

**A HISTOPATHOLOGICAL STUDY OF FRESHWATER AFRICAN CATFISH
CLARIAS GARIEPINUS (BURCHELL, 1822) EXPOSED TO DIETHYL
PHTHALATE**

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Abstract

Phthalates are the ester of phthalic acid used as plasterer. Phthalates are present unremarkably in used things like flooring, roofing, carpeting, shower curtains, packaging instrumentation, food and beverages packaging, automotive elements, and even in children's toys. In the present study, the effect of long term exposure of diethyl phthalate on the liver and ovary of *Clarias gariepinus* were investigated. In the present investigation, the most common changes with reference to control were observed in ovary of fish exposed to diethyl phthalate were the breakdown of follicular wall, vacuolization in nucleus, karyoplasmic clumping, irregular shaped follicle, vacuolization in follicular membrane, disintegration of follicular wall, fusion of follicles, degenerating follicles, liquefaction of cytoplasm, irregular nucleolar ring and atretic follicles. Similarly, the liver of fish exposed to the diethyl phthalate showed eccentric nucleus, enucleated hepatocytes, pycnotic nucleus, central vein break, bi-nucleated hepatocytes, hypertrophy of hepatic Kupffer cells which were not seen in control fish tissue.

Key words: Phthalate, karyoplasmic clumping, atretic follicles, enucleated hepatocytes, pycnotic nucleus, Kupffer cells, bi-nucleated hepatocytes and vacuolization.

1. Introduction

Xenobiotic objects or materials are those that are resulting from human activities as opposed to those occurring in natural environments without human influences. The term is often used in the context of environmental externalities in the form of chemical or biological wastes that are produced by products or otherwise purposeful human activities. Many different chemicals are regarded as contaminants, ranging from simple inorganic ions to complex organic molecules. The impact of chemical environmental contamination on fish health, consequently fish productivity is of economical relevant for fishes as well as aquaculture. Environmental contaminants have been reported to accumulate fish and have threatened human health either directly or indirectly through the food chain. However, the proper handling and use of biocides in aquatic areas are especially critical, accidental spills or over dose can kill fish or cause other damage to its habitats that may lead to the reduction in the fish population.






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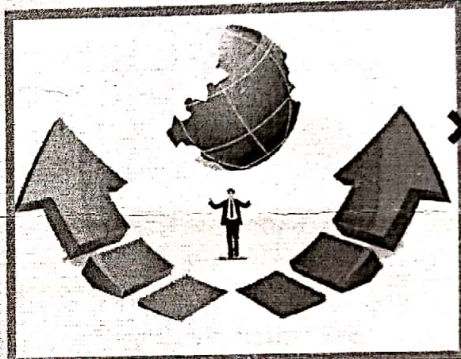
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COMPARATIVE ACCOUNT OF PITUITARY GLAND OF SNAKEHEAD *CHANNA STRIATA* (BLOCH) AND *HETEROPNEUSTES FOSSILIS* (BLOCH)

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Abstract

Snakehead *Channa striata* (Bloch) and *Heteropneustes fossilis* (Bloch) are popular food fishes. Both fishes were collected from lake in and around Nagpur. Brain along with pituitary glands was dissected out, blocks were prepared. Blocks were cut at 6-7 μ m. Sections were processed for Nissl's technique and AF staining. Pituitary gland present caudal to the optic chiasma and rostral to the saccus vasculosus. Pituitary gland communicates the hypothalamus via a stalk or infundibulum. Size of infundibulum differs species wise. In teleosts, the pituitary gland is fit in a pit of parasphenoid bone. Depending upon the nature of neurohypophysis, the pituitary gland is of two types, leptobasic and platybasic. In leptobasic pituitary gland, neurohypophysis is stalk like and almost forms the infundibulum and neurohypophysis penetrated into globular or egg shaped adenohypophysis. Neurohypophysis form flat floor of the caudal infundibulum which sends processes into disc shaped adenohypophysis in platybasic type of pituitary gland. In *H. fossilis*, the pituitary gland is leptobasic while in *C. striata*, pituitary gland is leptobasic.

Key words: Leptobasic, platybasic, Nissl's staining and AF staining

Introduction

Snakehead *Channa striatus* (Bloch) is highly esteemed as food. Snakeheads as they are commonly called, are acclaimed all over the country for their flavour, medicinal and recuperative values (Chakraborty, 2006). Another valuable fish is *Heteropneustes fossilis* which is also highly esteemed as food and occupies a foremost place among 'live' catfishes.

Hypophysis or pituitary gland is located ventral to the hypothalamus. Size of the infundibulum varies according to the species. In bony fishes, its size increases with prominence in the groove or depression of parasphenoid bone receiving the gland. Histologically, the pituitary gland comprises two parts, glandular adenohypophysis originating from the neuronal ectoderm and neurohypophysis (Pickford and Atz, 1957). Adenohypophysis comprises, rostral pars distalis (RPD), proximal pars distalis (PPD) and pars intermedia (PI) (Gorbman, 1965). Neurohypophysis which represents a collection of nerve axons terminating in a well organized





Role of NAAC in Promoting Quality on Higher Education: A Review

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Abstract:


The National Assessment and Accreditation Council (NAAC) is an autonomous body founded by the University Grants Commission (UGC) for assessing and accrediting higher educational institutions in India. India is world's second largest country in providing higher education. Higher education is key to get success at international level. The Quality human resource depends on the quality of higher education. NAAC was established to assess the quality of education in various colleges and universities in India. The assessment process provides an opportunity for the institution to measure its effectiveness and efficiency, identify its strengths and weaknesses and take necessary steps for improvement.

Keywords: NAAC, Higher Education, UGC, Quality Education.

Introduction:

The National Assessment and Accreditation Council (NAAC) is an outcome of the recommendation of the National Policy on Education (NPE). The National Assessment and Accreditation Council (NAAC) is an autonomous body founded by the University Grants Commission (UGC) for assessing and accrediting higher educational institutions in India. To address the issue of deterioration in quality, the NPE(1986) and Plan of Action (POA - 1992) that spelt out the strategic plan for the policies, advocated the establishment of an independent national accreditation body NAAC in 1994 with its headquarter at Bangalore. National Policy on Education(NPE)1986, Programme of Action (POA) in interalia recommended that "Excellence of Institution of Higher Education is a function of many aspects where self-evaluation and self-improvement are very important. If a mechanism is set up which will encourage self-assessment in institutions and accreditation by a council, the quality process, participation, achievement etc will be constantly monitored and improved".

India is world's second largest country in providing higher education. Quality higher education is a need of an hour to sustain in this era of competition. Higher education is key to get success at international level. Traditional Gurukuls transformed and Colleges, Universities, IITs, IIMs come into existence to impart higher education in a country. The Quality human resource depends on the quality of higher education. NAAC was established to assess the quality of education in various colleges and universities in India. Presently, efforts are made to make Indian Educational Institutions world class. All the Indian Higher Educational Institutions are to be assessed by NAAC periodically for maintaining the quality of the Higher Educational Institutions. The professional institutions are also to be assessed by National Board of Accreditation which is similar to NAAC. Recently, a new methodology for assessment and accreditation has been prepared. The assessment instrument has been fine-tuned for greater objectivity and validity. NAAC has come along way since its inception in 1994. It has taken up the challenges and initiated a nation wide movement for performance evaluation, accreditation and quality re-gradation of colleges and universities in the country.


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Gender Equity - Role of Higher Educational Institutions

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Abstract

Gender equality means equal rights to men and women, but gender equity means women persuade rights or equal opportunities to achieve equality in society, education, politics and other area. The Present article focuses on Gender equity and Role of HEIs in India. Because the 'Gender equity' is a term commonly used to illustrate how women have access to their rights or opportunities is unaffected by gender discrimination. Role of higher educational institutions to give equal opportunities among teachers and students. Despite the increasing literacy rates, *female are discriminated in many ways*. HEIs are tried to inculcate gender equity somehow through gender sensitization program and enacting policies those based on gender at the institution level.

Key Words: Gender, Equity, Education, Men, Women

Gender inequality in education is a constant problem in Indian society, especially for girls from rural areas and lower socioeconomic backgrounds. During the past several decades, India has achieved success in moving toward universal school enrollment. Gender empowerment and women's empowerment do not aim to promote one sex over another. Rather, gender empowerment is the ability for men and women to participate equally in society at the household, community, and national levels, especially regarding financial and political decision-making. Women's empowerment narrows the focus when there is a gap in equality in order that women have the ability to recognize their full prospective to participate in society as decision-makers. Both gender empowerment and women's empowerment work to create a balanced society and workplace (Nayar 2002). As UNICEF

says gender equality "means that women and men, and girls and boys, enjoy the same rights, resources, opportunities and protections. Within India, large regional differences in educational outcomes also exist, with rural females and those living in urban poverty largely representing those who are illiterate and those who are not enrolled in school (White et. al. 2016).

Gender equity in HEIs deals with justice and fairness and means that women and men have the same opportunity, taking into account their respective needs and historic disadvantages. Gender equality means and that men and women are equally valued and free from stereotypes, prejudice, and discrimination so that opportunities in HEIs do not depend on being a man or a woman (Gure, 2016).

Therefore, there is a great need to sensitize the society on gender issues because it overall helps to determine and ensure the

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Usage of Learning Management System Moodle in Higher Education

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Abstract

Today in higher education, Information and Communication Technology (ICT) has partially or completely substituted the traditional methods of teaching and learning. The incorporation of internet in the teaching practices is accountable for the improvement of teaching-learning process in higher education. Learning Management System (LMS) such as Modular Object Oriented term Developmental Learning Environment i.e. Moodle is recommended to support the lectures in higher education system. Moodle is open source, cost-effective, simple interface, easy to customize, offline access LMS. Some benefits of the Moodle are different types of assignments, discussion forum, databases, glossaries, lessons, multiple types of tests with one or more items, quizzes, wikis, survey, etc. This article discussed the usage of Moodle in higher education.

Key-words: Information and Communication Technology, Learning Management System, Moodle, Higher Education.

