

**STM22**

20<sup>th</sup> October ~ 23<sup>rd</sup> October; 2022

**NATIONAL CONFERENCE  
ON**

**Science and Technology Management**

**CONFERENCE PROCEEDING**



**NIT, Bhubaneswar**

Nalanda Institute of Technology, Bhubaneswar

**Organized by**

**Department of MBA and Basic Science & Humanities**

**Nalanda Institute of Technology**

**Bhubaneswar - 752050**

# **Science and Technology Management**

20<sup>th</sup> Oct. – 23<sup>rd</sup> Oct. 2022

## **CONFERENCE PROCEEDING**



### **Organized by**

**Department of MBA and Basic Science & Humanities**

**Nalanda Institute of Technology**

**Bhubaneswar - 752050**



# **LIST OF SPONSORS**

**GRIDCO Limited**

**NALCO Ltd**

**JSW Cements**

**Gupta Power Infrastructure Ltd.**

**ABOUT THE CONFERENCE**

Science and technology has continuously evolved through decades. STM 2022 was organized in Oct - 2022 and was successful in capturing the development of technology and advancement. Department of MBA and Bs&H, NIT, Bhubaneswar is organizing STM 2022 to showcase recent advances in technological advances and management. In keeping up with the research interest of the business community, STM 2022 will provide an update on scientific and technical aspects covering broad areas of interests in engineering construction materials, processing and applications.

**ABOUT THE DEPARTMENT**

The Department of MBA and Bs&H has been in existence since 2007 with the inception of the college with an initial intake capacity of 60 and is producing high quality technical manpower needed by industry, R&D organizations, and academic institutions. The intake capacity was enhanced to 120 in the year 2011. The Department has fully fledged faculty members who are specialized in the fields of management, science, and recent technologies. Laboratories are fully equipped to enhance the knowledge of the student, periodic industry trips and visits to various project sites are arranged. Special lectures and seminars are held on a frequent basis to assist them tailor in their particular areas of interest and trying hard to transform students of even mild talent to professionals in the applied science and managements. Already more than 750nos of alumni have been produced so far, placed in different Government, private, Public & other sectors and some of them have pursued higher studies. However, with the progress of time, many more frontier areas of management have been taken up for active research.

**ABOUT THE INSTITUTE**

Established in the year 2007, Nalanda Institute of Technology (NIT) is one of the premier engineering colleges in the self-financing category of Engineering education in eastern India. It is situated at temple city Bhubaneswar, Odisha and is a constituent member of Nalanda Educational Trust. This reputed engineering college is accredited by NAAC, UGC and is affiliated to BPUT, Odisha. NIT aims to create disciplined and trained young citizens in the field of engineering and technology for holistic and national growth.

The college is committed towards enabling secure employment for its students at the end of their four year engineering degree course. The academic fraternity of NIT is a unique blend of faculty with industry and academic experience. This group of facilitators works with a purpose of importing quality education in the field of technical education to the aspiring students. Affordable fee structure along with approachable location in the smart city of Bhubaneswar makes it a preferred destination for aspiring students and parents.

The Institute works with a mission to expand human knowledge beneficial to society through inclusive education, integrated with application and research. It strives to investigate on the challenging basic problems faced by Science and Technology in an Inter disciplinary atmosphere and urges to educate its students to reach their destination, making them come up qualitatively and creatively and to contribute fruitfully. This is not only its objective but also the ultimate path to move on with truth and brilliance towards success.



## Organizing Committee Members

### **PATRON:**

**Mr. M. K. Padhi**

Vice Chairman

Nalanda Institute of Technology

Director

**Prof.(Dr.) P. K Subudhi**

Jt. Organizing Secy.

**Prof. (Dr.) N. H. S. Ray**

Convener

**Prof. Prafulla Kumar Dwibedi**

Treasurer

**Prof. Bhabagrahi Dash**

Organizing Secy.

**Prof. Sipra Mohapatra**

Jt. Treasurer

**Prof. Shakti Prasad Jena**

## LOCAL COMMITTEE MEMBERS

**Prof. Pradyumna Kumar Das**

Department of Mechanical Engineering

**Prof. Dharmananda Barik**

Department of Mechanical Engineering

**Prof. Pragyan Priyadarshini**

Department of Civil Engineering

**Prof. Sai Satyananda Sahoo**

Department of Mechanical Engineering

**Prof. Amit Kumar Parida**

Department of MBA

**Prof. Sanjeev Nanda**

Department of MBA

**Prof. Debasis Jena**

Department of MBA

**Prof. Pratyush Dash**

Department of MBA

**Prof. Deepti Mishra**

Department of MBA

**Prof. Rutuparna Patanaik**

Department of MBA

**Prof. Ashis Pahi**

Department of MBA

**Prof. Shiv Sankar Das**

Department of MBA

**Assist. Prof. Narrotam Sahoo**  
Department of Computer Science Engineering

**Prof. Sakti Charan Panda**  
Department of Computer Science Engineering

**Prof. Rajesh Kumar Mallick**  
Department of Mechanical Engineering

**Prof. Om Prakash Samal**  
Department of Mechanical Engineering

**Prof. Pradosh Ranjan Parida**  
Department of Electrical Engineering

**Prof. Soumya Ranjan Satpathy**  
Department of Civil Engineering

**Prof. Ashish Kumar Das**  
Department of Civil Engineering

**Prof. Sipra Mohapatra**  
Department of Civil Engineering

**Prof. Suwendu M. K. Basantia**  
Department of Electrical and Electronics  
Engineering

**Prof. Shyamalendu Khuntia**  
Department of Electronics and  
Communications Engineering

**Prof. Naresh Kanungo**  
Department of Electronics and  
Communications Engineering

**Prof. Santosh Kumar Sahoo**  
Department of Civil Engineering

**Prof. Satyaban Sahoo**  
Department of Mechanical Engineering

**Prof. B. P. Samal**  
Department of Mechanical Engineering

### Conference Committee Management

#### 1. Reception Management

- Laxmipriya Nayak
- Dipika Swain
- Rasmita Swain
- Jhuma Naik
- Pallabi Priyadarshini

