT, sensors, API, automation, social, security, divulges, threats.

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USER IDENTIFICATION IN DIFFERENT SOCIAL MEDIA PLATFORMS

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Different social media platforms have become a way to connect with people we know and share our opinions on news and events with friends, colleagues, and relatives, etc. with the source of

picture and video media. Some of the most popular social networks include facebook, twitter, indeed, ntpel, amazon, flipkart, etc and many more educational sites, shopping sites, medical and hospitality sites and also includes some employment and job sites.

More often than not, there is more than one user use more than one social network and furthermore their friend's circle might be registered on numerous social networks. To defeat this issue our proposed framework will unite our online friends on different social organizations into a single integrated environment. This would enable the user to keep awake with the most recent with their virtual contacts even more effectively, similarly as to give advanced facilities to search for people in different social media platforms.

The propose technique to distinguish users dependent on profile match. To match a profile we tend to measure the significance of fields inside the web profile and build up a profile examination device or profile comparison tool. By utilizing this profile comparison tool user can without much of a stretch discover different people who are accessible on various social organizations. This framework could be a web application wherever the user can enroll him and can sign in to the framework exploitation his user id. A user can see his friends who are online on different social organizations in a single integrated environment.

Keywords: social organizations, Identity search, Identity resolution, Privacy, Digital activities, User Identification, single integrated environment, Social media network, Friend relationship, virtual contacts.

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CONTROL OF PUBLIC SERVICES FOR PUBLIC SAFETY THROUGH CLOUD COMPUTING ENVIRONMENT

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In the present times, public safety becomes very difficult in such a situation when only people among us cheat us and use the services to avoid such people and to catch them as soon as possible. Nowadays cloud computing is a maddening part of our life; almost all the facilities related to our usage are web based today. These days a lot of research work is being done on this subject which is definitely an important initiative for the society. Some facilities have been implemented by the government for civil protection, but due to their limitations, their purpose is not consistent. The core of my research is the progressive use of cloud computing, in this research, the concept of security of common citizens and to prevent crime. An important problem of common citizens is that many types of crime incidents are heard and seen in different places in the country and these people use public facilities easily. Through this research paper, I have attempted to present a cloud computing environment in which to control private

and public facilities and to install an information system through various computer-based applications that can easily capture the suspected person. To go and keep an eye on their use of the necessary services and force them to Only accept your crime otherwise it is possible that those services which are linked to Aadhaar can be stopped or can be caught while using them. Today, almost every service in our country is linking to Aadhaar and whether the facilities are available or not depends on whether they are successful in Aadhaar testing or not. Certainly, this research will be convenient for the society and common citizens.

Keywords: cloud, safety, automation, social, security, protection, Aadhaar.

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A STUDY ON SECURITY, DEVICE AUTHENTICATION AND ACCESS CONTROL MANAGEMENT IN IOT ENVIRONMENTS

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The Internet of Things (IoT) is one among the rising technologies that has grabbed the eye of researchers from world and business. The idea behind Internet of Things is the interconnection of Internet enabled things or devices to every alternative and to humans, to attain some common goals. In near future IoT is expected to be seamlessly integrated into our environment and human will be wholly solely dependent on this technology for comfort and easy life style. Any security compromise of the system can directly have an effect on human life. Therefore, security and privacy of this technology is foremost necessary issue to resolve. In this paper we have a tendency to gift a radical study of security issues in IoT and classify attainable cyberattacks on every layer of IoT design. We additionally discuss challenges to ancient security solutions like cryptanalytic solutions, authentication mechanisms and key management in IoT. Device authentication and access controls is a necessary space of IoT security, which is not surveyed so far. Authentication and access control problems in IoT are due to the large number of devices and machine to machine (M2M) communication nature of IoT. We present a study of the state-of-the-art authentication and access control mechanisms for IoT, this comprehensive study can guide the research worker on wherever efforts ought to be endowed to develop security solutions for IoT.

Keywords: Security, IoT Authentication, Access Control Authorization, attacks, Wireless Sensor Networks.

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SMART DUSTBIN “AN APPROCH TOWARDS BETTER INDIA”

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We are living in a world that is in a state of constant up-gradation, but there is one ubiquitous problem that we haven't been able to deal with, the problem that is impeding our advancement to a hygienic, clean and healthy society, is garbage. We all know that the dustbins are used to store the garbage and that garbage might be household products, rotten fruits and veggies, some paper etc. that often used in offices, homes, road side areas anywhere the garbage can be thrown. The might be made up of some plastic containers or any other thing in which the garbage can be thrown.In this project the smart dustbin management system is built on the microcontroller based system having ultrasonic sensors on each of the four dustbins that will show the current status of garbage.

Keywords: Ultrasonic Sensors, IoT –Internet of Things.

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APPLICATION OF WIRELESS SENSOR NETWORK: A REVIEW

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In this modern era Wireless Sensor Network is in high demand. Wireless Sensor Network (WSN) is a widely used advanced technology of computer Network. Wireless Sensor Network occupy a number of nodes and these nodes can communicate among themselves using radio signals. Sensor is a device that responds and detects some input from environmental situation. It is not only sensing but also processing and communicating. It is also cheap in cost as compared to other traditional network. In this article we present a survey of security issues, advantages, characteristics in Wireless Sensor Network. We also highlight layer wise attacks and defense in Wireless Sensor Network

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CYBER CRIME IS MAJOR PROBLEM IN PRESENT SCENARIO

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At the time of the digital age, every use of technology and technology helps us become cybernetic in our help, but many people use crime. Computer crime is a global problem, so several authorities, nationally and internationally, try to define the term of computer crime. Computer crime is defined as a crime in which a computer is subject to crime (piracy, phishing, spam) or is used as a tool to commit a crime (child pornography, hate crimes). Cyber criminals may use computer technology to access personal information, trade secrets or use the Internet for malicious or exploitative purposes. Criminals can also use computers to communicate and store documents or data. Criminals who perform these illegal activities are often called hackers. Cybercrime can also be called cybercrime. Some are the crime: piracy, virus spread, logic bombs, denial of service attack, phishing. Bombardment of email and spam, web hacking, cyber stalking, data theft, identity theft and credit card fraud, sausage attack, software piracy. The cyber law protects all types of crimes, these are some acts of the computer science law of 2000 and the computerized information law of 2008, sections 65, 66b, 66c, 66d, 66e, 66f and 74 Similar crimes are also included in the Indian Criminal Code. (I) Send threatening messages by email Section 503 IPC (ii) Send defamatory messages by email Section 499 IPC (iii) Forge electronic documents Section 463 IPC (iv) Fake websites, cyber fraud Section 420 IPC (v) Impersonation of identity by email Section 463 IPC (vi) Web hijacking Section 383 IPC (vii) Email abuse Section 500 IPC (viii) NDPS online drug sales law (ix) Arms x online arms sales law Section 292 IPC

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UTILIZATION OF INFORMATION COMMUNICATION TECHNOLOGY (ICT) TO IMPROVE QUALITY EDUCATION

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Information Communication Technology (ICT) plays very important and crucial role in Teaching-Learning process in Higher Education Institutions (HEIs) for enhancing the quality of education and is a new weapon of Teaching-Learning. ICT provides effective Teaching-Learning means and provides huge amount of contents available in the world wide web (WWW). The world is moving around utilization of ICT in every sphere of life and our education system is untouched with this. Modern ICT is basically use of computers and computer related devices and equipment to present and communicate information. The term, Information and Communication Technology (ICT), refers to forms of technology that are used to transmit, store, create, share or exchange information.

