

## **Synthesis And Application of New Tamarind Trimethylamine (TTMA) resin**

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**Abstract:** Tamarind trimethylamine (TTMA) resin was synthesized by reacting epoxy propyl ether of tamarind with trimethylamine. The TTMA resin has been used for removal of toxic metal ions from the effluent of steel industries. The TTMA resin was characterized by FTIR and elemental analysis. The distribution coefficient of  $\text{Cu}^{2+}$ ,  $\text{Pb}^{2+}$ ,  $\text{Ni}^{2+}$ ,  $\text{Cd}^{2+}$ ,  $\text{Fe}^{2+}$  and  $\text{Co}^{2+}$  on tamarind trimethylamine resin at different pH have been studied systematically by batch method using atomic absorption spectrophotometer.

### Paper-2

## **Learning from Study of MOOC from eDx and Coursera for Higher Education**

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**Abstract:** In the paper authors reviewed the Papers from eDX, HarvardX and Coursera on empirical metadata collected by MOOC courses undertaken. The authors have summarized the learning from eDX and Coursera Courses. A tabular representation of the data has been made and the approaches used have been summarized to suggest an emerging framework of MOOC for Higher Education for planners, content providers, and learners in a MOOC ecosystem.

### Paper-3

## **Impacts of globalisation and job training on productivity: A survey conducted at Vitthal Udyognagar in Anand District of Gujarat State, India**

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**Abstract:** The industrial growth of the estate under consideration depends upon the experts in these area is the latest trend. This study is carried out in the industrial estate at Vitthal Udyognagar of Anand district in Gujarat state, where at present more than 1000 industrial units are working. The majority units are in small scale, very few units are of large scale. The most of the units are ancillary types dependent upon large scale or supplying job done for them. The estate is surrounded by two educational townships, namely: Vallabh Vidyanagar and New Vallabh Vidyanagar where thousands of students are learning in different disciplines and every year more than thousands young engineers coming out from these institutes and rendering their expertise at various places. The estate under consideration; Vitthal Udyognagar is situated between these two educational townships. This study is aimed to investigate the industrial scenario in the present context, regarding the impacts of globalization and job training on industrial productivity. The perceptions of the industrialists were studied to draft road map for higher industrial performance.

## Paper-4

# An Analysis of Energy and CO<sub>2</sub> emission reduction potential from Indian transport sector

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**Abstract:** It is now well established that economic development is primary driver for growing energy use resulting in increasing CO<sub>2</sub> emissions. Mitigating emissions without compromising the basic developmental needs is a key challenge for any country. More so, in case of the Indian transport sector it is important to fulfill travel and freight demand while it is facing energy scarcity, as well as famished infrastructure development. This paper presents a futuristic analysis of the present reality to estimate the CO<sub>2</sub> mitigation potential of the Indian transport sector under different development scenarios. Three countermeasure scenarios namely - carbon emission tax (CET), sustainable development with emission tax (SDT) and sustainable development without emission tax (SD); along with a business as usual (BaU) scenario are developed. The emission reduction potential of countermeasure scenarios over the BaU scenario up to the year 2050 is quantified using a bottom-up technology.

## Paper-5

# Aspect Oriented Model for Byzantine Fault Tolerance in Open Source Systems

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**Abstract:** The objective of this work is to identify and eliminate Byzantine faults in the open source software systems especially in distributed services environment. In real time applications, a set of services deployed in various application servers are involved in processing a client's request. In a system of several coordinating application servers, there will be a possibility that one or more servers may exhibit traitorous behaviour intentionally or unintentionally and it is a challenging task to identify the Byzantine fault as it is not a fail-stop fault. It is proposed to extend Lamport's algorithm using aspects to detect Byzantine faults in the application servers, which are hosting the Web services. A controlling agent is introduced to continuously monitor the state of the hosting application servers. The servers may behave abnormally and exhibit Byzantine behaviour that will lead to faulty responses. The responses from all the servers are captured and analyzed by the controlling agent to determine the presence of Byzantine faults before dispatching the actual response to the client. When the identified fault is not a legitimate one, a revised response is generated. In this approach the client is assured of receiving the intended response even in the presence of Byzantine faults.