#### 4. Catering Management

- Ranjan Swain
- Nursingh charan Dalai
- Dusmant Behera
- Ranjan Swain

#### 2. Transit/Accommodation Management

- Chandaneswar Mohapatra
- Nityananda saho
- Sakta Ranjan Das
- T. Rammohan Ra

#### 5. Printing/Stationary Management

- Satish Kumar Pattanayak
- Karunakar Nayak
- Jatin Kumar Mohanty
- Satyajit Mangaraj

#### 3. Seminar Hall Management

- Nabakishore Champia
- Pravat Ranjan Mishra
- Mousumi Nayak
- Uttam kumar Nayak

#### 6. Design Team

- Gandhi Rath
- Rabindranath Biradalai
- 

#### 7. Anchoring In Inauguration Ceremony

- Sambit Kumar Mohanty
- Ranjita Patra

### Conference Sub-Committee Management

- Dillip Kumar Pradhan
- Junaid Mohammad
- Chinmaya Mohapatra
- Naresh Sharma
- Pradeep Ghadei
- Dinesh Shah
- Narendra Mallick

## VICE CHAIRMAN MESSAGE



On behalf of the Organizing Committee, it is my great pleasure to welcome you to National Conference on Science and Technology Management (STM - 2022). In our endeavour to raise the standards of discourse, we continue to remain aware in order to meet with the changing needs of our stakeholders. The idea to host the STM - 2022 is to bring together Researchers, Scientists, Engineers, Scholars and Students in the areas of science and management. The STM - 2022 Conference will foster discussions and hopes to inspire participants from a wide array of themes to initiate Research and Development and collaborations within and across disciplines for the advancement of Technology. The conference aims to bring together innovative academic experts, researchers and Faculty in Engineering and Management to provide a platform to acquaint and share new ideas. The various thematic sessions will showcase important technological advances and highlight their significance and challenges in a world of fast changes. I welcome all of you to attend the plenary sessions and invite you to interact with the conference participants. The Conference Committees will make any possible effort to make sure that your participation will be technically rewarding and a pleasurable experience.

I am looking forward to meeting you in during STM - 2022 and to sharing a most pleasant, interesting and fruitful conference.

**With regards,**

**Prof. Malaya Kumar Padhi**

Vice. Chairman  
Nalanda Institute of Technology, Chandaka  
Bhubaneswar, Odisha

## PRINCIPAL'S MESSAGE



It gives me great pleasure to welcome you to the National Conference on "Science and Technology Management" (STM - 2022), which will take place from November 20–23, 2022.

This conference's goal is to spread knowledge among other educated people in addition to discussing current, hot topics in a certain field. Dramatic advancements have been made in engineering and technology over the years. I am hoping that STM - 2022 will turn out to be the most beneficial national conference devoted to showcasing the newest developments in engineering and technology.

We have asked eminent specialists to participate in the Technical Programs in order to give an exceptional technical level for the conference presentations. Technical seminars and keynote plenary sessions will be held.

I hope STM - 2022 will make you aware of state-of-the art systems and provide a platform to discuss various emerging technologies in management and science.

**With regards,**  
**Prof. (Dr.) N.H.S. Ray**

Principal  
Nalanda Institute of Technology, Chandaka  
Bhubaneswar, Odisha

## CONVENER'S MESSAGE



National Conference on "Science and Technology Management" (STM 2022) is a prestigious event jointly organized by MBA and Bs&H Department with a motivation to share a progress in recent technologies. The objective of STM 2022 is to present the latest research and results of scientists (preferred under graduate and post graduate students, research scholars, post-doc scientists, academicians and working professionals) related to the subjects of Science and management. The conference will provide with paper presentations and research paper presentation by prominent speakers who will focus on related state-of-the-art technologies in the areas of the conference.

I wish all the success to the conference STM 2022.

**With regards,  
Prof. Prafulla Kumar**

Professor and HOD ,Deptt. Of MBA  
Nalanda Institute of Technology, Chandaka  
Bhubaneswar, India

# Contents

DESIGN AND CROSS-CURRICULAR INSTRUCTION	Miss Rutuparna Patanaik Mr. Raghav Mahakul	01
UNEMPLOYMENT IN INDIA	Mr. Rabindra nath Biradalai Mr. Asish Sahu	02
A TOOL TO INCLUSIVE EMPOWERMENT WOMEN ENTREPRENEURSHIP	Mr. Rabindra nath Biradalai Mr. Sushil Mahakuda	03
HUMAN CAPITAL AND ECONOMIC GROWTH IN INDIA	Ms. Bhagyashree Mohanty Mr. Adarsh Naik	04
THE EFFECTS OF THE INDIAN CASTE SYSTEM	Mrs. Monalisha Sahoo Mr. Bikash Dalei	05
DEVELOPING INDIA'S ECONOMY	Mr. Prafulla Kumar Dwibedi Mr. Satya Nayak	06
THE EFFECT OF SALES PROMOTION ACTIVITIES ON ATTITUDES AND INTENTIONS TO BUY PRIVATE LABEL GOODS	Mr. Trinatyh Sahoo Ms. Aysaa Das	07
PERSONAL WELL-BEING AMONG ADULTS AND ALTRISM	Mr. Debasis Jena Mr. Soumya Jena	08
DEMONETIZATION'S EFFECTS ON THE TAX SYSTEM, TAX COLLECTION, AND FINANCIAL SYSTEM	Mrs. Monalisha Sahoo Mr. Sudhir Mohanty	09