In education especially in higher education ICT may play crucial role as online education, distance education as well as to the students and teachers involved in class room teaching by providing them teaching and learning related resources. ICT may play an important role not only to improve quality education but also helpful to increase Gross Enrollment Ratio (GER) in India. There are many reasons why ICT is an important tool for improving quality education, some of them are: Ease of access of study material, Comparing study material with other sources, Access at any time any where mode, Audio and video based dynamic teaching material, Formation of learning group, Exchange of information in rapid way, Raising problems through question forum, Absence of teacher and Support of distance learning.

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ROLE OF FUZZY INFERENCE SYSTEM (FIS) IN PERFORMANCE EVALUATION OF CRICKET PLAYER'S

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Cricket is a bat-and-ball game played between two teams of 11 players each on a field at the center of which is a rectangular 22 yard long pitch. Each team takes its turn to bat, attempting to score runs, while the other team fields. The main objective of any team is to win the match. The result of a match is a win when one side scores more runs than the opposing side and all the innings of the team that has fewer runs have been completed. The performance evaluation in cricket is very critical issue in this game. Performance of players directly affects team's and their ranking internationally. Hence, the success or failure of any team lies in the skills and abilities of the players that comprise the team. This paper proposed a new tool based on Fuzzy Inference System (FIS) to evaluate the performance of a cricket player. FIS is a process to formulate the mapping from given input to an output using fuzzy logic. Various new parameters are used in this tool which can make affect on the performances of players and can improve the quality of performance evaluation in cricket. This tool will be useful to make the ranking of players and for the selection of players based on performances.

Keywords: Cricket Players, Pitch, Ranking, Fuzzy Logic, Fuzzy Inference System, Performance Evaluation

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ANALYSIS OF USER BEHAVIOR IN SOCIAL MEDIA USING BUSINESS PROCESS RE-ENGINEERING AND LEARNING TECHNIQUE

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Social media has become the most widely used communication and interaction tool between people over the past few years. Direct interaction between people is decreasing as people tend to communicate indirectly through smart phones. Thus, it is quite difficult to recognize person's personality. However, what's written in social media might help us to get the information needed as people spend much time checking social media and expressing their feelings and thoughts through statuses, comments, and updates. Facebook has the largest users reaching 1.8 billion. Now days in the modern world social media has become popular. The same is also seen among the people wanting to promote their products. Opinion mining and sentiment analysis can be said to have brought in a large amount of interest in present day studies. This is due to the difficulties in the study of trending analysis. Therefore, the early work occurred at the document level and by applying different methods used for classifying a document's polarity. This can be done for positive, negative or neutral emotions at any scale. One procedure to yield knowledge is opinion mining. The same can be said for the opinions of people sharing on social websites, blogs, groups and comment boxes. Opinion mining uses text mining and natural language processing procedures so that a computer can take in the expression of emotions. Moreover, it is helpful in bringing out the sentiment and emotional expressions from unstructured text and providing the best method to classify a given sentiment analysis. Facebook because it is a public social network where users can complain easily about the things they don't like by me.

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RESOURCE SCHEDULING IN GRID ENVIRONMENT

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Grid computing is a new generation computing. It is an environment for computation. Whenever there is a need of High Speed Computing Grid Computing is the good option. There are two broad areas Task Scheduling and Resource Scheduling in Grid. Both Task(job) and Resource Scheduling are an interdependent to each other. A lot of article has been published in the area of Grid Computing. This paper is focuses on Resource Scheduling in Grid computing environment.

Keywords: Grid computing, Resource Scheduling, Job Scheduling.

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A SECRET SHARE AND KEY GENERATION BASED VISUAL CRYPTOGRAPHY APPROACH FOR RETAINING 2D AND 3D RGB COLOR USING TRANSPOSITION

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Visual cryptography is a cryptographic technique which allows visual information (pictures, text, etc.) to be encrypted. Visual Cryptography is very important encryption methodology through which to hide the secret image into two or more images which are called shares. The shares are very safe because separately they reveal nothing about the secret image. In this technique two generated key image is used to encrypt the information and send it to recipient. This generated key image is send via one or two communication channels using security purpose. The original secret image can be obtained by simply stacking all the shares together without any complex computation involved. Visual Cryptography has made the security of information easier and better than other cryptography techniques used in secret writing. Visual cryptography is wide range of application like online shopping sites, online banking sites, and government sites.

Keywords: Visual Cryptography Shares and Key Generation

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PERFORMANCE ANALYSIS OF PROACTIVE AND REACTIVE ROUTING PROTOCOLS FOR VEHICULAR AD-HOC NETWORKS UNDER INDIAN TRAFFIC SCENARIOS

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Mobile ad-hoc network (MANET) is a decentralized ad-hoc network that comprises many nodes that are mobile in nature and are connected wirelessly. Each node works as a router to send and receive data from the other node. Vehicular Ad-hoc Network (VANET) is an application of MANET that could be useful for the implementation of Intelligent Transportation Systems (ITS). VANET is a decentralized and infrastructure-less ad-hoc network in which nodes are vehicles having wireless communication facilities to communicate with other vehicles. VANET uses multi-hop communication for longer coverage and application-centric information. An ITS

must possess and improve the comfort and safety of drivers as well as of pedestrians that can be achieved by VANET. According to a report published by the Ministry of Road Transport & Highways, India, more than 1.5 million people were killed in road accidents in 2015. It is become necessary to implement VANET in India for reducing this huge number of casualties and providing a comfortable journey. VANET can disseminate messages of traffic signal violation warning, curve speed warning, lane change warning, pre and post-crash messages, cooperative forward-collision messages. Inconsistent topology, high mobility of vehicles, multi-hop communication and signal's attenuation due to buildings impose the major challenges in VANET communications. VANET's Applicability on Indian Roads must be tested before implementation in reality. As Vehicles are nodes in VANET that are highly mobile and self-configurable as well as they have to perform routers functionality to deliver data from sources to their destinations, Therefore routing algorithms play a very crucial role in VANET for message dissemination on time. VANETs routing is one of those challenges which required specialized protocols. VANETs routings protocols can be classified into topology-based, position-based, broadcast, multicast and cluster-based routing protocols.

This paper presents performance evaluations of Proactive and Reactive routing protocols under Indian Traffic Scenarios. In this paper, authors have taken maps of Jaipur City, Rajasthan from Open Street maps websites for creating real traffic scenarios and used Simulation of Urban Mobility (SUMO) for traffic and flow modeling. Authors have created many scenarios for node density and variable CBR packet size to reflect real Indian traffic scenario and performance analysis of AODV reactive routing protocol, DSDV proactive routing protocols over NS2.35 Simulator. This paper presents the simulation results of performance metrics like throughput, packet delivery ratio, jitter and end-to-end delay of AODV and DSDV routing protocols.

Keywords: VANET, Routing Protocols, AODV, DSDV, SUMO, OSM.

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ENERGY-EFFICIENT ROUTING PROTOCOL IN WIRELESS SENSOR NETWORKS WITH BALANCED ENERGY CONSUMPTION: AGNES SCHEMA

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Wireless Sensor Network (WSN) comprises of multiple collaborative sensor nodes and highly distributed, selfconfigured multi-hop adhoc network, lightweight nodes deployed in large number to monitor the environment or system. The nodes are motorized by limited batteries due to which it provides a limited amount of energy (1 – 2 Joule) per sensor node cited in Heinzelman et al. (2002).