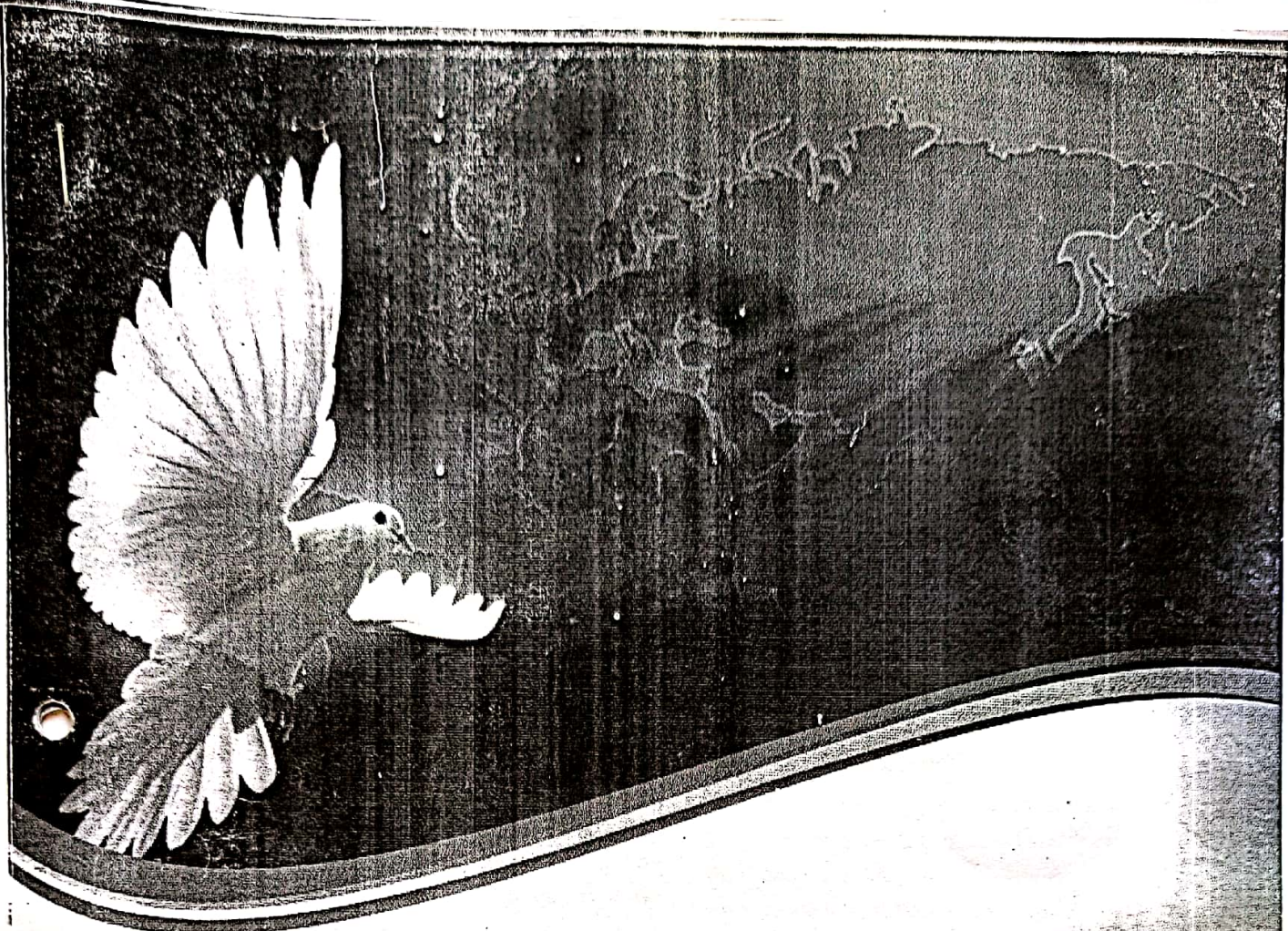
Introduction

The concept of e-learning began developing in the early 20th century, marked by the appearance of audio-video communication systems used for remote teaching. The integration of information and communications technology in teaching and learning is considered as a medium in which a variety of approaches and pedagogical philosophies may be implemented (Salehi and Salehi, 2012). A number of different ICT tools and applications may be combined in teaching and learning (Yunus et al. 2009). In comparison to traditional classroom instruction, the major advantages of e-learning are reducing geographical barriers as well as travel and programme overhead costs. The access becomes more flexible, from anywhere and usually at any time – essentially, it allows participants to collapse time and space (Cole, 2000), however, the learning materials must be designed properly to engage the learner and promote Learning (Umek et al. 2015).

What is Learning Management System?

A Learning Management Systems (LMSs) is a software application for administration, documentation, tracking, reporting and delivery of educational courses, training programs or leaning and development programs (Ryann, 2009). It was first introduced in the late 1990s (Davis et al. 2009). LMS were designed to identify training and learning gaps, utilizing analytical data and reporting. LMSs are focused on online learning delivery but support a range of uses, acting as a platform for online content, including courses. LMS delivers and manages all types of content, including video, courses and documents. In the higher education LMS will include a variety of functionality such as rubrics, teacher and instructor facilitated learning, a discussion board etc.





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OCCURRENCE OF INSECTS GALLS IN *TERMINALIA CHEBULA* RETZ. FLOWERS.

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ABSTRACT:

The paper deals with the induction of galls in *Terminalia chebula* Retz. flower which is not much studied earlier. Although some work has been reported on infestation of galls in leaves of *T. chebulaby* trapsi. In the present study three forests have been studied for the extent of flower galls in *T. chebula* plant and attempt have been made to study the morphological and anatomical aspects of the galls.

Keywords: *Terminalia chebula* Retz., Galls, morphology, anatomy.

INTRODUCTION:

Terminalia chebula Retz. is medicinally valued for its fruits rich in wide range of bioactive compounds. Gall formation in leaves of *Terminalia chebula* is common and it is induced by *Coryciodothrips inquilinus* and *Cecidomyllidae*. Several plants have been studied for infestation of insects in leaves, stem, roots, flower and fruit.

Gall is defined as "An abnormal growth of plants caused by other organisms". The majority of plants galls are caused due to the irritation by insects, mites, bacteria, fungi, nematodes and other organisms. Its induction in plants is commonly stimulated by the mites and insects which are characterized by active dedifferentiation and growth of plants cells. A gall result from hypertrophy (over growth) and hyperplasy (excessive cell division) usually under the influence of parasitic organisms (Mani, 1973).

In plants, gall inducer insects includes Diptera, Homoptera, Coleoptera, Hymenoptera, Lepidoptera and Thysanoptera. Insects and mites galls are formed by their feeding or egg laying activity. Its formation take place in newly developing organs while mature plant tissues are generally unaffected (Robert et. al 2004). In India, galls are found in many groups of plants like Leguminaceae, Combrataceae, Malvaceae, Anacardaceae,

Lauraceae, Cucurbitaceae and Asteraceae (Mani, 1973).

METHOD AND MATERIAL:

During the study, three forest areas in Gondia district were visited to observe the flower Galls in *Terminalia chebula* Retz. In each forest, 25 plants were randomly studied for the insect infestation in flowers. 20 inflorescences have been observed from each plant to find out the severity of galls.

Flowers from each individual inflorescence have been studied to find out the percentage of galls. The color, shape and size of galls have been noted in the field and brought to laboratory for further study. In laboratory, galls section have been taken and observed under microscope in 100X and 400X magnification to observed the anatomical changes with reference to the newly form healthy fruits.

RESULTS AND DISCUSSION

Primarily these galls mimic like the figs of *Ficus* by its morphological appearance. These galls are induced in response to the feeding activity of insect larva. From the study it is observed that more plants of *Terminalia chebula* in Salekasataluka forest are infested with insects, as compared to plants in Amgaon and Deori Taluka, but more number of inflorescences are infested in Amgaon forest plants than the others. The galls are round in


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shape, greenish pink color, size ranging between 0.2-1.5 cm.

Anatomically the galls showed the presence of larvae ranging from 2-7 numbers per gall (Photo A,B,C and D). These larvae modified the physiological process in flower related with development of normal fruits due to their extensive feeding activity. It induced the hypertropical growth of ovary which encircled the style. The infestation of insect may be take place before the fertilization of pollen grains to ovule, since no seeds development has been observed. T.S. of galls shows much larger cell size than the cells of normal premature fruit (Photo E and F), hypertrophy also noticed in the hairs present on galls as comparisons to normal premature fruits (Photo G and H).

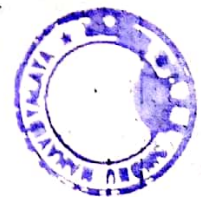
The galls in flowers responsible to the reduce yield and quality of fruits in *Terminalia chebula* Retz. which ultimately will affect its regeneration potential. *Terminalia chebula* Retz. fruits are widely used in the preparation of drugs for the treatment of various ailments. In current study the exact insect for gall induction is not identified due to its occurrence only in larval stage. Its urgent need to study gall maker and its bioecology in *Terminalia chebula* flower galls, since it is not reported earlier.

CONCLUSION:

Floristic exploration of the district provides complete angiosperm plant wealth. The flora includes herbs, shrubs, trees, climbers, twiners and lianas. The most dominant flora includes herbs which are 58.28 % of total angiosperm flora. The species belonging to dicotyledons are more common as compared to monocotyledons. Poaceae family found largest among the angiosperms with respect to total number of genera and species and the family Papilionaceae among the dicotyledons. While the *Pomoea* is the largest with respect to total number of species. Out of total angiosperm flora studied 12.58% flora found rare in its occurrence in the district.

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Phytochemical Screening and Medicinal Potential of *Phyllanthus niruri*

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Abstract

Medicinal plants have been discovered and used in traditional medicine practices since prehistoric times. Plants synthesize hundreds of chemical compounds for functions including defense against insects, fungi, diseases and herbivorous mammals. *Phyllanthus niruri* is a small herb distributed through the tropical and subtropical regions of both hemispheres. It is predominantly known for its anti-jaundice property. In this study, an attempt was made to reveal its medicinal property by studying its phyto-constituents by qualitative, quantitative and GC-HRMS analysis. This study discovered *P. niruri* deposits very high percent concentration and diversity of antimicrobial compounds which may govern its property to fight against jaundice and may also have potential to tackle other microbe borne diseases.

Keywords - *P. niruri*, antimicrobial, Hepatoprotective, Gallicanoic acid.

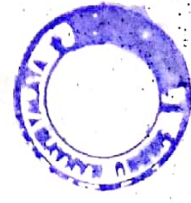
1. Introduction

Humans live in association with diverse populations of bacteria, fungi, viruses and Archaea

[1]. The microbial world is vast, diverse, and dynamic and they represents the large component of the planet's biomass. Microorganisms have colonized virtually every environment on earth ranging from deep sea thermal vents, polar sea ice, desert rocks, guts of termites, roots of plants, to the human body. Much as we might like to ignore them, microbes are present everywhere in our body, living in our mouth, skin, lungs, and gut. Indeed, the human body has 10 times as many as many microbial cells as human cells. They are the vital part of our health, breaking down otherwise indigestible foods, making essential vitamins, and even shaping our immune system [2]. Many microbes live in the symbiotic association with the human but it is not yet clear what range of normal interactions should be to convert this interaction into beneficial, harmful or neutral. Thus microbe largely influence the host health or disease [3].