Paper-6  
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Paper-7  
**Evaluation of the Effectiveness of B.Sc. Computer  
Science Curricula**

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**Abstract:** Indian IT industry has shown an exponential growth over the years specifically after the dot com bubble burst of the 1990s. The key behind this success is the availability of abundant talent pool at a relatively lower cost. But the major deficit faced by the industries in recent years is that the key skill requirements of the industry are not met by the current educational system. The companies rely more on their finishing schools for the technical knowledge and hence to meet the numbers, companies do not limit their choices of engineers alone. Recruitment of graduates in science and other streams are significantly increased. This paper presents the results of the analysis of the curricula of B.Sc. Computer Science from two leading Universities. A questionnaire has been developed to assess deficiencies in the curricula and the expectations of the students undergoing the course from affiliated colleges of a State University and a Deemed University. Results of the detailed feedback analysis along with appropriate suggestions are also presented. The paper is concluded with consolidated suggestions and recommendations for enhancing the curricula of B.Sc. Computer Science.

Paper-8  
**Reflecting On Pedagogical Issues Of e-dub-ba-a Of Sumeria Linking To  
Our Present Times**

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**Abstract:** Sumerian invented the cuneiform writing system and called the training institute as "e-dub-ba-a". We took advantage of the transliteration and translation materials available online particularly the resource, "The advice of a supervisor to a younger scribe (E-dub-ba-a C)" and the electronic dictionary, "The Pennsylvania Sumerian Dictionary". We took the cues of other researchers who claim that Sumerian texts are archaic form of Tamil and Sanskrit and attempted to re-interpret the e-dub-ba-a article through present form of Tamil, by matching few syllables and similar meanings as provided by online resources, as a pilot attempt. This has given us insight of training situations as at Sumerian times and to reflect at our present modern times skill training in a very limited sense.

## Paper-9

# Perception of Trainees (Mechanics) of Informal Training System in Two Wheeler Repairing Centres of Bhopal District in India

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**Abstract:** India is the second largest two-wheeler manufacturer in the world and also has a wide market in hand. The Two wheeler local service centres mostly deploy semiskilled, unskilled or untrained unemployed workers as trainee-cum-mechanics to carry out the maintenance or repairing work in their centres. Profiles of these so-called mechanics are mostly illiterate and school dropouts and in need of earning their livelihood for variety of reasons. These mechanics acquire knowledge/skills on job by repairing the vehicle in the garages/shops i.e. working on the job, in the presence of senior mechanics/ustads. A study was made to assess the perception of these trainees of informal training system trained in two wheeler repairing centres of Bhopal district on their overall behaviour, skill learning, attitude towards the work, time taken to develop proficiency, employability and their earning capacity after undergoing informal training. Trainees of the centre were interviewed to know their requirement for better training acceptability. Study revealed that trainees aspirations are not fulfilled to the desired level and it need to be strengthened with possible interventions like integrating this informal training with some element of formal and innovation like using ICT, mobile training van, etc.

## Paper-10

# Teachers' Nonverbal Communication: An Effective Aid to Teaching in Professional classroom

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**Abstract:** Non verbal communication is a process of communication where wordless signals (cues) are exchanged between human beings. When people speak they do not confine themselves to the mere emission of words but gestures, touch, body language, facial expressions and eye contact etc. also add or subtract to the spoken transmitted message. Nonverbal communication is also a critical aspect of interpersonal communication in the classroom. The most credible messages teachers generate, as communication sources are nonverbal. Many of the cues students use to make judgments about teacher's competence or characters are obtained by observing the teacher's nonverbal behavior. Nonverbal communication in the classroom occurs with distance, physical environment, facial expression, vocal cues, body movements and gestures, touch, time, physical attractiveness, and dress. This research was carried out to identify the teachers' most frequently used nonverbal behaviors and find out its impact on the learners' motivation in the professional classroom. The purpose was to enhance learning process by controlling the nonverbal behavior of the teacher in a technical classroom.

## Paper-11

# A Critical Analysis for Reducing the Power Consumption in VLSI Circuits Using GDI Technique

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**Abstract:** In digital VLSI circuits, low power design has become one of the foremost concerns. There are various methodologies to achieve this purpose. Gate-Diffusion-Input (GDI) Technique is one of the methods to arrive at this objective. In this study, the full adder circuit is used as a vehicle in implementing this methodology. The author experimented with 8T, 10T and 12T GDI circuits for comparing the reduction of power consumption vis-à-vis 28T conventional full adder circuit as explained in this paper using Cadence Virtuoso software.

Paper-12

## **CSR: Care for Stakeholder's Relations Else Go**

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**Abstract:** *Business is an integral part of the society hence should have responsible attitude towards society. Several expert have defined corporate social responsibility but these definition differ significantly with each other. This often bring lack of clarity in CSR implementation. It is important for any organization to establish dialogue and minimum good relations with all the people connected to the business i.e. stakeholders. In view of this care for stakeholders becomes the key for successful implementation of CSR plans and thereby to sustain the business hence CSR can be understood as "Care for Stakeholder Relations Else Go".*