So, the aim of extending the lifespan of WSN can be achieved by reducing the energy consumption.

Tremendous research effort being made many clustering routing protocols providing the predictable level of benefit and remains a latest research topic. To ease this dilemma, this paper presents a the merging of new network configured model and the initial energy consumption model to create a new procedure to resolve the optimal number of clusters for the overall energy consumption minimization. According to the balanced energy consumption, Agglomerative Nesting (AGNES) clustering algorithm comprises of a) distance variance, b) dualcluster heads (D-CHs), and, c) node dormancy method. Clustering is widely used to broaden the network lifespan and to achieve scalability of network. The CHs priority function is calculated on the basis of remaining network energy and location of the node. Algorithm treats each object as a singleton cluster, and, couple of clusters are sequentially merged until complete clusters have been merged into single big cluster consisting all objects which results a tree-based depiction of the objects, called dendrogram . Simulation outcome show that proposed protocol can moderate the network energy consumption rate, extend the network lifetime, and improve the throughput in the homogenous and heterogeneous networks.

Keywords—Wireless sensor network, Agglomerative Nesting, dendrogram, simulation, network lifetime, Throughput

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RECENT ADVANCES IN IMAGE MORPHING USING DYNAMIC EQUILIBRIUM EQUATION (DEE)

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Morphing is a special affect in motion pictures and animations that changes (or **morphs**) one image or shape into another through a seamless transition. Traditionally such a depiction would be achieved through cross-fading techniques on film. The word morph comes from the Greek word "metamorphosis," which means to transform. Now it is most commonly used to denote the animation techniques that allow animators to change one shape into another. Morphing refers to the smooth transformation of images on screen. Image morphing has been the subject of much attention in recent years. It has proven to be a powerful visual effects tool in film and television, depicting the fluid transformation of one digital image into another. This paper reviews the growth of this field and describes recent advances in image morphing in terms of three areas: feature specification, warp generation methods, and transition control. These areas relate to the ease of use and quality of results. Recent work on a generalized framework for morphing among multiple images will be described. A methodology to do morphing between images represented objects, attending to their physical properties. It can be used amongst images of different objects, or otherwise, between different images of the same object. According to the used methodology the given objects are modeled by the Finite Element Method, and some nodes are matched by Modal Analysis. Then, by solving the Dynamic Equilibrium Equation the displacement field is determined, which allows the simulation of the objects' deformation. This physical approach also allows the computation of the involved strain energy, therefore the estimated morphing can be represented by the local or global strain energy values. This paper

also describes the solution used to simulate only the non-rigid components of the involved deformation. We propose a fully automatic real time one image face gesture simulation using image morphing. Given a single image of a subject, we create several facial expressions of the face by morphing the image based on prior information stored in a data bank. The process involves the automatic detection of the control points both on the target image and the source data. The source data is a string of frames containing the desired facial expressions.

Keywords: Morphing, Dynamic Equilibrium Method, Deformation.

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ANALYSIS OF ENSEMBLE MODEL FOR CLASSIFICATION OF GENE EXPRESSION BIG DATA

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Big data is the data mining computational process of analysis of large quantities of data. Big data is becoming one of the most modern topics in current research in computer science, data mining. There are many challenging issues associated with big data and one very important issue is the high-dimensional data analysis. High dimensional data are relevant to a wide range of fields such as gene expression profiling. Gene expression data set producing huge amounts of data. Gene expression levels are important for disease, such as, Lung Cancer diagnosis. Gene selection for cancer classification is one of the most important topics in the biomedical field. However, microarray data pose a severe challenge for computational techniques. We need dimension reduction techniques that identify a small set of genes to achieve better learning performance. Classification methods used in high dimensional big data studies for gene expression are diverse in the way they deal with the underlying complexity of the data, as well as in the technique used to build the classification model. The classification of different gene expression dataset like lung cancer types is of great importance in cancer diagnosis and drug discovery. Cancer classification using gene expression data is known to contain the keys for addressing the fundamental problems relating to cancer diagnosis and drug discovery. Ensemble methods are learning algorithms that construct a set of base classifiers and then classify. This paper proposed a decision tree based ensemble classifier to classify the control and cancer groups based on gene expression levels from microarray data. A combinational Recursive Feature Elimination in conjunction with the decision tree algorithm was developed to select significant features and design the proper classifier. The method is applied to microarray data of cancer patients, and the results show improvements on the success rate.

Keywords: Big data, Gene expression, Microarray, Lung cancer, Ensemble methods, Decision tree, Classifier

CREATING TOURISM-RELATED SENTIMENT LEXICON USING HYBRID APPROACH

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The sentiment lexicon are an important part of many sentiment analysis system. There are many automatic ways to build such lexicons, but often they are too large and contains errors. The rapidly growing tourism related online reviews has played an important role in the development of sentiment analysis system for analysing user generated tourism reviews about a tourist place or facility available in these place. The existing general purpose opinion lexicon, such as SentiWordNet has a limited coverage of tourism related terms, creating problems for the development Tourism-based sentiment analysis applications. In this work, we present a hybrid approach to create domain specific tourism-related lexicon for the efficient classification and scoring of Tourist's sentiments. The proposed approach is based on the bootstrapping modal, a dataset of tourist reviews, and corpus-based sentiment detection and scoring. In each of the iteration, vocabulary of the lexicon is updated automatically from an initial seed cache, irrelevant words are separated and words are declared as tourism or non-tourism entries, and finally sentiment class and score is assigned to each of the word. Our results demonstrate the efficacy of the proposed method.

Keywords: Lexicon, Sentiment Analysis, Hybrid Approach, Tourism, Natural Language Processing.

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AN EFFECTIVE ALGORITHM BASED ON IMPACT OF MOBILITY FOR WIRELESS SENSOR NETWORKS

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Wireless sensor networks (WSNs) are considered among emerging technologies through a new popular paradigm in research and industry, which is the Internet of Things (IoT). There is strong interest in Low- Power Wireless Networks (LPWNs) in various research areas since these devices are key enablers for future Internet of Things (IoT) applications. Mobility of nodes in LPWNs is one of the basic requirements of these applications. A mobile network should fulfill some requirements such as flexibility in terms of node deployment. The Routing Protocol for

Low power and lossy networks (RPL), which is standardized as an IPv6 routing protocol for low power and lossy networks, uses the trickle timer algorithm to handle changes in the network topology. This paper enhances the existing technique in order to fit with mobility requirements. Most of previous works have improved this algorithm without considering the fully random movement of nodes. In this work, the proposed algorithm takes into consideration the random trajectory of mobile nodes, pause time and node's velocity. It is also dynamically adjusted to prevent from node disconnections. The performance of the proposed algorithm is evaluated in ContikiOS and COOJA simulator and compared with native RPL. The results demonstrate that our proposed optimization algorithm offers better performance than existing.

Keywords : Wireless Sensor Networks, Mobility, MWSN, RPL, IoT.

