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"महाराष्ट्रात सार्वजनिक वितरण प्रणालीचा परिदृश्य"

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सारांश

भारतात शहरी भागातील ग्राहकांचे वाढत्या किमंतीपासुन संरक्षण करण्यासाठी 1960 च्या सुमारास सार्वजनिक वितरण व्यवस्था निर्माण करण्यात आली. अन्नधान्याचे उत्पादन कमी झाले म्हणजे किमंती वाढत असत आणि भावबाढीला चालना मिळत असते. यासाठी धान्याची आयात करून तसेच देशात धान्य वसुली करून पुरेसा साठा निर्माण करणे आणि स्वस्त धान्य दुकानातुन तो लोकांना उपलब्ध करून देणे ही व्यवस्था केली गेली आहे. पुढे ही व्यवस्था रोजगार योजनांवर काम करणाऱ्या मजुरांना धान्याच्या स्वरूपात काही प्रमाणात मजुरी देण्यासाठीही वापरली गेली आहे.

1. प्रस्तावना :

भारतात शहरी भागातील ग्राहकांचे वाढत्या किमंतीपासुन संरक्षण करण्यासाठी 1960 च्या सुमारास सार्वजनिक वितरण व्यवस्था निर्माण करण्यात आली. अन्नधान्याचे उत्पादन कमी झाले म्हणजे किमंती वाढत असत आणि भाववाढीला चालना मिळत असते. यासाठी धान्याची आयात करून तसेच देशात धान्य वसुली करून पुरेसा साठा निर्माण करणे आणि स्वस्त धान्य दुकानातुन तो लोकांना उपलब्ध करून देणे ही व्यवस्था केली गेली आहे. पुढे ही व्यवस्था रोजगार योजनांवर काम करणाऱ्या मजुरांना धान्याच्या स्वरूपात काही प्रमाणात मजुरी देण्यासाठीही वापरली गेली आहे.

सार्वजनिक वितरण व्यवस्थेसाठी जीवनाश्यक वस्तुंचा पुरवठा करण्यासाठी यंत्रणा उभारली गेलेली आहे. धान्यांच्या बाबतीत सरकारने तरवुन दिलेल्या किमंतीना धान्याची खरेदी, वाहतुक, साठवण आणि राज्य सरकारांना पुरवठा या कामांसाठी 1964 मध्ये अन्नधान्य व्यापार महामंडळ स्थापन करण्यात आले. ज्या राज्यात धान्याचे उत्पादन जास्त होते तेथे धान्याची खरेदी करावयाची आणि तेथे तुटवडा आहे तेथे विक्रीची व्यवस्था करावयाची हे धोरण आखले गेले.

सरकारजवळ पुरेसे साठे असतील तेव्हा स्वस्त धान्य दुकानांना पुरेसा पुरवठा होत राहतो. वाटपाची यंत्रणा राज्य सरकार निर्माण करते. प्रत्येक कुटुंबाला शिधापत्रिका दिली जाते. घरातील व्यक्तींच्या संख्येप्रमाणे कुटुंबाला एकके (युनिट) तरवुन दिली जातात. सरकार जाहीर करते त्याप्रमाणे शिधापत्रिकेवर तराविक किमंतीला वस्तुंचा तराविक प्रमाणात पुरवठा केला जातो. स्वस्त धान्य दुकाने गरजेप्रमाणे मंजुर केली जातात आणि शिधापत्रिका धारकांच्या सोयीप्रमाणे प्रत्येक दुकानात तराविक शिधापत्रिका पुरवठा केला जातो.

2. अन्न सुरक्षिततेतुन सार्वजनिक वितरण व्यवस्था :

1947 पासुन सर्वासाठी अन्न धान्य सुरक्षा मिळवणं हे आपलं राष्ट्रीय उद्दिष्ट आहे. इतर कोणत्याही गोष्टीसाठी आपण प्रतिक्षा करू शकतो, थांबुन राहु शकतो मात्र कृषी क्षेत्रासाठी नाही अशा शब्दात जवाहरलाल नेहरुंनी हे उद्दिष्ट स्पष्ट केलं होते. संतुलित आहार पिण्याचे स्वच्छ पाणी, आरोग्यदायी परिसर, प्राथमिक आरोग्य सुविधा यांच्यापर्यंत पोहोचणाचा शारिरीक, आर्थिक आणि सामाजिक मार्ग म्हणजे अन्नसुरक्षा. सरकारच्या अनेक योजना असुन सुध्दा देशात कुपोषण मोठया प्रमाणात आहे. ही दुर्दवाची बाब आहे. लहान मुलं आणि महिलांना याचा फटका बसतो. उद्योग आणि आर्थिक विकास दरात आपण प्रगती करत असलो तरी कुपोषण दूर करण्यात मात्र आपली कामगिरी फारशी चांगली नाही.

राजीव गांधी पेयजल अभियान, संपूर्ण स्वच्छता कार्यक्रम आणि राष्ट्रीय ग्रामीण आरोग्य अभियानाव्दारे या बाबीची काळजी घेतली जाते. रोजगार निर्मितीच्या अनेक योजना विशेषत: महात्मा गांधी राष्ट्रीय ग्रामीण रोजगार कार्यक्रमाव्दारे लोकांना आवश्यक ती क्रयशक्ती प्राप्त होण्यासाठी मदत होत आहे. अन्नधान्याची उपलब्धता वाढविण्यासाठी अनेक उपाययोजना केल्या जातात.

3. सार्वजनिक वितरण व्यवस्थेचे उद्देश :

किमंती स्थिर ठेवणे, जीवनाश्यक वस्तुंच्या पुरवठयात कमतरता असल्यास शिधावाटप आणि समाजातील गरीब व गरजु घटकांना मूलभूत वस्तु खात्रीने उपलब्ध करून देणे ही बहुउद्दीष्टये साध्य करण्यासाठी सार्वजनिक वितरण व्यवस्था या देशात स्थापन करण्यात आली. अन्नधान्याचे प्रापण, साठवणुक, वाहतुक आणि नियतन करणे इत्यादी जबाबदारी केंद्र

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RESONANCE-JOURNAL OF SCIENCE EDUCATION: A BIBLIOMETRIC STUDY

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ABSTRACT:-

This Paper Presents a Bibliometric analysis of the journal titled "Resonance-Journal of Science Education" for the period between 2011-2012. The analysis cover mainly the number of articles, authorship pattern, subject wise distribution of articles, average number of reference per articles, forms of documents cited, year wise distribution of cited journals etc.

KEYWORDS:-

Bibliometrics, Authorship pattern, Source of Information, Geographical Distribution, Citation, Websites, Dissertations.

INTRODUCTION:-

1- Resonance-Journal of Science Education:-

Resonance is a journal of science education, published monthly by the Indian Academy of Sciences, Bangalore, entering its second decade of publication. The journal is primarily directed at students and teachers at the undergraduate level, though some of the articles may go beyond this range. Resonance has a council of editors drawn from institutions all over in India, with a Chief Editor Mr. K.L. Sebastian and several Associate Editors G.K. Ananthasuresh, Biman Nath, G. Nagendrappa, Utpal Nath, Vasant Natrajan, Shailesh A. Shirali located in Bangalore. Each issue of Resonance contains articles on physics, chemistry, biology, mathematics, computer science and engineering. The format is attractive and easy to read, with photographs, illustrations, margin notes, boxes and space for comments provided. The articles are of various categories: individual general articles, series made up of several parts, concise article-in-boxes, classroom pieces, nature-watch pieces, research news, book reviews, and information and announcements useful to students and teachers. Each issue of Resonance also highlights the contributions of a chosen scientist, engineer or mathematician, with a portrait on the back cover and articles describing his or her life and work. In some cases, an article written by the scientist on a general theme is included as a Classic or a Reflections item.

2- Bibliometrics:-

The bibliomatrics was first defined by Pritchard (1969) as "the application of mathematical and statistical methods to books and other media". It involves the analysis of a set of publications characterized by bibliographic variables such as the author(s), the place of publication, the associated subject keywords, and the citations. The methods of bibliomatrics (and the closely related specialism of informetrics, scientometrics and webometrics (Hood and Wilson 2001)) are used to investigate an increasing range of topics, including: the frequency distributions that characterize the use of words and phrases in text databases; the extent to which websites are linked together; longitudinal studies of the development of academic disciplines; and the extent to which individuals, research groups or institutions are published or cited in the literature (Bar-Ilan 2008; Borgman and Furner 2002; Cronin 1984; Garfield 1979; Thelwall, Vaughan and Björneborn 2005; Wilson 1999).

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Corruption Free India : Dream or Reality ?

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ABSTRACT

In today's scenario to make corruption free India is just like to swim against the tide. Corruption is one of the most burning issues in India. How can it be tackled is the necessity of the tie. Why really corruption is ? Is it a thing that can be easily removed, shifted changed or annihilated completely. The answer would be surely not because unless we change our thinking, it is not possible to experience hassle free dealings in every department of public welfare.

If will not be useful to count the major seams experienced by the country but to judge wisely to them who are responsible to run a government in a democratic country at the time of election

INTRODUCTION

Why really corruption is ? Who knows whether the dream of corruption free India likely to become a reality or not because corruption is not a recent ailment ? It has been from a gas in the country like India. We witness the reality that corruption is right from a smaller unit of Government office up to the highest authority like Union ministry as well.

The Public welfare departments of any country are supposed to guarantee neat and easygoing transactions but we see that the same departments are the real originators of corruption. More over the politicians miss no change to accumulate as much as monitory benefits during their regime.

CHALLENGES BEFORE THE DREAM OR REALITY ?

Does if really need lass or something a long list of rules in the form of a Lokpal bill? I would say that unless the change occurs in every ones mind, if is very difficult to make corruption free India. The ways government officers and other lower class officials are encouraging corruption is a sure road to degradation and financial collapse. To improve any country's economic condition, it is largely expected to make that country corruption free. The social progress of every individual also depends on the smooth and easy proceedings of the public welfare departments, but the deeply rooted corruption will never make this dream to come a reality.

The taxes and revenues collected from the common man of India is not utilized properly and the same revenue is personally used by the politician or ministers. Even the process of development through various scheme and policies becomes a suitable and efficient way of corruption for the concerned ministries. See the spectrum scam, fodder scam and many others on the higher level. And the minor projects and block and District level are never fructifying because of corruption. So I damn sure that corruption is nothing but selfishness of the so-called lower type of creatures in democratic system. The Channel this type of corruption is seen everywhere. It is becoming every difficult for the government to make India corruption free because we have gone so habitual of this cursed thing called corruption that even a petty work is carried in an absolute corrupted manner.

CHALLENGES IS THE KEY.

If corruption continues in the same way as it is today, then future of dram of corruption free Indian would never come true. So main functioning in any case should not be accepted if we really want

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SYNTHESIS, CHARACTERIZATION AND THERMO-LUMINESCENCE STUDIES OF CARBON DOPED ALUMINA PREPARED BY CONVENTIONAL METHOD

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ABSTRACT

The carbon doped alumina prepared by solution combustion (SCS) route followed by conventional ceramic techniques. The nano-alumina prepared from SCS was used for the synthesis of Al_2O_3:C (1%, 2%, 3% carbon content). This alumina was sintered at 1200°C to obtain transparent α-alumina phase confirmed from XRD and SEM. The two-valent carbon ions replace the three-valent cations of Al, which leads to introduce oxygen vacancies during the crystals growth process. The oxygen vacancies combine with one or two electron formed F or F⁺ centres. The sample was irradiated with the radiation dose of 10 Gy (radiation from ^{90}Sr β). The measurement was taken at the heating rate of 2 K/s in the temperature range of 298–773 K. The α-Al_2O_3:C ceramics shows three TL glow peaks centered at 405, 493 and 610 K for 1 % carbon content.

Keywords: Thermoluminiscence, Alumina, Solution combustion synthesis.

1. INTRODUCTION

According to the World Health Organization (WHO), more than 11 million people are diagnosed with cancer every year with an estimated 1.1 million people in 2005 for Europe alone [1, 2, 3]. The incidence of cancer is increasing with our increased lifespan and by the year 2020, the number of people diagnosed with cancer is estimated to be 16 million per year, an increase of about 50% relative to the present level. In Denmark (2007), roughly 30000 people are annually diagnosed with cancer and despite extensive research only about 45% of the cancer patients are successfully cured, i.e. survives for more than five years without further symptoms. Around 22% of diagnosed cancer patients are cured through surgery alone, 18% by radiation therapy alone or in combination with either surgery and/or chemotherapy, and the remaining 5% by chemotherapy alone or in combination with surgery [4, 5, 6]. The objective of radiation therapy is the destruction of cancer tissue by means of radiation. Thermoluminescence (TL) and Optically Stimulated Luminescence (OSL) dosimetry, play an important role in the measurement of doses from external radiation source, received by individuals working in radiation environment such as nuclear reactors, industrial radiography, space and diagnostic radiology applications. Conventionally, radiation monitoring has been carried out using Thermally Stimulated Luminescence (TSL) technique.

Conventional technique of making α-Al_2O_3: C phosphor, by growth of single crystals in reducing environment, has limitations of: (a) limited control of parameters for incorporation of desired concentration of carbon into lattice and control over nature of defects as crystal growth occurs at a fixed temperature and growth rate etc. and (b) slow growth process using expensive equipment, that increases cost of material. Compared with single crystal, ceramic materials have many advantages: they are easy to fabricate under melting point for a short period and low cost, and they can be mass-produced. Ceramics not only can be produced in large volumes but also can be heavily and homogeneously doped with active ions. They can also be made a multilayer or multifunctional structure.

2. SYNTHESIS OF COMPOUND

The starting materials for the synthesis were alumina powder and graphite powder. Specimens were fabricated by weighing the starting powders to achieve the C content of 1%, 2% and 3% by weight in the pure alumina powder. The mixed powders were weighed to the desired composition, ball milled together with distilled water and ZrO_2 ball for 24 h. The milled slurry was dried at 150° C. The pellets with 6.5 mm in diameter and 5-7 mm in thickness were isostatically pressed at 200 MPa and sintered at 1500–1600° C for 15 h. In this process, carbon is diffused into the crystals, leading to creation of F centers. The heating was carried out in vacuum furnace with base vacuum of 10^{-6} Torr, with uniform heating and cooling rates of 20°C/min. All samples were irradiated with a 10 Gy gamma radiation (radiation from ^{90}Sr), for characterization of the radio induced luminescent signal.

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COMBAT HERBS FOR CANCER: A REVIEW

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ABSTRACT
The present review describes 38 herbs used in the treatment of cancer. These herbs are reported to be used in blood cancer, intestinal cancer, breast cancer, liver cancer, throat cancer etc. This review provides traditional knowledge to research communities involved in cancer diagnosis and treatment.

Keywords: Herbs, Cancer treatment

INTRODUCTION

Plants used for the treatment of many diseases since long time. It is found that people are living in vicinity of forest area; they have traditional knowledge to cure various types of diseases and ailments. Cancer is one of the diseases which cause death in developed as well as undeveloped countries. There are many types of therapies depends on the type of cancer viz. surgery, radiation therapy, chemotherapy, immunotherapy, targeted therapy, hormone therapy, stem cell transplant etc. Many institutes and hospitals are involved in diagnosis and treatment of cancer in the world.

Tribal medicine men, herbal plant practitioners and local people used plants for the treatment of cancer. In present review, attempt has made to find out plants used to cure cancer by tribals and non- tribals. During the literature survey, total 38 plant species found to be used for the treatment of cancer from different localities. Plants those are used for the treatment of cancer as traditional medicine are enumerated with their citation as follows.

1. *Aegle marmelos* (L.) Corrêa
   Kala (2006) reported fruit powder exhibited anti-cancerous properties.
2. *Agave americana* L.
   Tribal people and medicinal practitioners of 'Chatara' block of Sonebhadara district of Uttar Pradesh used leaf to cure cancerous ulcers. The plant is locally known as *Rambans* (Singh *et al*, 2010).
3. *Annona squamosa* L.
   Singh *et al* (2010) documented traditional knowledge on cancer treatment. Leaves and fruits are useful to cure tumor and cancer.
4. *Argemone mexicana* L.
   Malasar tribals in Coimbtore district of Tamil Nadu used roots for cancer treatment (Venkataswamy *et al*, 2010).
5. *Bacopa monnieri* (L.) Wettst.
   During the ethnobotanical survey of wild flora at G. Udaygiri forest in Kondhamal district of Eastern Ghats, Odisha, Shadangi *et al* (2012) reported leaves used for tumor and cancer.
6. *Baliospermum solanifolium* (Burm.) Suresh
   People of Santor and Mount Abu (Shirohi district of Rajastan) applied clarified butter on affected area and tied leaves to reduce node (cancer) and node subsides (Negi *et al*, 2012).
7. *Boerhavia diffusa* L.
   Negi *et al*, 2012 documented red flowers variant in treatment of blood cancer from Santor and Mount Abu region of Shirohi district, Rajastan. Rahul (2013) reported whole plant used in cancer treatment by rural people of Taindol village of Jhasi district (Bundelkhand, Uttar Pradesh).
8. *Bryophyllum pinnatum* (Lam.) Oken
   Five to ten drops of extract of aerial plant used to cure blood cancer (Hutke *et al*, 2012).
9. *Cannabis sativa* L.
   Rahul (2013) documented flower and fruits for treatment of cancer from Taindol village of Jhasi district (Bundelkhand, Uttar Pradesh).
10. *Carissa carandas* L.
    Ethnic group of Thottianaickans of Semmalai hills of Tamil Nadu taken root bark paste with goat meat (Ganesan *et al*, 2006).

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Virtual Intelligent SoftLab Apps

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Abstract - *The scope of this paper includes development and implementation of virtual lab on mobile. Virtual Lab basically designs for Electronics, Computer Science and Engineering students, faculties or researchers. Virtual laboratories are becoming popular in the education. The screen shows the Characteristics of devices shows related outputs. There is a facility for change of Input values using virtual instruments and observed the outputs with virtual Instrument. The virtual experiment described here will help students to perform it any time anywhere. Mobile phones are used as a front end for GUI. By using java API's application developers are able to create virtual laboratories for android phones.*

Keywords – Virtual, VIS Model, Mobile, Experiments, Mobile Applications.

I. INTRODUCTION

Origin of the research problem:

Science subjects always have a component of practical. In subject like Physics and Electronics students have to perform a large number of experiments in an academic year. Many times students do not get time to repeat experiments which they have performed during the session. Also many of the laboratories lack in resources to perform experiments in which sophisticated instruments are required. Therefore to provide access to laboratory experiments, anytime anywhere, concept of virtual laboratory is being developed. This virtual laboratory can cater to students at under graduate (UG) and post graduate (PG) levels. Some software's like MatLab and LabView are available for simulation of experiments and for other purposes. However, these software's are generally available only in Institutes Laboratories and student can use them only during college hours. It is therefore decided to develop software for performing individual experiments virtually on mobile screen. In this laboratory an attempt has been made to develop software for electronics experiments from basic to advance level.

Plan of Work

For students, Experiments of Physics and Electronics with devices is very difficult subject to understand. The demonstration of practical gives little idea to student about the subject. The teaching and learning of experiments has to be done during the practical session. Actual devices are costly and require a storage area and maintains. Students cannot repeat the work due to lack of devices. In this model we construct the SoftLab by simulation technique. The simulation implemented using computer programming language. This model gives live experiment using virtual SoftLab. The role of virtual laboratories in education is helping researcher/student to improve their quality and capability. The Virtual Laboratory is a platform where user performs their experiment using scientific devices. SoftLab can use in many sophisticated laboratories and reduce the use of physical devices. It provides experiments facility with scientific devices. SoftLab is based on the simulations with application programs. The practical and theoretically concept easily executed. SoftLab fully visualized so that we can easily compute the desire outputs. Virtual laboratory create virtual interface and virtual experiments on SoftLab platform.

The Virtual Lab is an application program providing virtual access to a variety of sophisticated scientific instruments. Animations Help Students to design system, observed reading and construct new concepts with SoftLab. Students can interact with different electronics

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Advantages and Disadvantages of GST for Common Man

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Abstract-
This paper is an analysis of what the impact and features of GST(goods service Tax) will be on today Indian Tax Scenario. we pay various tax just like Direct and Indirect Tax. GST is a single tax on the supply of goods and services.. right from the manufacturer to the consumer. Credit of input taxes paid as each stage will be available in the subsequent stage
GST is now accepted all over the world and countries are using it for sales tax system.
This paper will focus on, how the GST is important and benefited for the growth of India and will also contribute for the further study. The data are collected with using secondary data.

Keywords- GST, Centrated and state,consumer.

Introduction

GST is one indirect tax for the whole nation, which will make India one unified common market. The GST intends to subsume most indirect taxes under a single taxation regime. GST is a single tax on the supply of goods and services, right from the manufacturer to the consumer. Credits of input taxes paid at each stage will be available in the subsequent stages of value addition, which makes GST essentially a tax only on value addition at each stage. The final consumer will bear only the GST charged by the last dealer in the supply chain, with set-off benefits at all previous stages. This is expected to help broaden the tax base, increase tax compliance, and reduce economic distortions caused by inter-state variations in taxes.

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Why GST has been proposed?

Our Constitution empowers the Central Government to levy excise duty on manufacturing and service tax on the supply of services. Further, it empowers the State Governments to levy sales tax or value added tax (VAT) on the sale of goods. This exclusive division of fiscal powers has led to a multiplicity of indirect taxes in the country. In addition, central sales tax (CST) is levied on inter-State sale of goods by the Central Government, but collected and retained by the exporting States. Further, many States levy an entry tax on the entry of goods in local areas.

The salient features of the Bill are as follows:

1. Conferring simultaneous power upon Parliament and the State Legislatures to make laws governing goods and services tax;
2. Subsuming of various Central indirect taxes and levies such as Central Excise Duty, Additional Excise Duties, Service Tax, Additional Customs Duty commonly known as Countervailing Duty, and Special Additional Duty of Customs;
3. Subsuming of State Value Added Tax/Sales Tax, Entertainment Tax (other than the tax levied by the local bodies), Central Sales Tax (levied by the Centre and collected by the States), Octroi and Entry tax, Purchase Tax, Luxury tax, and Taxes on lottery, betting and gambling;

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Quantitative Structure Activity Relationship and Biological Activity Studies of 4-Methyl-2-(4-substituted phenyl)quinoline Derivatives

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Quantitative structure activity relationship (QSAR) studies of some 4-methyl-2-(4-substituted phenyl)quinoline derivatives were carried out to determine their predicted biological activities. Numbers of descriptors were tested to adjudge a quantitative correlation between activity and structural features using training set and test set. Significant correlation was observed between activities and descriptors. The results were interpreted on the basis of linear regression analysis. Experimental antibacterial activities of the test set compounds were determined. The predicted biological activities generated by QSAR model were compared with the experimental antibacterial activities. The concurrence between the predicted and experimental biological activities validates the QSAR model. Thus, it can be concluded that the model under the present investigation can be applied for predicting the unknown biological activities of structurally similar molecules.

Keywords: Quantitative structure activity relationship, Quinoline derivatives, Biological activity.

INTRODUCTION

Quinoline and its derivatives are the important scaffold of biologically active compounds present in nature [1-6]. Many heterocyclic units contain quinoline scaffold as an integral part and show antiviral [7], antimalarial [8-10], antibacterial [8-13] and anticancer activities [14]. Conventional methods for the synthesis of quinoline and its derivatives reported in the literature include Skraup [15], Doebner-Von Miller [16], Friedlander [17] and Combes synthesis. Newer synthetic methods like microwave assisted organic synthesis [18] have come into play since the conventional methods suffer from drawbacks such as drastic conditions, use of hazardous chemicals and poor yield. The test set quinoline molecules under the present investigation have been synthesized by one pot microwave assisted organic synthesis approach which offer advantages like quick reaction time and improved yields.

Even after the synthesis of the potential drug molecule, one needs to test the biological efficacy of the molecule. The most difficult problem in the development of molecules as drug is the time and expenses involved in the development of the drug. It is reported that a single successful drug molecule takes nearly 14 to 16 years of research and clinical trial and that to at tremendous cost. The cost of more than 800 million dollars is expected to prove a molecule as the drug, which itself is a great problem for developing countries.

Quantitative structure activity relationships (QSARs) signifies computerized statistical method which correlates the activity of the compound with changes in the structure. The biological activity of compounds is considered as a function of various physico-chemical parameters. The biological activity can be optimized by choosing such substituents which would enhance desired physico-chemical properties. Agrawal *et al.* [19-28] have reported QSAR studies on different organic drug compounds.

QSAR deals the relationship of magnitude of various structural properties with the biological activity. Compounds which have similar structures to a pharmacologically active drug themselves are often biologically active. Even though the activity of these compounds may be either similar to that of the original compound but may differ in potency and may have unwanted side effects. The activity may completely differ from the original compound. These structurally related activities are commonly referred to as structure-active relationship (SAR) [29]. The mathematical and statistical analysis of QSAR data finally helps to reduce the number of molecules for study with respect to potent biological activity.