Microbes cause harmful effects on human health as well. The human species is always facing the problems of infectious diseases. The worldwide efforts for prevention and cure of these deadly infections turning out to be very difficult and in many cases it is not even possible to handle the

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COMPARATIVE STUDY OF VEGETATION STATUS AROUND THERMAL POWER PLANTS USING GIS TECHNOLOGY

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ABSTRACT:

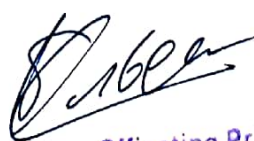
Many new thermal power stations (TPS) are being constructed in the country to meet the increasing demand of energy for various purposes of human beings. The effect of such TPS is generation of waste which includes diverse range of chemicals and flu gas. Another threat to environment by power stations is fly ash which contains hazardous elements which enters in the food chain of organisms and responsible for adverse effect of bioaccumulation. In today's world with increasing global change in the climate, vegetation plays a main role in reducing pollution and high temperature. Thus, the study of vegetation in relation to abatement of air pollution becomes extremely important. Remote Sensing and GIS are the appropriate tools for the study of vegetation for Land use/Land cover study. Thus in the present investigation an attempt has been made to study the actual status of vegetation around the power station near Nagpur with the help of GIS technology.

Keywords: Thermal Power Station (TPS), Air Pollution, Vegetation, GIS Technology.

INTRODUCTION:

Environment is the amalgamation of certain conditions and circumstances which surrounds an individual organism, group of organisms or communities. It also understands the cultural and social conditions that affect the individual organisms or communities. Terrestrial, Aerial and aquatic components with their flora and fauna, constitute environment for man who depends on environment and simultaneously becomes an environmental factor for other members in the ecosystem. All the components of environment have reciprocal relationship amongst themselves, which alters the natural balance in the ecosystem. The term "Vegetation" is the most abundant biotic element of the biosphere and refers to the plant life of a region. It is the ground cover provided by plants, and serves numerous significant functions in the biosphere. The most important function of vegetation firstly is to generate oxygen in the atmosphere, enabling the aerobic metabolism systems to evolve and persist. It also regulates the flow of numerous biogeochemical cycles, like water, carbon, and nitrogen; it contributes greatly to the local and global energy balances which are related to global patterns of vegetation and climate. (<https://www.sciencedaily.com>). In today's world with increasing global change in the climate, vegetation plays a main role in reducing pollution and high temperature (Escobedo et al.,

2011). Thus, the study of vegetation in relation to abatement of air pollution becomes extremely important. Remote Sensing and GIS are the appropriate tools for the study of vegetation, which was introduced in 1982 for Land use/Land cover study. Now a days it becomes common in most of the ecological investigations, providing realistic, cost-effective means of acquiring data over large areas (Nagendra 2001, Kerr and Ostrovsky 2003). In India, coal based power station contributes highest air pollution compare to other fuel substitutes. The coal available in India is of poor quality, with very high ash content and low calorific value (Ahmad, et. al., 2012). Combustion of coal at thermal power plants leads to emission of Carbon dioxide (CO₂), Sulphur oxides (SO_x) and nitrogen oxides (NO_x) as main pollutants (Tripathi, et al., 2015). Air pollution can be mitigated through best operation SOPs, raw material, and its auxiliary mitigation measures like development of green belt across its periphery. Biological indicators like plants (green belt) are considered as best bio indicators (LeBlanc and Rao, 1975). They give a gigantic leaf area for gathering of air toxins to lessen the contamination level noticeable all around condition with different degrees for various species (Liu and Ding, 2008). Trees removes air contamination principally by take-up by means of leaf stomata, however some gasses are expelled by the plant surface. Trees additionally evacuate contamination by catching airborne particles


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Role of NAAC in Promoting Quality on Higher Education: A Review

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Abstract:


The National Assessment and Accreditation Council (NAAC) is an autonomous body founded by the University Grants Commission (UGC) for assessing and accrediting higher educational institutions in India. India is world's second largest country in providing higher education. Higher education is key to get success at international level. The Quality human resource depends on the quality of higher education. NAAC was established to assess the quality of education in various colleges and universities in India. The assessment process provides an opportunity for the institution to measure its effectiveness and efficiency, identify its strengths and weaknesses and take necessary steps for improvement.

Keywords: NAAC, Higher Education, UGC, Quality Education.

Introduction:

The National Assessment and Accreditation Council (NAAC) is an outcome of the recommendation of the National Policy on Education (NPE). The National Assessment and Accreditation Council (NAAC) is an autonomous body founded by the University Grants Commission (UGC) for assessing and accrediting higher educational institutions in India. To address the issue of deteriorating quality, the NPE(1986) and Plan of Action (POA - 1992) that spelt out the strategic plan for the policies, advocated the establishment of an independent national accreditation body NAAC in 1994 with its headquarter at Bangalore. National Policy on Education(NPE)1986, Program of Action (POA) in interalia recommended that "Excellence of Institution of Higher Education is a function of many aspects where self-evaluation and self-improvement are very important. A mechanism is set up which will encourage self-assessment in institutions and accreditation by a council, the quality process, participation, achievement etc will be constantly monitored and improved".

India is world's second largest country in providing higher education. Quality higher education is a need of an hour in this era of competition. Higher education is key to get success at international level. National Universities transformed and Colleges, Universities, IITs, IIMs come into existence to provide higher education in a country. The Quality human resource depends on the quality of higher education. NAAC was established to assess the quality of education in various colleges and universities in India. Presently, efforts are made to make Indian Educational Institutions world class. All the Indian Higher Educational Institutions are to be assessed by NAAC periodically for maintaining the quality of the Higher Educational Institutions. The professional institutions are also to be assessed by National Board of Accreditation which is similar to NAAC. Recently, a new methodology for assessment and accreditation has been proposed. The assessment instrument has been fine-tuned for greater objectivity and validity. NAAC has come a long way since its inception in 1994. It has taken up the challenges and initiated a nationwide movement for performance evaluation, accreditation and quality re-gradation of colleges and universities in the country.


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Prediction of Liquid Detergent Properties using Artificial Neural Network

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Abstract : Neural networks have the potential to derived meaning from complicated or imprecise data. They can be used to extract patterns and detect trends, which are too complex to be noticed by either humans or other computer techniques. A trained neural network can be thought of as an "expert" in the category of information it has been given to analyse. This expert can then be used to provide projections of given new situations of interest and answer "what if" question. Artificial network can be effectively used in various fields for different purposes. In this study, liquid detergents based on polymeric surfactant alkylid resin were formulated, analysed for various properties like foam volume, percent detergency and surface tension. The generated experimental data was used for training of feed forward artificial neural network with back propagation technique. The trained artificial neural network model was used for prediction of detergent properties. The result shows that artificial neural network is an excellent option modeling of such experimental data.

Keywords: Artificial neural network, ANN, liquid detergent, properties.

Mcculloh & Pitts¹ are pioneer of Artificial Neural Network (ANN) which has its fundamentals in each interdisciplinary history from the early 1940s. Hebb² put forward a learning scheme to relocate the synaptic strength between neurons. His 'postulate of learning' which is also known as 'Hebbian learning', which presented that the information can be stocked in synaptic connections and strength of synapse would raise by the repeated activation of neurons by the other ones across that synapse. Rosenblatt³ & Block et al⁴ gave rise to neuron like element called 'perceptron' & its learning procedure. There perceptron conversion procedure which is renewed form and more feasible over 'Hebb rule' for changing synaptic connection. Minsky & Peppert have given the limitations of the single level perceptron. Nilsson⁵ recommended that the Multilayer Perceptrons (MLP) can be used to separate pattern nonlinearly in a hyperspace and in single layer perceptron, the perceptron convergence theorem should be used. Rumelhart et al⁶ has demonstrated the conceptual basis of the back propagation which can be surely reminded as a revolutionary step put forward, which no one has previously

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Role of NAAC in Promoting Quality on Higher Education: A Review

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Abstract:

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Vapour Phase Dehydrogenation of Cyclohexanol Using Different Mesh Sizes of Copper Transition-Oxide in Fixed Bed Heights

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Abstract: Catalytic vapour phase dehydrogenation of cyclohexanol is the key reaction in the industrial production of cyclohexanone. Literature survey reveals that copper is an active metal for dehydrogenation of cyclohexanols, but its activity is accelerated when supported by promoters like oxides of rare earth metals and heavy metals. Fluidised beds was avoided for irregularities in the flow patterns. Therefore the study of vapour phase catalytic dehydrogenation in a fixed bed was proposed. Seven different copper catalysts were prepared by impregnation method on pumice stone. Kinetic runs were carried out using a fix bed reactor with variation in pore sizes to achieve maximum conversion .It was observed that copper cerium oxide with -40 +60 U.S mesh size was selected. Activity and selectivity was studied by carrying out reaction at low temperature to achieve maximum conversion with minimum side reaction.

Keywords: Fluidised bed, Promoters, Impregnation, Selectivity, Vapour phase

Introduction

Cyclohexanone is an important intermediate in industries, mainly used as solvent for resins, lacquers and dyes. It first prepared by the dry distillation of calcium pimellate and later by Bonveault by catalytic process of dehydrogenation. Most of the studies are carried out with catalysts based on copper formulations under mild conditions of temperature due to copper sintering. certain rare earth oxides were also added. The catalysts were prepared by impregnation method. The stoichiometric equations for the dehydrogenation of cyclohexanol are $C_6H_{12}O \rightarrow C_6H_{10}O + H_2O$, where side reactions were avoided but also gave hydrogen as the by product. Further dehydrogenation of cyclohexanone to phenol is also reported but by proper choice of the catalyst, and maintaining optimum operating conditions, the formation of phenol was practically eliminated.

Fluidized beds were avoided for irregularities in the flow pattern and low space velocities. Hence the study of vapour - phase dehydrogenation of cyclohexanol to cyclohexanone was proposed in a fixed bed of catalysts. Experiments were conducted with copper catalysts using different pore sizes There activity and selectivity were studied. The addition of cerium- oxide to copper promoted its dispersion and stability of the catalysts[1] Finally copper cerium oxide -40 + 60 U.S mesh, impregnated on pumice stone was selected to obtain maximum conversions.