MANAGING INTERPERSONAL CONFLICTS AT WORKPLACE	Mr. Prafulla Kumar Dwivedi Mr. Ayaan Sharma	10
TRUE SOURCE OF WEALTH CREATION IS INTELLECTUAL CAPITAL	Mr. Pratyush Dash Mr. Partha Rout	11
INNOVATION AND ENTREPRENEURSHIP DEVELOPMENT FOR SOCIAL WELFARE	Mr. Susanta Kumar Swain Mr. Prasanjit Mahapatra	12
CYBER CRIME IN INDIA	Mrs. Tania Mishra Mrs. Sonia Padhi	13
INVESTIGATING THE MOTIVATIONAL FACTORS AFFECTING WOMEN IN THE DELIVERY OF HEALTH PROGRAMS	Mr. Amit Kumar Parida Mr. Sourav Mahakul	14
CASH MANAGEMENT IN PUBLIC SECTOR COMPANIES: ECIL, HYDERABAD, AS A CASE STUDY	Mrs. Tania Mishra Mr. Dhananjay Rout	15
CONSUMER PERCEPTION AND ATTITUDE TOWARDS GREEN PRODUCTS: A STUDY	Mr. Kanha Rout Mr. Rutuparna Patanaik	16
E-COMMERCE IS TRANSFORMING INDIA'S RETAIL INDUSTRY	Dr. Manoj Kumar Sahoo Mr. Sivasish Jena	17
A STUDY OF CONSUMERS' GREEN CONSUMPTION PATTERNS	Dr. Manoj Kumar Sahoo Mr. Sarthak Swain	18
ETHICS' PART IN A SUSTAINABLE ENVIRONMENT	Mr. Sanjeev Nanda Mr. Jivan jyoti	19

THE DEVELOPMENT OF GREEN GOODS AND GREEN MARKETING: A RESEARCH	Mr.Amit Kumar Parida Mr. Adarsh Nayak	20
A STUDY OF A SHORT-TERM DIGITAL BUSINESS STRATEGY: DIRECTLY ACCELERATING VISIONS	Mr. Sanjeev Nanda Mr. Bibhuti Nayak	21
A RESEARCH ON THE EFFICACY OF RECRUITMENT ORGANIZATIONAL SUPPORT IN ITeS	Mr.Abdul Muntakim Khan Miss. Jiya Gandhi	22
STUDY OF A PERSON'S BEHAVIOR IN A WORKPLACE FOR IMPROVED RESULTS	Mr.Ashis Pahi Mrs.Sanjukta Bhoi	23
INVENTORY MANAGEMENT PROCEDURES IN SMALL-SCALE INDUSTRIES ARE BEING RESEARCHED AND ANALYZED	Mr.Abdul Muntakim Khan Mrs.Pratima Naik	24
A PRODUCTIVITY CASE STUDY OF THE MEDIA INDUSTRY IN ODISHA, INDIA: OPPORTUNITY FOR E-MARKETING	Mr. Pratyush Dash Mrs. Sneha Mallick	25
A PUBLICATION ON INVENTORY CONTROL AND MANAGEMENT	Mr.Susanta Kumar Swain Mrs. Avaa Mohapatra	26
A STUDY ON RECRUITMENT AND SELECTION PROCESS ORGANIZATION WITH THE HELP OF RECRUITING AGENCY	Mr.Ashis Pahi Mr. Asutosh Jena	27
AN OVERVIEW OF GREEN MARKETING IN INDIA	Mr.Raj Kumar Mrs.Tania Mishra	28
MARKET FOR COMMODITY DERIVATIVES IN INDIA: A RESEARCH	Mr.Bhupesh Nayak Mr.Prafulla Kumar Dwibedi	29
RECENT MERGERS AND ACQUISITION IN INDIAN BANKING SECTOR- A STUDY	Mr.Debasish Sahu Mrs.Monalisha Sahoo	30
GST: A PARADIGM SHIFT IN INDIA'S CURRENT TAXATION SYSTEM	Miss.Barsha Rani Dash Mr. Saroj Khuntia	31
AN ANALYSIS OF THE VARIABLES AFFECTING THE UPTAKE OF INTERNET BANKING	Mr.Samir Maharana Mr.Susanta Kumar Swain	32
WORKING OF MICRO, SMALL AND MEDIUM ENTERPRISES IN INDIA –A STUDY	Mr.Santanu Mishra Mr. Mr.Ashis Pahi	33
EFFECTS OF SPORTS-SPECIFIC TRAINING ON PARTICULAR PHYSICAL, PSYCHOLOGICAL, AND PHYSIOLOGICAL CHARACTERISTICS, AS WELL AS ON PHYSICAL EXERCISE AND PERSONALITY: RESEARCH ON COLLEGE STUDENTS	Miss.Rashmi Rekha Pradhan Mr. Swarup Nayak	34
STUDY THE CONSUMER BEHAVIOR OF RURAL AREA CONSUMER WHILE PURCHASING ONLINE	Mrs.Sonia Ray Mr. Mr.Abdul Muntakim Khan	35
STUDY ON INDIAN MUTUAL FUND EQUITY	Mr.Akash Panigrahi Mr. Jyoti Prakash Panda	36