EXPERIMENTAL

All the chemicals/reagents used in this investigation were of chemically pure or analytical reagent grade. A number of quinoline derivatives were synthesized in accordance with the

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Induction of Mutation by Gamma Irradiation in *Brassica comprestris L.*

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ABSTRACT

Pure line seeds of local variety of *Brassica compestris L.* were used in the present study. The certified, healthy and dry seeds (10% moisture content) of these variety were procured from Krishi Viggyan Kendra, Nagpur. This variety well adapted to the agro climatic conditions. The seed of mustard were treated w ith different doses/treatment of physical mutagens. The physical mutagens used were gamma rays. Uniform healthy dry seeds (10% moisture content) of the mustard were exposed to different doses of gamma rays (10GY, 20GY, 30GY, 40GY, 50GY, 60GY, 70GY, 80GY, 90GY and 100GY) with a dose rate of 20Kr/20min. from 60 cobalt source at the Deparment of chemistry, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur. The mutagenic effect studied on M1 parameters included seed germination, Seedling height, plant survival, and various Quantitative traits. Seed germination, seedling growth, plant survival Increased with an increase in mutagenic treatment. Gamma rays proved to be most effective in causing maximum biological damage. Studies on various quantitative parameters showed the inhibitory effect of Lower treatments and stimulatory effect of Higher or intermediate treatments in M1 generation. The mean values for various quantitative traits Increased at higher treatments, but Inhibitory effects were noticed at some lower treatments. A significant amount of variability was induced in the treated populations as compared to Control. 70 Gy, 90Gy and 100 Gy treatments of gamma irradiation was found to be most effective.

Key words: *Brassica Compenstris L., Gamma rays, Physical mutagen, Quantitative trait.*

INTRODUCTION

The BRASSICACEAE or Cruciferae (also known as Mustered Family) is a large angiosperm (Flowering Plant) dicot family of Plant kingdom which belongs to the order Brassicales and has been divided into 10-19 tribes with a total of 338- 360 genera and 3,709 species.

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Impact of Demonetization on Indian Banking Sector

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Abstract - India has carried out demonetizationexercises twice before, in 1946 and1978.In Jan 1978 episode, currency worth INR 1.46 bn (1.7% of total notes incirculation was demonetized. Of this INR 1.0 bn (or 68%) was tendered back.In 1978 the value of demonetizationwas very small (only 0.1% of GDP). However, the 2016 demonetization effort covers 86% of the total currencyin circulation (11% of GDP).On 8th November 2016 night at 8.15 P.M Prime Minister of India Mr. Narendra Modi in his unscheduled television address to the nation announced that the currency notes of 500 and 1000 denomination will not be a legal tender money from midnight. Government took this step of demonetizing the currency as a tool to fight against black money and corruption in Indian Economy.
Keywords - demonetization, cashless transactions, credit, tax evasion etc.

Introduction - Lastly, demonetization has been tried as a tool to modernize a cash-dependent developing economy and to combat corruption and crime (counterfeiting, tax evasion). In 2016, the Indian government decided to demonetize the 500- and 1000- rupee notes, the two biggest denominations in its currency system; these notes accounted for 86 percent of the country's circulating cash. With little warning, India's Prime Minister Narendra Modi announced to the citizenry on Nov. 8, 2016, that those notes were worthless, effective immediately – and they had until the end of the year to deposit or exchange them for newly introduced 2000 rupee and 500 rupee bills.

Chaos ensued in the cash-dependent economy (some 78 percent of all Indian customer transactions are in cash), as long, snaking lines formed outside ATMs and banks, which had to shut down for a day. The new rupee notes have different specifications, including size and thickness, requiring re-calibration of ATMs: only 60 percent of the country's 200,000 ATMs were operational. Even those dispensing bills of lower denominations faced shortages. The government's restriction on daily withdrawal amounts added to the misery, though a waiver on transaction fees did help a bit.

Small businesses and households struggled to find cash and reports of daily wage workers not receiving their dues surfaced. The rupee fell sharply against the dollar.

The government's goal (and rationale for the abrupt announcement) was to combat India's thriving underground economy on several fronts: eradicate counterfeit currency, fight tax evasion (only 1 percent of the population pays taxes), eliminate black money gained from money laundering and terrorist financing activities, and to promote a cashless economy. Individuals and entities with huge sums of black money gotten from parallel cash systems were forced to take their large-denomination notes to a bank, which was by law required to acquire tax information on them. If the owner could not provide proof of making any tax payments on the cash, a penalty of 200 percent of the owed amount was imposed.

History of Demonetization

1. Rs 1,000 and higher denomination notes were first demonetized in January 1946 and again in 1978.
2. The highest denomination note ever printed by the Reserve Bank of India was the Rs 10,000 note in 1938 and again in 1954.
3. But these notes were demonetized in January 1946 and again in January 1978, according to RBI data.
4. Rs 1,000 and Rs 10,000 bank notes were in circulation prior to January 1946.
5. Higher denomination banknotes of Rs 1,000, Rs 5,000 and Rs 10,000 were reintroduced in 1954 and all of them were demonetized in January 1978.
6. The Rs 1,000 note made a comeback in November 2000.
7. Rs 500 note came into circulation in October 1987.
8. However, this is the first time that Rs 2,000 currency note is being introduced.
9. Bank notes in Ashoka Pillar watermark series in Rs 10 denomination were issued between 1967 and 1992, Rs 20 in 1972 and 1975, Rs 50 in 1975 and 1981 and Rs 100 between 1967-1979.
10. The banknotes issued during this period contained the symbols representing science and technology, progress and orientation to Indian art forms.
11. In the year 1980, the legend Satyameva Jayate — 'truth alone shall prevail' — was incorporated under the national emblem for the first time.
12. In October 1987, Rs 500 banknote was introduced with the portrait of Mahatma Gandhi and Ashoka Pillar watermark.

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Macro Fungal Diversity of *Agaricomycetes* from Amgaon Tahsil, Gondia District (M.S.) India

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Keywords: *Agaricomycetes*, Macrofungal diversity, Amgaon Tahsil (Gondia district)

ABSTRACT

The present study reports total 25 *Agaricomycetes* fungal taxa collected from Amgaon Tahsil which spread over 13 families and 18 genera. Taxa belonging to Geastraceae and Polyporaceae (5 species each) are dominantly distributed.

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RESEARCH ARTICLE

RSF-III NOVEL POLYMER: SYNTHESIS, CHARCTERIZATION AND BIOLOGICAL ACTIVITY STUDIES

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Novel Polymers, FTIR, NMR, biological Activity, E. coli, C. albicans, S. aureus, P. aeruginosa.

ABSTRACT

Resorcinol (R), Semicarbazine (S) and Formaldehyde (F) were taken as starting materials for synthesis of new terpolymer which has been abbreviated as 'RSF-III'. Acid catalysed condensation polymerization method was adopted for the synthesis. This terpolymer was characterized using modern techniques like FTIR, ^{1}H-NMR, XRD and SEM. On the basis of physicochemical and spectral evidences the most possible chemical structure has been elucidated for the novel polymer. The number average molecular weight of this polymer has been determined with the help of conductometric titration method in non aqueous media. The applicability of this novel polymer under investigation towards its biological (antibacterial) activities has been studied against standards. The experimental biological activities have been compared to draw final conclusion for microbs like E. coli, C. albicans, S. aureus and P. aeruginosa. The polymer under present investigation has been found to possess very good biological activities for above quoted microorganisms.

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INTRODUCTION

Growing interest in designing and synthesis of novel polymers and organic copolymers/heropolymers is due to their special properties and potential applications in sorption, waste water treatments, organic synthesis, hydrometallurgy, catalysis, antimicrobial, antifungal, luminescence and recovery of trace metal elements (Finn and Zubieta, 2001; Kaliyappan and Kannan, 2000; Akelah and Sherrington, 1981; Kantipuly *et al.*, 1990). The Significant research is being done in recent years on organic terpolymers/copolymers because of their antifungal, antibacterial and other biomedical applications. Some of the polymers become conducting upon doping with oxidizing and reducing agents. In biological applications, conducting copolymers are used as biosensors. Conducting copolymer based biosensors may be used to obtain clinical information for control of diseases. Arene/polymeric resins has wide inter-relevance between various fields of science, engineering discipline and wide industrial applications. Therefore researchers in various disciplines are being attracted towards these fields. The interdisciplinary approach in the polymer resin research has emerged due to their major applications in waste water treatment, hydrometallurgy, catalysis, recovery of trace metals, electrical conductance and biological activities.

Hence it developed special interest mostly to waste water treatment and antibacterial properties as well (Guivetchi, 1963; Saxena and Mumbi, 1991; Bhave and Iyer, 1987; Geil, 1981; Rahangdale *et al.*, 2007; Gurnule *et al.*, 2003; Gurnule *et al.*, 2003; Gurnule *et al.*, 2003). The present research paper reports synthesis of a new novel polymer using resorcinol and semicarbazine as starting materials along with formaldehyde as a bridge forming agent; followed by its characterization employing various physicochemical and spectral techniques like FTIR, ^{1}H NMR, XRD and SEM. On the basis of physicochemical and spectral evidences the most possible structure has been elucidated for the new novel polymer that isRSF-III (Maskey *et al.*, 2015; Sudhirkumar Maskey *et al.*, 2015; Rahangdale *et al.*, 2003). Finally, biological/ antibacterial/antimicrobial activities of the polymer under investigation have been studied and presented in this article.

Chemicals

All chemicals used were of analytical grade. Principle starting materials viz. Resorcinol, Semicarbazine and Formaldehyde (37%) were procured from Merck, India. Double distilled water was used for all the experiments. Non aqueous solvents like DMF and DMSO were double distilled prior to their use during investigations.

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Impact of GST on Indian Banking Sector

Pravinkumar M. Lonare*

Abstract - The introduction of GST would be a significant step in the reform of indirect taxation in India. Amalgamating several central and state taxes into a single tax would mitigate cascading or double taxation, facilitating common national market. It is expected that service sector will have major impact of GST than other sector. The banking sector is one of the largest services sector in India. Banking Sector plays a very important role in monetary policies of country overall frame work and the business dynamics of this sector will largely differs from other sectors. In this paper attempt has been made to know what are issues and challenges faced by Indian banking sector after implementation of GST.

Keywords - Taxation, Goods and Service Tax (GST), Indirect tax, Banking Sector, Government Policy.

Introduction - Goods and Services Tax (GST) is an indirect tax (or consumption tax) used in India on the supply of goods and services. It is a comprehensive, multistage, destination-based tax: comprehensive because it has subsumed almost all the indirect taxes except a few state taxes. Multi-staged as it is, the GST is imposed at every step in the production process, but is meant to be refunded to all parties in the various stages of production other than the final consumer and as a destination-based tax, it is collected from point of consumption and not point of origin like previous taxes.

Goods and services are divided into five different tax slabs for collection of tax - 0%, 5%, 12%, 18% and 28%. However, petroleum products, alcoholic drinks, and electricity are not taxed under GST and instead are taxed separately by the individual state governments, as per the previous tax system. There is a special rate of 0.25% on rough precious and semi-precious stones and 3% on gold.[1] In addition a cess of 22% or other rates on top of 28% GST applies on few items like aerated drinks, luxury cars and tobacco products. Pre-GST, the statutory tax rate for most goods was about 26.5%. Post-GST, most goods are expected to be in the 18% tax range.

The tax came into effect from 1 July 2017 through the implementation of the One Hundred and First Amendment of the Constitution of India by the Indian government. The GST replaced existing multiple taxes levied by the central and state governments.

Tax rates, rules and regulations are governed by the GST Council which consists of the finance ministers of the central government and all the states. The GST is meant to replace a slew of indirect taxes with a federated tax and is therefore expected to reshape the country's 2.4 trillion dollar economy, but its implementation has received criticism. Positive outcomes of the GST includes the travel time in interstate movement, which dropped by 20%, because of disbanding of interstate check posts

Impact of banking sector:

1. Widespread number of branches; registration a hassle - Currently, an NBFC, Banks with pan-India operations can discharge its service tax compliances through a single 'centralized' registration. However, under GST, such Banks/ NBFCs would need to obtain a separate registration for each state where they operate.

In addition to registration, compliance burden about filing of returns has also increased substantially -in terms of the periodicity of returns, number of return formats and level of details required in these returns.

2. Input Tax Credit leveraged and de-leveraged - Currently, Banks and NBFCs majorly opt for the option of reversal of 50% of the CENVAT credit availed against inputs and input services whereas CENVAT credit on capital goods could be availed with no reversal conditions.

Under GST, 50% of the CENVAT credit availed against inputs, input services, and capital goods is to be reversed which leaves them with a position of reduced credit of 50% on capital goods thereby increasing cost of capital.

3. Assessment and Adjudication made bothersome - The assessment would be done by the respective state regulators under which the respective branch is registered. Now, every registered branch of banks and NBFCs must justify its position on chargeability in the respective state and reason for utilizing input tax credit in different states. As under GST, more than one adjudicating authority will be involved, each authority may hold a different opinion on the same underlying issue. This contradiction in opinion will prolong the adjudication process. Currently, a taxpayer is adjudged by a single adjudicating authority on an issue involved. Under GST different adjudicating authority may take a different view on the same issue. Clearing up and

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THE HORIZON A BI-ANNUAL INTERDISCIPLINARY RESEARCH JOURNAL- AN ANALYSIS OF CITATION PATTERN

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Abstract:-

The study is based on 510 citations appended to 75 research articles pertaining to January to June 2012 issues of vol. 3 of THE HORIZON a Bi-Annual Interdisciplinary Research Journal. The authorship pattern of the citations shows that more than 75.94% per cent contributions are single-authored and about 28 per cent resulted through the collaboration of five or more authors. Of the citations 52.74% per cent pertain to books articles. Of the citing articles 39.21% contributed by Indian authors,. Of the total citations there no author self-citations and journal self-citations.

Keywords:-The Horizon ,A Bi-Annual Interdisciplinary Research Journal, Citation Analysis, Interdisciplinary Research Journal

Introduction:-Interdisciplinary

The Horizon, a biannual interdisciplinary Research Journal aims at providing a healthy forum for scholarly views on board socio-political and cultural issues of human import. The journal is an academic initiative by The Universal Scholars' Association, Nagpur dedicate to provide a knowledge- based platform and publish contemporary issue of vital importance.

Objectives:- The objectives of the study are to find out:

- Authorship pattern of citation
- Types and distribution of citations according to forms
- Percentage of Indian citations to foreign citations
- Percentage of author self citations to total citations
- Percentage of journal self citations to total citations

Scope:-

The study covers 75 research articles published in the January to June 2012 issues of volume 3 of The HORIZON A Bi-Annual Interdisciplinary Research Journal These research articles included 510 cited items, citations. It is to be noted that THEHORIZON allows the authors to use up to a maximum of citations for each research article. The study indicates that on average a research article included about 7 citations.

Methodology:-

The data was compiled manually from the journal articles employing systematic sampling method. For each citation, the following data was recorded: (i) number of author(s), (ii) type of document, (iii) origin of the document/ journal, (iv) whether author self-citation, and (v) whether journal self-citation.

Results and Analysis:-

Authorship pattern of citations

THE HORIZON aBi-Annual Interdisciplinary Research Journal allows a maximum of six authors' names in each citation. For citations having more than six authors the first six names are given followed by et al. This practice definitely helps to save some space but

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Open Access Research Article

Microwave Assisted Synthesis, Characterization and Anti-Tubercular Activity of 4-Quinolylhydrazone

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ABSTRACT

A series of 4-quinolylhydrazone derivatives was synthesized by reaction of 4-quinolylhydrazine and various substituted carboxaldehyde out of that most of the derivatives show significant antitubercular properties. This microwave assisted organic synthesis was applied to synthesize a series of 4-quinolylhydrazone derivatives. The characterization of newly synthesized derivatives were done by modern analytical techniques like digital melting point apparatus, IR, NMR and mass spectroscopy.

Keywords: Mycobacterium tuberculosis, Hydrazone, Quinoline, Carboxaldehyde.

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http://dx.doi.org/10.22270/jddt.v9i4-A.3425

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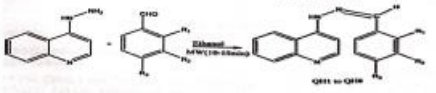
Introduction:

Tuberculosis (TB) is one of the most predominant infections in human beings and it has considerable contribution towards illness and death all around the world. Tuberculosis is caused by mycobacterium tuberculosis [1]. From previous research it is well known that quinolone is an important heterocyclic nucleus found in many natural as well as synthetic products having wide variety of pharmacological activities such as anti-TB [2], tyrokinase PDGF-RKT inhibiting agent [3], anticancer [4], antibacterial [5] and anti-inflammatory [6]. The physicochemical study data of quinolone derivatives shows the potential antitubercular activity [7]. The literature study of some 4-quinolylhydrazone derivatives unveiled significant activity (MIC=12.5-3.12 µg/ml) when compared to first line drugs such as ethambutol (MIC=3.12 µg/ml) [8]. With reference to this, in the search of new antituberculosis agents we proposed the synthesis of some quinolylhydrazones containing 4-hydrazinylquinoline moiety which was designed by using molecular modeling methods [9]. From literature survey it is observed that quinolylhydrazone moiety are pharmacologically very active, shows the activities like anti-inflammatory, antimicrobial and antitubercular [2]. The latest development in the field of organic chemistry is the microwave assisted organic synthesis (MAOS) [10], [11] which provides short reaction time and economic use of reagents through green approach [12].

Experimental:

The synthetic route for the preparation of 4-quinolylhydrazone derivatives QH1 to QH8 is summarized in scheme 1 as below.



Scheme 1: 4-quinolylhydrazine, corresponding carboxaldehydes, Ethanol, Microwave (MW) 10-15 min.

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XRD, FTIR, TGA, EDX INVESTIGATIONS OF L-LEUCINE DOPED IN AMMONIUM DIHYDROGEN PHOSPHATE (ADP) SINGLE CRYSTAL

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Abstract

Ammonium dihydrogen phosphate (ADP) ($NH_4H_2PO_4$) single crystals were grown by slow evaporation method using doped 0.8% L-Leucine. The X-ray diffraction analysis of the as-grown ADP crystals showed that it possess tetragonal structure having lattice parameters a = 7.4854 Å and c = 7.5377 Å. The Fourier transform infrared spectroscopy (FTIR) of as-grown ADP crystal taken between wave-number 400 to 4000 cm^{-1} showed peaks due to vibration and stretching of functional group O-N=P and $-ONO_2$ in 400 to 912.16 cm^{-1}, P=O and O-H in 1100.50 to 1446.67 cm^{-1} and O-H and N-H in 2409.81 to 3253.71 cm^{-1} range. The thermal properties of the as-grown ADP crystals were studied by thermogravimetric analysis (TGA). The thermal activation energy determined from the TGA curve using Broido, Piloyan-Novikova (PN) and Coats Redfern (CR) relations were in good agreement with each other and Energy Dispersive X-Ray Analysis (EDX). The obtained results are discussed in details.

Keywords :FTIR , XRD, TGA ,EDAX, L-Leucine.

1. Introduction:

Ammonium Dihydrogen Phosphate (ADP) is a representative of hydrogen bonded materials that possesses excellent dielectric, piezoelectric, anti-ferroelectric, electro-optic and nonlinear optical properties. Growth and studies of ammonium dihydrogen phosphate is a centre of attention to researchers because of its unique properties and wide applications. Single crystals of ADP are used for frequency doubling and frequency tripling of laser systems, optical switches in inertial confinement fusion and acoustic-optical Devices [1]. ADP crystallizes in a body centered tetragonal structure with the space group I 4 2d and has tetra molecular unit cell [2] with unit cell parameters a = b = 7.4854 Å and c = 7.5377 Å. ADP has been the subject of a wide variety of investigations over the past decades. Reasonable studies have been done on the growth and properties of pure ADP [3-4]. In recent years, efforts have been taken to improve the quality, growth rate and properties of ADP, by employing new growth techniques, and also by the addition of organic, inorganic and semi organic impurities [5-6]. Organic nonlinear optical materials have large optical susceptibilities, inherent ultrafast response times, and high optical thresholds for laser power as compared with inorganic materials. Amino acids are interesting materials for NLO applications as they contain a proton donor carboxyl acid (-COOH) group and proton acceptor amino (-NH2) group in them [7]. Amino acids, when added as impurities, have improved material properties [8]. Amino acid, L-Leucine has formed several complexes, which are promising materials for second harmonic generation [9-10]. In the light of research work being done on ADP crystals, to improve the properties, it was thought interesting and worthwhile to investigate the effect of L-Leucine on ADP. In this work, the

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NEED AND IMPORTANCE OF AUTOMATION IN ACADEMIC LIBRARY

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Abstract:-

This paper focus on need of automaton in academic library & changing scenario of library management. Due to enormous changes in information technology. Automation changes library operation & its functionality .Due to automation library activity become more fast & accurate. This paper also discuss about software packages which use in academic library.

Keywords:- Automation ,Area Of Automation, History Of Automation Information Technology ,Classification & Cataloguing

Introduction:-The Rapid Change In Information Technology, Everyera of library sector has change. The role & need of reader may continuously changes. The origin of information technology has changed the performance and service pattern of academic library, due to information technology the Traditional library transformed in to automated library. But lack funding academic library have been serving us hybrid library.

Automation-

The word Automation derived from Greekword Automose means which has power of spontaneous motion or self-movement. The term automation was first introduced by D.S.Harder In1936.

Library automation is needed to improve over collection to have an effective control over the entire operation ,to improve the existing services as well as to introduce new services ,to avoid duplication of work ,to share the resources among various academic library

Definition :-

According To Encyclopedia Of Library and Information Science "Automation is the technology concerned with the design and development of process and system that minimize the necessity of human intervention in operation."(Kent 1977)

According To oxford English dictionary automation is "application ofautomatic control to any branch of industry or science by extension, the use of electronic or mechanical devices to replace human labor"(Simpson & Weiner 1989)

Area of automation in academic library:-

The main activities & services of library automation as below:-All routine works & services of academic library can be automated through library automation .

1. Data Entry
2. Classification& Cataloguing
3. Circulation Control
4. Serial Control
5. Documentation & Allied Service 6.Information Retrieval.

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१५. भारतीय शेतीचा इतिहास

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सारांश

भारतात शेती आणि शेतकरी यांचा इतिहास नवपाषाण युगापासून (इसवीसनपूर्व 3000) सुरू होतो. आपल्या प्राचीन संस्कृतीमध्ये समृध्द शेतीचे ठोस पुरावे सापडतात. पाराशर, गर्ग, बृहद् गर्ग, कश्यप, विष्णुगुप्त, मरूकमान, बादरायन, विश्वकर्मा, भारद्वाज, कपिला यासारख्या खगोल आणि वनस्पती शास्त्रींनी शेतीची बंद दारे उघडली. भारतीय शेतीचे 1. स्थानिक परिस्थितीशी सुसंगत अशा काटक बियांचा वापर 2. मातीचे स्वास्थ्य टिकवून ठेवणे आणि 3. शेतीतील जैवविविधता (विशेषत: पिकांची) असे तीन मुख्य आधार होते. मुस्लीम राजवटीच्या शेती स्वातंत्र्य अबाधित होते. इंग्रज राजवटीत मात्र शेतकऱ्यांच्या स्वायत्ततेवर बंधने आली. प्रथम ग्रामस्थांचा त्यांच्या गावातील जंगलावरच्या स्थानिक व्यवस्थापनाचा अधिकार हिरावून घेण्यात आला. भारताला स्वातंत्र्य मिळाल्यानंतर 'हरितक्रांतिच्या' तंत्रज्ञानामध्ये जास्त उत्पादन देणारी उन्नत बियाणे, रासायनिक खते व रासायनिक कीटकनाशके अशा 'त्रिसूत्री' चा समावेश होता. संकरीकरणाच्या तंत्राच्या सहाय्याने पिकांची हेक्टरी जास्त उत्पादन देणारी संकरित बियाणे तयार करण्यात आली. जनुकीय अभियांत्रिकी या नव्या विद्याशाखेच्या आधारे बऱ्याच सजीवांच्या पेशीमधील जनुकीय रचनेची माहिती- जनुकीय आरेखनाद्वारे (genetic mapping) आता उपलब्ध होऊ लागली आहे. या माहितीचा उपयोग करून एखाद्या सजीवातील कोणत्या जनुकाद्वारे त्या सजीवातील कोणता गुणधर्म नियंत्रित होतो हे कळू लागले आहे. भारतीय शेतीची आज जी कुंठितावस्था आली आहे. त्यातून सुटका होण्यासाठी आव्हानांचा सामना करावा लागेल. या करिता अनेक उपाययोजना करण्याचे सुचविले आहे.