Experimental Section

Catalyst, Apparatus and Methods

Catalyst was prepared by impregnation method on pumice stone. Copper -thorium oxide was prepared by adding 288 gm of copper nitrate in 100 ml of distilled water and to this 0.9 gm of cerium nitrate was added To this clear solution 100gm of pumice stone of desired -40 + 60 mesh size was added. and stirred from time to time and then it was kept for 24 hrs. so that solution enters the pores of pumice stone. The excess solution was decanted and



STUDY OF DEHYDROGENATION OF CYCLOHEXANOL USING DIFFERENT PORE SIZES OF COPPER- THORIUM CATALYST BY IMPREGNATION METHOD

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Abstract

Catalytic vapour phase dehydrogenation of cyclohexanol is the key reaction in the industrial production of cyclohexanone. Literature survey reveals that copper is an active metal for dehydrogenation of cyclohexanols, but its activity is accelerated when supported by promoters like oxides of rare earth metals and heavy metals. Fluidised beds was avoided for irregularities in the flow patterns. Therefore the study of vapour phase catalytic dehydrogenation in a fixed bed was proposed. Seven different copper catalysts were prepared by impregnation method on pumice stone. Kinetic runs were carried out using a fix bed reactor with variation in pore sizes to achieve maximum conversion. It was observed that copper cerium oxide with -40 +60 U.S mesh size was selected. Activity and selectivity was studied by carrying out reaction at low temperature to achieve maximum conversion with minimum side reaction.

1. Introduction

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Fluidized beds were avoided for irregularities in the flow pattern and low space velocities. Hence the study of vapour-phase dehydrogenation of cyclohexanol to cyclohexanone was proposed in a fixed bed of catalysts. Experiments were conducted with copper catalysts using different pore sizes. There activity and selectivity were studied. The addition of cerium-oxide to copper promoted its dispersion and stability of the catalysts [1]. Finally copper cerium oxide -40 + 60 U.S mesh, impregnated on pumice stone was selected to obtain maximum conversions.

2. EXPERIMENTAL SECTION CATALYST, APPARATUS, METHODS

Catalyst was prepared by impregnation method on pumice stone. Copper-cerium oxide was prepared by adding 288 gm of copper nitrate in 100 ml of distilled water and to this 0.9 gm of cerium nitrate was added. To this clear solution 100gm of pumice stone of desired -40 + 60 mesh size was added and stirred from time to time and then it was kept for 24 hrs, so that solution enters the pores of pumice stone. The excess solution was decanted and the solution impregnated on pumice stone was dried in an air oven at 110 °C. After drying the impregnated pumice stone was heated at 400 °C for 6hrs and cooled. The catalyst was reduced by passing through hydrogen gas at 275 °C, till constant weight is obtained. Copper oxide is reduced

DEHYDROGENATION OF CYCLOHEXANOL USING DIFFERENT MESH SIZES OF COPPER BASED CATALYSTS

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Abstract

The manifold research work done in the field of dehydration reactions has played a vital role in the recent fast developments of organic chemistry, because of its various chemical and industrial applications. In the present case vapour-phase dehydrogenation of cyclohexanol, to cyclohexanone was studied using copper-based catalysts at low temperature. Literature survey reveals that copper based catalysts are widely used by Russian chemists for dehydrogenation of alcohols especially when it is supported by promoters, eg oxides of rare earth metals like cerium, aluminium, thorium, uranium and other heavy metals. The catalysts were prepared by impregnation method. For this purpose a catalyst which has good activity and were prepared with special reference to optimum operating conditions of contact time, temperature and particle pore size, so as to obtain maximum conversion with minimum side reactions. Hence Copper-rare earth oxides were prepared on silica gel having different pore sizes and were carried at low temperatures.

Keywords: Promoters, Impregnation, Activity, Selectivity, Vapour phase

1. Introduction

Cyclohexanone is a colourless mobile liquid with an odour suggestive of peppermint and acetone, chiefly used as an intermediate, also as a solvent for resins, lacquers and dyes. Cyclohexanone was first prepared by dry distillation of calcium pimellate and later by Bbonveault by the catalytic dehydrogenation process. The stoichiometric equations for the dehydrogenation of cyclohexanol are $C_6H_{12}O \rightarrow C_6H_{10}O + H_2O$, where side reactions were avoided but also gave hydrogen as the by product. Further dehydrogenation of cyclohexanone to phenol is also reported but by proper choice of the catalyst, and maintaining optimum operating conditions, the formation of phenol was practically eliminated.

In the present work, the study of vapour-phase dehydrogenation of cyclohexanol to cyclohexanone in a fixed bed was proposed. The fluidized beds were avoided due to low space velocities and flow pattern irregularities. Copper based catalysts were prepared by impregnation method on silica gel and also on pumice stones of different pore sizes. The activity and selectivity of different copper catalysts were studied. The catalyst finally selected was Copper-alumina-uranium oxide deposited on silica gel, having -40+60 U.S mesh size to obtain maximum conversions..


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**COMPARATIVE STUDY OF P-NITRO BENZOIC ACID BY OZONATION,
PHOTO-OZONATION, PEROXONE AND PHOTOPEROXONE**

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Abstract

In the present work p-nitro benzoic acid in its aqueous solution was treated by ozonation, photo-ozonation, photoperoxone and photoperoxone processes. The experiments were carried out in a batch photoreactor using 8W low pressure mercury vapour lamp to examine the effects of different combinations of ozone, H₂O₂ and UV and their degradation rates are compared. Substrate concentration was determined by using a UV-Visible spectrophotometer. The photo degradation processes were adhered to first order kinetics. The degradation rate of p-nitro benzoic acid obeys the following sequence: photoperoxone(UV/O₃/ H₂O₂) > photoozonation(UV/O₃) > peroxone(O₃/H₂O₂) > ozonation (O₃).

Keywords: p-nitro benzoic acid, ozonation, photo-ozonation, peroxone, photoperoxone

Introduction

In late years, several studies have reported the occurrence of a great number of pharmaceuticals in surface water, but also in ground water. Open water and ground water are widely employed as water resources for drinking water. Thus, the widespread occurrence of pharmaceuticals may have a negative impact on the purity of drinking urine. Complete removal or reduction of hazardous organic pollutants present in effluent to an acceptable level prescribed by the environmental protection agencies is of premier importance in wastewater treatment. Advanced oxidation processes(AOPs) are the most promising technologies for destroying toxic organic contaminants(1-3). P-Nitro benzoic acid is developed as industrial waste from (cosmetics, toothpastes, mouthwash, preservatives, artificial colors and pharmaceutical) industries. Decay of organic substances by ozonation is one of the most promising processes in water and effluent treatments.

Ozonation is used for the removal of odorous compounds, hazardous chemicals like pesticides and chlorinated organic compounds [11, 12]. The aim of this work is to degrade p-Nitro benzoic acid by various AOP's (UV/ H₂O₂/ O₃, UV/O₃, H₂O₂/ O₃) and compare their degradation rates and to establish that it comes after a pseudo first order dynamics.

2. Materials and methods

2.1 Chemicals

Analytical grade p-nitro benzoic acid was purchased from Merck, India and used as received without any further purification and stock solution of 0.01M of p-nitro benzoic acid was prepared. Initial concentration of p-nitro benzoic acid used during the experimental runs was 0.08 mM. Stock solution of H₂O₂ was prepared by diluting 30% H₂O₂ (Qualigens) with distilled water. All stock solutions were stored in amber colored resistant Pyrex glass bottles. Oxygen cylinders were used for ozone generation.

2.2. Experimental procedure





ULTRASONIC STUDIES OF SOME WATER SOLUBLE AMINO ACIDS

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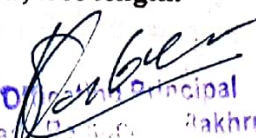
Abstract

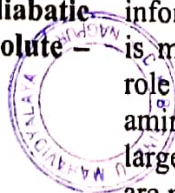
The ultrasonic method plays an important role in understanding the physico-chemical behavior of liquid. The velocity gives information about the bonding between the molecule and formation of complexes at various temperatures through molecular interactions. Various workers have studied the acoustical properties of binary liquid mixtures, non-aqueous solutions aqueous solution and electrolytes. However, little work has been done for the solutions of drugs. In the present research work, the acoustical property of ultrasonic studies of amino acids at different temperatures and at different concentrations has been studied. In most of the chemical and industrial processes, they provide a wide range of mixtures of two or more components in varying proportions so as to permit continuous adjustments of desired properties of the medium. Ultrasonic velocity together with density and viscosity data furnished wealth of information about the interaction between ion, dipoles, hydrogen bonding, multipolar and dispersive forces. The liquid mixtures are of interest to organic chemists who want to know about the types of bond, type of molecular interaction, etc. further, the values of ultrasonic velocity, density, viscosity and adiabatic compressibility as a function of concentration will be of much help in providing such information.

Keywords: Ultrasonic velocity, Adiabatic Compressibility, Solvation number, Solute - Solvent interaction, free length.

Introduction

Ultrasonic study of liquid is useful technique for understanding its physicochemical properties. Ultrasonic measurements are extensively used to study the molecular interaction in pure liquids mixture an ionic interaction in solutions comprising of either single or mixed solute [1]. The Dielectric [2] and ultrasonic studies [3] have provided enormous data in precisely understanding the molecular interaction and structural behavior of molecular and their mixtures. Ultrasonic waves have been used by many scientist of investigate the nature of molecular interaction and physicochemical behavior of pure, binary and ternary liquid mixtures [4]. Mixed solvent rather than single pure liquids are practically important. In most of the chemical and industrial processes, they provide a wide range of mixtures of two or more components in varying proportions so as to permit continuous adjustments of desired properties of the medium. Ultrasonic velocity together with density and viscosity data furnished wealth of information about the interaction between ion, dipoles, hydrogen bonding, multipolar and dispersive forces. The liquid mixtures are of interest to organic chemists who want to know about the types of bond, type of molecular interaction, etc. further, the values of ultrasonic velocity, density, viscosity and adiabatic compressibility as a function of concentration will be of much help in providing such information. Twenty percent of the human body is made up of protein. Protein plays a crucial role in almost all biological processes and amino acids are the building blocks of it. A large proportion of our cells, muscles and tissue are made up of amino acids, meaning they carry


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EFFECT OF NITROGEN AND CARBON SUBSTRATES ON PECTINASE
PRODUCTION BY *ASPERGILLUS SPECIES*

Motwani D.R.¹ Bhagchandani S.P.²

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Abstract

The effects of the various nitrogen and carbon sources on pectinase activity of *Aspergillus species* isolated from soil of Nagpur fruit market, India, were investigated in solid state cultivation at 30 °C ± 2 °C. The commercial carbon substrates included sucrose, fructose, starch, maltose, lactose and nitrogen substrates peptone, ammonium sulphate, urea, asparagine and beef extract respectively. Various carbon substrates used supported the pectinase production but highest activity was recorded with maltose and lactose. Maximum pectinase activity of 869 U/g was recorded with maltose as carbon source. Highest pectinase yield with the nitrogen sources was observed with nitrogen sources peptone and ammonium sulphate. For determining crude enzyme activity of *Aspergillus species* with the nitrogen substrates, maximum pectinase activity of 826 U/g was recorded when ammonium sulphate was added in the medium. Higher production of pectinase therefore can be obtained by using optimum concentration of these substrates.