EMERGING TRENDS IN COMMERCE:MANAGEMENT BY OBJECTIVES	Dr. Deepti Mishra Mr. Anup Rout	37
ATTITUDE OF SHARE BROKERS TOWARDS THE PRESENTSTOCK MARKET SCENARIO – AN REVIEW	Mr.Sourav Mahakul Mr. Amit Kumar Parida	38
EXTREMELY EFFECTIVE CRM SOLUTION USING SALES FORCE	Mr.Karan Kumar Mr. Manmaya Kumar Tripathy	39
FINGERPRINT/OTP-BASED ATM TRANSACTION SECURITY	Mr.Sushant Behera Dr. Shiv Sankar Das	40
THE RECENT CHALLENGES OF HIGHLY CONTAGIOUS COVID-19, CAUSINGRESPIRATORY INFECTIONS: SYMPTOMS, DIAGNOSIS,TRANSMISSION, POSSIBLE VACCINES, ANIMAL MODELS, AND IMMUNOTHERAPY	Dr. Biswanath Biswal Kajal Parashar	41
ATOMIC STRUCTURE OF SILICON NANORIBBONS ON AG(110)	Mr.Bipin Bihari Bhoi Mr. Sitanshu Nayak	42
NT10: RECENT ADVANCES IN CARBON NANOTUBE SCIENCE AND APPLICATIONS	Dr. Debadutta Das Akshaya kumar Panda,	43
MULTIWALLED CARBON NANOTUBE AQUEOUS DISPERSION TERAHERTZ ABSORPTION PROPERTIES TESTED BY MICROFLUIDIC TECHNOLOGY	Dr. Amit kumar Jana Sutanu Mangal,	44
A NOVEL APPROACH ON LEACHING STUDY FOR REMOVAL OF TOXIC ELEMENTS FROM THERMAL POWER PLANT-BASED FLY ASH USING NATURAL BIO-SURFACTANT	Dr. Jyotirmaya Satpathy Gorky Shaw	45
THE FUTURE OF NANOTECHNOLOGY IN PLANT PATHOLOGY	Dr. Rama Chandra Dash Alok Ranjan Patnaik	46
EFFECT OF MECHANOCHEMICALLY SYNTHESIZED COPPER (II) AND SILVER (I) COMPLEXES WITH CEFUROXIME ON SOME CEPHALOSPORIN RESISTANCE BACTERIA	Dr. Ramesh Chandra Rath Amulya Kumar Mahto	47
CARBON NANOTUBES FORMATION IN THE DECOMPOSITION OF HEAVY HYDROCARBONS CREEPING ALONG THE SURFACE OF THE GLOW DISCHARGE	Dr. Sunita Bal Alok Kumar Panda	48
THE APPLICATION OF PROBABILITY STATISTICS TO SOLVING THE PRACTICAL PROBLEMS	Dr. Meenakshi Mohanty Mr. Sayansu Nayak	49
RESEARCH ON THE TEACHING OF PROBABILITY THEORY AND MATHEMATICAL STATISTICS FOR NON-STATISTICS MAJORS	Mr. Arijit Ghosh Mr. Sudhir Pattnaik	50
A STUDY OF NEUTROSOPHIC REAL ANALYSIS BY USING THE ONE-DIMENSIONAL GEOMETRIC AH-ISOMETRY	Mr. Niranjana Panda Mr. Bidyadhar Sahu	51
FIRST-ORDER ORDINARY DIFFERENTIAL EQUATIONS, SYMMETRIES AND LINEAR TRANSFORMATIONS	Mr. Niranjana Panda Mr. Binay Mishra	52
A CRITICAL STUDY OF COMPLEX ANALYSIS WITH SPECIAL REFERENCE TOMATHEMATICS AS A BRANCH	Mr.Gorekha Prasad Nayak Mr.Akib Khan	53

NUMERICAL METHODS FOR SOLVING DIFFERENTIAL EQUATIONS	Ms. Swagatika Mohanty Mr.Narayana Jena	54
SOME COMMON PROBLEMS WITH STATISTICS IN PAPERSAND PRESENTATIONS	Ms. Bandana Swain Mr.Biswas Kumar	55
MORE ON STRONGLY $G^*$ -OPEN SETS IN TOPOLOGICAL SPACES	Mrs.Soubhagini Mohapatra	56
PHOTON STRUCTURE AND WAVE FUNCTION FROM THE VECTOR POTENTIAL QUANTIZATION	Mr.Santanu Naik Dr. Sunita Bal	57
PLASTIC FLOW MACROLOCALIZATION: AUTOWAVE ANDQUASI-PARTICLE	Dr. Jyotirmaya Satpathy Dr. Monalisha Panda Mr.Tarakanta Moharana	58
MEASUREMENT OF RELATIVE METASTABLE LEVEL POPULATION OFGD ATOMS IN HOLLOW CATHODE LAMP WITH LIF METHOD	Dr. B. B. Sahoo Mr. Sipuna Biswal	59
BOHR CORRESPONDENCE PRINCIPLE AND MULTIPHOTONNATURE RALEIGH LIGHT SCATTERING	Dr. Minushree Pattanaik Mr.Tarakanta Moharana	60

# The Application of Probability Statistics to Solving the Practical Problems

*1\* Dr. Meenakshi Mohanty, 2Mr. Sayansu Nayak*

*1\*Asst. Professor, DEPT. OF Basic Science & Humanities, NIT BBSR,*

*Asst. Professor DEPT. OF Basic Science & Humanities, REC, BBSR*

*1\* meenakshi@thenalanda.com, nayaksayansu@gmail.com*

## **Abstract:**

The probability statistics is the mathematical method researching the statistical law of the random phenomena in the natural world. With the development of the science and technology, the probability statistics knowledge has been receiving more and more attention from people, which is broadly applied to the industrial and agricultural production, the national economy as well as our daily life. This paper, mainly around the relevant knowledge of Bernoulli scheme, normal school and mathematical expectation, discusses the application of the probability statistics to solving the practical problems.