1.1 प्रस्तावना

मानवाच्या सभ्यतेचा इतिहास कृषी संस्कृतीच्या उदयापासून आरंभ होतो. जंगलात पशुतुल्य जीवन जगणारा मानव हळूहळू विकसित होत गेला. या प्रक्रियेला मानवाची उत्क्रांती असे नामाभिधान मिळाले. सुरुवातीची रानटी अवस्था, या अवस्थेत फळे कंदमुळे झाडपाला खाऊन माणूस आपली गुजरान करीत असे. प्राण्याप्रमाणे हिंस्त्र स्वरूपाचे जगणे मानवाच्या वाट्याला आले होते. तो इतर प्राण्यांची शिकार करून कच्चे मांस खात असे. या अवस्थेचे वर्णन मानवी इतिहासात मानवाची शिकारी अवस्था असे केले जाते. इतर प्राण्यापेक्षा अधिक लाभलेली निसर्गदत्त बुध्दीमत्ता आणि सारासार विवेक यामुळे मानव व मानवी समाज सतत बदलत गेला. शिकारी अवस्थेनंतर तो पशुपालन अवस्थेत आला. पशूंचे संगोपन करून त्यांचा उपभोग घ्यायला लागला. पशूंच्या चाऱ्याची व्यवस्था करतांना त्याला भटकंती करावी लागली. त्या अवस्थेचे वर्णन इतिहासकारांनी मानवाची भटकी अवस्था असे केले आहे. टोळ्या करून राहणाऱ्या या मानवीसमुहाने नैसर्गिक श्रमविभाजनीचा अवलंब केला. स्त्री–पुरुष यांच्यातील नैसर्गिक फरकातून स्त्रीकडे

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11. Business on the Internet

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Abstract

Examines current and planned practices and the major benefits of communication -intensive information system applications. The Internet, once a government-controlled, tax-supported endeavor, is no longer restricted to noncommercial traffic. Contends that business use of the Internet has grown rapidly over the last several years, yet information technology managers still struggle to evaluate the contribution of this new technology in their organizations. Surveys were sent to a random selection of 500 companies to analyze current use and impact of the Internet in a business setting. Reports on the variety of expected values to be derived from use of the Internet indicated by respondents.

Keywords: Internet, information technology, business, goods, service, customer

Introduction

Information Technology (IT) has grown and evolved over the last 50 years; you cannot think and plan a project, business or other initiative without the usage of this technology. When we say Information Technology that means not only personal computers or smart phones, but also modern machinery in factories, automotive industry, aviation industry, various household appliances etc., In one way or another this has not only facilitated our daily lives but it has also reduced cost and time in general. Research shows that a quarter of workers in the United States of America work from home for a considerable time of the year, while, another quarter work "mobile" - on the move. This reflects the great opportunities that Information Technology and the Internet provide as an important tool for implementation in organizations and public institutions. Economists highly appreciate the importance of Information Technology in business growth, lowering costs and promoting the best products. During recent years, globalization and computerization have redefined the industry, politics, culture, and social order. Globalization refers to ultimately integrate economic and cultural institutions. This integration occurs as a result of the use of information technology. The technological revolution presupposes global computerized networks and the free movement of goods, information, and peoples across national boundaries. Hence, the Internet and global computer networks make possible

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12. Role of ICT in Academic Libraries

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Abstract

In present day effectiveness of a library services is depend upon the information & communication technology .This paper focus on involvement of information & communication technology in libraries which classify old & new generation technology. This paper discusses various information & communication technology which used to offer & used in libraries, also study why information & communication technology is needed, how it affect libraries services.

Keywords:- Information , Communication ,Technology, Libraries, Network

Introduction

The term Information & Communication Technology has been used by academic technologies since the 1980s. ICT means the use and application of computer, telecommunication and microelectronics in the acquisition, storage, retrieval, transfer and dissemination of information.

ICT defines as types of technology that are used specifically for communication .it is like information technology focuses more on technologies that deal with communication, like internet and wireless networks among other things.(YOUNG ,2012).

The Set Of Activities Which Facilitate By Electronic Means The Processing, Transmission And Display Of Information (RODRIGUEZ And WILSON 2000)

ICT : Information Communication Technology

ICT is new evolutionary phase of library science development which brought tremendous changes in library and information science .Application of ICT in library science has change working of library professionals. Using of ICT offered access vast flow of information & knowledge resources.ICT include both network & applications .network include fixed ,wireless & satellite communication & applications include internet database management system & multimedia tools.

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Approximate value of a irrational number using Duplex

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ABSTRACT

Swami Bharthi Krshnatrthji Maharaj is the author of book Vedic Mathematics. This book was first published in1965. This book contains many mathematical calculations in various fields of mathematics. In this book Swamiji explained by coating examples in each chapter. All the formulas in Vedic Mathematics have a logical mathematical application. Some important most useful chapters in Vedic Mathematics are Division by Paravartya method or Dwajank method, recurring decimals, Complex Mergers, Partial Fractions etc. In this paper we will discuss the method of straight squaring (to obtain square of a number) by creating duplex (Dwandwa Yoga). This method is very powerful to obtain the square of a number. In the same chapter Swamiji explained that the reverse process of finding a square of a number (By creating duplex) gives us square root of a number. Swamiji developed this concept of duplex (Dwandwa Yoga) from algebra. In the expansion of (ax + b)2, (ax2 + bx + c)2, (ax3 + bx2 + cx + d)2,..... the coefficients of descending powers are always a2, 2ab, (b2 + 2ac), (2ad +2bc),..... Swamiji called these coefficients as duplex. So duplex of single digit number is square of itself, square of two digit number is two times the product of two numbers, duplex of three digit number is sum of square of the middle number and two times the product of first and third number, and so on. Putting these duplex at proper place we obtain the square of a number. Similarly if we subtract the duplex from the given number we obtain the square root of a number. This method has a powerful application of finding the approximate value of irrational numbers (a number which have non recurring and non repeating decimal numbers). Irrational numbers are real numbers and we never obtain its exact value. So we obtain its approximate value always. Here we discuss how to find the approximate value of irrational number by creating duplex (Dwandwa Yoga).

I. INTRODUCTION

This method of finding the approximate value of irrational number is very simple. This method is applicable for the computer programming. This method of finding the square of a number is the application of algebra in arithmetic. Finding the square root is the reverse process of finding the square.

II. METHOD AND PROCEDURE

The Dwandwa Yoga or The Duplex combination process

How to generate the duplex ?

1) For single digit number 'a' duplex of 'a' =D(a) = a^2
2) For two digit number 'ab' duplex of 'ab' = D(a) = 2ab

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Synthesis, Characterization, Magnetic and Thermal Analysis of Chelate Polymers Derived from adipyl bis-p-tolylcarbamide

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Abstract **- In the present article we describe synthesis and characterization of some chelate polymers of adipyl bis-p-tolylcarbamide (ADBPU) with first transition series metal ions such as Mn (II), Co (II), Ni (II), Cu (II) and Zn (II). The structure and composition resulting chelate polymers is confirmed by elemental analysis, reflectance spectra and FTIR studies. Further the thermal analysis and kinetic parameters were analyzed by Sharp-Wentworth and Freeman-Carroll methods.**

Index Terms **- Chelate polymers, Freeman-Carroll methods, FTIR, Sharp-Wentworth, Thermal studies.**

I.INTRODUCTION

Polymers are basic materials used in goods such as textiles, tires, and packaging (e.g., film and containers). Also, polymers, particularly thermosets, in applications they are generally used as composite materials. In the transportation market, including automotive, marine, and aerospace. Today most of these markets are mature, and it is predicted that future growth will be small. There are several more polymer uses however, this may be less evident, but it has tremendous potential and includes challenges for new technology and growth into the 21st century. The demand for practical applications of new materials has been research in chelate polymers, design and synthesis has been promoted, because of their diverse uses [1-4]. Chelate polymers of a number of bis (biuret) with transition metals have been reported by [5]. Gandhi and co-workers reported chelate polymers of hydroxamic acid with high thermal stability [6]. Tadavi et al. prepared series of transition metal complexes with Mn (III), Co(II), Ni(II) and Cu(II) and studied thermal stability [7]. Chaudhary reported thermal decomposition studies of some metal chelate polymers and morphological behaviour of a particular ligand with various metal ions at heating rate 5 °C min-1 under nitrogen atmosphere. We found out only TG, DTG and DTA investigation of metal chelate polymers at heating rate 5 °C min 1. The thermogravimetric data, the dehydration of water and degradation of organic ligands were invoked to monitor in order to evaluate decomposing temperature [8]. Various studies have been reported on thermal stability, synthesis, morphological and applications of transition metal organic coordination polymers with derivative of dicarboxylic [9-13].

Coordination polymer of divalent transition metal with chelating ligand is an interesting topic in the branch of coordination chemistry due to its specific properties and high thermal stability than ordinary complexes. Literature survey reveals that the synthesis of transition metal coordination polymers with chelating ligand was based on stability [14-15]. Herein, we have reported thermal study of three novel coordination polymers of d10 divalent transition metals. The aim of current work was to describe the comparative thermal behaviors by using TG–DTG and DTA techniques under multiple heating rates. Also, we have evaluated thermal decomposition kinetics and thermodynamic parameters including activation energy, order of reaction by Sharp-Wentworth and Freeman-Carroll method.

II. EXPERIMENTAL

A. CHEMICALS

All the chemicals used were AR grade. The solvents used were doubled-distilled before use.

B. INSTRUMENTS

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गोंदिया जिल्हयात 'मनरेगा' अंतर्गत रोजगार निर्मिती– एक अध्ययन

प्रविणकुमार एम. लोणारे
सहाय्यक प्राध्यापक
अर्थशास्त्र विभाग, भवभूती महाविद्यालय,
आंमगांव, जि. गोंदिया (महाराष्ट्र)

गोषवारा :

ग्रामीण भागाचा सुयोग्य विकास करण्याच्या दृष्टीने उपलब्ध मानवी संपत्तीव्दारे ग्रामीण भागात टिकाऊ सामुहिक मालमत्ता निर्माण करीत असतानाच ग्रामीण भागात राहणाऱ्या व अंग मेहनतीची अकुशल कामे करणाऱ्या, मजुरांना रोजगार उपलब्ध व्हावा या उद्देशाने केंद्र सरकारने राष्ट्रीय ग्रामीण रोजगार हमी अधिनियम 2005 पारीत केला असुन सदर कायद्यान्वये ग्रामीण भागातील कुटुंबाला 100 दिवसांचा रोजगार उपलब्ध करून देण्याची हमी देण्यात आलेली आहे. महाराष्ट्र शासनाने राज्याची रोजगार हमी योजना, व केंद्राची राष्ट्रीय ग्रामीण रोजगार हमी योजना यांची सांगड घालुन महाराष्ट्र ग्रामीण रोजगार हमी योजना अंमलात आणलेली आहे. या योजनेला महात्मा गांधी राष्ट्रीय ग्रामीण रोजगार हमी योजना असे संबोधले जाते.

प्रस्तावना :

1972 साली पडलेल्या भयंकर दुष्काळामध्ये महाराष्ट्र शासनाने पहिल्यांदाच ग्रामीण भागात कामे काढून त्यावर लोकांना रोजगार उपलब्ध करून दिला. विधानसभेचे तत्कालीन सभापती आणि रोजगार हमी कायद्याचे प्रमुख शिल्पकार श्री. वि.स. पागे यांच्या व इतर अनेक नेत्यांच्या प्रयत्नामुळे आणि तेव्हाच्या चवळीच्या रेट्यामुळे, महाराष्ट्र शासनाने 1977 साली मागेल त्याला /तिला मागेल तेव्हा मागेल तेवढे काम आणि त्या कामाचा किमान – समान दाम देनारा 'रोजगार हमी कायदा' केला. गरजू व्यक्तीना अशा प्रकारे त्यांच्या परिसरात रोजगाराची हमी देतानाच त्यातून ग्रामीण विकासाची कामे घडवण्याची व्यवस्था करण्यासाठी कायदा करणारे महाराष्ट्र हे देशातील पहिले राज्य आहे. ग्रामीण भागात तसेच 'क' वर्ग नगरपालिका क्षेत्रात राहणाऱ्या आणि अंग मेहनतीचे काम करायला प्रौढ व्यक्तीला मागितल्यानंतर रोजगार उपलब्ध करून देण्याची आणि रोजगार निर्मितीद्वारे गावामध्ये टिकाऊ आणि उत्पादक मालमत्ता तयार करण्याची जबाबदारी राज्य शासनाने घेतेली आहे.

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२४. कृषि एवं ग्रामीण विकास में शासन की भुमिकाए

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सारांश

भारतीय ग्रामीण अर्थव्यवस्था कृषि पर आधारित अर्थव्यवस्था है अत: सरकार को विभिन्न पंचवर्षीय योजना के माध्यम से कृषि से संबंधित लघु एवं कुटीर उद्योगोंको बढ़ावा देने की आवश्यकता है ताकि लोगोको रोजगार उपलब्ध हो सके। कृषि को राज्य का सबसे बड़ा रोजगार दिलाने वाला निर्योक्ता कहा जा सकता है। जिसकी सकल घरेलु उत्पाद मे हिस्सेदारी 4 प्रतिशत है जो देश में समावेशी विकास का एक सशक्त माध्यम है। आधुनिक कृषि तकनीकों के साथ–साथ इसके लिए कई मोर्चा पर काम करना होगा। भारत में लगभग 65 प्रतिशत कृषि बारिश पर निर्भर करती है और अन्य से अधिक क्षेत्र में अत्याधिक बारिश या अत्यल्प बारिश हमेशा परेशानी का कारण बनती है। गुणवत्ता में सुधार और उपलब्धता के लिए आवश्यक साधन जुटाने के लिए कदम उठाये जा रहे हैं। जिनमें खादय, बीज, बिजली और सिंचाई की सुविधाओं को प्राथमिकता में शामित किया जा रहा है। इन कदमो के उठाने से कृषि को लाभदायक व्यवसाय बनाया जा सकता है।

प्रस्तावना

मूलत: ग्रामीण शब्द एक व्यापक शब्द है। आजादी के बाद से ही सरकार के समक्ष ग्रामीण क्षेत्रों का विकास एक महत्वपूर्ण चुनौती रहा है। आज भी भारत की करीब 70 प्रतिशत से ज्यादा आबादी गावों में निवास करती है। जहां शिक्षा, स्वास्थ्य, स्वच्छता, बिजली, पानी का अभाव देखा जाता है वही गरीबी एवं बेरोजगारी की अधिकता देखने को मिलती है। यह सच है कि छ: दशक बाद भारत के गावों की तस्वीर काफी हद तक बदली है जिसमें पंचवर्षीय योजना का महत्वपुर्ण भूमिका रहा है। अभितक व्यापक स्परेखा खिंची गई है। विशेष कर ग्रामीण विकास के अंतर्गत कृषि, शिक्षा, बिजली, सड़क, पानी सिंचाई, उर्जा, रोजगार, गरीबों का विकास प्रमुखता से आता है।

ग्रामीण विकास में कृषि का महत्व

कृषि को राज्य का सबसे बड़ा रोजगार दिलाने वाला निर्योक्ता कहा जा सकता है जिसकी सकल घरेलु उत्पाद में हिस्सेदारी 4 प्रतिशत है जो देश में समावेशी विकास का एक सशक्त माध्यम है। आधुनिक कृषि तकनीकों के साथ साथ इसके लिए कई मोर्चा पर काम करना होगा। कृषि के लिए महत्वपुर्ण है सिंचाई के लिए पानी इसके प्रबंधन में पानी के इस्तेमाल के समय आधर गुणवत्ता में सुधर लाना होगा साथ ही उन्नत किस्म के बीजों का इस्तेमाल करना होगा। इसके अलावा मिट्टी के परीक्षण और मिटटी मे पोषक तत्व बढ़ाने के उपायो पर भी ध्यान देना होगा ताकि लाखों ग्रामीण गरीब कृषकों के लिए आय और रोजगार के अवसर का सृजन हो सके कोर विकास करना समावेशी विकास नीति एक प्रमुख घटक है तथा इस संबंध में कुछ प्रगति हुई है।

विभिन्न पंचवर्षीय योजनाओं में कृषि की स्थिति

प्रथम योजना काल में हेक्टेयर भूमि को कृषि योग्य बनाया गया। साथ ही प्रति हेक्टेयर उत्पादकता बढ़ाने की दृष्टि से चांवल की खेती के लिए जापानी कृषि पध्दति को अपनाया गया।

द्वितीय योजना में कृषि की अपेक्षा आधारभूत उद्योगों की अधिक महत्व दिया गया क्योंकि योजना आयोग का मत था प्रथम योजना में कृषि को काफी विकसित किया गया था।

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स्त्री भ्रूणहत्या के कारण एवं उपाय

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सारांश :

इस परंपरा के वाहक अशिक्षित व निम्न व मध्यम वर्ग ही नहीं है बल्कि उच्च व शिक्षित समाज भी है। भारत के सबसे समृध्द राज्यों पंजाब, हरियाणा, दिल्ली और गुजरात में लिंगानुपात सबसे कम है। 2001 की जनगणना के अनुसार एक हजार बालकों पर बालिकाओं की संख्या पंजाब में 798, हरियाणा में 819 और गुजरात में 883 है। कुछ अन्य राज्यों ने इस प्रवृत्ति को गंभीरता से लिया और इसे रोकने के लिए अनेक कदम उठाए जैसे गुजरात में 'डीकरी बचाओ अभियान' चलाया जा रहा है। इसी प्रकार से अन्य राज्यों में भी योजनाएँ चलाई जा रही हैं। भारत में पिछले चार दशकों से सात साल से कम आयु के बच्चों के लिंग अनुपात में लगातार गिरावट आ रही है। वर्ष 1981 में एक हजार बालकों पर 962 बालिकाएँ थी। वर्ष 2001 में यह अनुपात घटकर 927 हो गया। यह इस बात का संकेत है कि हमारी आर्थिक समृध्दि और शिक्षा के बढते स्तर का इस समस्या पर कोई प्रभाव नहीं पड रहा है। वर्तमान समय में इस समस्या को दूर करने के लिए सामाजिक जागरूकता बढाने के लिए साथ–साथ प्रसव से पूर्व तकनीकी जांच अधिनियम को सख्ती से लागू किए जाने की जरूरत है। जीवन बचाने वाली आधुनिक प्रौद्योगिकी का दुरुपयोग रोकने का हरसंभव प्रयास किया जाना चाहिए।

परिचय :

नारी को देवी दुर्गा, पार्वती की पूजा करने वाले देश में गर्भ में कन्या की हत्या करने का रिवाज काफी पुराना है पुराने जमाने से ही किसी एक वर्ग विशेष में नवजात लडकियों को दूध में डुबो कर मार दिया जाता था। या कई बार जन्मते ही जहर चटा दिया जाता था। इस देश में नारी पर जुल्म की कथा काफी पुरानी है सीता गर्भ वती होने के बाद भी निष्कासित कर दी जाती है और द्रौपदी भरी महा सभा में अपमानित की जाती है .प्राचीन समय में युद्ध में किसी राजा की पराजय के बाद वहॉ की रानियॉं तथा सभी कुलीन महिलाओं को राज्य के सम्मान के खातिर जौहर करने या स्वयं को अग्नि में समर्पित करने के लिए प्रेरित किया जाता था ताकि शत्रु उन्हें युद्ध में जीती अन्य वस्तुओं के साथ लूट कर न ले जा सकें।

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FLORISTIC STUDY OF FAMILY SOLANACEAE OF AMGAON REGION, GONDIA DISTRICT (M.S.)

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Communicated : 16.12.19 | Revision : 05.01.2020 Accepted : 24.01.2020 | Published: 30.01.2020

ABSTRACT:

The investigation was carried out in order to explore the existing floristic composition in Amgaon, Dist Gondia (Maharashtra). The present area of Amgaon was selected for the floristic studies because it has been given little attention of its vegetation. A Total of 13 species under 08 genera of solanaceae were collected. Among 08 genus Solanum is mostly dominant. A complete account of each species is given with correct nomenclature, local name, flowering &fruiting season and their Medicinal and Economical important. Is enumerated in results.

Key words: - *Solanaceae, Floristic study.*

INTRODUCTION:

The Solanaceae or nightshades are an economically and medicinally important family of flowering plants. The Solanaceae consists of about 98 genera and some 2,700 species, with a great diversity of habitats, morphology and ecology. The family ranges from annual and perennial herbs to vines, lianas, epiphytes, shrubs and trees, and includes a number of important agricultural crops, medicinal plants, spices, weeds, and ornamentals. Many members of the family contain potent alkaloids, and some are highly toxic, but many cultures eat nightshades, in some cases as staple foods. The family belongs to the order Solanales, in the asterid group Dicotyledones (Magnoliopsida).

The name Solanaceae derives from the genus solanum, "the nightshade plant". The etymology of the Latin word is unclear. The name may come from a perceived resemblance of certain solanaceous flowers to the solanum is known as the " sunberr". Alternatively, the name could originate from the Latin verb solari, meaning "to soothe", presumably referring to the soothing pharmacological properties of some of the psychoactive species of the family.

Members of the Solanaceae family are found throughout the world but are most abundant and widely distributed in the tropical regions of Latin America, where about 40 genera are endemic. Very few members are found in temperate regions, and only about 50 species are found in the united states and Canada combined. The genus solanum contains almost half of all the species in the family, including all the species in the family, including all the species of wild potatoes found in the western hemisphere. The poisonous alkaloids present in some species of the family have given the latter its sonbre vernacular name of "nightshade".

The family is also informally knows as the nightshade or potato family. The family includes *Datura, Mandragora, Belladonna, Capsicum, Solanum*, etc.

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Development of Virtual Experiment on Transistors Characteristics Using Virtual Intelligent Soft lab for Virtual Learning Environment

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ABSTRACT
The scope of this paper includes development and implementation of virtual lab for Transistors Characteristics. The study of Transistors Characteristics is important in Electronics, Computer Science and Engineering. The Transistors Characteristics experiment can be performed by using the concept of virtual Intelligent SoftLab (VIS). The virtual experiment described here will help students to perform virtual experiments anywhere and anytime anywhere. The screen shows the Characteristics of Transistor and shows related outputs. VIS gives us a facility to change of Input values using virtual instruments and observed the outputs. In this paper we check the input output characteristics of Field Effect Transistor (FET), Bipolar Junction Transistor (BJT) and Uni-Junction Transistor (UJT). The effect of Transistors Characteristics is visible on the screen.

Keywords
SoftLab, Transistor Characteristics, UJT, BJT, FET, Virtual Lab etc.

1. Introduction
The basic concept of VIS (Virtual Intelligent SoftLab) Model is to provide a virtual platform for learners to perform the experiment with their own selection. The Virtual experiments are designed in such a manner as to give a real feel of performing the experiment. During the experiment, the learner can store and edit the desired data for his/her analysis. Apart from these the focus is aims to embed a maximum number of learning components in virtual experiments. Virtualizations of experiments could be broadly classified, based on the data used for performing the experiment. The Soft Lab philosophy provides us to link the physical laboratory experiment with its theoretical simulation model with interactive environment. The goal for each instance of a SoftLab laboratory is to create a software environment where experimental research and interact with each other. In SoftLab project, we have elaborated the various issues involved in the design and development of SoftLab model for Electronics, Computer science and engineering. VIS model describes how the SoftLab philosophy was used to design and implements. The VIS forces us to challenge of solving experiments. The SoftLab framework should provide the infrastructure that serves the needs for basic research.
SoftLab is such a flexible laboratory environment. Its goal is to simulate a laboratory space having a well-equipped instruments and a variety of materials. Using SoftLab students may be learned from an instructor to perform an experiment. The student may study, take out the instruments he needs, connect them together, make his

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INDIAN TRADITIONAL KNOWLEDGE FOR THE TREATMENT OF KIDNEY STONE: A REVIEW

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Communicated : 24.12.19 Revision : 09.01.2020 Accepted : 25.01.2020 Published: 30.01.2020

ABSTRACT:
This review describes 58 plant species used by tribal and local people of different parts of India for the treatment of kidney stone. Present review provides traditional ethnomedicinal knowledge to research communities as well as to pharmaceutical industries.
Key words: - Kidney stone, traditional knowledge, India.

INTRODUCTION:

Herbal medicine used since long time in our country to cure various types of diseases and ailments. This practice is continuously working by tribal and local people of the nation. Various types of therapies are used by the local healers and medicine men to cure ailments. From region to region different plant species are used for the treatment of diseases depending on the availability of that plant species.

MATERIAL AND METHODS:-

The investigation on wetland plants of the corridor was carried out in all three different seasons; winter (October to January), summer (February to May) and monsoon (June to September) from October 2014 to September 2016. Observed plants were photographed and plant specimens were identified as per Ugemuge (1986), Kodarkar, (1992), Cook(1996) and Fasset (2000).The aquatic plants were categorized on the basis of their existence in lake as submerged, floating, shore plants and peripheral plants. Conservation needs of the aquatic plants were assessed on the basis of IUCN red list status.

RESULT AND DISCUSSION

In our country vaidus, hakims, medicine men, women, herbal medicine practitioners used plants for the treatment of urinary related problems which include kidney stones. In present review, attempt has made to find out plants used for the removal of kidney stone. During the literature survey, total 58 plant species found to be used by different communities and from different localities of India to remove kidney stone. The plant species those are used for the treatment of kidney stone are enumerated as follows with their citation as follows.

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E-Commerce and Cyber Law

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Absract:-

E- Commerce is the most important topic in this world. Electronic commerce is called E-Commerce the consist of Online Shopping, online services Services , Online Product etc. Electronic Services system are web & different type of network .Indian E-Commerce is rapidly growth in the last ten years. Maximum people performed the online transaction just like online banking and looking. This paper are present the summery of cyber law, attacks, security and privacy related to the commerce and that also possible solution.