Keywords: Nitrogen and Carbon substrates, *Aspergillus species*.

Introduction


Microbial world are rich sources of enzymes (Akpan, 2004). In present era, the potential of biotechnological methods has given a boom in recent years for exploration of industrially important extracellular enzymatic activity using various microbial strains (Akpan, 2004; Jayani *et al.*, 2005; Varalakshmi *et al.*, 2007). Traditional method for enzyme extraction was from plants and animals only. Microbes are used for commercial enzyme production. Enzyme production from microbes has been benefited over that obtained from plants and animals in terms of great diversity, high production capability and low cost (Onyeocha and Ogbonna, 1983; Alves *et al.*, 2002; Akinyosoye *et al.*, 2003). Fermentation of filamentous fungi is still a great choice for production of various commercially important enzymes (Piccoli-Valle *et al.*, 2001).

Aspergillus sp is one of fungi group use to isolate pectinase. Pectinases are mainly produced by filamentous fungi, remembering that the fungi Kingdom has over 77000 species many of them not yet studied. *Aspergillus niger* has been recorded as one of the significant industrially important fungus. This fungi produce various commercially important enzymes, such as pectinases approved by Food and Drug Administration (FDA), US (Kashyap *et al.*, 2001). The *Aspergillus* is commonly used for the production of enzymes required in polysaccharide degradation.

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SYNTHESIS AND CHARACTERIZATION OF NICKEL OXIDE NANOPARTICLES WITH WIDE BAND GAP ENERGY PREPARED VIA CHEMICAL PRECIPITATION METHOD

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ABSTRACT

Nickel oxide (NiO) nanoparticles were successfully synthesized by the reaction of nickel carbonate hexahydrate ($\text{NiCO}_3 \cdot 6\text{H}_2\text{O}$) used as precursor with sodium hydroxide at room temperature via chemical precipitation method. Characterization of NiO nanoparticles were investigated by transmission electron microscopy (TEM), Fourier Transform Infrared spectroscopy (FTIR) and UV-visible spectrophotometer. The surface morphological study from TEM depicted spherical particles with formation of clusters. The sharp peaks in FTIR spectrum determined the purity of NiO nanoparticles. The broad band at 3394 cm^{-1} is assigned to the hydrogen bonded water molecules. UV-visible spectrophotometry showed the strong absorption peak at 266nm corresponds to the formation of nickel oxide nanoparticles. The wide range of band gap energy with value of 4.6eV for NiO nanoparticles was calculated.

Keywords: NiO nanoparticles, Chemical precipitation method, Optical properties, Band gap energies

1. Introduction

Nickel (II) oxide is a notable and well-studied material among various transition metal oxides because of its unique advantage in terms of properties and applications. It has attracted increasing attention owing to potential use in a variety of applications such as solar energy conversion, non-linear optics, varistors, pigments, gas sensors, cosmetics catalysis, battery anodes, electrochromic films and magnetic materials [1-9]. NiO semiconductor

becomes an interesting material in the new area of research. Because of the quantum size effect, volume effect and the macroscopic quantum tunnel effect, nanocrystalline NiO is expected to possess many improved and advanced properties than those of bulk NiO particles. NiO is an antiferromagnetic transition metal oxide which is considered to be a semiconductor with p-type conductivity and band gap 3.51eV [10]. Various methods like mechano-chemical processing, metal alkoxide hydrolysis, nonhydrolytic sol-gel reaction process, non-aqueous synthesis and salt-assisted aerosol decomposition, chemical precipitation have been used to synthesize nickel oxide [11-14]. Among these methods chemical precipitation method is most promising method to prepare NiO nanoparticles. Furthermore, the products formed are poorly crystalline and exhibit broad particle size distribution. The aim of this study was to synthesize nickel oxide of low dimension and investigation of morphological and optical properties on the particle size.

2. Experimental

2.1 Chemicals

All chemicals used in this experiment were of reagent grade and used without any further purification. Nickel carbonate hexahydrate ($\text{NiCO}_3 \cdot 6\text{H}_2\text{O}$) was purchased from Merck, sodium hydroxide (NaOH) was purchased from Sigma-Aldrich. Ethyl alcohol and acetone were received from Merck. All solutions were prepared with deionized water.

2.2 Synthesis of NiO Nanoparticles

Nickel oxide (NiO) nanoparticles were prepared by the simple approach of chemical





APPLICATION OF NiO NANOPARTICLES IN MODERN TEXTILE AND FOOD NUTRITION

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ABSTRACT:

Nanotechnology is considered as one of the most promising technologies for the 21st century. This technology overcomes the drawback of applying traditional methods to impart certain properties to textile materials. There is no hesitation that in the upcoming years, nanotechnology will break through into every vicinity of the textile industry. Application of NiO nanoparticles in modern textile lies in areas where innovative principles will be combined into long-lasting, multifunctional textile structures without compromising the intrinsic textile properties including aesthetic, breathability, flexibility etc. The current condition of NiO nanoparticles used in textiles area is reviewed with an emphasis on improving various properties of textiles.

From the current state-of-the-art, it is clear that nanotechnology applications are expected to bring a range of benefits to the food sector aiming at providing better quality and conservation. The last decade has witnessed the development and arrival of novel nano-based food materials, innovative food packaging, intelligent delivery mechanisms of nutrients and bioactive materials, implementation of green nanotechnologies for crop production and nano-biosensors to provide safer foods and waste reduction. Opportunities to exploit and develop nanotechnologies in the food sector have resulted in a large number of patents as food technologists and engineers continue to identify novel ways to re-invent food products that would appeal to consumers on a global scale. This article will review the applications of NiO nanoparticles in modern textile and food science technology.

Keywords: NiO nanoparticles, chemical precipitation method, textile, food and nutrition

Introduction

Nanotechnology is an emerging area which is expected to have wide ranging implications in all fields of science and technology such as material science, materials processing technology, mechanics, electronics, optics, medicine, energy and aerospace, plastics and textiles. Although this technology is still in its infancy, it is already proving to be a useful tool in improving the performance of textiles and generating worldwide interest. The novel application of nanotechnologies in textiles affords an expanded array of properties with potential for improved and new use in products [1-2]. Changed or improved properties with nanotechnologies can provide new or enhanced functionalities. Use of nanooxide particle is growing at an incredible rate in all fields of science and technology. There are various metal oxides incorporated with textiles starting from nanocomposites and nanofibers to smart polymeric coatings are getting their way not only in high performance applications, but also successfully being used in different conventional textiles to provide new functionality and improved performance [3-6]. The main advantages of NiO nanoparticle in textiles are incorporated with greater repeatability, reliability and toughness. Functionization of NiO nanoparticles during various textiles processing like dyeing, finishing and coating enhances the product

performance manifold and provides unachieved functionality.

Due to high-volume production of consumer products such as nanoparticles (NPs) of NiO, ZnO and TiO₂ etc., human exposure to these man-made NPs is possible directly (via personal healthcare products, cosmetics, food, water, drinking, drugs and drug delivery system) and/or indirectly, e.g., through the release of these compounds into the environment [7-8]. The latter may potentially result in the contamination of drinking water and uptake into the human food chain. An area that could highly benefit from nanotechnology is the food industry with big potentials for food safety, quality, and preservation (shelf life extension) [9]. In the food sector, the uses of nanooxide-based food ingredients, additives, supplements and contact materials are expected to grow rapidly. Nanotechnology analysts estimated that between 150–600 nanofoods and 400–500 nanofood packaging applications are already on the market [10].

Application of NiO nanoparticles in agri-food industry may poses new indirect sources of food contamination, as may arise from e.g., nano-sized pesticides and veterinary medicines, contact of food with nanoparticulate-based coatings during preparation or processing, or potential migration of NiO NPs from food packaging. There are already known examples of pesticide

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Role of Nanomaterials in environmental Protection

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Abstract :

Managing the environment by using natural resources has become an increasing priority in last few decades. Tackling environmental problems and fulfilling our obligations to the natural environment must be the responsibility of all of us, at all levels of society. The unbridled industrial growth of the last century has created impacts, mostly negative, on the environment that is only now being realized. All stakeholders have to play an important role in such scenario for environmental protection bringing different resources during the different processes of environmental management. This paper focuses on how does community participation help environmental management goals and vice versa by using eco-friendly nanomaterials.

Key words :

Introduction :

The inheritance of technical growth was constantly recycled the behavior of man. The uniform changed that initiated by industrial revolution vulnured the dignity of science. Since the rapid industrialization results in the environmental degradation. Participation of the community, and its partnerships with other stakeholders, has become an important component of all environmental management. It is intersection between community participation, and environmental management. The focus of this paper that it provides significant opportunities and challenges for sustainable development at the local level. The present scenario of the world is greatly influenced by technology but one cannot discard the fact that whatever the grievances and world is facing today is the outcome due to hi-tech growth. This contradictory point demands such a well equipped technology which is outstanding and help to tackle the environmental problems of the world and thereby achieving welfare of man. This could be solved only by nanotechnology as it has many promising dimension.

Nanotechnology is understood today to encompass the science to very small structures. It is derived from the greek word Nano or Dwarf. A nanometer is a one billionth of meter. The inherent mystery lying behind their performance is attributed to their surface area to the mass ratio. Due to this, same material becomes more chemically reactive exhibit advanced physical, chemical and electrical properties.

Nanomaterial is one of the area of implementation that has been outlined to address the global challenges.

Nanomaterials : Area of importance

Elimination of Pollutants :

Nanocrystalline materials possess extremely large grain boundaries relative to their grain size. Hence, nanomaterials are very active in term of their chemical, physical and mechanical properties. Due to their

enhanced chemical activity, nanomaterials can be used as catalyst to react with such noxious and toxic gases as carbon monoxide and nitrogen oxide in automobile catalytic converters and power generation equipment to prevent environmental pollution arising from burning gasoline and coal.

Combustion of Fuel :

Transport fuels are one of the largest contributors to global greenhouse gas emissions. Fuel producers are working to improve their environmental footprint by enhancing fuel economy and emissions using tailored additive packages. Many people have advocated a change in consumer behavior as the best way to reduce consumption in this area. This often proves difficult, however, and an approach which has seen more activity is on the fuel production side. Fuel formulations and additive packs are now being designed to improve fuel consumption and reduce harmful emissions.

In particular, soot emissions, caused by incomplete combustion, contribute significantly to the greenhouse effect. These can be reduced much more easily than carbon dioxide emissions, by using additives which help to promote more complete combustion. Cleaner combustion also produces less carbon monoxide and NO_x emissions, which have a detrimental effect on air quality in areas with large amounts of road traffic.

The expanded set of tools which has been made available to researchers through advances in nanotechnology is being used to create novel fuel additives which aim to improve combustion cleanliness in engines.