**Keywords:** *Bernoulli scheme, normal school; mathematical expectation*

## **INTRODUCTION:**

As one mathematical branch, the probability statistics has innumerable links with our life. People master the nature of things by observing the random phenomena and researching its statistical law, and therefore applying the probability statistics thinking to the practice to guide our behaviors. The following is the practical application of the probability statistics knowledge.

# DESIGN AND CROSS-CURRICULAR INSTRUCTION

<sup>1</sup>\* Miss. Rutuparna Patanaik, <sup>2</sup>Mr. Raghav Mahakul

<sup>1</sup>\* Asst. Professor, DEPT. OF Master of Business Administration, NIT BBSR,  
Asst. Professor DEPT. OF Master of Business Administration, STAR, BBSR

<sup>1</sup>\* patanaikrutuparna@thenalanda.com, mahakulraghab@gmail.com

## Abstract:

There are numerous ways to design and manage language education programmes, and each has a n impact on how distinct curricula are developed. There is discussion and evaluation of three major educational ideologies. Issues relating to input, process, and outcomes are dealt with at different times for each. Prioritizing the curriculum comes first, followed by methodology and evaluation of the learning process.

Resolving issues of syllabus content and sequencing are essential starting points with forward design, which has been the major tradition in language curriculum development. Central design begins with classroom processes and methodology. Issues of syllabus and learning outcomes are not specified in detail in advance and are addressed as the curriculum is implemented. Backward design starts from a specification of learning outcomes and decisions on methodology and syllabus are developed from the learning outcomes. The common European framework of reference is recent example of backward design. Examples will be given to suggest how the distinction between forward, central and backward design can clarify the nature of issues and trends that have emerged in language teaching in recent years.

Keywords: Curriculum development, methods methodology, assessment, syllabus design, course design.

## Introduction:

Language teaching has reflected a seemingly bewildering array of influences and directions in its recent history, what is it that links diverse aspects of language teaching such as these and which similarly establishes connections between such aspects of teaching and learning as notional syllabuses, content and language integrated learning and the standards movement? This paper seeks to answer mm these questions by examining the assumptions and practices underlying three different curriculum design strategies that I will refer to as forward design, central design, and backward design. An understanding of the nature and implications of these design approaches is helpful in arriving at a big picture understanding of some past and present trends in language teaching.

The term curriculum is used here to refer to the overall plan or design for a course and how the content for a course is transformed into a blueprint for teaching and learning which enables the desired learning outcomes to be achieved.

# Research on the Teaching of Probability Theory and Mathematical Statistics for Non-statistics Majors

*1\* Mr. Arijit Ghosh, 2Mr. Sudhir Pattnaik*

*1\*Asst. Professor, DEPT. OF Basic Science & Humanities, NIT BBSR,*

*Asst. Professor DEPT. OF Basic Science & Humanities, KIST, BBSR*

*1\* arijitgosh@thenalanda.com, sudhir85@gmail.com*

**Abstract.** Probability theory and mathematical statistics is a complicated course, which has the characteristics of systematic and logical. Currently, the teaching of probability theory and mathematical statistics for Non-statistics Majors is an important problem in engineering mathematics education of our country. This paper puts forward the idea of introducing mathematical experiment method into the teaching process, advocating the use of the concept map, using computer assisted instruction method, instilling the idea of mathematical modeling, introducing the idea of statistical modeling and adding the topic teaching concept to optimize and enrich the teaching means and method, so as to stimulate the interest of students' learning probability theory and mathematical statistics to tap the potential of the students as far as possible. Accordingly, the teaching of the course is more effective, and the teaching quality is also improved.

**Keywords:** *Probability theory and mathematical statistics, Teaching, Method, Effect.*

**Introduction:** In today's society based on information and technology, people are faced with more opportunities and choices. People often need to make rational decisions based on a large amount of data in uncertain scenarios (random phenomena). Probability theory and mathematical statistics is to help people look at the world from a random point of view, and help people how to make a more correct and reasonable decision in the face of a variety of accidental or a large number of irregular data. From 1933, Soviet mathematician Kolmogorov's landmark work "the basic concept of probability theory" to the present, probability theory and mathematical statistics and other disciplines is mutuallypenetrated, so it has a new development.

The teaching of probability theory and mathematical statistics for non-statistics majors has been an important part of higher mathematics education, and how to improve the teaching level has aroused wide concern in the educational circles. Probability theory and mathematical statistics is not only necessary foundation of the study of follow-up courses and the theoretical research and practical work, but also plays important role in cultivating students' comprehensive ability and improving students' mathematical accomplishment. As the study object of probability theory and mathematical statistics is special, compared with other mathematics curriculum, it has its unique concepts and methods. Students are often difficult to carry out the thinking and solving method in the learning process, a lot of students are unable to digest the knowledge, so it is very important to improve the teaching quality of probability theory and mathematical statistics.