Keywords :- B2B,.shopping, transaction. Law etc.

Introduction

E-Commerce is the online transaction the buying and selling of goods and services or transfer the online funds , money, etc. these business transaction cover the business to business (B2B) , Business to consumer (B2C), Consumer to Consumer or Consumer to Business. E- Commerce is the modern trade technology. E-Commerce is very important tools for small and large business in the world.

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OUR HERITAGE

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7th & 8th February-2020

Ecommerce Businesses: B2B, B2C, C2B and C2C

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Abstract

In the area of Internet, e-business model has become the key to the success of e-commerce. B2C model has produced many well-known electrical business empires, such as Yahoo, Amazon, etc. At the same time, because of customers' personalized needs, "consumer-driven" C2B e-business model has become a new growth point by a lot of enterprises. B2C and C2B are the main stream mode of e-business, and participants are both B2B and B2C. This article is comparative analysis on background of C2B and B2C.

Keywords: C2B, B2C, electrical business model, value chain, integration innovation

Introduction

The system of doing business is changing very fast as the communication technology is upgraded over time. The number of intermediate parties involved in the business transactions or processes also is changing as the system of transactions is upgraded over time, situation and space. At present, the system of doing business or the process of buying and selling is settled through the websites to a large extent and which reduces the intermediaries in the distribution channel of selling or buying and similarly increases the application of digital money in the payment system. Therefore, the traditional commerce is now converted to a large extent as electronic commerce or e-commerce. Based on parties involved in transaction or commerce there are three separate parties, namely, business (B), consumer or citizen(C) and government (G). From these three dimensions of business party, there are 3x3=9 nine models of commerce namely, Business to Business (B2B), Business to Consumer (B2C), Business to Government (B2G), Consumer to Business (C2B). Consumer/Citizen to Government (C2G), Consumer to Consumer (C2C),

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Synthesis and characterization of terpolymeric resin for removal of hexavalent chromium

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ABSTRACT

8-HQTF terpolymeric resin was synthesized by condensation of 8-hydroxy quinoline (8-HQ), thiourea and formaldehyde in 1:1:2 mol ratio in the presence of HCl as a catalyst. A-synthesized material was authenticated by elemental analysis, FTIR, XRD and [1]H NMR spectroscopy. Cr(VI) removal were studied by using 8-HQTF via Batch equilibrium method, while Langmuir adsorption isotherm model was employed for detail adsorption study. The removal efficiency of Cr(VI) was found to be increase with adsorbent doses from 1 to 6 gm, and at 6 gm maximum efficacy was found. The result shows the maximum removal of Cr (VI) can be done nearly 94%.

Selection and Peer-review under responsibility of the scientific committee of the 11th National Conference on Solid State Chemistry and Allied Areas.

1. Introduction

Pollution, due to heavy metals is one the most uninhabitable threat for the living organism and it is gaining the scientists interest day by day. Heavy metals mostly consist of iron, lead, manganese, zinc, copper, chromium, and nickel and so on that lead to many problems for human and water environment. With the exponentially increasing population, there is a need for controling heavy metal discharge before the toxic metal ions enter the waste-water. About 80% of mined chromium is used for metallurgical applications most of which is used in the stainless steel industries and it is also largely produced in leather industry, catalyst for many chemical reaction [1,2]. Cr(VI) is freely soluble in aqueous medium at any pH and easily penetrates in biological membrane [3]. The consequence of which is edema, skin irritation damage of liver, and pulmonary congestions [4]. In recent past Cr(VI) separation is carried by many common and popular methods such as Chemical reduction [5], Nano-filtration [6], bio-accumulation [7] and ion exchange [8], from aqueous effluents. These routes are indeed not cost-effective and difficult to implement in developing/undeveloped countries. Bio-sorption also gained significant attention due to its technical feasibility and economically viability as well as it is cost friendly [9–11]. Terpolymers have potential application in verities of different fields adsorption study is one of the major aspect. Also terpolymers gains attention on account of their wide ranging ion exchange properties [12]. The terpolymers of hydroxyl benzoic acid, urea/thiourea and formaldehyde/trioxane have been widely investigated because of their numerous applications [13–14]. Copolymers have also been synthesized by condensation of a mixture of phenol or hydroxybenzoic acid, various amine and formaldehyde [15,16]. However literature survey revealed that the application of terpolymers made of 8-hydroxy quinline, thiourea and formaldehyde is very scanty in adsorption technique. Therefore, we have carried out synthesis and characterization of this terpolymer and its application is thoroughly studied in the light of surface phenomenon. Terpolymeric resin as adsorbent reported in this article is effective for chromium removal from waste water and thus can be productively used for the control of chromium pollution.

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५. माणिक बंडूजी ब्रम्हभट्ट ते वंदनीय राष्ट्रसंत तुकडोजी महाराज : एक जीवन प्रवास

प्रा. सौ. धनश्री एल. राणे
सहाय्यक प्राध्यापक

राष्ट्रसंत तुकडोजी महाराज हे भारतभूमीत त्यातल्या – त्यात विदर्भात जन्मलेले एक [illegible] एक श्रेष्ठ प्रतीचे संत, विचारवंत व आचारवंत तसेच समाजप्रबोधक आणि मानवतावादाचे कट्टर पुरस्कर्ते [illegible] जीवनकार्याच्या दिशा स्पष्ट व स्वच्छ होत्या. त्यांच्या कार्याच्या यशस्वीतेसाठी त्यांनी सहजसुंदर शब्दात [illegible] केली. भजन हे माध्यम प्रामुख्याने प्रचारासाठी निवडून आपल्या प्रासादिक खंजरी भजनाने जनतेला [illegible] घातली. त्यांच्या भजनांनी गावोगावी चालणारे तमाशे आणि गचाळ गाणी बंद पडली. वंदनीय तुकडोजी [illegible] जीवनाची बैठक रामदासस्वामी, स्वामी विवेकानंद, विनोबाजी इत्यादी सत्पुरूषांसारखी होती. हे सर्व [illegible] भारतीय संस्कृतीच्या अत्युच्च बैठकीवरून परमार्थाचा व भारतीय समाजरचनेचा विचार करतात. [illegible] त्यांची पूर्ण श्रद्धा आहे. पण त्यांचा ईश्वर हिमालयाच्या गिरिगव्हारात दडून बसलेला नाही. [illegible] आणि अज्ञान व दारिद्रय यांच्या पाशात सापडून अगतिक झालेल्या आपल्या अगणित दीन आणि दलित [illegible] या संतांना त्यांचा देव दिसतो. रामदासस्वामी लहानपणी बोहल्यावरून पळाले खरे, पण समाजाच्या [illegible] त्यांनी कधीच पाठ फिरवली नाही. उलट " आधी प्रपंच करावा नेटका " हे सामान्य [illegible] इहलोकीच्या जीवनाविषयी त्यांच्या मनात आस्था उत्पन्न करणारे तत्वज्ञान त्यांनी निःसंदिग्ध शब्दात [illegible]

स्वामी विवेकानंद तर " ज्याला विधवेचे अश्रु पुसता येत नाहीत किंवा अनाथ [illegible] घास घालता येत नाही, असा धर्म किंवा ईश्वर मानायला मी क्षणभरसुध्दा तयार नाही " असे [illegible] भारतीय विचार व्यक्त करतांना दिसतात. विनोबाजी तर भूदान – यज्ञ आरंभून त्याच्या सिद्धीकरिता [illegible] दिग्विजय करण्यास सिद्ध झाले. त्यांचे हे कार्य अश्वमेध आणि राजसूय यज्ञ करणा–या प्राचीन तपस्वी [illegible] सम्राटांपेक्षाही अनंतपटींनी श्रेष्ठ होय.

राष्ट्रसंत तुकडोजी महाराजांनी भारताच्या समूळ परिवर्तनाचे मुळ कशात आहे हे सखोल विचाराती [illegible] लोकमान्य टिळक, डॉ. ॲनी बेझंट, म. गांधी या सर्व राष्ट्रीय पुढा–यांनी स्वातंत्र्याच्या [illegible] लोकांच्या नजरेसमोर पुन्हा पुन्हा ठेवली व ती म्हणजे भारताची सुधारणा. सुधारणा म्हणजे नुसती मुंबई, पुणे, कलकत्ता, चेन्नई, जयपूर, नागपूर, यासारख्या शहराची सुधारणा नव्हे, तर भारतातील [illegible] सुधारणा जोपर्यंत खेडी सुधारणार नाही, तोपर्यंत भारत सुधारला असे म्हणता येणार नाही. राष्ट्राच्या उन्नतीसाठी प्रत्येक खेडे स्वयपूर्ण व्हायला हवे. खेडे हे एक स्वयपूर्ण स्वतंत्र घटक म्हणूनच भारतात असायला हवे. [illegible] भारत प्रगत राष्ट्रात मान्यता पावेल अशी त्यांची धारणा होती. ह्या तत्वज्ञानाने प्रेरित होऊन राष्ट्रसंत तुकडोजी महाराज खेडापाडी हिंडून ती सुधारण्यासाठी सातत्याने प्रयत्नशील राहिले. यात त्यांना एक गोष्ट प्रामुख्याने जाणवली कायम स्वरूपाच्या मार्गदर्शनाची गरज! यासाठी त्यांनी मोझरी (गुरूकुंज) येथे कायमस्वरूपी आश्रम स्थापून, स्वयंसेवक तयार

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A NEW INTEGRAL TRANSFORM AND ITS APPLICATIONS IN ELECTRIC CIRCUITS AND MECHANICS

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Abstract

In this paper, few fundamental properties of a new integral transform have been taken into consideration. The main purpose of this paper is to show the applicability of a new integral transform to electric circuits and Mechanics with verification by Laplace transform which require utilization of differential equations and solutions in time domain.

Keywords: New integral transform, Laplace transform, Electric circuit, Differential equation.

1. Introduction

Laplace transform found to be very applicable in many areas of Mathematics such as ordinary differential equations, partial differential equations, integral equations, electric circuits in Physics and electrical engineering. A new integral transform was introduced by Artion Kashuri and Akli Fundo [1] who showed that a new integral transform is applicable in solving ordinary and partial differential equations in the time domain. Artion Kashuri and Akli Fundo also concluded that there is a much deeper connection between Laplace and a new integral transform and other relations of a new integral transform can be found by this connection [1]. A.R. Vasishtha and R. K. Gupta [2] showed the applications of Laplace transform to electric circuits and Mechanics. Janki Vashi and M. G. Timol [3] showed the applications of Laplace and Sumudu transforms in Physics and electric circuits. Tarig M. Elzaki and Salih M. Elzaki [4] showed the connection between Laplace and Elzaki transforms. The main purpose of this paper is to show the applications of a new integral transform to electric circuits and Mechanics and to verify that there is a deeper connection between Laplace and a new integral transform.

2. Preliminaries

Definition.[1] Consider the class of functions F, where

$$F = \left\{ f(t) \mid \exists\, M, k_1, k_2 > 0 \text{ such that } |f(t)| \le M e^{\frac{|t|}{k_i^2}}, \text{if } t \in (-1)^i \times [0,\infty) \right\} \quad (1)$$

For a given function in the set F, the constant M must be finite number, k_1, k_2 may be finite or infinite. A new integral transform denoted by the operator $\mathcal{K}(.)$ is defined by

$$\mathcal{K}[f(t)] = H(v) = \frac{1}{v}\int_0^\infty e^{\frac{-t}{v^2}} f(t)\,dt, \quad t \ge 0, -k_1 < v < k_2 \quad (2)$$

New integral transform of some special functions

i) $\mathcal{K}[1] = v$
ii) $\mathcal{K}[t^n] = n!\, v^{2n+1}$
iii) $\mathcal{K}[e^{at}] = \frac{v}{1-av^2}$
iv) $\mathcal{K}[sinat] = \frac{av^3}{1+a^2v^4}$
v) $\mathcal{K}[cosat] = \frac{v}{1+a^2v^4}$
vi) $\mathcal{K}[\sinh(at)] = \frac{av^3}{1-a^2v^4}$
vii) $\mathcal{K}[\cosh(at)] = \frac{v}{1-a^2v^4}$

Theorem 1.1.[1] Let $G(v)$ be a new integral transform of $f(t)$, then

i) $\mathcal{K}[f'(t)] = \frac{G(v)}{v^2} - \frac{f(0)}{v}$

3

ANTIOXIDANT ACTIVITY AND CHARACTERIZATION OF ETHANOLIC BARK EXTRACT OF *BOSWELLIA SERRATA*

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Abstract

Boswellia serrata (BS) is an important traditional medicinal plant also known as Indian frankincense, *is* currently represents an interesting topic for pharmaceutical research since it possesses several pharmacological properties (e.g., anti-inflammatory, antimicrobial, and antitumour). *B. serrata* (Salai/Salai guggul), is a moderate to large sized branching tree of family Burseraceae (Genus Boswellia), grows in dry mountainous regions of India, Northern Africa and Middle East. In the present research, *B. serrata* bark was collected from Pohra forest region, Dist. Amravati Maharashtra. Aqueous and Ethanolic extract of *B. serrata* bark was prepared to study *in vitro* antioxidant activity using DPPH assay. Our results showed that Ethanolic *B. serrata* bark extract shows more antioxidant activity i.e. 80% percent inhibition as compare to aqueous extract 60%. The TLC based separation of metabolites was peformed using Choloroform : Methanol (15 : 1) solvent system which suggest the presence of metabolites of several class. The GC-MS anlaysis of the Ethanolic *B. serrata* bark extract confirms the presence of various bioactive metabolites including sydone-3-benzyl, 4-karene, trans-1,2,4,5-diepoxy –methane, 5-eicosene etc in maximum amount.

Keywords: Antioxidant activity, *Boswellia serrata*, TLC, DPPH, GC-MS.

Introduction:

Herbal medications have been used for the relief of disease symptoms since ancient times (Maqsood et al2010). As a result of many years of struggle against various illnesses, humans learned to pursue drugs in barks, seeds, leaves, fruits and other plant parts (Petrovska 2012). It has been estimated that 25% of modern medicines are made from traditionally used plants and about 80% of the world population relies on herbal medicines in dealing with some aspects of their primary health care.

The plant *Boswellia serrata* is locally known as "Salai" in Hindi and belongs to family *Burseraceae*. It is distributed in the hilly region of the country and also occurs in quite abundance in the plains of central India. The plant is of medium size and on tapping provides a very important gum known as "OlegumResine" which is commonly known as "Indian Olibanum" or *"frankincense"*.

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Study of palatable food items prepared from wild edible plants by Surkuda villagers, Amgaon region, Gondia district (M.S.)

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Abstract

The tribal communities have been largely dependent on the wild plants for various purposes. Surkuda village is belonging to Amgaon Tahsil of Gondia district. People of the village are engaged in agricultural works and living in vicinity of the small patches of forest. Since long time they used wild edible plants for fulfillment of their hunger in the form of raw fruits, leaves after cooking and parts of the plants for the preparation of palatable food items. Same village was undertaken for the study of palatable food items prepared by locals from wild edible plants. For that several visits were carried out during investigation. Total 22 plants were documented used by villagers.

Keywords: wild plants, tribal communities, Surkuda village, traditional uses, Gomdia dist

Introduction

Wild edible plants are the precious gift of our nature of the country. Several studies been and most of the ethnic communities are strongly conducted on documentation of traditionally used depends on it for their day-to-day life. There were no works that are not only supplement to the food quantity, but also an investigate the utilization of wild edible plants for making important option during starvation for survival and thus traditional recipes used by different ethnic communities of makes significant contribution to the human nutrition (Deb D *et al.*, 2013) [1].

Consuming wild edibles is a part of the food habits of people in many societies and intimately connected to virtually all aspects of their socio- cultural, spiritual life and health. It plays a major role in meeting the nutritional requirement of the tribal population in remote parts of the country throughout the year. Knowledge of non-domesticated food resources is part of traditional and unstated ecological knowledge, and is largely transmitted through socialization within cultural and household contexts. The diversity in wild species offers variety in family diet and contributes to household food security. The contributions of forest foods that make food security can be categorized into three main ways viz. providing a supplementary source of food, as seasonal foods in the diet and as emergency food supplies during periods when others are unavailable (Rashingam, 2012) [3].

Thus, present study undertaken to study palatable food items prepared from wild edible plants by Surkuda villagers belonging to Amgaon Tahsil of Gondia district (Maharashtra).

Review of Literature

Rajasab and Isaq (2004) [4] documented folk knowledge of 51 plant species as edible from North Karnataka. Nedelcheva A. (2017) [3] studied an Ethanobotanical study of wild edible plants in Bulgaria. Angami *et al.* (2006) studied status and potential of wild edible plants of Arunachal Pradesh, in which they recorded about 118 wild edible plants. Kar and Borthakur (2007) [5, 6] reported 29 wild vegetables those are used by *Karbi* tribe and also sold in local markets in Assam. Kayang (2007) [7] documented tribal knowledge on wild edible plants of Meghalaya. He recorded total 110 wild growing plants, which are eaten whole or in part by the local people and also enumerated and discussed various aspects of the wild plants used by *Khasi*, *Jaintia* and *Garo* tribes. Pal *et al.* (2008) [9] reported 27 high altitude plant species from Nubra valley were identified as wild edible plants and used for the preparation of Ladakhi dishes. Shangso chonma, Ldum chonma, Thanthour chonma, Kabra chonma and Phololing chamyk were some of the famous traditional Ladakhi food items prepared from the wild edible plants. Dubey *et al.* (2009) [12] studied *Dillenia pentagyna* Roxb., an endangered tree species, was collected, which accounts for many ethnical uses in Vindhya region of Madhya Pradesh. Nazarudin (2010) [8] studied nutritional composition of some lesser known fruits used by the ethnic communities and local folks of Kerala. Sasi *et al.* (2011) [10] studied and documented indigenous knowledge of wild edible plant resources from the *Irulas* tribe of Kotagiri at Nilgir Hills. A total of 50 plants were identified that the tribal communities of the study area fulfilled their food deficiency by supplementing wild food plants in their daily diet. Song *et al.* (2013) [13] analyzed and recorded traditional knowledge of 164 wild edible plants utilized by indigenous people living on Jeju Island in Korea. Shirai and Rambo (2014) [11] reported 54 plant species from North East Thailand as wild edible species. Monkey jack (*Artocarpus gomenzianum* Wall ex. Trecul) an underutilized edible and medicinal plant of Central Western Ghats has been studied by Sarala and Krishnamurthy (2014) [15] for distribution, harvesting, morphology and juice yield, processing, preservation and powder yield at various regions of Central Western Ghats. Recently, Setiya *et al.* (2016) [16] reported 61 wild edible plant species consumed by aboriginals from Gadchiroli district of Maharashtra state, India.

Topograpy and General Features of Gondia District

Gondia district is situated on North-Eastern side of

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Gum yield plants of Kawarabandh Region

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Abstract

The present work is carried out to focus on the Kawarabandh region (Tahsil Amgaon) flora of gum yielding plant. The said work, no doubt, helps to academicians and agriculture scientists for better understanding of distribution of gum yielding plant taxa growing in the Tahsil, either wild or cultivated.

Keywords: Kawarabandh, gum yielding, plant taxa

Introduction

Proteins, enzymes, muscle fibers, polysaccharides and gummy exudates are the natural polymers being used effectively in pharmaceutical dosage forms. Natural gums (gums obtained from plants) are hydrophilic carbohydrate polymers of high molecular weights, generally composed of monosaccharide units joined by glucocidic bonds. They are generally insoluble in oils or organic solvents such as hydrocarbons, ether, or alcohols. Gums are either water soluble or absorb water and swell up or disperse in cold water to give a viscous solution or jelly. On hydrolysis they yield arabinose, galactose, mannose and glucuronic acid. Based on solubility in water gums are classified as soluble, insoluble and partially soluble gums. Certain gums dissolve in water to form a transparent colloidal solution (e.g. Gum Arabic). Gums such as gum tragacanth, gum karaya do not dissolve in water but swell up into a jelly-like mass. However, if sufficient amount of water is added they yield a thick transparent solution. Partially soluble gums first form a swollen jelly by dispersing in water and become solution on addition of more water. Gumresins are a combination of resins and true gums with a mixture of characteristics of both. Certain gumresins contain small amount of essential oil they are called oleo-gumresins. Small quantities of resins exude on the surface of the trunk due to injury by wind, fire, lightening or wound caused by animals.

Natural gums including acacia, Ghatti, Karaya, Locust bean, Albizia, Khaya, Guar, Tragacanth and Xanthan, are obtained as exudates or extractives from the bark of stems, branches and roots of various plants. Plant families notable for the production of gums are Anacardiaceae, Combritaceae, Meliaceae, Rosaceae and Rutaceae. Various reasons have been advanced for the production of gums by plants, including: as products of normal plant metabolism; as a protective mechanism against a pathological condition afflecting the plant; and as a consequene of infection of the plant by microorganisms.

The plant based polymers have been studied for their application in different pharmaceutical dosage forms like matrix controlled system, film coating agents, buccal films, microspheres, nanoparticles, viscous liquid formulations like ophthalmic solutions, suspensions, implants and their applicability and efficacy has been proven. These have also been utilized as viscosity enhancers, stabilizers, disintegrants, solubilizers, emulsifiers, suspending agents, gelling agents, bioadhesives and binders.

By keeping the abovesaid usage of gum yielding plant, the present work is carried out to know the flora of Kawarabandh region yielding Gum.

Plan of Work

The present work has been undertaken with an aim to account gum yeilding plant of Kawarabandh region. The present work has been carried out during September 2017 to march 2018. During this period several visits and field trips undertaken and more than 25 localities have been visited. Total 10 specimens collected from different locations of the Salekasa tehsil. Some of them visited frequently during the documentation. Identified specimens were confirmed by matching them with authentically identified species deposited in the herbarium, Department of Botany, Bhawabhuti Mahavidyalaya, Amgaon.

Herbarium sheets were prepared by employing standard universally accepted method. Properly identified plant specimens have been deposited in the herbarium of Botany, Bhawabhuti Mahavidyalaya, Amgaon. Every attempt has been made to adopt the most recent and correct nomenclature. The valid name is followed by basionym. Genera and species are provided with diagnostic description, local name if available, phonological data, reference to the illustration if available, information about habit and habitat. Herbarium vouchers are cited for each species. Bibliography of the references cited in the text is given at the end.

Enumeration of Taxa

Acacia Leucophloea: Polhill, R, M. 1990 Legumineuses In. Flore des Mascareignes, Vol80. J. Bosseret a. (Plate 1, Fig. 1& 2)

Fam: Fabaceae.

Local name: safed babul, haribawalhiwar.

Des: *Acacia leucophloea* is a large thorny tree attaining a height of 35 m and a diametr at breast height of 100 cm. Trunk stout, dividing into several large diameter branches. Open-grown specimen have a characteristic wide umbrella-like crown. Bark white to yellowish gray, smooth, exfoliating in long strips, on old trees becoming black and rough. Leavesbipinnately compound, with 4-13 pairs of

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ANTIOXIDANT ACTIVITY AND CHARACTERIZATION OF ETHANOLIC BARK EXTRACT OF *BOSWELLIA SERRATA*

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Abstract

Boswellia serrata (BS) is an important traditional medicinal plant also known as Indian frankincense, *is* currently represents an interesting topic for pharmaceutical research since it possesses several pharmacological properties (e.g., anti-inflammatory, antimicrobial, and antitumour). *B. serrata* (Salai/Salai guggul), is a moderate to large sized branching tree of family Burseraceae (Genus Boswellia), grows in dry mountainous regions of India, Northern Africa and Middle East. In the present research, *B. serrata* bark was collected from Pohra forest region, Dist. Amravati Maharashtra. Aqueous and Ethanolic extract of *B. serrata* bark was prepared to study *in vitro* antioxidant activity using DPPH assay. Our results showed that Ethanolic *B. serrata* bark extract shows more antioxidant activity i.e. 80% percent inhibition as compare to aqueous extract 60%. The TLC based separation of metabolites was peformed using Choloroform : Methanol (15 : 1) solvent system which suggest the presence of metabolites of several class. The GC-MS anlaysis of the Ethanolic *B. serrata* bark extract confirms the presence of various bioactive metabolites including sydone-3-benzyl, 4-karene, trans-1,2,4,5-diepoxy –methane, 5-eicosene etc in maximum amount.

Keywords: Antioxidant activity, *Boswellia serrata*, TLC, DPPH, GC-MS.

Introduction:

Herbal medications have been used for the relief of disease symptoms since ancient times (Maqsood et al2010). As a result of many years of struggle against various illnesses, humans learned to pursue drugs in barks, seeds, leaves, fruits and other plant parts (Petrovska 2012). It has been estimated that 25% of modern medicines are made from traditionally used plants and about 80% of the world population relies on herbal medicines in dealing with some aspects of their primary health care.

The plant *Boswellia serrata* is locally known as "Salai" in Hindi and belongs to family *Burseraceae*. It is distributed in the hilly region of the country and also occurs in quite abundance in the plains of central India. The plant is of medium size and on tapping provides a very important gum known as "OlegumResine" which is commonly known as "Indian Olibanum" or *"frankincense"*.