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A SURVEY: DEEP LEARNING FOR SENTIMENT ANALYSIS

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Deep Learning for sentiment analysis becomes an admired research topic. Deep learning has come out as a robust machine learning scheme that ascertains plentiful layers of depiction of the facts and deliver state-of-the-art foresight results. Deep learning is an application of *Artificial Neural Networks* (ANN) and used in sentiment analysis in recent years. This paper presents survey of deep learning in sentiment analysis. Sentiment analysis is a field of *Natural Language Processing* (NLP) that construct system for identifying and digging out the information to which it refers to the process of identifying the polarization of the text also called as *Opinion Mining* derives the opinion, or user's attitude. NLP deals with the communication among computers and its user. Sentiment analysis is an automated process helps in recognizing the judgment of a narrator with respect to concerning subject or theoretical polarization of a manuscript (phrases in the document). User's attitude clarifies their belief or estimate, the expressive status of the user while scripting determines various emotional levels (positive, negative or neutral) and score the reaction of particular phrases or axioms in the document (manuscript). Sentiment Analysis can track the status, services or products in general for many firms. It allows organization to construct sensible meaning of amorphous text by automating business procedures, getting actionable insights, and saving hours of manual data processing, in other words, by making teams more efficient. It's predictable that 80% of the universe's data is amorphous and not in a predefined approach. Most of the text data comes from phrases, emails, social media, journals, articles, survey and manuscript (documents). These texts are usually time-taken and costly to examine, recognize, and ordered throughout. A recent research focuses for sentiment analysis is the enhancement of granularity at aspect basis, characterized individual main two aims: aspect extraction and sentiment classification of reviews of product and sentiment classification of target-aimed tweets and this paper aims to offer a relative evaluation of deep learning for sentiment analysis to place different approaches.

Keywords- Deep Learning, Sentiment Analysis, Artificial Neural Network, Natural Language Processing

EDUCATIONAL DATA ANALYSIS USING DATA MINING TECHNIQUES

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Now a days as educational institutions compile and store huge volumes of data such as student's enrolment and attendance records as well as their examinations results. Educational data mining is an emerging discipline that focuses on applying data mining tools and techniques to educationally related data. The aim of this research work is to find out interesting pattern and knowledge in educational organisation as related datasets. This paper also highlights the challenges that occur while performing educational data mining.

Keywords: Data Mining, Educational Data Mining, Student Data Analysis.

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RETRIEVAL AND ANALYSIS OF WEB INFORMATION USING MACHINE LEARNING TECHNIQUE

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Now a days one of the major source of information's are presented over the internet. The rapid development of Modern technologies makes it more convenient for the user to access those data. Use of various networking sites create huge unstructured data. In this work, we are trying to access the links of websites and analyse it. The basic concept used is web scraping. Security levels of links have been analysed on the basis of number of URL retrieved. URL retrieval technique has been developed and done on online data. URL extraction method has been implemented to classify the web links using python library.

Keywords : Information Retrieval, Python Library, Security Parameters

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TEXT MINING FOR CLUSTER AND UNDERSTAND DATA BY USING MACHINE LEARNING TECHNIQUES

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Today's Research mainly deals with text mining by using Machine Learning Techniques, we can extract the useful information from the data by using data mining techniques. It is possible now a days to retrieve fast output by using Algorithms, Stock Market, Facebook, Social Media, Online Shopping etc. totally based on the same techniques. By using this technique, the Investor invests their Money by predicting the past data and moving their plan for future.

Keywords :-Data Mining, Text Mining, Machine Learning.

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A LITERATURE REVIEW BASED ON GRADUATES UNEMPLOYMENT YOUTH IN INDIA

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Unemployment is a major social issue in India. India is facing a massive skill gap problem with hundreds of engineers graduating every year but only a few possessing the skills required in the industry now. "How can our engineers be trained for future jobs" it's a problem for future engineers. The main objective of study is to reduce unemployment in engineering sector relying on cloud computing. Goal of this research is to develop an application from which this, mechanism can be found; developing an efficient and effective application aiming to provide employment to cloud computing engineers. Connecting all cloud developers through the application where they can get aware about jobs according to their expertise fields. Through this, employment can be generated globally for cloud computing developers. This research work brought a way to reduce un-employability among cloud computing sector of engineering because data sharing in cloud computing enables multiple participants to freely share the group data, which improves the efficiency of work in cooperative environment with this technique opportunities can be brought up with the help of design and develop a cloud architecture for creating sustainable self-employment in every sector.

Keywords: Unemployment, Cloud Computing, Cooperative Environment, Self- Employment

ACCURACY TO PREDICT THE GENETIC RISK OF MYOCARDIAL INFARCTION USING CLASSIFICATION TECHNIQUES

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In this paper we find the accuracy to predict the various generic risks for myocardial infarction using various classification techniques. Myocardial Infarction (MI) also known as heart attack is one of the most dangerous cardiovascular diseases. In this study we calculate the accuracy of Myocardial Infarction prediction system is developed using various classification techniques where Byes Network Classifier gives the highest accuracy 96.55% and 10 fold cross validation technique by using data mining classification tool WEKA to classify the UCI repository data set .Doctors may sometimes fail to take accurate decisions while diagnosing the type of heart disease of a patient, therefore Myocardial Infarction prediction systems which use machine learning algorithms assist in such cases to get accurate results.

Keywords: Myocardial Infarction, decision tree, knn, Supervised Learning, data mining, classification, machine learning, data set.

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PARAMETER EVALUATION FOR QUALITY IN HIGHER TECHNICAL EDUCATION

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As reported by several researchers in their research and primarily the NASSCOM report of 2019 on skilled manpower demand and supply for coming years in India there is a huge difference in what is required and what will be available the demand for skilled manpower will be 2.3 millions but the availability will be far less as the major output is poor in quality or not fit with the standards required. In this paper an effort has been made to find out the various factors that has direct impact on quality of graduate. Delphi method has been used as a methodology and results are concluded based on this study.

Keywords: Delphi Study, Quality of Technical Education,Skilled Manpower

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TEACHERS' PERCEPTION OF TECHNOLOGY INTEGRATION IN LEARNING SPACES

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The definition of the characteristics of a learning space places us in front of the existence of dimensions as pedagogical environmental and digital dimension. This study on the learning space in the school is based on the identification of the problem of the limited attention that has been given to the conceptualization and configuration of the classroom as a space-engine of innovation for teachers and learning for students, as well as the minimum change that this has experienced as a central space of the teaching and learning process, especially in regard to the integration of digital technologies in the configuration of learning spaces within the framework of current educational theories and paradigms. For this, a quantitative study has been carried out by means of the survey method of a representative sample of various children's, primary and secondary education centers. The results obtained show that teachers perceive that the digital dimension should be one of the key elements to propose new learning spaces in schools.

Keywords: Compulsory education; technologies; learning space

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DATA SECURITY IN CLOUD COMPUTING

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Cloud computing is a network-based environment where we use a set of available services and resources through the internet. Cloud computing refers to both the applications delivered as services over the internet and the hardware and software in the datacenters that provide that service. Cloud providers use virtualization technologies for compute the resource where several kinds of data hosted on the some physical server as infrastructure. In cloud computing technologies security has been the major concern. In cloud computing has raised security concern for both service provider and consumer. The information may be personal or organizational that facing threat from hackers and there is a need to identify possible security techniques that can be more secure. Cloud computing provide easy data storage and access. But there are some issues related to securing and managing data. That is not controlled by owner of

the data. This paper discussed security issues for cloud. These issues include cloud integrity, cloud privacy. There are also discussed about hacking, threats to cloud data including attacks and malicious system. Denial of service attack (DoS) is the most common attack in cloud computing network.

Keywords: Cloud Computing, Cloud Security, Threats, Attacks, Denial of Service.