# UNEMPLOYMENT IN INDIA

<sup>1</sup>*Mr.Rabindra Nath Biradalai, <sup>2</sup>Mr.asish sahu*

<sup>1</sup> *Professor, DEPT. OF Master of Business Administration, NIT BBSR,  
Asst. Professor DEPT. OF Master of Business Administration, SEARC, BBSR*  
<sup>1</sup>*rabindranath@thenalanda.com,sahuasish@gmail.com*

## ABSTRACT:

When someone is seeking for a job that pays well but cannot find one, they are said to be unemployed. The percentage of the labour force that is jobless is the country's official unemployment rate. Many varieties of unemployment exist, including underemployment, disguised unemployment, seasonal unemployment, voluntary unemployment, frictional unemployment, and structural unemployment. When a person of working age is unable to find employment while wanting full-time employment, they are said to be unemployed. Unemployment is the condition of someone who is seeking employment but is not currently employed. So, people like full-time students, retirees, kids, or those who aren't actively looking for a paying work are not considered to be unemployed.

Key words: Unemployment

## INTRODUCTION:

When someone is seeking for a job that pays well but cannot find one, they are said to be unemployed. The percentage of the labour force that is jobless is the country's official unemployment rate. Many varieties of unemployment exist, including underemployment, disguised unemployment, seasonal unemployment, voluntary unemployment, frictional unemployment, and structural unemployment. The Indian government initiated numerous initiatives to combat unemployment, including the IRDP, NREP, RLEGP, TRYSEM, JRY, EAS, MNP, LAY, MWS, PMRY, JGSY, SGRY, and NREGS.

Unemployment is defined as a situation where someone of working age is not able to get a job but would like to be in full-time employment. unemployment is the state of an individual looking for a paying job but not having one. As a result, unemployment does not include individuals such as full-time students, the retired, children, or those not actively looking for a paying job. It also doesn't count individuals who work part-time but would like a full-time job. Mathematically, the unemployment rate is equal to the number of unemployed people divided by the size of the labour force people who are jobless, actively seeking work, and available to take a job, as discussed above. The official unemployment rate for the nation is the number of unemployed as a percentage of the labour force (the sum of the employed and unemployed).Unemployment is defined by the Bureau of Labour Statistics (BLS) as people who do not have a job, have actively looked for work in the past four weeks, and are currently available for work. Also, people who were temporarily laid off and were waiting to be called back to that job are included in the unemployment statistics.



# A Study of Neutrosophic Real Analysis by Using the One-Dimensional Geometric AH-Isometry

*1\* Mr. Niranjana Panda, 2\* Mr. Bidyadhar Sahu*

*1\* Asst. Professor, DEPT. OF Basic Science & Humanities, NIT BBSR,*

*Asst. Professor DEPT. OF Basic Science & Humanities, KIST, BBSR*

*1\* niranjanpanda@thenalanda.com, bidyadhar44@gmail.com*

## Abstract:

The objective of this paper is to study and define the neutrosophic real functions with one neutrosophic variable depending on the geometric isometry (AH-Isometry), with a lot of concepts from real analysis including continuity, differentiability, integrability. We have presented the formal forms of different popular functions in neutrosophic environment like logarithmic function, exponential function, trigonometric functions. Raising neutrosophic numbers to any power is well defined including raising to neutrosophic powers.

**Keywords:** *Neutrosophic real analysis; AH-isometry; Integration; Differentiation; Continuity.*

## Introduction

Neutrosophy is a new branch of philosophy concerns with the indeterminacy in all areas of life and science. It has become a useful tool in generalizing many classical systems such as equations [30], number theory, topology, linear spaces, modules, and ring of matrices.

In the literature, we find many studies about neutrosophic calculus, where some definitions and properties were presented about neutrosophic real functions and numbers.

The neutrosophic real functions with one variable were defined only in a special case, as follows:

$(x) = g(x) + h(x)I$  where  $I$  takes an interval value defining what is called by neutrosophic thick functions. For example  $(x) = 2x + 5xI, I \in [0, 0.01]$  is a neutrosophic real thick function.

The problem with this definition, that it does not consider the general case  $f: (I) \rightarrow R(I); f = f(X)$  and  $X = x + yI \in R(I)$ .

Recently, Abobala et.al, have presented the concept of two-dimensional AH-isometry to study the correspondence between neutrosophic plane  $(I) \times R(I)$  and the classical module  $R^2 \times R^2$ . Also, the one-dimensional AH-isometry between  $R(I)$  and  $R \times R$ . This isometry was useful in defining inner products and norms, ordering, and neutrosophic geometrical shapes.

In this work, we use the one-dimensional AH-isometry to turn the general case of neutrosophic real functions with one variable into two classical real functions so we will go from  $(I)$  space into  $R \times R$  space, we study the properties of our functions then we go back to  $R(I)$  space using AH-isometry.

This work will provide for the first time an algorithm to compute the neutrosophic powers of neutrosophic numbers including neutrosophic powers which wasn't studied before, we will present and define neutrosophic continuity, differentiation, integration and lots of popular neutrosophic functions like neutrosophic exponential function, neutrosophic logarithmic function and neutrosophic trigonometric functions.

Definitions and theorems presented in this paper are very useful to define mathematically lots of concepts including differential equations, integral equations, probability distribution functions, etc.

# A Tool to Inclusive Empowerment Women Entrepreneurship

<sup>1\*</sup> Mr.Rabindra Nath Biradalai, <sup>2</sup>Mr. Sushil Mahakuda

<sup>1\*</sup> Asst. Professor, DEPT. OF Master of Business Administration, NIT BBSR,  
Asst. Professor DEPT.OF Master of Business Administration, STAR, BBSR

<sup>1\*</sup> rabindranath@thenalanda.com, sushil.mahakuda97@gmail.com

## **ABSTRACT:**

Since the dawn of time, man has worked to elevate and enrich society. In recent years, industrialization has been the single biggest factor in this advancement through fostering social and economic growth in society.

Both collective and individual efforts, which are two distinct types of entrepreneurship, can contribute to industrialization.