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Consuming wild edibles is a part of the food habits of people in many societies and intimately connected to virtually all aspects of their socio- cultural, spiritual life and health. It plays a major role in meeting the nutritional requirement of the tribal population in remote parts of the country throughout the year. Knowledge of non-domesticated food resources is part of traditional and unstated ecological knowledge, and is largely transmitted through socialization within cultural and household contexts. The diversity in wild species offers variety in family diet and contributes to household food security. The contributions of forest foods that make food security can be categorized into three main ways viz. providing a supplementary source of food, as seasonal foods in the diet and as emergency food supplies during periods when others are unavailable (Rashingam, 2012) [3].
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JYOTPATTI

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ABSTRACT

Bhaskaracharya ,(Bhaskar II, 1114- 1185 AD), was one of the great mathematicians in India. His text "*Sindhant Shiromani*" (SS) was treated as the base of the further research oriented results by most of all the mathematicians after him.
SS contains of two parts:, *Goladhyaya and Grahaganit*. Jyotpatti is the last chapter in *Goladhyaya*. *Jyotpatti* consists of 25 *Shloka* (stanzas), all in Sanskrit language. It is a general impression that SS contains *Lilavati* and *Beejganit* also, but that is not so.
Jyotpatti deals with trigonometry. This was a milestone in developing geometry in India. *Jya* means sine and *Utapatti* means creation. Hence the name *Jyotpatti* (*jya + upapatti*). *Jya* and *Kojya(or kotijya)* stand for the Rsine and Rcosine ratios respectively. The trigonometry developed by Bhaskara II is based on a circle of radius R, and not on a right-angled triangle as taught in the schools.
After defining *Jya, Kotijya and Utkrama* (*verse jya*) etc, Bhaskara obtains these ratios for the standards angles of 30,45, 60, 36 and 28,(all in degrees) by inscribing a regular polygon in a circle of radius R. Bhaskara called these angles as *Panchajyaka*. Not only this, Bhaskara developed these results for addition and subtraction of two angles. This result was further developed for the similar results, for the multiple angles. Bhaskara compares *jya and kotijya* with the longitude –latitude of earth and those with lateral threads of a cloth.
Contents in Jyotpatti (Only a few mentioned here)
(1) R jya 45 =R$\sqrt{2}$, and other similar R jya values. (All in degrees)
(2) R jya 36 = 0.5878 approx.
(3) S_n = side of a regular polygon of n sides = D sin (π/n), D is the diameter of circle in which polygon is inscribed.
(4) Derivation of formulae for sin (θ + ϕ) and cosine (θ + ϕ) called as *samas bhavana* and *antar bhavana.*
(5) Concept of derivatives, that is, δ(sin θ) = (cos θ) δθ etc. Which is Rolle's Theorem.
Indian mathematicians developed trigonometry in different way than that of

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जलवायु परिवर्तन का कृषि पर का प्रभाव

प्रविण कुमार एम. लोणारे

सहायक प्राध्यापक, अर्थशास्त्र विभाग, भवभूती महाविद्यालय, आमगांव, जि. गोंदिया (महाराष्ट्र)

सारांश

मानसून भारत के कृषि-आधारित अर्थव्यवस्था के लिए जीवनदायी कारक की तरह है। यहाँ आधी खेती बारिश पर ही निर्भर है। ऐसी स्थिति में जल संकट के कारण देश की वृद्धि और अर्थव्यवस्था पर असर पड़ सकता है। लगभग 80 करोड़ लोग गाँवों में रहते हैं और कृषि पर निर्भर हैं, कृषि का योगदान भारत के सकल घरेलू उत्पाद में लगभग 15% है। ऐसे में, बारिश ना होने के कारण सीधे तौर पर या परोक्ष तौर पर भारत के 26.3 करोड़ किसान प्रभावित होते हैं। गंभीर जल संकट के कारण सूखा प्रभावित क्षेत्र में खाद्यान्न की कमी हो जाती है। लंबे समय तक सूखे के कारण यहाँ की मिट्टी अनुत्पादक और बंजर हो जाती है। बाद में यही क्षेत्र रेगिस्तान में बदल जाता है। कृषि आधारित उद्योगों के लिए कच्चे माल की कमी हो जाती है। इसका नतीजा यह होता है कि ये सारे उद्योग बर्बाद हो जाते हैं। साथ ही आवश्यक वस्तुओं और सामानों की कीमतों में बेतहाशा बढ़ोत्तरी हो जाती है। कई प्रकार की बीमारियाँ और महामारियां पैदा हो जाती हैं। साथ ही चोरी, हत्या, आत्महत्या, डकैती समेत दूसरी सामाजिक दिक्कतों का भी सामना करना पड़ता है। इसके अलावा ऐसे जगहों से पलायन शुरू हो जाता है जिसके कारण दूसरे जगहों पर भी समस्याएँ देखने को मिलती हैं। सूखे जैसी स्थिति ग्रामीण आय और खपत को प्रभावित करती है, और सरकार को कृषि ऋण माफी जैसे कदम उठाना, जिससे वित्त पर दबाव पड़ता है। सूखे के कारण मनोरंजन और पर्यटन उद्योग को भी नुकसान पहुंचता है। पानी से जुड़े स्पोर्ट जैसे कि रीवर राफ्टिंग और तैराकी जैसे कारोबारों पर विपरीत प्रभाव पड़ता है।

परिचय

आर्थिक विकास के सिद्धान्त और आख्यानों/माल्थसवादी, शास्त्रीय, मार्क्सवादी तथा स्टिगलिट्ज आयोग आदि ने इस बात की समझ का निर्माण किया है कि आखिर आर्थिक विकास है क्या और वो कौन से सबसे महत्त्वपूर्ण कारक हैं, जो इसे निर्धारित करते हैं तथा आर्थिक विकास के आकलन के मुख्य आयाम क्या हैं? आर्थिक विकास की प्रक्रिया में प्राकृतिक संसाधनों द्वारा निभाई गई भूमिका तथा इनकी प्रासंगिकता के इन सवालों के जवाब में कुछ भी नया नहीं है। आर्थिक विकास को समझने में जनसंख्या, मानव पूँजी, सामाजिक पूँजी, संसाधन निधि, प्रौद्योगिकी, संस्थाएँ तथा राजनीतिक अर्थव्यवस्था ने इसे महत्त्वपूर्ण रूप से दर्शाया है। विकास में प्रकृति की भूमिका को समझने में जलवायु परिवर्तन ने खासकर जलवायु परिवर्तन तथा इसके प्रभाव के प्रति कुछ निश्चित और विचित्र विशेषताओं जैसे एक महत्त्वपूर्ण अतिरिक्त आयाम जोड़ा है। जलवायु परिवर्तन के इस विज्ञान तथा आम सहमति के उच्च स्तर की एक उन्नत समझ ने ग्लोबल वार्मिंग के विपरीत परिणाम को लेकर पिछले दशक में वैज्ञानिकों के बीच अपनी पहुँच बनाई है तथा इसने आर्थिक विकास से लेकर विकास प्रक्रिया की निरन्तरता तक पर ध्यान केन्द्रित करने की प्रक्रिया को आगे बढ़ाया है।

जिस तरह से निरन्तर विकास की परिभाषा विकसित हुई है, उसमें भी यह प्रतिबिंबित होता है। निरन्तर विकास के व्यापक पैमाने पर उपयोग होने वाली अभिव्यक्ति वही है, जो यूएनडीपी (1995) में है और वह है : विकास का वह रूप जो वर्तमान की आवश्यकताओं की पूर्ति करता है, मगर साथ में इस बात की चिन्ता कि आने वाली पीढ़ी की आवश्यकता की पूर्ति किस तरह होगी। (पर्यावरण तथा विकास पर विश्व आयोग, 1987) तथा भविष्य के विकास के लिये प्राकृतिक परिसंपत्तियों के संरक्षण की कल्पना भी की गई है। अभी हाल ही में जलवायु परिवर्तन पर अपनाए गए सतत विकास के लक्ष्यों (एसडीएस) (यूएन 2015) में इस लक्ष्य को विशेष रूप से शामिल किया गया है कि जितनी जल्दी हो सके, जलवायु परिवर्तन तथा इससे पड़ने वाले प्रभाव से पार पाने के लिये कदम उठाए जाएँ। एसडीजी के जलवायु लक्ष्य के अन्तर्गत चर्चित पहला उद्देश्य सभी देशों में जलवायु से सम्बन्धित खतरनाक एवं प्राकृतिक आपदा के लचीलेपन तथा अनुकूलन क्षमता को बढ़ाना है। वास्तव में, अन्य लक्ष्यों के ज्यादातर पहलू आपस में पर्यावरण के साथ जुड़े हुए हैं तथा इन सबकी एक ही मांग है कि प्राकृतिक संसाधनों का संरक्षण हो तथा उनका टिकाऊ उपयोग हो। मानव समाज में प्रगति के सटीक पैमाने के रूप में सोच विचार के साथ यह मांग उसकी बेहतरी के लिये रखी गई है।

क्या है यह जलवायु परिवर्तन?

पिछली कुछ सदियों से हमारी जलवायु में धीरे-धीरे परिवर्तन देखा जा रहा है। यानी, दुनिया के तमाम देशों में सैकड़ों सालों से जो औसत तापमान बना हुआ था, उसमें अब बदलाव हो रहा है। पृथ्वी का औसत तापमान अभी करीब 15 डिग्री सेल्सियस है, हालाँकि तापमान का बहुत ज्यादा होना या कम होना कोई पहली बार की घटना नहीं है। लेकिन अब पिछले कुछ सालों में जलवायु में अचानक तेजी से बदलाव हो रहा है।

- मौसम की अपनी विशेषता होती है, लेकिन अब इसका ढंग बदल रहा है। गर्मियां लंबी होती जा रही हैं, और सर्दियां छोटी। इस तरह का बदलाव केवल भारत में ही नहीं बल्कि पूरी दुनिया में हो रहा है। इसी परिघटना को जलवायु परिवर्तन का नाम दिया गया है।

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Fungal Flora of Various Libraries: A review

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Abstract
Available literature was collected to fulfill the requirement of present study during September 2017 to march 2018. Research papers were downloaded with the help of web engines from different sites. So many journals visited to search download and collect documents for the same. It was found that about more than 100 fungal species are responsible for spoiling of library materials. Various researchers isolated and identified fungi that are harmful to library. These fungi require moist condition to grow on books. *Aspergillus niger, A. flaves, A. fumigates, A. sydowl, A. versicolor, Acremoniu, Alternaria, aurobacidium, Botrytis, Candida albicans, Chaetomium, Cladosporium,Cunning ghamella,Curvularia lunata, Fusarium oxysporum, Mucor racemosus, Neurospora crassa, Penicillium citrium, P. funiculosum* and some other species of fungi isolated and identified by different researchers from different location in India and abroad. Study concluded that *Chaetomium globossum, Phoma, Aspergillus, Botrytis, Alternaria, Curvularia, Fusarium, Mucor, Penicillium* are frequently isolated from library materials. Isolated fungal species are harmful to human beings. If care is not taken place to maintain library from moisture and dust, these types of fungi can grow on library material and can spread diseases among human population.

Key Words: Library, Fungal Species, Human Population, Web Engines

INTRODUCTION

Libraries are the walled in areas with environment different from outdoor air, polluted with substances posing health hazards. The Indoor air quality is one of the most significant factors affecting the health and well-being of the library professionals who inhale 10m^3 of the air every day and spent between 80-90% of their lives in indoors. The air inhaled by people is abundantly populated with microorganisms like bacteria, viruses and fungal spores. Biological contamination of indoor air is mostly caused by moulds (fungi) they are dangerous as pathogenic living cells by secreting substances harmful for health. They release of toxic metabolic products, even at a low concentration of microorganisms can cause serious diseases. Librarians and archivists who work with old books and papers are exposed to a wide variety of molds and other microorganisms, some of which are known causes of disease. Some of those diseases are chronic, some fatal. They can affect anyone, whether or not they have been previously sensitized to the organism.

Fungal infections are deep within the body. They are not restricted to any particular part of the body and destroy number of tissues and organs. Nearly many library professionals in the world are infected by fungi. The infections on skin, nails, hair, parts like the respiratory tract, lungs, bones, intestine, liver, kidney, nasal sinuses, eyes and brain are badly affected by fungal infections. *Histoplasma* (Tuberculosis) is caused by inhalation of spores of *Histoplasma capsulatum*. Cryptococosis is caused by the inhalation of spores *Cryptococcus*. Brain abscess (Meningitis) is caused by the inhalation of *Aspergillus* spores. *Cutaneous mycosis* affects skin bones and central nervous system CNS. *Trichophyteses* can affect the intestines causing gastoentritries. Fungal infections of the nails are also known as Onychomycosis, as *Tinea unguium*, and as ringworm of the nails. Owing to the presence of abundant water, high carbohydrate level and easily available nitrogen compounds in the form of amino acids and proteins in the human body. The presence of moisture or high relative humidity is a sufficient catalyst for the germination and growth of fungal spores. The recent investigation by Wszelaki and Kuzminska 2009 reports that the diseases of vulva and vagina in women are caused by micotic spores which dwell largely in libraries. Pagani and Libshitz 2010 reports that fungal pneumonias in 92 cancer patients is caused by Candida spores, which are the available fungi in many libraries. A 28 year old reader's death revealed by brain biopsy reports the infection of fungal spores (Aspergillosis) died of *Aspergilla* fungi that can also leads to liver damage and cancer. Trichoplion can cause skin disease. Fungi saprophytes along with bacteria decay the substance, the growth of fungi enormously multiplied in colonies and lives continuously for more than 400 years in suitable conditions. The role of the fungi in deteriorating the library professional's health and

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Abstract

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Fungal infections are deep within the body. They are not restricted to any particular part of the body and destroy number of tissues and organs. Nearly many library professionals in the world are infected by fungi. The infections on skin, nails, hair, parts like the respiratory tract, lungs, bones, intestine, liver, kidney, nasal sinuses, eyes and brain are badly affected by fungal infections. *Histoplasma* (Tuberculosis) is caused by inhalation of spores of *Histoplasma capsulatum*. Cryptococosis is caused by the inhalation of spores *Cryptococcus*. Brain abscess (Meningitis) is caused by the inhalation of *Aspergillus* spores. *Cutaneous mycosis* affects skin bones and central nervous system CNS. *Trichophyteses* can affect the intestines causing gastoentrities. Fungal infections of the nails are also known as Onychomycosis, as *Tinea unguium*, and as ringworm of the nails. Owing to the presence of abundant water, high carbohydrate level and easily available nitrogen compounds in the form of amino acids and proteins in the human body. The presence of moisture or high relative humidity is a sufficient catalyst for the germination and growth of fungal spores. The recent investigation by Wszelaki and Kuzminska 2009 reports that the diseases of vulva and vagina in women are caused by micotic spores which dwell largely in libraries. Pagani and Libshitz 2010 reports that fungal pneumonias in 92 cancer patients is caused by Candida spores, which are the available fungi in many libraries. A 28 year old reader's death revealed by brain biopsy reports the infection of fungal spores (Aspergillosis) died of *Aspergilla* fungi that can also leads to liver damage and cancer. Trichoplion can cause skin disease. Fungi saprophytes along with bacteria decay the substance, the growth of fungi enormously multiplied in colonies and lives continuously for more than 400 years in suitable conditions. The role of the fungi in deteriorating the library professional's health and

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Preparation, spectral, thermal and magnetic studies of some coordination polymers synthesized from adipyl bis-*p*-ethoxyphenyl carbamide

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Abstract **- In the current article we depict combination and interpretation of some coordination polymers of adipyl bis-p-ethoxyphenylcarbamide (ABPEPC) with first transition series metal particles, for example, Mn(II), Co (II), Ni(II) and Zn. The structure and organization coming about coordination polymers is affirmed by natural investigation, reflectance spectra and FTIR examines. Further the warm investigation and active boundaries were dissected by Sharp-Wentworth and Freeman-Carroll strategies.**

Index Terms **- Coordination polymers, Elemental analysis, Thermal studies, Magnetic studies.**

I.INTRODUCTION

Coordination polymer of divalent progress metal with chelating ligand is an intriguing point with regards to the part of coordination science because of its particular properties and high warm strength than standard edifices. During the most recent twenty years, scientists demonstrated a great deal of revenue in the coordination science of d10 framework divalent metal in coordination polymers and organometallic polymers [1-4]. In the course of recent a very long time all through the world the strong state science was being given incredible significance by the specialists to recognize the water hydration, soundness, warm deterioration of natural moiety in coordination polymers by utilizing different warm strategies, for example, thermogravimetry, subsidiary warm investigation, differential warm investigation, differential scanning colorimetry [5-7]. Chaudhary and coworkers reported seven thermally stable coordination polymer compounds of bis(bidentate) ligand and compared their thermal properties by TG/ DTG/DTA techniques at a heating rate of 10 °C min1 under nitrogen atmosphere [8-9]. Earlier workers from our laboratories synthesized coordination polymers of bis ligand with transition metals and reported [10]. The excellence of coordination polymer is warm strength. The nanoscale particles of progress metal coordination polymers have immense warm dependability and huge expected applications [11-12]. In addition, aromatic polyamide a compound of amide bunches is – high performance polymeric materials with remarkable mechanical properties, and great warm and synthetic secure qualities [13-17].

In this work, we have analyzed warm investigation of four novel coordination polymers of d10 divalent c metals. The goal of present work was to depict the similar warm practices by utilizing TG–DTG and DTA procedures under different warming rates. Further, we have assessed warm deterioration energy and thermodynamic boundaries including enactment energy, order of reaction, enthalpy change, entropy change and free energy change by utilizing the Sharp-Wentworth and Freeman-Carroll strategy for each progression of debasement bend with the assistance of TG–DTG and DTA information. Surely, above strategies were altogether discovered supportive to look at the warm dependability and to choose whether water atoms were available at either inward or external circle of coordination polymers.

II. EXPERIMENTAL

A. CHEMICALS

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APPLICATION OF NANOCOMPOSITE MATERIALS AND NANOFERTILIZER

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Abstract **-** In the present article "composite is a combination of two or more different materials that are mixed in an effort to blend the best properties of both." A nanocomposite is a composite material, in which one of the components has at least one dimension that is nanoscopic in size that is around 10^{-9} m. Nanocomposites are high performance materials which reveal rare properties. Nanocomposites have an estimated annual growth rate of 25% and fastest demand to be in plastics and elastomers. The use of fertilizers, especially Nitrogen (N) and Phosphorus (P) are two important macronutrients responsible for the growth and yield of agricultural crops. Developing efficient fertilization practices has become more and more important due to the ever-increasing global demand for food products.

Keyword **-Nanocomposite, Nanofertilizer, Carbonnanotubes, Zcolite, Agrochemical.**

I. INTRODUCTION

A composite material consists of an assemblage of two materials of different natures completing and allowing us to obtain a material of which the set of performance characteristics is greater than that of the components taken separately. [1] A nanocomposite is a composite material, in which one of the components has at least one dimension that is nanoscopic in size that is around 10-9 m. Scaling might be helpful: a coin is on order of 1-2 mm thick, or 10-3 m; a carbon fibre, commonly used as a reinforcement in sporting goods, is approximately 7 μm in diameter, or 10-6 m; a carbon-carbon chemical bound, the basic unit of life, is about 1.5 Å, or 10-10 m. (Thomas E. Twardowski ,2007)[2] Today agriculture in the world is facing major tasks are reduction in yield, shrinking in the cultivable land due to globalization, less efficiency of nutrient, lack of nutrient availability and uptake is poor in soil, decreasing organic matter in soil, deficiency of water accessibility. In this critical situation it is more challenging to produce adequate food to feed the increasing populaces, which is projected to pass 9 billion by 2050. The nanofertilizer is ecologically safe and increase soil fertility, crop productivity and nutrient use efficacy. Nanofertilizer deals with atom-by-atom manipulation and the processes and products evolved are quite precise. Despite the fact that the nanotechnology is greatly exploited in the field of energy, environment and health, the research is agricultural sciences had just scratched the surface. Conversely, the importance and potentials of nanotechnology in agricultural sciences had been reviewed [3]. The nanofertilizers technology is very inventive and known to show economic benefit if the products evolved are economically viable and socially maintainable. These customized nanofertilizers are reported to decrease nutrient loss due to leaching, emissions in soil ecosystem. [4] Nanocomposites suggest rare properties that ascend from their small size, large surface area, and the relations of phases at their interfaces. They are striking for their prospective to develop performance of drugs, catalysts, biomaterials and other high value added materials. It has been reported that deviations in particle properties can be observed when the particle size is less than a particular level, called 'the critical size' [5,6]. As dimensions reach the nanometre level, interactions at phase interfaces become mostly enhanced. Additionally, unearthing of carbon nanotubes and their successive use to formulate composites demonstrating some of the unique carbonnanotubes related mechanical, thermal and electrical properties added a new and fascinating dimension to this area. Currently, nanocomposites offer new technology and business opportunities for all zones of industry, in addition to being environmentally friendly [7-9].

II. Prospects of nano-composites:

Nanocomposites offer an exceptionally extensive range of prospective applications from electronics, optical communications and biological systems to new materials. Many possible applications have been explored and many devices and systems have been considered. More potential applications and new devices are being proposed. It is evidently impossible to recapitulate all the devices and applications that have been studied. It is interesting to note that the applications of nanocomposites in diverse fields have clearly different demands, and thus face different challenges, which necessitate different approaches [10-12]. Understanding specific applications of nanomaterials in fertilizer is critical to preventing inadequately researched, field tested and regulated products from exacerbating current environmental and public health problems associated with industrial scale use of synthetic chemicals. Scientists are under enormous pressure to deliver technologies to increase yields that are not only technically reliable but cost-effective for the fertilizer industry and for farmers.6 The public has an important role to play to ensure that any new nano-fertilizer products are not rushed to market before their environmental and public health impacts can be determined, reliably validated, and diminished, if not eliminated, through regulation and product re-design. [13]

III.Technology of nano fertilizers:

The nano-fertilizer denotes in nano scale range to deliver nutrients to plant and also present invention which substitutes conventional fertilizer the nanofertilizer release and uptake of nutrients in the soil and crop is high [14]. The nano fertilizer will improve absorption of nutrient, potentially enhance photosynthesis, enhances the crop production [15]. The encapsulation technique is used to hold nutrient inside the carrier with polymer and steadily release nutrient to crop. The zeolite based nano porous fertilizer utilization and interest will increasing within young researchers in nano technology field [16, 17] nanofertilizer can enable nutrient carriage to the rhizosphere region and minimize nutrient loss and further improve use efficiency of applied fertilizer. The nano fertilizers work carried out by [18] reported that using silica nano mesoporous particle to encapsulate urea and

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Removal of Divalent Cadmium by 8-HQTF-II Terpolymeric Resin

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Abstract:*8-HQTF-II terpolymeric resin was synthesized by condensation of 8-hydroxy quinoline (8-HQ), thiourea and formaldehyde in 1:2:3 mole ratio in the presence of HCl as a catalyst. A synthesized material was authenticated by elemental analysis, FTIR, XRD and ^{1}H NMR spectroscopy. Cd(II) removal were studied by using 8-HQTF-II via Batch equilibrium method, while Langmuir adsorption isothermand Freundlich adsorption isotherm model were employed for detail adsorption study. The removal efficiency of Cd(II) was found to be increase with adsorbent doses from 1 to 6 gm and at 6 gm maximum efficacy was found. The result shows the maximum removal of Cd(II) can be done nearly 95%.*

Keywords:*adsorption isotherm, batch equilibrium, Cd(II) removal, Terpolymer (8-HQTF-II) resin.*

1. Introduction

The problem of water pollution arises due to the disposal of heavy metals from industries from the last few decades. Different industrial discharge effluents which containing toxic metals can cause severe contamination of ground water and surface water. Cadmium is rare and uniformly distributed element in the earth crust with an average concentration of 0.15 to 0.20 mg/kg. It occurs in the form of inorganic compounds and complexes with chelating agent [1]. Cadmium is one of the most toxic environmental and industrial pollutant because it can damage almostall-important organs[2]. It is a human carcinogen[3]. Even small quantity of Cd assimilation by the body can cause severe high blood pressure, heart disease and can lead to death[4].The acute over exposure to Cd fumes can cause pulmonary diseases while chronic exposure causes renal tube damage and prostate cancer[5].In recent past metal ionsequestration is carried by many common and popular methods such as Chemical reduction [6], Nano-filtration [7], bio-accumulation [8] and ion exchange [9], from aqueous effluents. These routes are indeed not cost-effective and difficult to implement in developing/undeveloped countries. Bio-sorption also gained significant attention due to its technical feasibility and economically viability as well as it is cost friendly [10-12]. Terpolymers have potential application in verities of different fields adsorption study is one of the major aspect. Also terpolymers gains attention on account of their wide ranging ion exchange properties [13]. The terpolymers of hydroxyl benzoic acid, urea/thiourea and formaldehyde/triozane have been widely investigated because of their numerous applications [14-15]. Copolymers have also been synthesized by condensation of a mixture of phenol or hydroxybenzoic acid, various amine and formaldehyde [16-17]. However literature survey revealed that the application of terpolymers made of 8-hydroxy quinline, thiourea and formaldehyde is very scanty in adsorption technique. Therefore, we have carried out synthesis and characterization of this terpolymer and its application is thoroughly studied in the light of surface phenomenon.