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LEARNING AND E-LEARNING STYLES TOWARD HIGHER ACADEMIC PERFORMANCE

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Virtual education provides advantages that can justify its rapid expansion: the possibility of using multimedia materials, the easy updating of content, interactivity, access to the course from anywhere and at any time, the existence of an information feed-back immediately, so that the teacher knows if the student responds to the method and reaches the objectives set initially. Likewise, we could place it in the last stage of distance education, in which Information and Communication Technologies are applied to education. In spite of the great rise of e-learning, it is not necessary to fall into the false idea that it is the panacea, since it does not guarantee a higher quality or a faster or more effective learning alone. However, e-learning allows the application of tools such as learning styles with which if a more effective learning is achieved, a tool that is hardly applicable in the traditional class. This article presents the results of a pilot course taught through the Internet in which the contents of it are customized adapting to the learning styles of each student.

Keywords : E-Learning, Learning Styles, Academic Performance

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FEASIBILITY STUDY OF HYBRIDIZATION SCHEMES IN RECOMMENDER SYSTEMS

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Recent Research studies have focused on mixing recommender methodologies including Collaborative, Content-based and Knowledge based methods in hybrid recommender system research in order to improve recommendation results. This shift in research focus calls for having a sound idea about basic recommendation algorithms and hybridization concepts, schemes and mixing sequence. The paper attempts to explore, analyze and interpret all possible combinations of hybridization methods that are viable both in design and implementation. Finally, precise remarks were able to be delivered upon redundancy and feasibility options of various hybrid recommender system combinations in burke's recommender system space.

Keywords: Collaborative filtering, Content-based filtering, Hybrid recommender systems, Hybridization schemes, Recommender system space

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ANALYSING STUDENTS PERCEPTION THROUGH SOCIAL DIGITAL NETWORK

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Social networks and digital collaborative platforms have become informal training laboratories. According to this statement, the objectives of the present investigation are, on the one hand, to analyze the perceptions and experiences of a group of students on the methodology of 'inverted class', in combination with the use of social, game-based learning and response systems in class as teaching tools, and, on the other hand, know how they influence learning. The study has involved 257 students and has been carried out by means of a qualitative methodology, using interviews, the research diary and the Mentimeter application as information collection tools.

The results show that this methodology favors motivation, autonomy and commitment to learning. Likewise, it highlights the development in students of participation and commitment to the professional community and citizens. Likewise, regarding the teaching-learning processes, the results show an increase in autonomy, of the previous knowledge necessary to solve the tasks and of a formative evaluation. Finally, these studies favor reflection on the teaching practice itself.

Keywords : Social networks, inverted class, game-based learning, qualitative methodology

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A SURVEY ON DATA STORAGE IN CLOUD COMPUTING

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The concept of cloud computing becomes more and more popular in latest years. Data storage is a very important and valuable research field in cloud computing. This paper introduces the concept of cloud computing and cloud storage as well as the architecture of cloud storage firstly. Then we analyze the cloud data storage technology--GFS(Google File System)/HDFS(Hadoop Distributed File System) towards concrete enterprise examples. In the last part, we illustrate how to improve the traditional file storage method based on which realizes file distributed storage and fault-tolerant control though HDFS technology of Hadoop. This paper presents the state of the art from some literature available on Cloud storage. The study was executed by means of review of literature available on Cloud storage. It examines present trends in the area of Cloud storage and provides a guide for future research. The objective of this paper is to answer the question of what the current trend and development in Cloud storage is? The expected result at the end of this review is the identification of trends in Cloud storage, which can be beneficial to prospective Cloud researchers, users and even providers.

Keywords: Cloud computing , cloud storage, GFS , HDFS

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DEVELOPING INTERNET OF THINGS BASED REAL-TIME HEALTHCARE OBSERVATION SYSTEM

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In 21st century recent decade human concentration and rumination is based on unannounced Healthcare issue and real-time Medicare of the patient. This work render fundamental goal to structure remote monitoring system for patient using Internet of Things (IoT). Developed mobile real-time observation that can provide continuous information related to human anatomical condition of patient. This proposed system mainly focus to delineate to actual situation presented by patient mobile real-time observation system consisting sensors microcontrollers Raspberry Pi programmed by Python. The patients Heartbeat temperature ECG and circulatory strain are tested, observed and sent to the cloud. The cloud exhibit the patient's anatomical illness information with immense precision.

Keywords. : Healthcare, Medicare, real-time, Internet of Things, Raspberry pi, Cloud

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MACHINE LEARNING AND AGRICULTURE: A REVIEW AND APPLICATION

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Machine Learning is the emerging area in research and development for providing ease to various spheres for helping mankind. Through different learning sources it has been observed that Machine learning has a prominent need in almost all the areas of computer application. It is the scientific field that gives machines the ability to learn without being strictly programmed. It's application include text summarization, weather forecasting, bioinformatics, robotics, aquaculture, data streaming etc. Agribusiness has a potential contribution in the worldwide economy. As a result Agri-innovation and accuracy cultivating termed advanced farming have emerged as new dimension to utilize information in exceptional ways so as to drive rural profitability while limiting its ecological effect. In this context a review of Machine Learning and its various applications especially for Agri-development sector has been discussed in this paper. It will lead to open up various opportunities and approaches for analyzing new dimensions in Agribusiness for Machine learning implementation.

Keywords: Machine Learning, Supervised Learning, Unsupervised Learning

FEATURE SELECTION TECHNIQUES OF MICROARRAY DATA: A REVIEW

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It is usually required to collect proper biological information for different chronic diseases like colon cancer, prostate cancer, leukaemia, lung cancer etc. There is a way to get this type of information in the form of gene expression microarray data. As we know that this microarray data has huge number of features, so that it is very challenging task to perform feature selection. By applying various feature selection techniques, we can collect some special features which will provide nearest result of disease. Through these selected features a machine learning model can be evaluated for classification. Lots of feature selection techniques performed by the researchers, but there is more opportunities available in this area to find out exact information and serve best for humanity.

This paper emphasis on various feature selection techniques applied on microarray data and a comparative study of these feature selection techniques.

Keywords: Microarray data, Feature Selection, Machine Learning

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EMOTION DETECTION AND ANALYSIS ON SOCIAL MEDIA MESSAGE USING NATURAL LANGUAGE PROCESSING

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Natural language processing(NLP) is a branch of AI(Artificial Intelligence) which deals with analysing and understanding the data and generating the languages that humans naturally use. When they interface with computer in both written and spoken context that is possible using natural human languages. This is important study about detecting the human emotions. This is central to expressing the thoughts, ideas and their opinions. This Natural Language Processing technique help us in finding out whether the work on social media messages or tagging is positive or negative. Analysing social media messages focuses on applying Natural Language Processing(NLP) and Machine Learning(ML) tools and techniques related to data. The aim of this research work is to find out the criminal's attacks investigation and AI helps to beat humans depression.

Keywords :- Mood Detection, Natural Language Processing, Machine Learning, Emotions, Social media messages & taggings.