Entrepreneurs and business ventures.

In addition to making a thorough record of entrepreneurship, this study aims to address the challenges and opportunities facing women entrepreneurs in the current knowledge-based economy.

Key words: *Entrepreneurship, women development, Industrialization, Employment.*

## **2. INTRODUCTION:**

From time immemorial man's endeavour has been for the upliftment and enrichment of society. In recent times the single most important contributing factor to this advancement has been industrialization by bringing about social and economic development of the society. Industrialization can be achieved both by collective and individual efforts which are two different forms of entrepreneurship. Entrepreneurs and entrepreneurship.

Entrepreneurs are the real heroes of economic life. They are the ones who have shown that genius is sweet and toil and sacrifice and that natural resources gain value only by the ingenuity and labour of man. They ensure security for all, in embracing change. They ensure social and economic stability. Entrepreneurship is neither a science nor an art. It is a practice. But, as in all practices, medicine or engineering for instance, knowledge in entrepreneurship is a means to an end. It is not a flash of genius but purposeful tasks that can be organised into systematic work.

Etymologically, the term entrepreneur has been derived from the French word *Entreprendre* which connotes undertaker. The dictionary meaning says that an entrepreneur is an organizer of an economic venture, especially, one who organizes, owns, manages and assumes the risks of a business.

# First-order Ordinary Differential Equations, Symmetries and Linear Transformations

*1\* Mr. Niranjan Panda, 2Mr. Binay Mishra*

*1\*Asst. Professor, DEPT. OF Basic Science & Humanities, NIT BBSR,*

*Asst. Professor DEPT. OF Basic Science & Humanities, KIST, BBSR*

*1\* niranjanpanda@thenalanda.com, binay77@gmail.com*

## Abstract:

We present an algorithm for solving first-order ordinary differential equations, by systematically determining symmetries of the form  $[\xi = F(x), \eta = P(x)y + Q(x)]$ , where  $\xi \partial/\partial x + \eta \partial/\partial y$  is the symmetry generator. To these *linear* symmetries one can associate an ordinary differential equation class which embraces all first-order equations mappable into separable ones through linear transformations  $\{t = f(x), u = p(x)y + q(x)\}$ . This single class includes as members, for instance, 429 of the 552 solvable first-order examples of Kamke's book. Concerning the solution of this class, a restriction on the algorithm being presented exists, only in the case of Riccati equations, for which linear symmetries *always* exist, but the algorithm will only partially succeed in finding them.

## Introduction:

One of the most attractive aspects of Lie's method of symmetries is its generality: roughly speaking, all solution methods for differential equations can be correlated to particular forms of the symmetry generators [2, 16]. However, for first-order ordinary differential equations, Lie's method seems to be, in principle, not as useful as in the higher order case. The problem is that the determining partial differential equation — whose solution gives the infinitesimals of the symmetry group — has the original first-order equation in its characteristic strip. Hence, finding these infinitesimals requires solving the original equation, which in turn is what we want to solve using these infinitesimals, thus invalidating the approach.

# HUMAN CAPITAL AND ECONOMIC GROWTH IN INDIA

<sup>1\*</sup> Ms. Bhagyashree Mohanty, <sup>2</sup>Mr. Adarsh Naik

<sup>1\*</sup> Asst. Professor, DEPT. OF Master of Business Administration, NIT BBSR,  
Asst. Professor DEPT. OF Master of Business Administration, STAR, BBSR

<sup>1\*</sup> mohantybhagyashree@thenalanda.com, naikadarsh@gmail.com

## ABSTRACT:

This study found that, among the other studied factors, there is a significant positive association between human capital and economic growth. Enrollment in secondary schools and gross capital formation have a favourable impact on India's economic development. According to this analysis secondary school enrollment has the biggest effect on India's GDP expansion. According to the study's findings, governments should think about investing financial resources to enhancing India's human capital, which may be done by increasing healthcare spending and allocating more money to education.

The study's main findings indicate that, in the long run, human and physical capital play a vital role in determining economic development, but in the short run, these countries have had to reprogram their debt to defer debt payments, while developed countries have become more stringent and selective in their lending. Loan approvals are controlled by powerful lenders and are not always dependent on developing countries' propensity to develop. Human capital matters more for such professionally marginalized groups since they are also susceptible to discrimination in the labor market based on other forms of capital. Policymakers in India have a wide window of opportunity for enhancing the human capital profile of the country's future workforce.

**Keywords:** *Human Capital, physical capital, Public health expenditure, Economic growth, Out of pocket expenditure, Innovation*

# A CRITICAL STUDY OF COMPLEX ANALYSIS WITH SPECIAL REFERENCE TO MATHEMATICS AS A BRANCH

*1\* Mr. Gorekha Prasad Nayak, 2Mr. Akib Khan*

*1\*Asst. Professor, DEPT. OF Basic Science & Humanities, NIT BBSR,*

*Asst. Professor DEPT. OF Basic Science & Humanities, KIST, BBSR*

*1\* gorekhprasad@thenalanda.com, khanakib@gmail.com*

**Abstract:** The study of complex numbers, their derivatives, manipulation, and other properties is known as complex analysis. Complex analysis is a very powerful tool that has a surprising number of practical applications in solving physical problems. Complex analysis is a branch of mathematics that studies functions of complex numbers. It is also known as the theory of functions of a complex variable. Many branches of mathematics, such as algebraic geometry, number theory, analytic combinatorics, and applied mathematics, as well as physics, such as hydrodynamics, thermodynamics, and especially quantum mechanics, benefit from it. Complex analysis has applications in engineering fields such as nuclear, aerospace, mechanical, and electrical engineering by extension.