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A Comparative Study of Impact of Expected Medical Facility Centers as Per Unit Tribal Population Size on Mortality Number (Death Rate) of Pregnant Women of Tribal Community in Gondia District of Maharashtra State

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ABSTRACT

Health is a state of complete physical, mental and social well being and not merely an absence of disease of infirmity.

Health quality can be decided on availability of health services and facilities as well as health indicators like pregnant women death rate, infant death rate, children death rate etc. Pregnant women death rate means number of death women at the time of pregnancy period. According to World Health Organization (WHO) this death rate defines as death of women at the time of Pregnancy or at the time of abortion or after forty days of pregnancy.

In India, behind death of pregnant women there are social reasons like illiteracy in women, poor knowledge about diet, financial problem in daily life etc. In India average age of girl's marriage is sixteen years. Due to early marriage in small age, girl's physical and mental growth in such small age is not fully developed resulted into death at the time of pregnancy.

"A Tribe is a collection of Families or groups of Families bearing a common name, members of which occupy the same territory, speak the same language and observe certain taboos regarding marriage, profession or occupation and have developed a well assessed system of reciprocity and mutuality of obligations."

The aim of this research paper is to study impact of expected Medical Facility Centers as per unit Tribal population size on mortality number (death rate) of pregnant women of Tribal community.

Keywords: - Health quality, pregnant women death rate, Tribal community, mortality number, Medical Facility Centers, influencers, neutral relationship.

Introduction:-

Health is a state of complete physical, mental and social well being and not merely an absence of disease of infirmity.

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Special Issue, Volume-III *"Interdisciplinary View on Socio-Economic, Educational, Management, Environmental, Research, Language and Sustainable Development in Covid-19 Pandemic Situation"*

कोविड- 19 चाभारतीयअर्थव्यवस्थेवरीलप्रभाव

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गोषवारा:

आज करोना विषाणू मुळे संपूर्ण जग अडचणीत आहे. बहुतांश देशांची आर्थिककोंडीझालेली दिसून येत आहे.कविड-19 विषाणूचा मोठ्या प्रमाणावर होणारा संसर्ग रोखण्यासाठी जगामध्ये लाकडावून सारख्या उपायांचा वापर करण्यातआला आहे. त्यामुळेदेशांतर्गत उत्पादन सेवा आणि उद्योग बंद करण्यात आलेले आहेत. जगाने आतापर्यंत दोन महायुद्धे अनुभवलेली आहेत. परंतु त्यामहायुद्धामध्ये काहीदेशासहभागी झाले नव्हते. त्यामुळेतिथली अर्थव्यवस्था आणि नागरिक सुरक्षित होते, अर्थात त्यावेळी अर्थव्यवस्थेचे जागतिकीकरण मोठ्या प्रमाणावर झालेले नव्हते.

परिचय:

भारतामध्ये सरकारने लाकडावून जाहीर केला आहे, देशांमध्ये टाळेबंदी जाहीर करणं ही फार आनंदायी गोष्ट नाही, अशा प्रकारचा निर्णय घेण्यापूर्वी भविष्यामध्ये कोणत्या समस्या निर्माण होऊ शकतील आणि त्यामुळे अर्थव्यवस्थेवर तसंच नागरिकांच्या उपजीविकेवर कोणते दूरगामी परिणाम होतील याचा पूर्णपूर्ण विचार सरकारने नकीच केला असावा. कोरोनामुळे संपूर्ण जग महामंदीत लोटले जात आहे. जागतिक बँक आणि जगातल्या इतर संस्थांच्या अहवालाद्वारे असे दिसून येते की, भविष्यामध्ये संपूर्ण जगाला काही अडचणींना समोर जावं लागणार आहे.सध्या स्थितीत सरकारची प्राथमिकता आपल्या नागरिकांना महामारी पासून सुरक्षित ठेवून त्यांचा आरोग्य सुविधा उपलब्ध करून देणे हीच आहे. यासाठी आरोग्य सेवेवर मोठा निधी खर्च होणे अपेक्षित आहे. या कामात जर निधी कमी पडता तर इतर विकास कामांना काही लावून तो निधी आरोग्य व इतर अत्यावश्यक सेवेवर खर्च करण्यात येईल यात काही शंका नाही. यामुळे देशातील विकास कामे नियोजनप्रमाणे पूर्ण होणार नाहीत याचा परिणाम रोजगार उपलब्धीवर नक्कीच होणार आहे. आज विकसित आणि विकसनशील देश महामारी च्या या संकटाशी मुद करीत आहेत. यामुळे जागतिक उत्पादन, सेवा, व्यवस्था मोठ्या प्रमाणावर उप झाली आहे. यामुळे बहुतांश देशांमध्ये कामगारांना रोजगार मिळणार नाही. काही तज्ञांच्या मते बेकारीचे प्रमाण30 टक्के पर्यंत जाणार आहे. त्यामुळे कामगारांच्या उपजीविकेच्या प्रश्न प्रत्येक देशांमध्ये निर्माण होणार आहे. जग जेव्हा महामारी च्या संकटातून बाहेर येईल तेव्हा विविध आव्हाने समोर उभी राहितेली आपणास दिसून येतील. प्रथमतः उद्योजकांना भांडवलाची कमतरता मोठ्या प्रमाणावर जाणवेल कारण टाळेबंदी मुळे अगोदरच व्यवसाय बंद असल्याने खेळते भांडवल कमी प्रमाणावर उपलब्ध असेल. यातिसाय व्यवसायाचे खर्च उदा. कर्जावरील व्याज, भाडे, पगार व इतर खर्च टाळेबंदी काळामध्ये अटकावीवेच लागणार आहेत,याचा परिणाम व्यवसायाच्या आर्थिक नियोजनावर झाल्याशिवाय राहणार नाही. सरकारकडे उत्पन्न कमी झाल्यामुळे सरकारी विकास कामे पूर्ण क्षमतेने चालू ठेवणे अवघड होणार आहे. भविष्यात नागरिकांवर मोठ्या प्रमाणात कर लादून वसुली करणे सरकारला शक्य होणार नाही. कोरोना विषाणूच्या परिणामामुळे जागतिक पातळीवर विचार करता भारतामध्ये काही चांगल्या संधी देखील उपलब्ध होण्याची शक्यता आहे आज संपूर्ण जग अडचणीत असून चीनने कोरोना विषाणू पसरल योग्यवेळी अचूक माहिती जगाला न दिल्याने अमेरिका व इतर पाश्चिमात्य राष्ट्रे चीनवर नाराजी व्यक्त करताना दिसून येत आहेत यामुळे चीन बद्दल जागतिक विश्वास डळमळीत होईल असे वातावरण निर्माण होताना दिसत आहे. यामुळे जगातील प्रमुख देश चीन वरील आपले अवलंबित्व कमी करण्यासाठी प्रयत्न करीत असून भारतासारख्या लोकशाहीप्रधान देशात त्यांनी प्राधान्य देण्यास सुरुवात केल्याचे दिसून येत आहे. याचपे आशिया खंडातील भारत, इंडोनेशिया, फिलिपाइन्स, ताइवान इत्यादी देशांना प्राधान्य देऊन आपल्या उत्पादनासाठीच्या गरजा भागविण्यासाठी प्रयत्न करतील अशी आशा आहे. या सर्व देशापैकी भारताचे भौगोलिक क्षेत्र उपलब्ध मनुष्यबळ आणि विज्ञासाहर्ताइत्यादी बाबी लक्षात घेता पकीय कंपन्या तंत्रज्ञानासह आपले भांडवल भारतात गुंतवतीलयामुळेदेशातील छोट्या मांठ्या उद्योगांना चांगल्या संधी उपलब्ध होतील, तसेच कुशल व अकुशल कामगारांना रोजगार उपलब्ध होतील अशी अपेक्षा आहे.

भारतीयअर्थव्यवस्थेवरप्रभाव:

1. **निर्यातीवरप्रभाव -** कोरोनाचा पहिला फटका बसला तो निर्यातीला, अनेक देशांची निर्यात ठप्प झाली आहे. आपल्याकडील आंबा, द्राक्ष निर्यातदार शेतकऱ्यांपासून ते व्यापाऱ्यांपर्यंत आणि कामगारांपासून ता उद्योजकांपर्यंत सगळेच हवालदिल झाले आहेत. स्लोव्हेनिया इकॉनॉमीमध्ये प्रत्येक देश सध्या खूप्या देशावर अवलंबून आहे. त्यामुळे या प्रणाली दाहकता अधिक वाढो. अनेक उद्योग बंद पडण्याच्या स्थितीत आहेत. औषध कंपन्यांचीही तीच गत आहे. ई-कॉमर्समध्ये घटलेली मागणी व केवळ एक चालक बाधित झाल्याने बँक कंपनीवर आलेले दडपण असंच चालू राहिल्यास येत्या काळात या गोष्टी भयावह स्वरूप धारण करतील अशी शक्यता आहे. कापड, यंत्रमाग, छोट्या-मोठ्या इंजिनिअरिंग इंडस्ट्रीज, आयटी सर्व्हिसेस या सर्वच उद्योगांना त्याची जबर किंमत भोवावी लागू शकते.
2. **कृषीवर प्रभाव -** कृषी क्षेत्रालाही मोठा फटका या कोरोनामुळे बसला आहे. कांद्याला मिळणारा भाव कमी होत असताना पातेभाज्या आणि फळांची मागणीही घटलीय. देशातून मासे आणि कोळंबीचीही मोठ्या प्रमाणात निर्यात होते. कोरोनासंदर्भात पसरलेल्या अफवांचा सर्वांत मोठा फटका पोल्ट्री व्यवसायाला बसलाय. या व्यवसायाला दरमहा सरासरी ४०० कोटी रुपयांचा फटका

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Special Issue, Volume-III *"Interdisciplinary View on Socio-Economic, Educational, Management, Environmental, Research, Language and Sustainable Development in Covid-19 Pandemic Situation"*

Schools, College and Learning: The Impact of Covid-19 on Education

Pravin M. Chandragiriwar[1] Mrunali S. Lilhare[2]
Assistant Professor, Bhawabhuti Mahavidyalaya, Amgaon Dist- Gondia (M.S.) India

Abstract

The impact of pandemic COVID-19 is observed in every all sector around the world. The education sectors of India also world are badly affected by this. It applies the all countries pandemic position creating very bad effect on the students' life. Around 32 crore learners stopped to move schools, colleges, universes and all educational activities halted in country. The outbreak of COVID-19 has taught us that affect is inevitable. It has worked as a catalyst for the educational foundation to grow and opt for platforms with technologies, which have not been used before. The education sector has been fighting to survive the crises with a different advance and digitizing the challenges to wash away the threat of the pandemic. This research paper highlights some measures taken by Government of India to provide seamless education in India. Both the positive and disavowal impacts of COVID-19 on education are discussed and some fruitful suggestions are also pointed to carry out educational activities during the pandemic situation.

Keywords: Education, COVID-19, impact, Govt. of India, digital

Introduction

All countries, the educational systems of schools, colleges and universities in India are to be total closure. Almost governments decided to temporarily close educational institutions in an attempt to reduce the spread of as of 12 January 2021, approximately 825 million are currently affected due to school , colleges closures in response to the pandemic. According to monitoring ,23 countries are currently implementing nationwide closures , 40 are implementing local closures, impacting about 47 percent of the world's student population. 112 countries' schools are currently open.On 23 March 2020, (CIE) released a statement announcing the cancellation of Cambridge IGCSE, Cambridge O Level, Cambridge International AS & A Level, Cambridge AICE Diploma, and Cambridge Pre-Universities examinations for the May and June 2020 series across all countries. Exams have also been cancelled. In addition, Exams, administrations, and administrations have been moved online and cancelled.

Objectives

The following objectives

1. To enlighten various measures taken by Govt. of India for education sector during this pandemic.
2. To highlight various positive impact of COVID-19 on education.
3. To enlist some negative impacts of COVID-19 and to put some effective suggestions and solutions for continuing education during the pandemic situation.

Methodology

Data and information presented in present study are collected from various reports prepared by national and international agencies on COVID-19 pandemic. Information is collected from various authentic websites. Few journals, e-contents relating to impact of COVID-19 on educational system are referred.

Impact on Education System in India

The government has provided you with e-learning program. Educational Technology companies have tried to force the occasion by providing free on-line lessons or engaging limits on e-learning modules. This measure have been met with overwhelming response by college students with some new companies witnessing as excessive as 25% uptick in e-learning. Study appears a viable reply for college kids throughout this time as they provide handy, on – the-go and reasonably priced entry to classes. E-learning comes as an attention-grabbing and interactive various as in comparison with classroom educating. Pandemic situation has prompted specialists to rethink the traditional mode of training. Online training seems to be a viable reply for make up for within the shortfall for classroom training for a interval of three to 4 months whereas limiting the probabilities of any an infection to college students until courses resume. Significantly, it has additionally introduced the hitherto peripheral problem of digital training in India to the middle stage. Online training is more likely to be built-in into mainstream training. Allow inclusive training by encouraging studying throughout various geographies in our country, India. Moreover, it's going to present an outdoor for educators to supply you with custom-made studying solutions for each people.

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Role of Innovative Technologies during the pandemic situation

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Abstract: -

The scope of this paper includes the use of innovative technologies during pandemic situation. In India many devices are invented such as ultraviolet sanitation tunnel, Hands-free door openers, digital payment, temperature measuring devices etc. Here we observed the technology always useful to control the situation. Technology innovations have been helping in managing the pandemic in a timely, systematic, and calm manner. The present innovative technology supported the positive role of digital technologies in maintaining meaningful social relationships even during an extreme situation such as a lockdown. The technology available nowadays allows people to stay in contact with others in innovative ways. In this paper we elaborate the working of innovative technologies and there utilization.

Keywords: Innovative technologies, digital payment, sanitation, Corona, pandemic etc

Introduction

Innovative technologies developed during the pandemic situation and play a crucial role in society. During lockdowns and quarantines and these technologies may have a long-lasting impact in future? Here we observed the technology trends that can help build a flexible as well as considerations about their effects on how we do business, how we trade, how we work, how we produce goods, how we learn, how we seek medical services and how we entertain ourselves. Following are the useful innovative technologies invited by the scientist during pandemic situation for the society.

Hands-free door openers

Corona virus can live on surfaces like stainless steel for three days, so these devices could be a game-changer in environments such as hospital wards, restaurants, cinema halls, and malls etc where hand sanitation is an essential work to remove the corona virus. Several varieties of hygiene-friendly door-hook are in the pipeline to protect from virus when we need to open doors with sanitized hands. Electronic media develop the sensor based door that open automatically when any object in front of object. This technique removes the contact with the surface and avoids the spread of the virus on metal material.

Digital Payments

Cash might carry the virus, and in our country people not believe the digital payment due to digital technology and face to face contact. Now, contactless digital payments, either in the form of cards or e-wallets, are the recommended payment method to avoid the spread of corona virus. Digital payments allow the customer to make online purchases and payments of goods, services and even utility payments, as well as to receive required funds faster. The availability of digital payments also depends on internet availability, devices and a network to convert cash into a digitalized format and transfer to the receiver account.

Robotic and Drones Deliveries

Many hospitals and restaurants are ramping up their development of robot deliveries. Robot delivery services become common delivery, companies need to establish clear protocols to safeguard the hygienic condition of delivered goods. Robot deliveries mostly use in hospital during pandemic situation. Recently robots have been used to disinfect areas and to deliver food to those in quarantine. Drones have walked and delivered items to the specific person with virus free security.

Online Entertainment

During pandemic situation many web series launched by the Entertainment network and easily available for the viewers. Indian film production companies also released films online. Many film production companies have also been releasing their movies on digital platforms such as Amazon Prime Video, Hotstar, Netflix, Zee5, Voot Select, etc. Digital platform caters to varied interests of people across the globe with the perennial additions of diverse content. Online entertainment reduced in-person interactions during quarantine.

Work from Home

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INDUCTION OF MUTATION BY GAMMA IRRADIATION AND EMS IN *CAJANUS CAJAN*. L.

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ABSTRACT:

The plants of *Cajanus cajan* were grown in plots from seeds obtained from Krishi Vigyan Kendra, Gondia. The well developed seeds of same age will be selected and will be subjected to gamma irradiation doses. Prior to the mutagenic treatments, all genotypes were grown for one generation to ensure their homozygosity. The well developed seeds of same age were selected and subjected to gamma irradiation doses of 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1100 and 1200 Gy (Gray) (40 seeds for each treatment in four genotypes). Gamma irradiation will be carried out at at room temperature (22- 25ºC) in a Cobalt 60 gamma cell-220 of 381.43 curie strength delivering 29kR/hr at the time of irradiation. For EMS treatment, the seeds were presoaked in sterile distilled water for 6 hours and then treated with different concentrations of EMS (10, 20, 30 and 40mM) for 8 hours. The mutagen treated and control (untreated) seeds were sown in the field in randomized block design (RDB), with three replications. The seeds of all individual M, plants were harvested separately and they were sown in the field during the next Kharif to rise M_1 generation.

Key words: - *Cajanus cajan*, Gamma irradiation, EMS.

INTRODUCTION:

Introduction

Cajanus cajan L. (Millsp), commonly known as Pigeonpea or Red gram, is an important legume crop widely used as food and fodder and is a major source of vegetable protein. Pigeonpea is an economic source of not only protein but of carbohydrate, minerals and B-complex vitamins particularly in vegetarian diet (Salunkhe et al., 1985). Pigeonpea, being a self-pollinated crop, the available genetic variability has been almost exploited for improvement by conventional breeding methods. Therefore it becomes necessary to creat genetic variability through induced mutations. Induced mutagenesis has been used very widely in crop plants to creat genetic variability in traits of economic value. Chlorophyll mutations are one of the important criteria to determine effectiveness of the mutagens. According to Mille(1968), in spite of impaired seed production, the chlorophyll mutants are potentially useful in understanding of different physiological functions, various biochemical reactions and pathological invasion. Although mutagens bring about changes in nucleotide sequence of DNA, the mode of action of each mutagen is distinct. More ever, a mutagen may effectively bring about mutations, but the accompanying undesirable effects like lethality or sterility may decrease its efficiency. Thus in order to exploit induced mutagenesis for crop improvement, the basic studied on effectiveness and efficiency of a mutagen in a crop are necessary (Badere and Chaudhary, 2007). The literature reveals that the mutational work on pigeonpea has been scanty. In the present investigation, efforts were made to assess the effect of different concentrations of EMS and different doses of gamma irradiation on Pigeonpea to find out

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Role of Innovative Technologies during the pandemic situation

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Abstract: -

The scope of this paper includes the use of innovative technologies during pandemic situation. In India many devices are invented such as ultraviolet sanitation tunnel, Hands-free door openers, digital payment, temperature measuring devices etc. Here we observed the technology always useful to control the situation. Technology innovations have been helping in managing the pandemic in a timely, systematic, and calm manner. The present innovative technology supported the positive role of digital technologies in maintaining meaningful social relationships even during an extreme situation such as a lockdown. The technology available nowadays allows people to stay in contact with others in innovative ways. In this paper we elaborate the working of innovative technologies and there utilization.

Keywords: Innovative technologies, digital payment, sanitation, Corona, pandimic etc

Introduction

Innovative technologies developed during the pandemic situation and play a crucial role in society. During lockdowns and quarantines and these technologies may have a long-lasting impact in future? Here we observed the technology trends that can help build a flexible as well as considerations about their effects on how we do business, how we trade, how we work, how we produce goods, how we learn, how we seek medical services and how we entertain ourselves. Following are the useful innovative technologies invited by the scientist during pandemic situation for the society.

Hands-free door openers

Corona virus can live on surfaces like stainless steel for three days, so these devices could be a game-changer in environments such as hospital wards, restaurants, cinema halls, and malls etc where hand sanitation is an essential work to remove the corona virus. Several varieties of hygiene-friendly door-hook are in the pipeline to protect from virus when we need to open doors with sanitized hands. Electronic media develop the sensor based door that open automatically when any object in front of object. This technique removes the contact with the surface and avoids the spread of the virus on metal material.

Digital Payments

Cash might carry the virus, and in our country people not believe the digital payment due to digital technology and face to face contact. Now, contactless digital payments, either in the form of cards or e-wallets, are the recommended payment method to avoid the spread of corona virus. Digital payments allow the customer to make online purchases and payments of goods, services and even utility payments, as well as to receive required funds faster. The availability of digital payments also depends on internet availability, devices and a network to convert cash into a digitalized format and transfer to the receiver account.

Robotic and Drones Deliveries

Many hospitals and restaurants are ramping up their development of robot deliveries. Robot delivery services become common delivery, companies need to establish clear protocols to safeguard the hygienic condition of delivered goods. Robot deliveries mostly use in hospital during pandemic situation. Recently robots have been used to disinfect areas and to deliver food to those in quarantine. Drones have walked and delivered items to the specific person with virus free security.

Online Entertainment

During pandemic situation many web series launched by the Entertainment network and easily available for the viewers. Indian film production companies also released films online. Many film production companies have also been releasing their movies on digital platforms such as Amazon Prime Video, Hotstar, Netflix, Zee5, Voot Select, etc. Digital platform caters to varied interests of people across the globe with the perennial additions of diverse content. Online entertainment reduced in-person interactions during quarantine.

Work from Home

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Śulbasūtras and Approximate Value of $\sqrt{2}$

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Abstract : Śulbasūtras was the oldest mathematical text found in India. The Śulbasūtras contain rich principles of mathematics, basically of 'geometry'. The outstanding feature of Śulbasūtras is consistency and completeness of geometrical results and application of these results in actual construction shows that Śulbasūtras have deeper significance.

Following statement in Śulbasūtras has great importance because it covers the idea of properties of square. Further it covers the idea of irrational number $\sqrt{2}$.

चतुरस्त्रस्याक्ष्णयारज्जुर्द्विस्तावतीं भूमि करोति ।

prqjL=L;k{.k;kjTtq}Lrkorha Hkwfe djksfr A

Meaning: - "The diagonal cord of a square makes double the area".

Śulbasūtras stated the value of $\sqrt{2} = 1 + \frac{1}{3} + \frac{1}{3\times4} - \frac{1}{3\times4\times34}$.

In this paper contain how Indian mathematicians obtain the value $\sqrt{2}$ and the geometrical proof for formula $\sqrt{2} = 1 + \frac{1}{3} + \frac{1}{3\times4} - \frac{1}{3\times4\times34}$. Hence this value is practically useful and reliable for the geometrical constrictions.

Keywords:- Śulbasūtras, *Śulbasūtraskāras*, *Karaṇī*, Approximate value of $\sqrt{2}$

I. Introduction

Baudhāyana, Āpastamba and Kātyāyana Śulbasūtras stated the value of $\sqrt{2}$ in combining two squares of equal areas, in this case square has side$\sqrt{2}\,a$. The diagonal of a square of side a is $\sqrt{2}\,a$.

समस्य व्दिकरणी । प्रमाणं तृतीयेन वर्धयेत् तच्चतुर्थेनात्म चतुसस्सिशोनेन सविशेषः

leL; f}dj.kh A प्रमाणं तृतीयेन वर्धयेत् तच्चतुर्थेनात्म चतुसस्सिशोनेन सविशेषः

The measure should be increased by one third of itself which again is increased by its one fourth and diminished by 1/34th of that (second) increment.

$$\sqrt{2} = 1 + \frac{1}{3} + \frac{1}{3\times4} - \frac{1}{3\times4\times34}$$

By this method $\sqrt{2}$ = 1.414215 used in finding the diagonal of a square.

The Sanskrit term for the surd is *Karaṇī*. According to Śrīpatī (1039) "The number whose square-root cannot be obtained (exactly) is said to form an irrational quantity (*Karaṇī*)". Literally *Karaṇī* means "making one" or "produce one".

Indian used various methods to obtain approximate value of surds using algebra. In this paper we will discuss two methods of finding the approximate value of surds. All these methods show that the Indian Mathematicians knows the importance of finding the approximate value of surds.

In the second century of the Christian era, Umāsvāti (150 A.D.) treated the term "*mūla*" (root) and *Karaṇī* as synonymous.

II. Approximate value of $\sqrt{2}$ in *Śulbasūtras*

In Indian mathematics the value of $\sqrt{2}$ was first observed in Baudhāyana and Āpastamba and *Śulbasūtras*. For the given square of side a, Baudhāyana and Āpastamba obtained the side d, of a square whose area is double the area of given square. This value of $\sqrt{2}$ was stated as "Increase the measurement (of which *dvi-*

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Roots of a number

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Abstract

To find a square root of a number which is perfect square in similar way to find a cube root of a number which is perfect cube we have to make some mathematical operations but we may solve such problems by observation. In this paper the analysis of square of number and cube of a number is made. This analysis results to find a square root of a number which is perfect square or cube root of a number which is perfect cube. Such a discussion may be extended for fourth root or fifth root of a number.

Key words:- Square root, Cube root, Fourth root.