INFLUENCE OF MACHINE LEARNING AND DISRUPTIVE TECHNOLOGIES ON KNOWLEDGE MANAGEMENT (KM) FOR MICRO, SMALL AND MEDIUM ENTERPRISES (MSME)

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In today's dynamic and competitive era, Knowledge is the backbone of an organization and provides unflagging support in inclusive growth including financial and non-financial terms to organization. It is essential for organizations to cultivate and nurture knowledge within their organizations and externally to their stakeholders and customers by creating learning ecosystem to understand the essence of past, administer the present and envision the future. Over a period of time, knowledge is deemed "Organizational asset" therefore organization defines a standard practice to retain and leverage the knowledge through "Knowledge Management" encompasses creation, acquisition, transfer, storage, sharing and application of tacit and external knowledge to reap the benefits across business value chain. Knowledge management practices are broadly involved three key pillars – People, Process and Know-how (Technology). "People" primarily touch upon mid and senior level leadership support to inculcate the culture of conceiving knowledge management as essential part of today's operation. "Process" touch upon the underlying mechanism to codify or translate tacit and explicit knowledge and share across various stages of knowledge management practices. Lastly, "know-how" technology plays a role of an integral enabler which accelerates the knowledge management activities by offering range of evolutionary technology tools not only to perform Knowledge Management activities but also enhance Business User Experience. Precisely in MSME context, Knowledge management has become important factor offering sustainable growth, competitive advantage, enhance business performance and contribute to nation's economic growth. Apparently, most of the MSME in recent times can leverage Machine Learning augmented by disruptive technologies for effective and efficient knowledge management activities for their day to day operations and achieve economic performance, economy of scale, operational agility, product and service innovation and many more. Are MSME ready to take up the challenge of proactively embracing KM practices enabled by Machine Learning and Disruptive Technologies to set exemplary example for radical growth?

Keywords: Machine Learning, Knowledge Management, Disruptive Technologies, Small and Medium Size Enterprise

BUSINESS PROCESS RE-ENGINEERING (BPR) BASED USER BEHAVIOR ANALYSIS: A REVIEW

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Social media has become the most widely used communication and interaction tool between people over the past few years. Direct interaction between people is decreasing as people tend to communicate indirectly through smart phones. Thus, it is quite difficult to recognize person's personality. However, what's written in social media might help us to get the information needed as people spend much time checking social media and expressing their feelings and thoughts through statuses, comments, and updates. Facebook has the largest users reaching 1.8 billion. Now days in the modern world social media has become popular. The same is also seen among the people wanting to promote their products. Opinion mining and sentiment analysis can be said to have brought in a large amount of interest in present day studies. This is due to the difficulties in the study of trending analysis. Therefore, the early work occurred at the document level and by applying different methods used for classifying a document's polarity. This can be done for positive, negative or neutral emotions at any scale. One procedure to yield knowledge is opinion mining. The same can be said for the opinions of people sharing on social websites, blogs, groups and comment boxes. Opinion mining uses text mining and natural language processing procedures so that a computer can take in the expression of emotions. Moreover, it is helpful in bringing out the sentiment and emotional expressions from unstructured text and providing the best method to classify a given sentiment analysis. Facebook because it is a public social network where users can complain easily about the things they don't like by me.

Keywords: Social media, opinion mining, facebook, Twitter

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STOCK MAPPING OF FOREST THROUGH REMOTE SENSING AND GIS TECHNIQUES IN KHURIYA RANGE OF MUNGELI DIVISION OF BILASPUR CIRCLE, CHHATTISGARH.

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Planners and decision-makers are increasingly facing the challenge of responding to forest issues at local, national and regional level. Therefore, Quantification of forest growing stock is necessary for better management and planning because forest can be seen as a source of timber and non-timber products. In this present study, an investigation has been carried out in for the forest of Khudiya Range of Mungeli Division of Bilaspur Circle of Chhattisgarh to prepare stock

maps of forest and area estimation for forest working plan. Indeed, attempt has been made to document the growth of Mungeli Division in the past but that from surveying and mapping. From the findings of the present study it may be concluded that the growing stock of the forest in Khuriya Range of Mungeli is covered by majority of the Sal Forest covering 90% of the forest with majority of the Young Age group of forest 83%. The majority of the Site Quality of the forest is IVb 81% with majority of the Medium Density (0.5), 68% of the forest cover. The majority of the forest class is covered by under stock 48%. Sal is one of the most important forest timber products, maintaining the forest ecosystem and beneficial for the environmental condition. Stock mapping play a key role in documentation of forest detail such as forest type, forest age, forest class, site quality and density of the forest. Remote Sensing and GIS play an excellent role in identification of forest, LULC pattern, stock mapping, preparation of forest management plans, monitoring of wildlife animals in forest and for managing the related attributes etc. The present study helpful for the student, researchers, forest rangers, forest villagers, WPO, DFO, CCF and those who are directly or indirectly associated with forest and forest related program.

Keywords: Stock mapping, forest classification, Planning & Management, Remote Sensing.

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DEVELOPMENT OF HYBRID SYSTEM FOR SMART AGRICULTURE USING INTERNET OF THINGS

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Agriculture has been the most important practice from very beginning of the human civilization. It has seen many iterations of development in technology with time. Good control over environmental parameter can lead to increased yield of crop. wireless sensor based Agriculture field monitoring designed with various futures and the device will be single system with multiple applications, The design which helps to collect, manage and visualize and upload the water level, temperature, moisture content, information in the monitoring land, Where the different sensors are connected to the raspberry pi controller, the sensor values are stored in microcontroller using Bluetooth or IOT technology, then we can know the exact situation of the monitoring land via internet , This is mainly designed to help formers for monitoring the various changes in the agriculture field.

Keyword: Internet of thing, Smart farm, Wireless sensor network, Irrigation system.

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DIVORCE PREDICTION USING MACHINE LEARNING TECHNIQUE

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Divorce is sensitive matter in human life which destroy the family life and relation. In this research paper we have discussed about prediction of divorce using machine learning technique. We have used machines learning techniques like Decision Tree, Artificial Neural Network, Support Vector Machine and Other machines learning approaches for classification Divorce and married Couple.

keywords : Prediction, Ensemble, Features Selection.

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INFORMATION SECURITY MANAGEMENT (ISM)

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Information security management (ISM) describes controls that an organization needs to implement to ensure that it is sensibly protecting the confidentiality, availability, and integrity of assets from threats and vulnerabilities. Currently, all organizations have to tackle the issue of information security. The information security management system (ISMS) represents the collation of all the interrelated/interacting information security elements of an organization so as to ensure policies, procedures, and objectives can be created, implemented, communicated, and evaluated to better guarantee an organization's overall information security. The paper deals with various aspects of Information Security Management (ISM), including procedures, processes, organizational structures, policies and control processes. Introduction of Information Security Management should be a strategic decision. The concept and implementation of Information Security Management in an organization are determined by the corporate needs and objectives, security requirements, the processes deployed as well as the size and structure of the organization. The implementation of ISM should be carried out to the extent consistent with the needs of the organization. Management of the organization must define information security policy in compliance with the requirements of the organization, applicable laws and regulations. The policy has to be officially approved, published and communicated to all employee and interested parties. The goal of an Information Security Management System (ISMS) is to protect the information that differentiates your business, both online and in person.

Keywords: information security, information security policy, business continuity management, management of intrusion.

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NATURAL LANGUAGE PROCESSING: A REVIEW

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Natural language Processing is a major field of Artificial intelligence. Natural language processing is a processing technique where machine can analyze and understand language that spoken by human. These includes the spoken language systems that integrate speech and natural language. It is a combination of mathematical and computational of various languages. There are many subpart of natural language processing such as natural language generation, natural language translation and speech reorganization. NLP is mostly used in customer support applications like google assistant and Alexa. In NLP some research areas are as information retrieval , machine translation, text correction, text identification. The applications of Natural language processing includes fields of study, such as machine translation, natural language text processing and summarization.