Cerium oxide has the ability to catalyze combustion reactions, by donating oxygen atoms from its lattice structure. This catalytic activity is dependent on surface area, amongst other things, so using nanoparticles can offer distinct advantages over bulk material or larger particles.

Adding cerium oxide nanoparticles to fuel can help decomposition of unburnt hydrocarbons and soot,





Role of Nanomaterials in Preventing Hypertension

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Abstract:

Heart disease is one of the leading causes of death worldwide, and people who have abnormally high pressure in their arteries are far more likely than others to die prematurely of heart disease. Blood pressure is one of the vital signs that doctors measure causing heart diseases. Having a high blood pressure, also called hypertension, is sometimes referred to as the "silent killer" because it often has no symptoms. Hence, regular checking of blood pressure is vital. This paper focused on causes of hypertension and prevention by implementing nanomaterials as an attractive and innovative tool for the treatment of hypertension and advanced lifestyle with dietary choices.

Introduction:

In India, one out of six persons is hypertensive. Most persons suffering from hypertension is over the age of 35. Still 6% of teenagers are hypertensive and also 1% of every child. Hypertension is another name for high blood pressure. It can lead to severe complications and increases the risk of heart disease, stroke, and death. Blood pressure is the force exerted by the blood against the walls of the blood vessels. The pressure depends on the work being done by the heart(systolic) and the resistance of the blood vessels(diastolic). Normal blood pressure is 120/80mm of mercury (mmHg) upper being systolic and lower one diastolic, but Medical guidelines define hypertension as a blood pressure higher than 130 for systolic and over 90 millimeters of mercury (mmHg) for diastolic. Hypertension will in the long run hurt the blood vessels, and serious hypertension can do extensive damage to the blood vessels in a few months or years. The damaged blood vessels will impair the blood flow. They can also rupture causing a bleeding or be clogged by a blood clot that shuts out the blood flow and causes tissue damage. These things can occur in the brain, causing a stroke, in the heart causing myocardial infarction (heart attack) or in the kidneys with renal failure as a consequence.

The knowledge and application of nanoscience in medicine certainly aims to improve the treatment of this disease. Thus, nanotechnology may provide a safe and effective platform for controlled drug delivery for a variety of active ingredients, directed to management of lipid disorders, inflammation and angiogenesis within atherosclerotic plaques, and prevention of thrombosis, among other diseases.

An example is the development of iron oxide super-paramagnetic nanoparticles for use in remote magnetic drug targeting (MDT)[1]. The MDT approach is based on producing a bioactive molecule-magnetic nanoparticles injectable complex. This complex can be attracted to, and retained in, a desired target inside the body with the help of applied magnetic fields. These systems must provide appropriate magnetic gradients to increase the concentration of noncomplex at the site of interest. Moreover, gold and silica nanoparticles have also been developed for improving the supply of nitric oxide (NO), for possible application in



SPHERICALLY SYMMETRIC STATIC BULK VISCOUS FLUID IN ROSEN'S MODIFIED BIMETRIC THEORY OF RELATIVITY

A.A. Qureshi*

S. D. Deo**

ABSTRACT

In this paper we have studied the static spherically symmetric metric

$$ds^2 = g^2(r)dt^2 - dr^2 - R^2(r)(d\theta^2 + \sin^2\theta d\phi^2)$$
 with energy

momentum tensor T_i^j for the bulk viscous fluid

distribution and we have adopted the procedure of

Khadekar and Kondawar (2006) for bulk viscous fluid

and obtained the results on the line of Khadekar and

Kondawar (2006) which represents the Schwarzschild

interior solution.

KEYWORDS:

Spherically symmetric;

Bulk viscous fluid;

Bimetric theory of

Relativity;

Schwarz child interior

solution.

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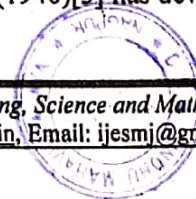
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1. INTRODUCTION:

In the development of many areas of physics and astrophysics, exact solutions of Einstein's field equations play a vital role. Schwarzschild (1969) [2] has first provided solution of Einstein field equations of general Relativity, when he published details of the static spherically symmetric vacuum metric that now bears his name. Hereafter many researchers have tried to obtain exact solution of Einstein field equations. But the solutions are not free from singularity, so to remove such unsatisfactory features Rosen (1940)[3] has developed



A STUDY THE EFFECTIVENESS OF ICT IN EDUCATION OF NAGPUR DIVISION: A CASE ON IMPACT OF NEW METHODOLOGY ON UG AND PG STUDENT'S EMPOWERMENT



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ABSTRACT :

Present research paper on "A study the effectiveness of ICT in education of Nagpur Division" is intended to investigate the impact of new methodology on UG and PG student's empowerment. ICT have greatly influenced every dimension of personal and public life. The concept of language laboratory recently evolved in arts faculty. Medical and engineering students also make great use of ICT.

KEYWORDS : Maharashtra State Electricity Board (MSEB), Organization, Organization.

INTRODUCTION

Increasing population created extra pressure on education system that dramatically changes the student teacher ratio. Horizon of education changes from local to global and at least theoretically it become knowledge center the concept of residential student is almost it became outdated. The education is stream into verity of branches, which off course provided to opportunity student based on their liking capacity and hidden talent. The world economy has change due to globalization in the last decades of 20th century. Information and Communication technology became the locus of development in all sectors in general and educational sector in particular. Modern Technology has changed the face of educational system and expectations of student and parents. Different education institute having visionary approach initiated their efforts to incorporate changes due to Modern Technology in education system. Modern Technology incorporation is associated with direct and indirect cost also by the studies on cost benefits analysis so far done are very limited. This may be because cost is tangible but benefits are not. Thus it is difficult to make an account of cost benefits. Present study is intended to prepare an account of tangible costs (ICT tool) and intangible benefits (Empowerment of student)

In the traditional education system marks or grades of the students is one of the well established criteria off course some efforts are definitely taken to capture intelligence and develop personality. ICT tool are used to promote the intelligence and accelerate personality moreover ICT tools are scientific and research based. But in the Globus diversification is observed on different directions. Out of which regional variation, socio economic variation language barriers variation in literacy parent instructional variation, variation in opportunity affects empowerment of students looking at this an attempt is made to carry out the proposed research is carried out in a restricted geographical area namely Nagpur division of Maharashtra.

Higher education aims to develop the intellectual, social, and moral qualities essential for democratic citizenship, and to prepare young people for entry into the world of work or continuation of academic pursuits.

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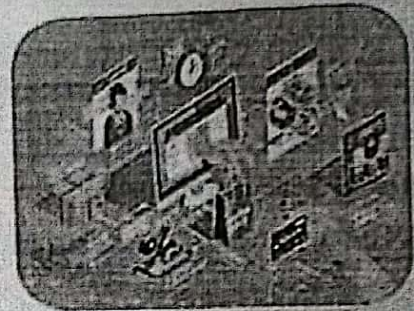


"AN ANALYTICAL STUDY ON E-COMMERCE RELATED TO CONSUMER TRUST, AWARENESS AND SATISFACTION" REFERENCE TO NAGPUR CITY (2006-2014)

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ABSTRACT

This paper present E-commerce related to Consumer Trust, Awareness and Satisfaction in Nagpur city. The data collected from e-commerce customers who purchase various kinds of product through e-commerce websites. For the study, purpose responses from 1250 e-commerce customers in different areas of Nagpur City have taken. Hence, data is collected from total 1250 e-commerce customers.



KEY WORDS : E-commerce related, Consumer Trust, Awareness and Satisfaction.

INTRODUCTION

Electronic commerce (or e-commerce) encompasses all business conducted by means of computer networks. Advances in telecommunications and computer technologies in recent years have made computer networks an integral part of the economic infrastructure. More and more companies are facilitating transactions over web. There has been tremendous competition to target each and every computer owner who is connected to the Web. Although business-to-business transactions play an important part in e-commerce market, a share of e-commerce revenues in developed countries is generated from business to consumer transactions. E-commerce provides multiple benefits to the consumers in form of availability of goods at lower cost, wider choice and saves time. People can buy goods with a click of mouse button without moving out of their house or office. Similarly online services such as banking, ticketing (including airlines, bus, railways), bill payments, hotel booking etc. have been of tremendous benefit for the customers. Most experts believe that overall e-commerce will increase exponentially in coming years. Business to business transactions will represent the largest revenue but online retailing will also enjoy a drastic growth. Online businesses like financial services, travel, entertainment, and groceries are all likely to grow.

OBJECTIVE OF THE STUDY

- To study customer are aware regarding e-commerce

RESEARCH METHODOLOGY

The researcher has adopted analytical, descriptive and comparative methodology for this report. reliance has been placed on books, journals, newspapers and online databases and on the views of writers in the discipline of Competition law.

Available online at www.lhp.world

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A STUDY OF INNOVATION E- LEARNING METHODOLOGY OF CLASS ROOM TEACHING IN NAGPUR CITY

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Abstract:-

In this paper the researcher present "A study of innovation E- learning methodology of class room teaching in Nagpur City". The results of this study indicate that although student performance is independent of the mode of instruction, certain courses (such as Research Methods in Administration) are more challenging to students who persist in the E-learning environment than in the classroom. Furthermore, participation may be less intimidating and the quality and quantity of interaction may be increased in e-learning class room study.

Introduction

Web Based Training and its newer and more general synonymous term e-Learning are two of today's buzz-words in the academic and business worlds. Decision-makers associate with them new ways of learning that are more cost efficient than traditional learning strategies and which allow students to better control the process of learning because they can decide when, where and how fast to learn. However two questions immediately arise:

- What exactly does e-Learning mean?
- Is it really the best way to acquire new knowledge?

The first question can only be answered partly and vaguely because it is still under heavy discussion what exactly e-Learning should look like and different opinions even exist about what components it consists of.

The evidence of web-based learning taking place in virtually every corporation, how effective is this type of training? For example, research has shown that unless the teaching has relevance, meaning and emotion attached to what is being taught, the learner will not learn (Barkley, 2001). Training needs to be learner centered and meaningful to the adult learner. "Andragogy," the concept and theory of adult education, emphasizes techniques that assist adults with their own learning. It requires learning to be experiential with immediate application, consequence and participation and it underscores the need for training to be self-directing and respectful to the learner. Web-based learning requires time spent at a computer with loads of content. Thus, despite the growing trend of web-based learning, is e-learning really better for the millions of adult learners out there? Due to the recent explosion of e-learning, empirical studies that explore working adults and e-learning usage are difficult to find. Some studies have been recently conducted that compares the traditional classroom to a class taught on line. However, there is an unmet need for studies of the "effectiveness" of e-learning, per se. The implications of studies analyzing classroom

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A STUDY OF LONG TERM IMPACTS & EFFECTS OF DEMONETISATION ON INDIAN ECONOMY

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Abstract

This report comprises of effect and impacts of demonetization of Rs 500 and Rs 1000 notes declared on 8 November, 2016. The execution of this demonetization drive is contemplated and broke down to confirm its arrangement with the expressed destinations of the demonetization – Corruption (Black cash), Counterfeit Notes (Funding Terrorism) and Digitalization (Less-money economy). Demonetization is an ages' paramount affair and will be one of the financial occasions within recent memory. Its effect is felt by each Indian resident.