I. Introduction

There is a method of finding prime factors when we have to find out the square root of a number which is perfect square number, cube root of a number which is perfect cube number and fourth root of a number which is perfect fourth power of some number. Sometimes this method is difficult to find various root of a number. In this paper some facts are discussed so that we can find various root of a number by observation. These facts and observation are easy and logical to find various roots of a number.

Square Root of a perfect square number

In traditional method to find square root of a number we find the all prime factors of a given number. Then we write it as product of square of each prime factor separately. Then selecting one-one factor from each term we obtain square root of a number which is perfect square.

Some Observations in finding Square Root of a perfect square number

1) Square of two digit number contains three or four digits. Similarly square of three digit number contain five or six digits.

2) The squares of first nine natural numbers are 1, 4, 9, 16, 25, 36, 49, 64, & 81. Observe that 1, 4, 5, 6, 9 are digits at unit place. Hence no perfect square number has 2, 3, 7 & 8 at its unit place.

3) Square of 1 and 9 has 1 at its unit place. Square of 2 and 8 has 4 at its unit place. Square of 3 and 7 has 9 at its unit place. Square of 4 and 6 has 6 at its unit place. Square of 5 has 5 at its unit place.

4) Conversely for any **perfect square number,** digit at its unit place and 'digit at units' place' of square root are related as follows.

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Removal of Hexavalent Chromium By Using Newly Synthesized 4-HAMF-II Terpolymeric Resin

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Abstract

A novel 4-HydroxyAcetophenone-Melamine-Formaldehyde(4-HAMF-II)terpolymeric resin has been prepared by condensation of 4-HydroxyAcetophenone(4-HA), Melamine(M) and Formaldehyde(F) in 2:1:3 molar ratio using 2M HCl as a catalyst and was proved to be a good adsorbent for removal of Cr(VI). The characterization and the structural elucidation of the prepared terpolymer were confirmed by elemental analysis, PTIR, XRD, TGA and ^{1}H-NMR spectral studies. The metal removal properties of the terpolymer were studied by batch equilibrium method. The effects of various parameters like contact time, initial adsorbate, concentration, pH and 4-HAMF-II doses have also been studied and reported. The adsorption data were found to fit well with the Langmuir and Freundlich isotherm models. The percent removal of Cr(VI)was found to be increase with adsorbent doses from 1 to 8 gm. and maximum efficacy was found at 8gm. At optimum condition nearly 88 % abatement of Cr(VI) has been noted using 4-HAMF-II. The results revealed that the terpolymeric resin as adsorbent reported in this article is effective for removal of Cr(VI) from wastewater and thus can be successfully used for control of chromium pollution.

Keywords
Terpolymeric resin, wastewater treatment, Langmuir isotherm and Freundlich isotherm.

1. Introduction

Chromium is important element in periodic table. In nature, Cr is mostly found in the form of complex cubic isomorphic mineral called spinel. Trivalent chromium occurs naturally in many vegetables, fruits, meat, grains and often added to vitamins as dietary supplement, whereas chromium (VI) is most often produced during industrial and mining processes. Chrome plate is used in the automobile parts such as bumpers where Cr is applied electrolytically[1]. Industrial application of chromium compounds which cause water pollution are electroplating, metal finishing, magnetic tapes, pigments, leather tanning, wood protection, chemicals/brass manufacturing, catalyst, electrical and electronic equipment[2]. Water soluble Cr(VI) is irritating and toxic to human body tissue owing to its oxidizing potential and easy permeability of biological membrane[3]. It leads to liver damage, pulmonary congestation, oedema and skin irritation resulting in ulcer formation[4]. Exposure or excessive inhalation of Cr(VI) has been found to develop disorder like of dermatitis, gastric cancer and perforation of the nasal septum in workers[5]. The usual methods for removal Cr(VI) from aqueous effluents include chemical reduction, nano filtration, bioaccumulation, ion exchange and adsorption on silica composite/activated carbon materials[6]. However these approaches are not cost-effective and difficult to implement in developing/undeveloped countries. Bio-sorption a technically feasible and economical process has gained increased creditability during recent years[7].

Terpolymer resins now a days have wide range applications like adhesives, retardants, binders, dyes, fungicides, ion exchangers, biosensors, reversible electrical cell, surface coating material, solar cells and light emitting diodes etc[8]. A new chelating sorbent for metal ion extraction has also been studied[9]. The purpose of present study is to explore the adsorption behavior of chromium on newly synthesized terpolymer 4-HAMF-II at different condition. The present study deals with synthesis and characterization of 4-HAMF-II by spectral method for first time. One of the important application of functional terpolymer is their capability to recover metal from wastewater.

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१८. संत साहित्यातील भक्ती विचार

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भारतात व विशेषत: महाराष्ट्रात प्राचीन मराठी वाङ्मयाच्या कालखंडात धर्माची सेवा करणारी जी थोर मंडळी जन्माला आली; त्यांनी भक्तिमार्गाचे फार मोठे कार्य केले. धर्म हा लोकाभिमुख असावा असा एक नवा विचार बाराव्या–तेराव्या शतकाच्या सुमारास भारतात व महाराष्ट्रातही सर्वत्र फोफावला. संस्कृतमधील धर्मविचार सर्वसामान्यांच्या भाषेत आणला पाहिजे, ही प्रेरणा त्यातून मिळाली व ती देशभाषांतील वाङ्मयाच्या निर्मितीस कारणीभूत ठरली. मराठीच्या प्रारंभकाळातील वाङ्मय महानुभाव, वारकरी व नाथपंथाच्या अनुयायांकडून लिहिले गेले. महानुभाव हा एक हिंदू धर्मांतर्गत धार्मिक संप्रदाय असून हा संप्रदाय महाराष्ट्रात इ. स. च्या १९ व्या शतकाच्या उत्तरार्धात उदयास आला. त्याच सुमारास वारकरी संप्रदायही अस्तित्वात आला. महानुभाव संप्रदाय व वारकरी संप्रदाय दोन्ही भगवद्गीता व भागवत या ग्रंथांचे प्रामाण्य मानतात. दोन्ही भक्तिसंप्रदाय असून दोन्हीत भक्तिप्रेमास प्राधान्य आहे.

स्वामी चक्रधर, त्यांचे अनुयायी व संत ज्ञानेश्वरादी संतांनी मराठीची निवड केली ती लोकसंवादासाठी ! लोकजीवन उन्नत व्हावयाचे असेल तर लोकभाषेला धर्मभाषेची प्रतिष्ठा मिळाली पाहिजे. त्यामागे जनसामान्यांविषयी जिव्हाळा होता. लोकांशी संवाद साधण्याची ओढ होती आणि भक्तिप्रेमाच्या प्रसार प्रचाराची जिद्द होती. तत्कालीन संतमंडळींनी त्या स्थितीगतीला जरुर ती गरज अध्यात्मनिष्ठेने पुरविली. याच कालखंडात भक्तीची लाट उसळू लागली; भक्तिरसाला उधान येऊ लागले.

भक्तीचा महत्त्वाचा विशेष म्हणजे ती कर्मप्रधान आहे. सर्वसामान्य संसारी माणसाला संसारात राहून ही भक्ती साधता येते. एवढेच नव्हे तर स्वत:ची कर्तव्य कर्मे करण्यातच ही भक्ती सामावलेली आहे. आपापले उद्योगधंदे दक्षतेने व प्रामाणिकपणे करणे हाच मोक्ष होय. वारकरी संप्रदायातील गोरा कुंभार, सावता माळी, चोखामोळा, नरहरी सोनार, जनाबाई अशा भक्तांनी श्रम करीत करीतच विठ्ठलपूजा बांधली. त्यांनी लौकीक जीवनातच भक्तिप्रेमाने अध्यात्म शोधले. बहुजन समाजाच्या सुखदु:खाचा अनुभव घेत वारकरी संप्रदायात नामालाच देवत्व आणून देणाऱ्या, उत्कट भक्तीने रसरसलेल्या भक्तिकाव्याचे अनुकरण करीत सर्व संतमेळा वाढू लागला.

समाजात भक्तीचा, ईश्वरप्रेमाचा प्रसार व्हावा, सर्व सामान्यांनाही भक्तीची गोडी लागावी यासाठी साऱ्या संतांनी भक्ती हे परमेश्वर लाभाचे सर्वात सुलभ साधन म्हणून स्वीकारले. यासाठी यम–नियमादींची आसन–प्राणायामांची कांहीच आवश्यकता नाही असे प्रतिपादन केले. प्रत्येक मनुष्याच्या ठिकाणी उपजतपणेच वसत असणाऱ्या प्रेमाला इतर सर्व विषयांपासून काढून घेऊन ते परमात्म्यावर केंद्रित करणे याचेच नाव भक्ती.

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SUNLIGHT MEDIATED PHOTOCATALYTIC DEGRADATION OF RhB BY BiOCl/Fe PHOTOCATALYST

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Abstract

Sunlight mediated photocatalytic degradation of rhodamine B (RhB) dye was studied using chemical coprecipitation (CC) method using BiOCl/Fe (T = 50°C) photocatalyst. $BiCl_3$ was used as the starting material along with hydrochloric acid in the chemical coprecipitation of BiOCl/Fe. The photocatalytic behavior of the prepared BiOCl/Fe was tested through the degradation of RhB dye. The degradation of organic molecules follows first order kinetics. The effect of various parameters such as initial dye concentration, catalyst loading, pH of the medium, reusability of photocatalyst on the photodegradation of RhB dye were investigated. An actual textile effluent containing RhB as a major constituent along with other dyes and dyeing auxiliaries was treated using chemical co precipitation synthesized BiOCl/Fe. The reduction in the chemical oxygen demand (COD) of the treated effluent revealed a complete mineralization of the organic molecules. It was found that photocatalytic degradation of rhodamine B from aqueous solutions by BiOCl/Fe is an effective, economical and environment friendly.

Keywords: BiOCl/Fe nanocomposite, Chemical coprecipitation, Textile effluent, Rhodamine (RhB)dye, Photocatalysis

1. Introduction

In a view of planetary energy utilization, the development of semiconductor photocatalysts for organic pollutant degradation and water splitting is a challenging and indispensable topic of modern research [1]. Rhodamine B (RhB) dye is an organic chloride salt having N-[9-(2-carboxyphenyl)-6-(diethylamino)-3H-xanthen-3-ylidene]-N-ethylethanaminium, i.e. $C_{28}H_{31}ClN_2O_3$ as the counter ion and widely used its industrial purposes, such as printing and dyeing in textile, paper, paints, leathers etc not only this it is also used to determine the rate and direction of flow. However, this dye causes serious environmental and biological problems, even capable to induce irritation to the skin, eyes. Thus, the removal of dye from water is a great challenge and a pressing task [2]. Now a days, TiO_2 photocatalyst is widely used for photodegradation of dyes which is only active under UV light irradiation due to its wide band gap (3.20 eV). In the past few decades, many researchers have focused their efforts on exploiting visible light driven semiconductor photocatalysts for photodegradation of dyes. Z. Zou et al. [3] reported In(1-x)Ni(x)TaO(4) (x = 0-0.2) photocatalyst could split water and generate H_2 and O_2 under visible light.

Many new visible light induced photocatalysts have also been reported, for photodegradation of dyes, such as Bi_2O_3[4] and photocatalytic activity of Bi_2O_3 under visible light irradiation with Cu(II) [5]. Bi_2WO_6 nanocrystals[6, 7], $CaBi_2Ta_2O_9$[8] and Bi_4O_5I [9], which are also found to be active for degrading organic contaminants or splitting water under visible-light irradiation. In all of the novel visible light driven photocatalysts, $BiVO_4$ with a narrow band gap

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Synthesis, Characterization and Application of 4-HAMF Terpolymeric Resin

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Abstract

A novel 4-HydroxyAcetophenone-Melamine-Formaldehyde(4-HAMF) terpolymeric resin has been prepared by condensation of 4-HydroxyAcetophenone(4-HA),Melamine(M) and Formaldehyde(F) in 1:1:2 molar ratio using 2M HCl as a catalyst and was proved to be a good adsorbent for removal of Cd(II). The characterization and the structural elucidation of the prepared terpolymer were confirmed by elemental analysis, FTIR, XRD, TGA and ^{1}H-NMR spectral studies. The metal removal properties of the terpolymer were studied by batch equilibrium method. The effects of various parameters like contact time, initial adsorbate, concentration, pH and 4-HAMF doses have also been studied and reported. The adsorption data were found to fit well with the Langmuir and Freundlich isotherm models. At optimum condition nearly 94% abatement of Cd(II) has been noted using 4-HAMF. The results revealed that the terpolymeric resin as adsorbent reported in this article is effective for removal of Cd(II)from wastewater and thus can be successfully used for control of Cd po Dution.

Keywords -Terpolymeric resin, wastewater treatment, Langmuir isotherm and Freundlich isotherm.

1. Introduction

Many industrial waste stream may contain heavy metals such as Cd, Cr, Ni, Pb etc including the waste liquids generated by metal finishing or metal processing industries. Cadmium considered as hazardous pollutant due to their toxicity, even at low concentration and non-biodegradability. Increasing level of cadmium in natural water bodies poses serious problem to all living species including humans. It is therefore to reduce concentration of cadmium in effluents/wastewater before it is discharged into the water bodies[1]. Cadmium is rare and uniformly distributed element in the earth crust with an average concentration of 0.15 to 0.20 mg/kg. It occurs in the form of inorganic compounds and complexes with chelating agent[2]. Cadmium and its compounds are also used in paints, pigments, plastics, electroplating, equipments, machineries, baking channels and photography[3]. Even small quantity of Cd assimilation by the body can cause severe high blood pressure, heart disease and can lead to death[4]. The acute over exposure to Cd fumes can cause pulmonary diseases while chronic exposure causes renal tube damage and prostate cancer[5].The usual methods for removal Cd(II) from aqueous effluents include chemical reduction, nano filtration, bioaccumulation, ion exchange and adsorption on silica composites/activated carbon materials[6]. However these approaches are not cost-effective and

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DIVERSITY OF MEDICINAL WEEDS OF GONDIA REGION

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Abstract

The present work has been undertaken with an aim to account traditional and pharmaceutical uses of weeds found in Gondia region. The present work has been carried out during December 2019 to march 2020. During this period several visits and field trips undertaken and more than 15 localities have been visited. Total 27specimens collected from different locations of the Gondia District. Some of them visited frequently during the documentation. Identified specimens were confirmed by matching them with authentically identified species deposited in the herbarium, Department of Botany, Bhawabhuti Mahavidyalaya, Amgaon. Herbarium sheets were prepared by employing standard universally accepted method. Properly identified plant specimens have been deposited in the herbarium of Department of Botany, Bhawabhuti Mahavidyalaya, Amgaon.

Key Words: Pharmaceutical, Documentation, Gondia region, 27 specimens.

Introduction

Generally weeds have been neglected and their use for medicinal purpose has not been considered on a large scale. For the progress of human being the plant resources play an important role they fulfill many needs such as food, fuel, fiber and medicine. Every plant on this planet is useful in medicine, industry and allopathy.

Since the pre-historic society man has been in way to search the cures and relief from physical and mental illness by using numerous plants and plant derived products. Biodiversity is the basis of human survival and economic well-being and constitutes the resources upon which families, communities and future generations depend. India is extremely rich in medicine plant diversity distributed in different geographic and environmental conditions and associated tribal and folk knowledge systems.

Gondia district has a rich biodiversity of plants. By keeping this view, the present work has been carried out.

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Evidence of magnetic dilution due to unusual occupancy of zinc on B-site in $NiFe_2O_4$ spinel nano-ferrite

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ABSTRACT

The present article investigates the influence of Zn substitution on magnetic properties of $Ni_{1-x}Zn_xFe_2O_4$ spinel nano ferrite compounds. The materials were prepared via sol-gel auto combustion method followed by suitable sintering. X-ray powder diffraction pattern shows formation of cubic nanostructure for all values of 'x'. The magnetic measurement at room temperature shows the narrow M – H curve indicating the superparamagnetic behavior. Unlike normal tetrahedral occupancy of Zn ions in bulk ferrite, the Zn ions peculiarly preferred octahedral sites and led to dilute magnetization in prepared nano ferrite. The nano ferrite shows small value of saturation magnetization and coercivity. Mössbauer spectra were studied at room temperature which also confirms the existence of superparamagnetic phase in nano ferrites and well supports the fact that Zn replaces the Fe ions at the octahedral site. The substitution of Zn ions gives paramagnetic doublet and lead to weakening the magnetic interaction and decrease hyperfine field at A and B sites. The study also explains the effect of Zn substitution on Bohr's magneton, Yafet-Kittel angle, coercivity (H_c), remnant magnetization, magnetic susceptibility and Curie temperature.

1. Introduction

Ferrites, the composite Fe_2O_3 materials catch the recognition of many research scholars because of its distinctive microwave, electro-magnetic properties etc and are extensively utilized for high-frequency applications [1]. Amongst different ferrites the M-type Ba and Sr-hexaferrites possesses hexagonal crystalline structure allows the electronic equipment operating at frequency of 10^{12} Hz and above for high-frequency applications without electro-magnetic intervention because of their instantaneous magnetic-dielectric losses and high resistivity [2]. The present research module is more curious and tempted about nano-structured spinel ferrites due to its exceptional physio-chemical properties, crystal structure, electric and magnetic significances which makes it a potential material for numerous applications [3].

Even though the spinel ferrites are magnetic materials but they exhibit excellent electrical properties. Spinel ferrites owned unique electromagnetic properties and have applications in fields of biomedical viz. drug carrier, hyperthermia, MRI, heating the cancer cells in human body etc. [4]. In general, the spinel ferrites have close-packed cubic structure that belongs to space group symmetry Fd3m [5]. The crystal structure formula of spinel ferrite is expressed as $M^{II}[Fe^{III}]_2O_4$ and has two interstitial sites viz. tetrahedral sites (A) and octahedral sites (B) filled by metal ions [6,7]. The properties of spinel ferrites can be significantly altered on the substitution of various cations into these sites and motivate the magnetic materials to enhance its wide range of applications [8,9].

In the spinel family, nickel ferrites are eye-catching and extensively studied due to its distinctive and fascinating properties [10]. If the particle size is about or less than 28 nm then nickel ferrites can be superparamagnetic [11]. In defining the properties of ferrites, zinc plays a vital role, and hence by varying the concentration of zinc in given ferrites compositional changes can be carried out [12]. With the substitution of nonmagnetic ions like zinc or copper in nickel ferrite, its magnetic properties are drastically modified due to the redistribution of ions in A and B sites [13]. In Ni-Zn ferrites, even zinc and nickel have their strong

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या जर योग्य उपयोग केला तर ते ग्रंथालय साठी
वरदान आहे.

निष्कर्ष

१. वाचन संस्कृती वाढविण्यासाठी आलेल्या उपक्रम हे खूपच यशस्वी झालेले आहे या सर्व उपक्रम चा विद्यार्थी वर सकारात्मक परीणाम झाला आहे व विद्यार्थी वाचनाकडे आर्शित झालेला आहे. कोविड–१९ या संसर्गजन्य रोगासाठी सुध्दा विद्यार्थी ई संसाधनाचा उपयोग कयन आपली वाचनांची भूक भागवत आहे.

२. विद्यार्थी मध्ये ग्रंथालयाविषयी आकर्षण निर्माण झाली याचा परिणाम विद्यार्थी साहित्य पुस्तक वाचनाकडे वळले.

३. काउण सेवाचा उपयासेग स्पर्धा परीक्षा व त्यासमुळे विद्यार्थी वर्तमान पत्र वाचनाकडे वळला.

४. या मधून विद्यार्थ्यांचा वाचन गरजा अभ्यास झाला.

५.

संदर्भ सूची

१. सतीश पोरे. वाचन संस्कार. पुणे, पद्मांधा १९९८

२. गभाने, धनंजय (२०११) शैक्षणिक ग्रंथयातील नाविण्यपूर्ण सेवा, स्मरणिका प.प. ११३–११७

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ई–वर्तमानपत्र, ईमासिके व ई–संशोधनपत्रिका याची महाविद्यालय ग्रंथलयामध्ये गरज व भूमिका : एक अभ्यास

सौ. प्रज्ञा अरविंद भगत
ग्रंथपाल,
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सार

२१ व्या शतकामध्ये माहिती विस्फोट ने अवघे ग्रंथालय विश्व झपाटून गेलेले आहे, वाचकाच्या वाढत्या गरजा, संसाधनाची वाढती संख्या यामुळे ग्रंथालयाला उद्याला ठेवणे एक आव्हान ग्रंथपाल व कर्मचारी यांच्यापुढे निर्माण झाले आहे. या लेखामध्ये नवनवीन ई संसाधने याची माहिती तसेच त्यांचा उपयोग व त्यांचा वचकावर परिणाम यावर चर्चा केली गेली आहे, अश्याप्रकारे आपण नवीन साधने वापरून वाचक यांना अद्यावत ठेऊ शकतो, याचा उलगडा या लेखामध्ये करण्याचा प्रयत्न केला आहे. याकरिता काही ग्रंथालयाच्या सेवेची काही उदाहरणे सुध्दा दिली आहे. वाचकाच्या वाढत्या गरजा पूर्ण करणे हा एकच हेतू या लेख मागे स्पष्ट होत आहे.

महाविद्यालय ग्रंथालय

महाविद्यालय ग्रंथालय हे शैक्षणिक ग्रंथालयाचा एक प्रकार असून यामधील वाचक हे इतर ग्रंथालयाच्या वाचका पेक्षा वेगळे आणि ज्ञान पिसासू असतात. महाविद्यालय ग्रंथालय च्या वाचकांना कमिक पुस्तके, संदर्भ पुस्तके, नकाशे, वर्तमानपत्र, मासिके व संशोधनपत्रिका याची गरज असते.

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Role of Digital Root in Number Theory

Sanjay Deshpande & Rishikumar Agrawal

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Development of Virtual Experiment on Digital Modulation Using Virtual Intelligent SoftLab

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ABSTRACT

The scope of this paper includes development and implementation of virtual lab for Digital Modulation. The study of Digital Modulation is important in Electronics, Computer Science and Engineering Streams. The Digital Modulation experiment can be easily performed using the concept of virtual Intelligent SoftLab (VIS) model. The virtual experiment described here will help students to perform it anytime and anywhere 24x7. The screen shows the Characteristics of Digital Modulation and generates the related outputs for the given inputs. There is a facility for change of Input values using virtual instruments and observed the outputs with virtual Instrument. In this paper we check the characteristics of Pulse-Amplitude Modulation (PAM), Pulse-Width Modulation (PWM) and Pulse- Position Modulation (PPM) using virtual instruments. The effect of Digital Modulation is visible on the screen.

Keywords: SoftLab, Digital Modulation, PAM, PPM, PWM, Virtual Lab etc.

I. INTRODUCTION

The concept of VIS (Virtual Intelligent SoftLab) Model is an experiment is to provide a virtual platform for all learners to perform the experiment with the virtual platform with the software. The effort is towards the working procedure in a traditional laboratory and its environment in the virtual workbench. Virtual experiments are designed and organized in such a manner as to give a real feel of performing the real experiment. During the experiment, the learner and the teacher can save and edit the desired data for his/her analysis. Apart from these the focus is also aims to implant a maximum number of learning components in virtual experiments. Virtualizations of experiments could be largely classified, based on the form data used for performing the experiment. The Soft Lab idea facilitates us to link the physical laboratory experiment with its theoretical simulation model within an integrated and interactive environment. The goal for each instance of a SoftLab laboratory is to create a software environment where experimental research, simulation and education with each other. As a part of the SoftLab project, we have explained the various issues involved in the design, development and execution of SoftLab model for Electronics, Computer science and engineering learners. This model describes how the SoftLab philosophy was used to design and executed. The VIS

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Shehu Transform for Solution of Some Integral Equations

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Abstract

Shehu transform was introduced by Maitama as a generalization of Sumudu and Laplace transform. In this paper, convolution theorem and uniqueness theorem for Shehu transform is proved. Furthermore, both the theorems have been used to solve some integral equations.

Keywords: Integral transform, Shehu transform, Laplace transform, Integral equation.

1. Introduction

Abel's integral equation have found to be very applicable in science and engineering such as determination of potentials, stereology, seismic travel times, spectroscopy and optical fibers. Also, integro differential equations model many situations from science and engineering, such as circuit analysis. Shehu transform introduced by Maitama[1] is found to be applicable in solving differential equations, Heat and transport equations, Electric circuit problems, Particular Abel's equation, Volterra integral equation of first kind[2,3,4,5]. The main purpose of this paper is to solve convolution type Volterra integral equation of first kind including Abel's integral equation, Volterra integral equation of second kind and integro differential equation by Shehu transform.