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BLOCKCHAIN SOLUTIONS FOR IOT SECURITY ISSUES : A SURVEY

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The Internet of things (IOT) refers to technology where multiple devices (sensors) are connected via internet.IOT; a new era of computing has transformed the human life tremendously. Furthermore the huge amount of data generated by interaction between users and objects make it difficult to manage, control and secure IOT environment. The limited data security, privacy and specific characteristics of IOT limit its adoption. Blockchain offers secure computing through distributed, peer to peer, decentralized and temper-resistant ledger database. It can store and secure the data or transaction using cryptographic techniques. Blockchain technology continues to attract attention and can be integrated with IOT. This paper intends to provide an in-depth security analysis of the IOT by examining the current challenges inherent in IOT like huge numbers of interconnected devices and huge amount of data, current architecture of IOT, limited computing resources and potential threats. This paper is designed to gain better understanding of security and privacy property of Blockchain technology as countermeasures of various IOT challenges. Finally we provide research direction for future work by deploying Blockchain in IOT applications.

Keywords: IOT, Blockchain, Security, Privacy

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SEMENTIC WEB: A REVIEW

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The sementic web is an evolving devolopement of the world wide web in which the meaning (sementic) of information and services on the web is defined. Making it possible to web to “understand” and satisfy the request of people and machine to use the web content. At its core, the sementic web comprises a set of design principle .collaborative working groups and a variety enabling technologies. Some element of sementic web are express as prospective future possibilities that are yet to be implemented or realized. Other element of the sementic web are expressed in formal specifications. Some of these include resource description framework(rdf) a variety of data interchangeformates(e.g. rdf/xml,n3,turtle,n-triples) and notaion such as rdf schema (rdfs) and the web ontology language(owl),all of which are intended to provide a formal description of concept,terms and relationships within a given knowledge .

Keywords-:Owl,Rdf,Rdf Schema,Microformate.

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TEXT SIMILARITY USING CLUSTERING APPROACH

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Text Mining has very wide research area like opinion mining, sentimental analysis, review of data, semantic analysis and similarity between text documents. Similarity between text documents are one of the important application of text mining. The methodology behind the finding of similarity between text documents are clustering. Clustering is important mechanism through which large amount of unordered text documents are arrange in small number of meaningful and similar text documents chunks. There are different types of clustering algorithms which are Partition clustering approach like k-means, k-mediods, Hierarchical clustering. Similarity of text documents are depends on the wide variety of distance functions and similarity measures which is used in clustering mechanism such as Metric, Squared Euclidean distance, cosine similarity, and relative entropy.

Keywords: Clustering, Distance Function, Similarity measures and Clustering Algorithm.

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INTERNET OF THINGS: A SURVEY ON THE SECURITY OF IOT FRAMEWORKS

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The Internet of Things (IoT) is heavily affecting our daily lives in many domains, ranging from tiny wearable devices to large industrial systems. The Internet of Things (IoT) plays a remarkable role in all aspects of our daily lives. It covers many fields including healthcare, automobiles, entertainments, industrial appliances, sports, homes, etc. Consequently, a wide variety of IoT applications have been developed and deployed using different IoT frameworks. An IoT framework is a set of guiding rules, protocols, and standards which simplify the implementation of IoT applications. The very rapid growth of Internet-connected devices, ranging from very simple sensors to highly complex cloud servers, shapes the *Internet of Things*, where *Things*, in this context, refers to a wide variety of objects (e.g. smart bulbs, smart locks, IP cameras, thermostats, electronic appliances, alarm clocks, vending machines, and more). The resemblance between all IoT objects is the ability to connect to the Internet and exchange data. The network connectivity feature allows controlling objects remotely across the existing network infrastructure, resulting in more integration with the real world and less human intervention. The success of these applications mainly depends on the ecosystem characteristics of the IoT framework, with the emphasis on the security mechanisms employed in it, where issues related to security and privacy are pivotal. In this paper, we survey the security of the main IoT frameworks, a total of 8 frameworks are considered. For each framework, we clarify the proposed architecture, the essentials of developing third-party smart apps, the compatible hardware, and the security features. Comparing security architectures shows that the same standards used for securing communications, whereas different methodologies followed for providing other security properties. Security and privacy issues in IoT had a lot of attention by the research community and addressed at different levels.

Keywords : Internet of Things: IoT, Framework, Platform, Security

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MOBILE CLOUD COMPUTING: A REVIEW

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It is a type of cloud computing. It involves mobile. the storage and processing of data take place outside the mobile device. There is no need complex software or costly hardware. Data storage capacity and processing power are also improved in mobile cloud computing MCC is the contribution of cloud computing and mobile computing. It provides business opportunities for mobile network operator as well as cloud providers. Mobile cloud applications can be built or revised quickly using cloud services. They can be delivered to many different devices with different operating system.

Keywords: Cloud services, Mobile devices, Cloud provider

PERFORMANCE COMPARISON OF VANET ROUTING PROTOCOLS : A PERSPECTIVE APPROACH

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Vehicular ad-hoc network(VANET) is an emerging technology, which gains importance since the last few years. VANETs have some unique characteristics which make it different from other ad-hoc networks. With the growing number of vehicles, the risk of accidents, traffic congestion, poor traffic management is increasing day by day. Vehicular ad-hoc networks are able to cope up with these problems. Vehicular ad-hoc networks are those network, which allows vehicles to transmit useful and safety information to another vehicle. There are various characteristics of vehicular ad-hoc networks like highly dynamic topology, frequently disconnected networks, unlimited power backup, unbound network size, etc. Due to these unique characteristics of VANET, it is very difficult to design routing protocols for data transfer. There is a wide variety of routing protocols in VANET. These routing protocols can be broadly divided into two categories (1) proactive protocol and (2) reactive protocols. In this paper, we have compared various reactive and proactive routing protocols based on their performance metrics.

Keywords: VANET, routing protocols, reactive protocols, proactive protocols

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HUMAN ACTIVITY RECOGNITION VIA ACCELEROMETER ENABLED SMARTPHONE

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Use of Smartphone in all age group of peoples has been increased since last two decades. Now a day's most of the Smartphone are enabled with various types of sensors like GPS sensors, audio sensors, image sensors, light sensors, temperature sensors, direction sensor, gyroscope and acceleration sensors. Out of these sensors, accelerometer and gyroscope are most widely used sensor for human activity recognition. In this paper we used publically available MobiAct data for human activity recognition. In data preprocessing step we have applied fast Fourier transformation. Then we have extracted some features from the dataset and after that we have used support vector machine based classification to classify human activities. This proposed method has given very promising results for human activities classification.

Keywords: Human activity recognition, Accelerometer, SVM

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RECENT TRENDS AND ADVANCEMENT IN HEALTH CARE: AN OVERVIEW OF HCDSS

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Numerous decision support systems have been proposed for the diagnosis of disease in recent years. It has made the disease diagnosis and related predictions faster, easier and accurate. Plenty of research is being carried out in this field which involves various machine learning techniques. This paper presents an overview of healthcare decision support system for diagnosis; prognosis and prediction of diseases and covers recent trends in field of HCDSS assisted diagnosis. The outcomes of different models are compared with other existing approaches on basis of parameters like accuracy, sensitivity, specificity etc. It explores various HCDSS and finding of this study suggests that hybrid systems developed using techniques like Artificial Neural Network, Genetic Algorithm, PSO etc. have been proved to be better than any individual technique. This study strengthens the necessity of HCDSS in the healthcare for the efficient and accurate disease diagnosis.