Demonetization influences the economy through the liquidity side. Its impact will be a revealing to one in light of the fact that almost 86% of money esteem available for use was pulled back without supplanting greater part of it. Because of the withdrawal of Rs 500 and Rs 1000 notes, there happened enormous hole in the cash organization as after Rs 100; Rs 2000 is the main group. Non appearance of halfway divisions like Rs 500 and Rs 1000 will decrease the utility of Rs 2000. Viably, this will make Rs 2000 less helpful as exchange money however it very well may be a store esteem division. In the first place, demonetization has regularly been utilized a device to chop down hyper inflation.

Keywords:

Cashless transactions, Demonetization, Black Money, GDP, Corruption, Banks, Post Demonetization Effect, Online Banking

Objectives of the Study

- To identify the reasons for the withdrawal of high denomination currency notes
- To find out its impact on the economy as a whole.
- To identify the long term effects on Indian economy

Research Methodology:

The data was collected from secondary source of information. The paper also took help of Secondary data like various newspapers, journals and online data base.

Introduction

Demonetization is an act by which the currency will not be legal tender. The currency will not be valid, the government states to withdraw the money which is legal tender. The government has the right to take such decision. After demonetization the money can only be exchange at the banks.



NEHRU'S POLITICAL ECONOMY IN INDIA – A STUDY

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ABSTRACT:-

After independence of India there was threaten on Indian economy due to the lack of proper political administration, as well as the economical assistance to the country. During that period a person aroused as a political leader with the quality of virtue and long-sightedness. He introduced the New Economic Policies along with the stability of the Government for the progress and development of India. His Constructive ideas and planning's were very helpful for the state to achieving the desired goals. Because of his contribution he was popularly called as an "Architect of Modern India". The identical factors of Nehru was very needful tool to the state of India during and after its Independence. The ideology of Nehru was democratic by nature itself but in practical he appeared to be a Political Economist. The mixture of both politics and economy were helpful more to maintain the stability in political and economical sector of the state in his contemporaries. Therefore his "Constructive Planning and Programmes" were executed on the stabled political system and it leads to the good performance of the government in the state.

KEYWORDS: Equity, Political stability, Industrialization, Skilled Employment, Constructive planning's, Mixed Economy, Welfare.

INTRODUCTION:

Jawaharlal Nehru was a one of Charismatic Leader of India, Planning and Programmes are followed by the Government of India till today in the different names of the programmes of all sectors of the state. He was well known administrator of the modern India and make it as one of the super power nation in front of the European Countries after its Independence. The public policies of Nehru were strengthening the economical status of the state along with the proper political administration. His ideas of economic policy means to systematically planning the all economic activities of the state for increase the Production and to enhance the life style of the each citizens in better way as like a welfare state. His political administration was relevant to the economy of state with the proper utilization of the available Natural Resources of the country through that he achieved the desired objective of the state called the qualitative life of the citizens and to promote skilled employment to the people in all social sectors of the society.

The maintenance of the administration, basic facilities to the public, providing good infrastructure, uphold the rights of the citizen, to standardize the qualitative life of the people, to promote Industrialization, Economic modernism, Democratic principles of economy, political stability of the state, International recognition, the principle of equity

11. Dr. B. R. Ambedkar: Instrumental in Revival of Buddhist Democracy

Dr. Leena B. Chandnani

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Introduction

Democracy is the government of the people, for the people and by the people. It is a system in which people chose their rulers by voting for them in elections. Democracy is the most valued and also the indistinct political terms in the modern world. In ancient Greek the word 'democracy' means rule by the demos, which can be translated as the people. Countries are generally considered democratic to the extent that they have fair and frequent elections in which nearly all citizens have the right to vote and also to form and join organizations and to express themselves. Democracy means fundamental changes in the social and economic life of the people and the acceptance of those changes by the people without resorting disputes and bloodshed. It aims to establish the principle of one man, one vote and one value not only in the political life of India but also in social and economic life.

It was only after the Constitution of India came into effect on 26th January 1950 that our nation truly became a republic under the leadership of Dr. B. R. Ambedkar as the chairman the drafting committee. Ambedkar was an Indian anthropologist, economist, politician, jurist, historian and philosopher. As independent India's first law minister, he was principal architect of the constitution of India.

Influence of Buddhism on Dr. Ambedkar

Dr. Ambedkar believed in the doctrine of Buddha's Dhammachakra known as the wheel of law, one of the oldest and significant symbol representing Buddhism. This wheel of dharma "is one of the Ashtamangala of Indian religions such as Jainism, Buddhism and Hinduism. It has represented Buddhist dharma. Gautam Buddha's teaching and walking of the path to Nirvana, since the time of early Buddhism," defines an article on Dharma on Wikipedia. He rejuvenated the seeds of Buddhism in India and inspired modern Buddhist movement. Dr. Ambedkar viewed Buddhism as a platform to launch equality in socio-cultural, religious sphere of the Indian.



5. Fruits of Eco-Criticism in the Roots of Mother Nature

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Introduction

Eco-criticism is the study of the relationship between literature and the natural environment. This form of criticism has gained a lot of attention during recent years due to higher social emphasis on environmental destruction and increased development of technology and industrialisation. As its subject eco-criticism takes the interconnections between nature and culture, specifically the cultural artefacts of languages and literature. As a critical stance, it has one foot in literature and the other on land. As a theoretical discourse, it negotiates between the human and the non-human. Wikipedia describes it as, 'Eco-criticism is the study of literature and the environment from an interdisciplinary point of view, where literature scholars analyse texts that illustrate environmental concerns and examine the various ways literature treats the subject of nature.' (<https://www.enotes.com>). The term eco-criticism was coined by William Rueckert in 1978 in an article 'Literature and Ecology' which called for the formulation of an ecological poetics. Eco-criticism was officially heralded by the publication of two seminal works, both published in the mid 1990s: The Eco-criticism reader, edited by Glofletty and Harold Fromm and the Environmental Imagination by Lawrence Buell (wikipedia). "It is appropriate to stress here that it was only in 1990s that eco-criticism emerged as a separate discipline although it is a fact that the relationship between man and his physical environment had always been interesting to literary critics" (Buell,1986).

Eco-criticism explores the relation between human and the natural world in literature. It deals with how environmental issues, cultural issues concerning the environment and attitudes towards nature are presented and analyzed. One of the main goals in eco-criticism is to study how individuals in society behave and react in relations to nature and ecological aspects. It is hence a fresh way of analyzing and interpreting texts, which bring new dimensions to the field of literary and theoretical studies. Eco-criticism is an extended approach that is known by a number of other designations, including "green or cultural studies, "eco-poetics" and "environmental literary criticism"

21. 3 Es'-Education, Empowerment and Emancipation of Indian Woman

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Introduction

Education, empowerment and emancipation are three powerful tools for developing and building capacities of communities and individuals, particularly women, to make them a part of the main stream of the society. The 3 Es' are means by which societies grow out of oppression towards democratic participation and involvement in the social affairs and individual development.

The earlier civilization, which was matriarchal in nature gradually, took patriarchal form resulting in exploitation and subjugation of the women. Basically, women were and still are considered weaker vessels, owing to their physical vulnerability. Due to her biological weakness, woman was enslaved in patriarchal social construct allowing men to rule over her as father, brother, husband and son. In India, the Vedic period was considered as the golden period in the history of Indian women, extending respectful position on to them in many ways. The history of Indian woman is a long descriptive story of transition from her position of dignity and glory to her enslavement and back to her rejuvenation through education, empowerment and emancipation.

The Rise and Fall of Women Status

The worst period for women was observed with the advent of Aryans and the introduction of Manu Smiriti. It was during this phase that brahminical rules and dogmas which was codified against women were strictly enforced on them. Polygamy, child marriage, illiteracy and discrimination on sex became prevalent. The system of keeping "Dev-Dassies" for the service of Gods and eventually priestly classes became the norm. An article on wikipedia substantiates it by saying, "The devdasis, spread all over India, lead intolerable lives. They have been quenching the thirst of millions of upper-caster Indian males lust. Since the inception of this 'deplorable' system, the Joginis have been subjected to merciless subjugation and injustice." The article also says "Many of these women were tiny girls when they became devdasis, 'dedicated'



Violence on Women : A Design of the Divine

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Introduction :

Today we see that in the name of religion, violence is spread, terror is let loose and the innocent are killed. Besides that, women are physically exploited, children are abused, even minor girls are raped, gang rapes have become the order of the day, organized crimes are on rise, exploitation is ruling robust and robberies have increased by leaps and bounds. Murders have become very common, greed has become the supreme ruling principle, unborn female foetus is killed, the innocent are victimized, child labour is prevalent all over the world, corruption, adulteration have become the principle ways of earning money and the whole picture is full of violence or rather these are different manifestations and forms of violence. Terrorism has taken the whole world into its grip and every country feels helpless before this demon of terrorism. Adding insult to injury there are other violence-resorting organizations which keep on indulging in violence. Thus violence is continuing unabated all over the world and big armies, big police forces and government agencies have miserably failed to do anything to prevent it in spite of so many precautions and measures.

Basically violence is in human nature. With the spread of education it may get subdued for some time, but it keeps on erupting time and again. Today we have independent, self sufficient and sovereign nations with their clearly settled boundaries. Lot of civilized ways of behaviour have been adopted by us to ensure peace all over the world and also have the rule of the law. In most of the countries now there is democracy which is considered the best form of government. Today we say that we are cultured and civilized human beings. We know the value of peace. We also know the cost of violence that the society has to pay and so we commit to the pledge of maintaining peace all over the world by avoiding wars and by following principle of tolerance. Educationally the world has marched much head. There is broadening of mental and intellectual horizons. We speak of human values, human rights and human dignity and we proudly keep on saying that there is no place for violence in our social values.

Inception of Violence in the Society :

If we take into consideration the human history, violence has always been the most dominant and most resorted to social value. The very existence of human beings always depended on violence. Violence and violence alone had been resorted to in order to ensure and sustain human survival. That's why even today the phrase like 'survival of the fittest' is found in vogue.