2. Preliminaries

Definition [1]: The Shehu transform of the function $f(t)$ of exponential order is defined over the set of functions,

$$\mathcal{A} = \left\{ f(t) / \exists M, k_1, k_2 > 0, |f(t)| < Me^{\frac{|t|}{k_i}}, if\ t \in (-1)^i \times [0, \infty) \right\}$$

by the following integral

$$\mathbb{S}[f(t)] = F(s,u) = \int_0^\infty e^{\frac{-st}{u}} f(t)dt$$

$$= \lim_{a \to \infty} \int_0^a e^{\frac{-st}{u}} f(t)dt \qquad (1)$$

The inverse Shehu transform is given by

$$\mathbb{S}^{-1}[f(s,u)] = f(t), \text{for } t \geq 0 \qquad (2)$$

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Significance of Meruprastar

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ABSTRACT
In this paper we shall discuss a method of finding any power of any number without multiplying by it. The method is known as "Meruprastar". It is also known as "Pascal's triangle". In fact, before hundreds of years of Pascal the method was known and used in India as Meruprastar.
Keywords: Meru (mountain), Prastar (expansion), Meruprastar, Indices rule

I. INTRODUCTION

A number multiplied by itself gives its square. We know the method of "Yavadunam" and the method of "Duplex" to find the square of a number directly without multiplying by itself. When a square of a number is multiplied by the number itself, we get the value of the cube of the number. We know the method of "Yaqvadunam" and the method of ratio to find the cube of the number without multiplying by the number itself.

We shall discuss a method of finding any power of any number without multiplying by it. The method is known as "Meruprastar". It is also known as "Pascal's triangle". In fact, before hundreds of years of Pascal the method was known and used in India as Meruprastar. Its shape is like a mountain and so it is known as Meru (Mountain) prastar (expansion).

It is useful in finding the coefficients of the n-power of $(1 + x)$ means $(1 + x)n$, $(x + 1)n$ and $(x + y)n$. It helps to find the values of different powers of integer numbers.

II. DEVELOPMENT OF MERUPRASTAR

First, we place 1 in the middle. Now we consider zeros on its both sides. Now we add the adjacent integers and get 1 & 1, which we place in the second row. Now we consider zeros on both ends and add the adjacent numbers and place the additions in third row as shown below. Continuing the process of placing zeros on both ends and adding adjacent numbers we get the following structure. It is known as Meruprastar.

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Study of Marketing Strategies of Cottage Industry

Dr. Pravin M. Chandragiriwar

Abstract
Cottage industry always had an important role in Indian economy. It helps to export and it provides most employment to rural youth after agriculture. In cottage industry products are produced at low level and work is done by skilled workers. Furniture, woods, bamboo products, products made from glass, khadi, handloom, handicrafts products are major part of cottage industry. Every state and region of India has some expertise in producing some special products. Kashmiri shawls are famous for their embroidery. They are products mainly produced by cottage industry. They are products need marketing and branding but cottage industry lacks financial support so they can not apply the marketing strategy of medium and large industry. They need a paradigm shift in marketing. This paper aims at study the marketing strategies of cottage industry.

Introduction
Cottage industry is an enterprise where products are made mostly from home and workforce include members of family/limited numbers of wage earners. Products are produced at low level and work is done by skilled workers. Workers works in their house with their goods and instruments the instruments / equipment are generally outdated technology and low technology. They are produce consumable products through the use of conventional techniques and methods. Cottage industries generally unorganized in nature are mainly placed in rural areas and semi urban areas. Some cottage industries are very big and located in urban areas.

Cottage industry has very important role in Indian economy, it provides big contribution to the export and it is backbone of rural economy. It provides employment to rural people at large scale. Cottage industry facing problem of un availability of capital, labor, technology and marketing.

Objectives
1. To study importance of marketing in cottage industry.
2. To find out problems in marketing of cottage industry.
3. To make recommendation for marketing strategy for cottage industry.

Importance
In industrial society Marketing is important aspect of every industry. Modern industrial society is highly competitive and Marketing help us to find out answers of some important questions like what customer wants, price of product, selling, promotion, advertisement, target market, etc. Cottage industries mainly consist.
1. Rural / village, 2.Khadi, 3.Handloom , 4.Handicrafts
Marketing efforts taken by Government established different organizations for development and promotion of cottage industry. Important organizations are –

1. Khadi village industries commission (KVIC)
2. All India handloom board
3. Central silk board
4. Coir board
5. Handicrafts cooperation
6. National small industries cooperation

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ROLE OF ICT IN E-COMMERCE BUSINESS EMERGING

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ABSTRACT
Role of ICT in E-Commerce Business developing are inseparable terms as the e-commerce industry is absolutely dependent on ICT and e-commerce for its operations and intensification. E-commerce is referred to as application of ICT in business and E- commerce. ICT is term which involves usage of computers, including hardware, software, application and networks used to communicate, store and cover the requisite information. The concept of e–Business has been evolving since a number of years and is causative to the economic growth of several developing economies. The approaching for the growth of e-commerce in the developing countries is very high but ICT being the precondition, lack of ICT infrastructure hampers the rate of its growth. The growth of e- commerce is primarily dependent upon the boost in ICT infrastructure. The Smart mobile phone market and Internet diffusion has proved to be a catalyst for growth of ecommerce industry. This paper focus to discuss the role of ICT and e-commerce its services in driving ecommerce industry in developing countries like India and the shift from e-commerce to commerce in large scale in the near future.
Keywords: ICT; e-commerce; m-commerce, E- Business

INTRODUCTION

Technology continues to be a transformative force and is changing the way individuals live, interact, and work. ICT are changed the future approach of doing business globally and the scenario is identical for India and other developing economies. ICT is very different term which involves usage of computers, including hardware, application, software and networks used to communicate, store and manage the requisite data. The applications of ICT are very varied and one such area is electronic commerce. Today e-commerce and computer has become an integral part of everyday life. Accessibility to e-commerce platforms is not a privilege but rather a necessity for most people, particularly in the urban areas. There are alternative e-commerce platforms available for almost every aspect of our lives, starting from purchasing of everyday household items to online shares and commodities. "e-commerce" is defined as the application of information and ICT which support all the activities and realms of business. The concept of e–commerce has been growing since a number of years and is causative to the economic growth of several developed and developing economies. The key factors responsible for the growth of e- commerce ICT is a leading one. ICT and e-commerce are inseparable terms as the e-commerce industry is absolutely dependent on ICT and commerce for its operations and intensification. The concept of e-commerce is very flexible and therefore covers all possible uses of information and communication technologies. ICT infrastructure and services is not a major issue in developed countries but for developing countries like India it sometime seems

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Development of Web-based Virtual Experiments for Logic Gates

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Abstract
The scope of this paper includes development and implementation of Web based Virtual lab for Logic Gates. The study of Logic Gates is important in Electronics, Computer Science and Engineering stream to design and implements logical circuits. The Logic Gates experiment can be implemented on web-based virtual platform. The virtual experiment on Logic Gates described here will help students to perform it anytime and anywhere using smartphone. The screen shows the characteristics of logic gates and shows related outputs on the screen. There is a facility to change Input values as 0 and 1 using virtual inputs devices and observed the outputs using virtual device. In this paper we check the basic characteristics of Logic gates.

Keywords: *Gates, Logic Gate, Virtual Instruments, Virtual Lab, Virtual device etc.*

1. Literature review

Science subjects always have a component of practical. In subject like Physics and Electronics students have to perform a large number of experiments in an academic year. Many times students do not get time to repeat experiments which they have performed during the session. Also many of the laboratories lack in resources to perform experiments in which sophisticated instruments are required. Therefore to provide access to laboratory experiments, anytime anywhere, concept of virtual laboratory is being developed. This virtual laboratory can cater to students at under graduate (UG) and post graduate (PG) levels. Some software's like MatLab and LabView are available for simulation of experiments and for other purposes. However, these software's are generally available only in Institutes Laboratories and student can use them only during college hours. It is therefore decided to develop software for performing individual experiments virtually on mobile screen. In this laboratory an attempt has been made to develop software for electronics experiments from basic to advance level.

2. Introduction

The basic concept of Virtual Instrumentation is a practical experiment is to be performed on virtual platform for learners and researchers. Learners can design and implements their experiments with their own device like smartphone. Virtual experiments are similar to the real laboratory and it works on the virtual platform. Virtual experiments are designed and implements in such a manner as to give a real feel of performing the experiment. During the experiment on virtual laboratory, the learner can save and edit the desired data for his/her analysis.

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MANAGE YOUR SUCCESS OF BUSINESS

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Abstract

The success of any business starts with how well you are able to manage yourself. Some useful tips for self management. Before you have even started your business, start developing a leadership vision. The responsibility for the growth you wish to achieve in your businesses, squarely lies on your shoulder. The benefit that is likely to accrue by implementing the decision and come out a winner. When you start a business, failure can be an important part of learning and growing. Unnecessary meetings, interruptions and inefficiency may sap you of your energy, leaving a little for the important aspects of business. Create an environment where people have the opportunity to increase their skills and are rewarded for doing so that.

To be succeeding in business today, you have need of to be flexible and have good planning and organizational skills. Many people start a business thinking that they turn on their are computers or open the doors and start making money, One and only to find that making money in a business is much more difficult than they are thinking. You can continue away from this in your business ventures by taking your time and planning out all the necessary stepladder you need to achieve success. Anything type of business you want to start, using the following nine strategy can help you be successful in your project.

INDRODUCTION

THE Government of India's Ease of Doing Business World Bank ranking has jumped to a respectable 77th place, meaning that the facilities accorded by the Government for the Entrepreneurs are getting better and better. Economist world over are predicting an upswing in the business scenario, in the soon-to-become super power India. The Start ups in India are also in the never before space, as they are getting support from the Government, Institutions and several NGO's too.

But in spite of all the good work the Start ups are attempting, there are glitches in their management practices, which they could well do by ironing out their rough edges. Here are some mantras for the Start Ups to sail smoothly and in order to scale up in their business

TIPS FOR INCRESING A SUCCESSFUL BUSINESS:-

1. **Get Organized** :-To achieve business success you require to be organized. It will be help you complete household tasks and stay on top of things to be done. On the good way to be organized is to create a to-do list each day. As you are completed each item, verify it off your list. This will be ensuring that you are not forgetting anything and completing all the tasks that are necessary to the survival of your business.
2. **Keep thorough Records**:-By doing so that, you will know where the business stands financially, what possible challenges you could will be in front of the Just knowing this gives you time to time generate strategies to overcome all challenges.
3. **Study Your Competition**:-Competition breeds the best outcome. To be successful, you can not be frightened to study and learn from you are competitors. After all, they may be doing something right that you can put into practice in your business to make more money.
4. **Understand the Risks**:-The key to being successful is taking calculated risks to help your business produce. If you can answer this question are problems, then you know what the worst-case situation is. This knowledge will allow you to take the kinds of calculated risks that can generate wonderful rewards.

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संशोधक

STUDY OF EMPLOYEES' SOCIO AND ECONOMICAL PROBLEMS IN DOMESTIC GAS DISTRIBUTION MANAGEMENT SYSTEM

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Abstract :

Domestic gas (L.P.G) distribution system has many workers serving over all India. Workers are necessary to organize, customer service and L.P.G distribution to customer through distributor, appointed by corporation. Organizing of human labour, to complete particular job, is called labour force. The workers are classified in to two classes. Selection of workers, recruitment, planning condition, compensation, working condition staff service communication, training etc.. Role of direction helps to run business Government participation also helps the business many financial Institutes provide financial help for the development of business To know details of personal, economic, social condition of the workers selected for research. L.P.G. distribution business is controlled under various laws. Information about the labour laws applicable to L.P.G. distribution business. Conclusions are drawn suggestions are recommended after the in deep study of Domestic gas (L.P.G.) distribution business.

Keyword - LPG Distribution, Domestic, Worker.

Introduction :-

I am curious about their life style, financial status, personal and social life hence I have selected the subject. Most of the working force in the distribution system is semi illiterate naturally they have inferiority complex fear of losing daily bread etc. Therefore it could not organize and resist the unjust behaviours of employer. The Present condition of Employees. Economic and Social problem Economic income and expenses. Salary, bonus and allowances. Available facilities and concession Place in the society Social and economic development. Such reasonable speculation of the conditions of labour.

The Hypothesis

" External element affects the social and economic condition of employee.
" Government interference affects the social and economic condition of employee.
" The quality and training has co-relation with the socio-economic condition
" The labour condition of the business is related with the condition of Employer.
" The labour remained satisfied of the income enough for dire necessities.
" The workers are involved in heavy debt due to illiteracy social tradition and religiosity.
" The people regarded with contempt the worker of this business.

Research Methodology :

Primary source: -Stratified Random sampling method is utilized while collecting the information about the workers and business of domestic gas distribution.

Secondary sources : - Annual business reports and L.P.G. regulations are utilized as secondary sources.

A Study of Social and Economic Condition of Employees involving Domestic Gas distribution system:-

Workers: - Following workers are necessary to organize, customer service and L.P.G distribution to customer through distributor, appointed by corporation

LPG Employees working in the distribution business mainly in two areas

The split is done. 1. Managerial staff 2. Employees providing actual service

In this business, the employees have a direct

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STUDY OF LPG-GAS DISTRIBUTION MANAGEMENT SYSTEM

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Abstract

Introduced liquefied petroleum gas (LPG) as a suitable option energy source of natural gas for household consumers. As a installation of proper gas distribution system throughout the country is essential to ensure the optimum LPG consumption maintaining all safety. As per depicted domestic gas distribution , gas distribution network installation from the regional petroleum gas stations to consumer's premises, in lieu of thousands of separate domestic consumption layout, is the most suitable one. For example, imported LPG storage stations or crude petroleum refining industries will act as regional petroleum gas stations from where (liquefied) petroleum gas will be distributed to consumer's premise through piping network. In addition to area domestic gas piping layout, several modifications in gas pipeline, gas stove and safety mountings at the domestic gas consumer's end are recommended to ensure the safe and efficient gas consumption.

Keyword - LPG, Distribution, Domestic, Management.

Introduction:-

Research is an attempt by applying scientific method for rational and practical solution of the problem. The search involving social fact theory or new knowledge is called social research while selecting the subject of research, the scope of research, the need of society, recognition, personal hope of honour, is taken in to consideration .Most important necessities of human being are food, clothes and shelter, food is supplied by Agriculture and to cook, heat needs fuel. Man has made great stride in the production of fuel, by research and produced L.P.G. with the use of petroleum product. The Petroleum Corporation has signed agreements with private entrepreneur and used their capital, their distribution system to reach at grass root level. Government has supported the consumption of domestic gas by subsidy. domestic gas fire incident has to be ensured by modifying domestic gas distribution layout compatible for LPG usage and mounting mandatory safety instruments in domestic gas distribution system. In this study, several domestic gas distribution layouts for LPG are depicted; moreover, some additional safety features are recommended to install at consumer's end for consuming LPG safely in household activity.

Research Methodology

Primary source: - Stratified Random sampling method is utilized while collecting the information about business of domestic gas distribution.

Secondary sources: -Annual business reports and L.P.G. regulations are utilized as secondary sources.

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Special Issue Theme :- Challenges and future prospects in online submission of SSR | **April 2022**
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Role of Learning Resource Center in College: An Important Tool to Improve Quality of SSR

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Abstract :-

In this paper the authors have made an attempt to explore the role of learning resource centers inthe colleges and various ways to improve quality of SSR. Accreditation NAAC has become an important necessity in higher education system to highlight qualitative part of the institution. An institution has to prepare the SSR (Self Study Report) in three parts viz. institutional data, evaluative report and SWOT analysis before the NAAC visit. The process of NAAC accreditation has to be done by an institution once in five years. The present paper may be proved to be a helpful and suggestive guideduring preparation of SSR by any institution.

Introduction:-

National Assessment and Accreditation Council (NAAC) was established in 1994 as an autonomous institution of the University Grants Commission (UGC) in making quality assurance as an integral part for the functioning of Higher Education Institutions. NAAC primarily focuses on assessment of the quality of higher education institutions in the country for promotion of quality in teaching-learning and research in higher education. Higher Education Institutions (HEIs) function in a dynamic environment because of the impact of technology on the educational delivery, the increasing interest of private participation in higher education and the impact of globalization where have necessitated marked changes in the Indian higher education system. Higher Educational Institutions have been grouped under three categories namely, Universities, Autonomous Colleges and Affiliated/Constituent Colleges. The assessment process to be carried out in three stages viz.,Self Study Report (SSR),Student Satisfaction Survey and the Peer Team Report. Assessment and Accreditation is broadly used for understanding the "Quality Status" of an institution NAAC has identified the following seven criteria to serve as the basis of its assessment procedures since 2017.

The NAAC processes have been rendered in an online manner for the assessee institutions as well as for the assessorsThe criteria-based assessment forms the backbone of A&A process of NAAC. The seven criteria represent the core areas of functions and activities of an HEI. In the revised framework not only academic and administrative aspects of institutional functioning but also the emerging issues have been included. The seven Criteria to serve as basis for assessment of HEIs are:

Criterion 1: Curricular Aspects
Criterion2: Teaching-Learning and Evaluation
Criterion3: Research, Innovations and Extension
Criterion4: Infrastructure and Learning Resources
Criterion5: Student Support and Progression
Criterion6: Governance, Leadership and Management
Criterion7: Institutional Values and Best Practices

Under each Criterion a few Key Indicators (KIs) are identified. These Key Indicators are further delineated as Metrics which are actually meant to elicit responses from the HEIs. These seven criteria along with their KIs are detailed below explicating the aspects they represent:

Guidelines for filling up Self-Study Report (SSR):

Self study report is most important report submitted by college for assessment and accreditation of college. Following are the main point for preparation of SSR which given by NAAC.

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IMPACT OF WORKING BELOW POVERTY LINE SELF HELP GROUP IN MAHARASHTRA

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Abstract:-
This Paper is an attempt to Impact of the working Below Poverty Line Self Help Groups in Maharashtra specifically The SHG system has proven to be very relevant and effective in offering women the possibility to break gradually away from exploitation and isolation. The rules and regulations of SHGs vary according to the preferences of the members and those facilitating their formation. A common characteristic of the groups is that they meet regularly (typically once per week or once per fortnight) to collect the savings from members, decide to which member to give a loan, discuss joint activities (such as training, running of a communal business, etc.), and to mitigate any conflicts that might arise.
Key word-SHG

Introduction:-
Self help group are gift of 21st century of our country. our country is occupied by villages mainly maximum population is located in rural areas, small colonies currently population of our country is more than 115 crore and out that 70% population is in rural areas and concern with country is called as agriculture country 35% of our population is literate and rural areas it is less 20-25%.It is fact that poverty follows illiteracy. Now our nation is emerging as the super power in world but we will come to know after study that only 5% of our population is holding around 84% wealth and remaining 83% people hold 13% wealth 2 to 3% people are poor and does not hold any wealth. And nobody can deny that such an imbalance and heart rending condition our country is going through.

How self-help groups work
NABARD (1997) defines SHGs as "small, economically homogenous affinity groups of rural poor, voluntarily formed to save and mutually contribute to a common fund to be lent to its members as per the group members' decision". Most SHGs in India have 10 to 25 members, who can be either only men, or only women, or only youth, or a mix of these. As women's SHGs or Sangha have been promoted by a wide range of government and non- governmental agencies, they now make up 90% of all SHGs.

Emergence of Microfinance
One of the successful models discussed around the Grameen Bank, has successfully served the rural poor in Bangladesh. Group approach is not new in development process. Non-governmental organizations have been using this tool for working with the rural poor. For the last twenty years they are using this approach for economic empowerment of poor since 1992, with the initiative RBI, and launching of the pilot project by NABARD. The formal
banking sector started adopting this approach for extending credit to the unbankable sections of the poor.The objectives
1. To evolve supplementary credit strategies for meeting the credit needs of the poor.
2. To build mutual trust and confidence between the bankers and the rural people.
3. To encourage banking activity both on the savings as well as credit side in a segment of the population that the formal credit institutions usually find difficult to cover.

STATUS OF SHGs IN INDIA
Bangladesh has been acknowledged as a pioneer in the field of micro finance. Dr. Mahmud Yunus,

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IMPACT OF SELP HELP GROUP IN BANK FINANCE

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Abstract:-
Self-help groups mobilize savings from their members, and may then on-lend these funds to one another, usually at apparently high rates of interest which reflect the members understanding of the high returns they can earn on the small sums invested in their micro-enterprises, and the even higher cost of funds from money lenders. If they do not wish to use the money, they may deposit it in a bank. If the members' need for funds exceeds the group's accumulated savings, they may borrow from a bank or other organization, such as a micro-finance non-government organization, to augment their own fund.
Key word- SHG

Introduction:-
Vasudeva Rao (2003) pointed act that one-third of the members had not even taken loans on their own savings, while another 1/3rd had taken only once during the last one year. Only 10 per cent of them were reported to have taken loans thrice in the same reference period. Majority of them had taken loans for their own occupational development, whereas only a few of them had taken for health, education and marriage purposes. The amounts taken were also varying with the purpose.

Raghavendra (2003) revealed that the total number of SHGs which were credit linked in the country reached a phenomenal figure of 4.61 lakh by March 2002. Almost 90 per cent of them were linked to banks were exclusive women groups and periodic studies have revealed that repayment of loans by SHGs to banks has been consistently over 95 per cent. Sharma (2003) reported that financing had been successful and recovery has been over 98 per cent. The Cauvery Grameen Bank covers 1,653 village in three districts of Karnataka – Mysore, Chamarajnagar and Hassan. Banerjee (2000) in a study conducted in Tamil Nadu stated that the repayment performance of loans issued from the common fund was cent per cent. In case of delay in payment of dues by any member, the causes for such delay were debated in the meeting and necessary postponement for payment of installment, if warranted was approved by all the group members and the interest rate charged varied widely among the groups. About 50 per cent of the groups had charged 2-3 per cent per month. In 20 per cent of the groups, the interest fixed was 1.5 per cent per month, which indicated the level of maturity and skills of the group members in fixing their own rates of interest without causing much burden to the members. Higher rate of interest fixed to business and other IGAs. However, in the remaining 28 per cent of groups, a uniform interest rate of 3.00 per cent per month was charged. The average saving per year was where collateral and paper requirements were kept at a minimum, usually the payments were collected at places where women congregated and worked. These credits were combined with supporting services, a viable market and extension services (NozleenHeyzer and Ritasen, 1994).

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DEVELOPMENT OF WEB-BASED SEVEN SEGMENT EXPERIMENTS

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Abstract **- The scope of this paper includes the development and implementation of web-based seven segment experiments. The study of seven segments experiment is important for learner of Electronics, Computer Science and Engineering stream. This experiment can be evaluated by using the concept of virtual Intelligent SoftLab (VIS). The virtual experiments will help students to perform it at anytime and anywhere. The virtual screen shows the Characteristics of seven segments and its related outputs. There is a facility to change the Input values using virtual instruments and observed the desire outputs on the virtual Instrument. In this paper we check the characteristics of seven segments using virtual environment.**

Keywords
SoftLab, Seven segments, Virtual Lab, Virtual Instrument, Softlab etc

1. Introduction
The basic concept of web-based experiments is to provide a virtual platform for learners to perform the experiment on their own smart device i.e. mobile or laptop. The working procedure of web-based experiment is similar to a real laboratory and its environment is the virtual workbench. Virtual experiments are basically design for those students who are not performing their experiments on real laboratory due to lack of resources. During the experiment, the learner can save and edit the data for their own analysis. Apart from these the basic focus is that the maximum number of learners performs the virtual experiments on virtual environment. Virtualizations of experiments could be broadly classified, based on the software data used for performing the experiment. The Soft Lab philosophy facilitates us to connect physical laboratory experiment with its theoretical simulation model with interactive environment. The basic goal for softLab laboratory is to create a software environment for learners. In virtual instrumentation project we evaluate the various issues involved in the design and development of SoftLab model. Electronics, Computer science and engineering learner easily use this Model to perform their experiments virtually. This model describes how the SoftLab philosophy is use to design and implements experiments. The VIS (Virtual Intelligent SoftLab) model force to address the challenge of solving experiments on virtual platform. Such systems require a huge range of expertise and flexibility. The SoftLab framework should provide the infrastructure and facilities for basic research.
SoftLab is a flexible laboratory environment for learner. Its goal is to simulate a laboratory experiments on well-equipped virtual environment with variety of virtual materials. Using SoftLab a student may be guided by an instructor to perform their experiments, or the student might also conceive of one on his own. The student may choose a virtual material to study, take the instruments he needs, connect them together, make his measurements, and record his results. The computer screen is the laboratory room for learner. Learner can perform their experiment on virtual platform using VIS model. The basic advantages of virtual platform is that it can perform the experiment anywhere and anytime without any physical instrument. It is totally risk free laboratory because there no fear for damaging the instrument. New comers are easily using the laboratory to perform their experiments. The basic drawback of this laboratory is that the learner away from actual hardware hence the knowledge of hardware totally reduces. The experimental uses are open to all learners. Software developer gives maximize experimental facilities on virtual environment [1].

2. Experiments on Seven Segments
A seven-segment decoder is a logic circuit generally used for the visual display of digital information. The seven segment outputs of the decoder will drive the seven segments on a corresponding display. The BCD system represents the decimal numbers from 0 to 9 and this binary format suitable for most digital devices. A four-bit digital code is required with the decimal characters 0 to 9 represented by the combination of binary numbers 0000 to 1001. The combinations of 1010 to 1111 are not used. A BCD to seven-segment decoder and it will allow the display of a binary coded decimal on a seven-segment display. The input to the decoder is a number system from 0 to 9 in BCD and the output provides the seven pin inputs required to drive the seven-segment display. Although our experiment design will include the