Keywords: Health Care Decision Support System, Genetic Algorithm – Artificial Neural Network, HCDSS

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ESTIMATION OF POPULATION PARAMETER IN BIG DATA SETUP UNDER CLIQUE SAMPLING

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Large number of people are using social media platform for exchange of views. This number grows fast and has variety. Some of users form groups for the restricted communications. The entire setup is of social media where big data growing fast over volume, velocity and variety. If the users are assumed vertices and their connections are treated as edges then this constitutes a graphical population like $G = (V, E)$ where community detection algorithm could be applied. This paper presents Clique sampling procedure to estimate mean of such graphical population of

digital platform assuming each vertex has some predefined weight. Graphs are formed based on Clique formation, showing the frequent connectivity. From each group some units are taken as sample to estimate the unknown population parameter. Effectiveness of estimation procedure has been examined through computation of confidence intervals.

Keywords: Social media, Clique sampling, Mean, Population Estimation, Confidence interval.

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GROWTH ESTIMATION PROBLEM IN BIG-DATA USING SAMPLING METHOD

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The big data has property of high growth of volume, high speed and having variety. The data over social media is an example where the communication happens to be in the form of text, video, audio images, text chat, video chat, audio chat, etc. this data has tendency to increase in general but the rate of growth varies among their types and format. This paper presents sample based techniques of growth estimation of big data. The efficiency of method is tested using confidence intervals.

Keywords: Big-Data, Sampling, Growth Estimation, Social Media.

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AN ENHANCEMENT OF GRAMI BASED ON THRESHOLD POLICY FOR PATTERN BIG GRAPHS

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Pattern Mining is one of the key mechanism to manage large scale data element. Frequent subgraph mining considers isomorphism which is a subprocess of pattern mining. Many databases consider small graphs for solving complex problems. The classification of graph depends on the application requirement. A good mining architecture may prevent a lot of memory and time. This paper follows the Grami structure for the analysis of frequent mining and also introduces the 20% threshold policy for the enhancement of the directed pattern graphs. The proposed model is compared with Grami on twitter database based on the evaluation of time

and memory consumed. The results show that the performance of Grami approach has been improved which shows a 6.6% reduction in time and 21% improvement in memory consumption using the proposed approach.

Keywords: Pattern Mining, Frequent Subgraph Mining, Grami.

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READY QUEUE MEAN TIME ESTIMATION USING EXTENDED LOTTERY SCHEDULING SCHEME IN MULTIPROCESSOR ENVIRONMENT

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Consider the multiprocessor environment where many processors are attached for performing a task. It is assumed that each processor is associated with a ready queue of process such that processor pickup a process randomly. This paper considers the simulation of random pick-up of only first process and remaining process are selected through a systematic procedure. Which system breakdown at any time T, the last process assumed unfinished and remaining remained finished. Using this information, it is estimated how much extra-time retrieved to cover-up the whole ready queue while breakdown occurred. Confidence intervals have been obtained in order to check the accuracy of estimate.

Keywords: Ready Queue, Lottery Scheduling, Mean Estimation, Sampling, Multiprocessor.

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ARDUINO BASED HAND GESTURE CONTROL OF YOUR COMPUTER

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Control your Computer with Hand Gestures using Arduino. This technique is called Leap motion which enables us to control certain functions on our computer/Laptop by simply waving our hand in front of it. Instead of using a keyboard, mouse or joystick, we can use our hand gestures to control few functions of a computer like play/pause a video, move left/right in a photo slide show, shift between tasks (applications), increase or decrease the volume (in VLC Player) and scroll up/down in a web page and many more. In this project we are going to use

Arduino, Ultrasonic Sensor, laptop etc. The concept of this project is very simple. We will place two Ultrasonic (US) sensors on top of our monitor and will read the distance between the monitor and our hand using Arduino, based on this value of distance we will perform certain actions. In this we are going to use circuit diagram to implement the project. Human Machine Interface or HMI is a system comprising of hardware and software that helps in communication and exchange of information between the user (human operator) and the machine.

Keywords: Robotics, Arduino, Hand Gestures, circuit diagram.

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ANALYZING VEHICLE TRAJECTORY BASED ON TRAJECTORY SEGMENTATION

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With the advent of GPS technologies positioning data of moving objects are massively available, offers the researcher to explore new phenomenon to resolve various real world issues. Trajectory data captured through GPS devices are complex to handle. An approach is required which can transform this complex data into the form which can be suited for further usability. In this paper, we address the challenging issue of analysis of vehicle trajectory. Proposed a novel method which analyzes the vehicle trajectory using trajectory segmentation. For segmentation purpose novel approach has been used. Within segments homogeneity of speed and angular movement of vehicle has been maintained. For experimental purpose real data set of School buses collecting (and delivering) students around Athens metropolitan area in Greece are used.

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A REVIEW ON DEEP LEARNING OPTIMISATION TECHNIQUES

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Artificial intelligence (AI) has become all-pervasive, being used on daily basis in one way or another. In recent years, most researchers are getting pulled towards the AI domain by virtue of its pioneering applications including multimedia (text, image, speech, video recognition), social network analysis, data mining, natural language processing, sentiment analysis, driverless cars

and so forth. All of them are using machine learning subdomain which has in no time become highly popular amongst researchers and industrialists alike. Machine Learning (ML) currently represents the most promising path to empower AI. On the other hand, Deep Learning (DL), which is itself a kind of Machine Learning is gaining even greater popularity, given its success in different use cases, ever gaining momentum in R&D. Thus, DL is establishing itself as a leader in this domain. Furthermore, various deep learning optimisation methods are used to improve the performance of DL techniques. This paper presents a brief review of optimisation methods.

Keywords: AI, Machine Learning, Deep Learning, optimization techniques.

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FINGERPRINT LIVELINESS DETECTION TO MITIGATE SPOOFING ATTACKS USING GENERATIVE NETWORKS IN BIOMETRIC SYSTEM

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Today fingerprint detection system are being used widely, from a corporate office to military camps. They are secure, have speed and accurate but they are vulnerable to spoof attacks. And the primary purpose of the fingerprint reader is to provide reliable and accurate user authentication but also to be secure and ensure user confidence. The most prominent vulnerability in fingerprint spoof detection system was poor generalization of spoof classes that means whenever an unknown spoof the material was given to the detection system, the error rate increases up to 3 folds. To improve the accuracy and performance of the fingerprint detection systems when fabricated to an unknown number of spoof materials thus decreasing the cross performance error rate. Hence improving the poor generalizing problem of a fingerprint spoof detector using generative and other convolution networks. We are using one-class classification and Minutiae extraction approaches using DCGANs and MobileNets Respectively and using these networks giving a spoof score to given fingerprint and found out that our results had an accuracy of 5-10% more than the previous binary spoof classifiers.

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ENERGY OPTIMIZATION IN WSN BY USING RL METHODS

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Presently WSN faces various challenges in real time applications like IOT, Precision agriculture, Health care and farming. These challenges are routing, energy efficiency, security and middleweight protocols. Author(s) have focused reinforcement learning based optimized algorithm to overcome energy consumption issue in WSN. These algorithms have been simulated in MATLAB and Cooja simulator to better check the results. The final results show about 7 to 8% improvement in result when compared to available benchmark algorithms.

Keywords: WSN, RL, MATLAB, Cooja, Energy efficiency and PDR.

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