If we consider a little advanced stage of human life which has made us realize that man is a social animal, it was the phase of coming together of certain human beings for the reason of safety. But when we speak of safety, the implications are certainly of the threat from one group to the other against which protection was necessary. In order

to save itself from other groups, it was necessary to attack the other group by resorting violence. Violent attacks by one group on the other group for the reasons of safety and sustenance of survival was not possible had they followed the principle of non violence. The social values of those day contained violence in this way.

The groups of human beings, by way of battles and wars grew larger and larger and kingdoms were established with the might of the sword and other weapons. The mightier one would attack the less mighty and get them joined as slaves or citizens in the kingdom of the winner. But violence was the central principle in order to maintain the sovereignty of such kingdoms. Kill the enemy whenever and wherever possible had been the guiding principle of every king. The kings formed armies not only for the reasons of ensuring their safety but also for realizing their dreams of expanding the boundaries of their kingdoms by way of war, which must do violence. No war is possible without violence so here also we find that violence had been necessary for the human beings.

Domestic Violence on Women :

But the question remains with all this said and done have we really been able to eliminate and eradicate violence from our human society? We are human beings. But there is a great difference between human beings and being human. We are human beings, true, yet we have not become human as we have so far not been able to get rid of the instinct of violence that rules our minds and psyche every now and then. Violence on women is still prevailing and dominating in the societies all around the world.

An article on wikipedia describes domestic violence as, 'Domestic violence (also named domestic abuse or

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NATIVE LANGUAGE: A BOON FOR TRIBAL LEARNERS

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ABSTRACT

Language acquisition and Language learning are two different processes. Generally, the first language or mother-tongue is acquired and the second language or the foreign language is learnt. First language is acquired in a natural atmosphere (family) and the second language is learned in an artificial atmosphere (school). For the first language, the mind of the child is like a clean slate but for the second language it is not as he has already learnt the first language. The first language both helps and hinders the learning of the second language. There are many teachers to teach the mother-tongue. First language is learnt earlier and has much time, but the second language is learnt later and within limited time. First Language is also called Native language or Mother tongue. The paper is an attempt to observe that Native language is always a boon for tribal learners while taking education.

Key Words: Inclination , Linguistically , Undermine, Comprehend, Acquaint
Co-Relation

Introduction

India is a country in which the society is well-knit with complex admixture of various castes, creeds, religions and different socio- economic backgrounds. The learning of any other language as second language is highly influenced by the social background of an individual. Majority of learners come from tribal background.

Teachers imparting education in tribal areas are under tremendous burden of socio-economic periphery of students and their parents. It is found in many cases that the parents themselves are hardly educated and therefore are not at all aware of the importance of education. The tendency leads to instilling in students lethargic attitude towards education. This results in indifference to studies in and outside the school and college campus. The students forming such notion neglect studies of other subjects and languages as they are preoccupied with the fear that education is a task of elites. Such a negative notion hamper the playful atmosphere; in the class of teachers and a lot of efforts have to be done by the teachers to forge the students mind with positive inclination and leaning towards education. For these tribal learners only native language serves their purpose of little education, other subjects and

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A Two-Day UGC Sponsored National Conference On "Tribal In Indian English Novels" On 15th & 16th March



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Women Authorship In India: A Career or A Search for Identity

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Key Words: emancipation, shackles, counterpart, identity, feminism, selfhood, self expression, introspective, protagonist, individualistic.

Introduction

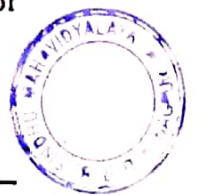
In this contemporary era when the world is marching ahead in the Digital age, there is no field without the entry of women. Women of this age have been accepting many challenging tasks and they no more want to confine themselves to the traditional image and domestic duties. They have taken up many jobs and are successful in various professions like entrepreneurship, corporate world, engineering, IT sectors, education, social services, defence, cosmonaut and many more.

The significant part of this is that in this scenario when woman is walking parallel in every field with her male counterpart, how can 'she' restrict herself from taking up the pen and writing her mind and heart. Woman all over the world have emerged as popular writers and have established themselves in the domain which was earlier dominated only by men folk. Many women have opted authorship as their career. 'Authorship provides recognition among peers and establishes intellectual and professional credibility, which contribute to career progression,' as defined by wikipedia.

Every writer is influenced by the ongoing movements in their respective age. Consciously or unconsciously writers incorporate the values and the demands that their age stands for. Thus we can say writers are the product of their own age. Contemporary women writers from west and east canon are the product of the age where the demand for freedom and liberation of women and the views of feminism have spread across the globe. Every developed and developing country has heard a strong voice asking for justice and equality for women at par with men. Gender biased attitude has become a matter of the past though in certain sections it is still prevalent. Many Indian women novelists in their novels have portrayed the women characters that stand the demand of quest for identity and feminism. This paper humbly attempts to explore whether women authorship in India is a career choice or it is a search for identity.

Authorship as Career

One of the reasons that women have, in such large number taken up pen is because it has empowered them to create their own identity and explore their own world. It has allowed them to establish the platform of existence free from the direct interference of men. Now they can explore a wide range of



**TRIBES OF VIDARBHA: THEIR LIVES AND HARDSHIPS****DR. SUMAN KESWANI**Assistant Professor in English,
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Nagpur 440017.**ABSTRACT**

The manner of living of the tribal people in our country varies from place to place. India is said to be a land of diversity. Alike states even all tribes found in India have uniqueness in their culture, tradition, customs and lifestyles. In this era of steady progress, there are a few tribal communities who are yet to see the dawn of advanced civilization. Vidarbha has a rich cultural heritage and an important aspect in its study is the presence of different primitive tribes. According to 2011 census, there is 10.5 million tribal populations in Maharashtra who are living lives of oblivion. Scheduled Tribe denotes constitutional status of the community. This paper attempts to study different tribes of Vidarbha, their life style and their hardships. The major tribes of Vidarbha are Banjara, Korku, Pardhan, Kolam and Warli. To integrate them into the mainstream, their hardships have to be lessened.

Keywords: Heritage, Primitive Merchandise, Clan Malnutrition, Fortification**Introduction****Special Issue****91****March, 2019****Website:** www.langlit.org**Contact No.:** +919890290602

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व्यावसायिक क्षेत्र में हिंदी का बदलता स्वरूप

डॉ. सपना तिवारी
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 नागपुर ४४००१७

मानव जीवन में प्राचीनकाल से व्यापार और भाषा का गहरा संबंध रहा है। व्यवसाय के क्षेत्र में भाषा की प्रमुख भूमिका होती है। भौगोलिक और वैश्वीकरण के साथ हिंदी विश्व बाजार में अपनी समस्त क्षमता और भव्यता के साथ प्रवेश कर चुकी है। इस क्रम में हिंदी का जहाँ रूप-स्वरूप बदला है, वहीं विश्व बाजार को भी हिंदी ने अपने हिसाब से प्रभावित किया है। आजादी के बाद हमारी अर्थव्यवस्था जिसका आधार कभी कृषि हुआ करता था, वर्तमान समय में पूँजी बाजार ने ले लिया है। भूमंडलीकरण, बाजारवाद, साक्षरता, शिक्षा के बदलते स्वरूप, लघु उद्योगों के विकास आदि से व्यवसाय की प्रयोजनमूलक भाषा के रूप में हिंदी प्रतिष्ठित हुई है। व्यावसायिक प्रतिस्पर्धा से हिंदी के प्रयोग क्षेत्र में वृद्धि हुई है।

भारत संपूर्ण संसार में निर्मित वस्तुओं का खरीदार एवं उपभोक्ताओं से युक्त बाजार है। ऐसा नहीं है कि भारत के पास उत्पाद नहीं हैं। हैं, किंतु बाजार केवल उत्पाद खरीदने की जगह नहीं होता, अपितु वस्तुओं को बेचने की भी जगह होता है। इस प्रक्रिया में संसार माध्यम व प्रिंटमिडिया विशेष भूमिका निभाते हैं। इन माध्यमों में भाषा की प्रयुक्तता एवं शब्दों का आकारण-उपभोक्ता को अपनी ओर आकर्षित करके वस्तु के प्रति उसके मन में ललक पैदा कर देते हैं। इस प्रयास में हिंदी भाषा का स्वरूप भी बदलता जा रहा है। हिंदी आज अपनी ताकत से बाजार के 'लोक' में दबाव डालकर खड़ी है। बाजारीकरण, खलिस देशीपन के समय में जो यह बाजार और संभ्रांतता के बीच रीढ़ सीधे रखे आद के पंथ को तरफ खड़ी है। आज यह संचार को भाषा है, संवाद की भाषा है, हर तरह की मीडिया को भाषा है, सफ़्त और इंटरनेट को भाषा है और सभी को जोड़कर चलने वाली भावनात्मक निकटता को भाषा है। व्यावसायिक हिंदी की अपनी शब्दावली होती है तथा उद्योग, व्यापार, बैंकिंग, परिवहन, विज्ञान आदि उपयुक्तियों के अनुसार उसको संरचना भी विशिष्ट अथवा अपने ढंग की होती है। व्यापार की हिंदी शब्दावली में समान्यतः तकनीकी, अर्थतकनीक व गैरतकनीकी शब्दों के साथ अभिव्यक्तियाँ भी होती हैं। मुद्रित माध्यमों की बात करें तो हिंदी की प्रतिष्ठित पत्रिकाओं, समाचार पत्रों का प्रथम उद्देश्य भाषा का परिष्करण नहीं, अपितु अपनी लोकप्रियता बढ़ाना और धन कमाना है। सूचना प्रौद्योगिकी के विकास और बाजारवाद के बढ़ते दायरे में हिंदी भाषा ने नए विषय, नए संदर्भ, नए शब्द और नई भाषिक संस्कृति विकसित कर ली है। इस नए नए हिंदी भाषा का स्वरूप परिवर्तित हो रहा है। व्यावसायिक हिंदी आज के विश्वस्तरीय बाजार के लिए अनिवार्य तत्व बन चुकी है। "एक मुश्त बड़े बाजार की भाषा होने के कारण हिंदी उपभोग, सला, मिडिया, व्यापार विनिमय के साथ मनोरंजन को भाषा है। व्यवसाय, मनोरंजन, उपभोक्तावादी बाजार की भाषा बनकर हिंदी मातृभाषियों से बाहर पहुँचकर नए विकृत क्षेत्र बना रही है। उसका किताबी रूप बदल रहा है, यही उसका नया भूगोल है। अगर किसी व्यवसायी को अपना माल अपनी सेवा को विश्वस्तार तक पहुँचाना है तो हिंदी जैसी सरल-सहज भाषा का सहारा लेना आवश्यक हो गया है। क्योंकि उपभोक्ता को आत्मीयता एवं अंतरंगता की अनुभूति होना बहुत आवश्यक होता है। हिंदी

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