**Index Terms** - *Complex, Analysis, Numbers, Mathematics*

## **Introduction:**

The study of complex numbers, their derivatives, manipulation, and other properties is known as complex analysis. Complex analysis is a very powerful tool that has a surprising number of practical applications in solving physical problems. Complex analysis is a branch of mathematics that studies functions of complex numbers. It is also known as the theory of functions of a complex variable. Many branches of mathematics, such as algebraic geometry, number theory, analytic combinatorics, and applied mathematics, as well as physics, such as hydrodynamics, thermodynamics, and especially quantum mechanics, benefit from it. Complex analysis has applications in engineering fields such as nuclear, aerospace, mechanical, and electrical engineering by extension.

# THE EFFECTS OF THE INDIAN CASTE SYSTEM

*<sup>1</sup>Mrs.Monalisha Sahoo, <sup>2</sup>Mr.Bikash Dalei*

*<sup>1</sup> Professor, DEPT. OF Master of Business Administration, NIT BBSR,  
Asst. Professor DEPT. OF Master of Business Administration, SEARC, BBSR*

*<sup>1</sup>monalisasahoo@thenalanda.com,daleibikash@gmail.com*

**Abstract :** People in India are traditionally socially differentiated along a number of characteristics, including class, religion, geography, tribe, gender, and language. One of these categories is the Indian Caste System. Even while all human cultures engage in some type of differentiation, it becomes problematic when one or more of these factors overlap and serve as the only criteria for systematic ranking and uneven access to valuable resources like wealth, income, power, and status. Given that the Indian Caste System is a closed system of stratification, a person's social standing is determined by the caste they were born into. As previously indicated, a caste name typically corresponds to a particular occupation and is a closed stratification, making it endogamous. The caste system in India is a division of people into four castes, known as varnas, based on hierarchy. Hinduism served as the foundation of the purity-pollution complex and had a significant impact on the Indian population's way of life and worldview. Indians still struggle with caste consciousness even 63 years after gaining their independence. Traditionally, closed communities divided by caste, creed, and language have allowed India to continue to exist as a nation for millennia. Each person was assigned a specific work from birth, and heredity of vocation was a rule that greatly influenced the economy of both urban and rural life.

**Key Words:** *Caste System, occupation, religion, varna, society.*

## **INTRODUCTION:**

The Indian Caste System is historically one of the main dimensions where people in India are socially differentiated through class, religion, region, tribe, gender, and language. Although this or other forms of differentiation exist in all human societies, it becomes a problem when one or more of these dimensions overlap each other and become the sole basis of systematic ranking and unequal access to valued resources like wealth, income, power and prestige. The Indian Caste System is considered a closed system of stratification, which means that a person's social status is obligated to which caste they were born into. There are limits on interaction and behavior with people from another social status. Its history is massively related to one of the prominent religions in India, Hinduism, and has been altered in many ways during the Buddhist revolution and under British rule. This paper will be exploring the various aspects of the Indian caste system related to its hierarchy, its history, and its impact today.

# Numerical Methods for Solving Differential Equations

*1\* Ms. Swagatika Mohanty, 2Mr.Narayana Jena*

*1\*Asst. Professor, DEPT. OF Basic Science & Humanities, NIT BBSR,*

*Asst. Professor DEPT. OF Basic Science & Humanities, KIST, BBSR*

*1\* swagatikamohanty@thenalanda.com, narayanajena@gmail.com*

## **Abstract:**

In this paper, we present new numerical methods to solve ordinary differential equations in both linear and nonlinear cases. we apply Daftardar-Gejji technique on theta-method to derive anew family of numerical method. It is shown that the method may be formulated in an equivalent way as a RungeKutta method. The stability of the methods is analyzed.

**Keywords :** *Ordinary Differential Equations, Numerical Method, Iterative Method.*

## **Introduction:**

Numerical methods are one of the main techniques used for solving differential equations. For many years, the construction of accurate and stable numerical methods for the solutions of ordinary differential equations (ODEs) with initial value problems has been considered widely and with great new contributions. Recently, the method proposed by Daftardar-Gejji and Jafari (DJM) [1] is powerful technique for solving a wide range of nonlinear equations, see [2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14]. In this paper, we employ the (DJM) to construct a new family of numerical scheme for solving ordinary differential equations and discuss error, stability and convergence of the proposed methods.

# DEVELOPING INDIA'S ECONOMY

*1\*Mr.Prafulla Kumar Dwibedi, 2Mr.Satya Nayak*  
*1\* Professor, DEPT. OF Master of Business Administration, NIT BBSR,*  
*Asst. Professor DEPT. OF Master of Business Administration, SEARC, BBSR*  
*1\*prafullakumar@thenalanda.com,nayaksatya47@gmail.com*

## ***Abstract-***

*The current state of Indian economy leaves a lot to be desired with below 5% growth in GDP and the threat of high current account deficit coupled with the high fiscal deficit. The policy debate centers around the reversal of tight monetary policy by reducing the policy rate or repo rate of Reserve Bank of India (RBI) to stimulate growth and credible fiscal consolidation by reducing the fiscal deficit. The new government should focus on reviving economic growth, reducing inflation, growth of manufacturing sector and reducing revenue deficit. To stimulate economic growth India needs investment in productive physical assets, speeding up of infrastructure projects, economic reforms and last but not the least tackling the menace of corruption which paralyses the economy. All is not lost. Political will and good governance is needed from the new government in addition to the large fiscal deficit.*

**Key words** - *Gross Domestic Product (GDP), revenue deficit, inflation, manufacturing sector, economic growth, corruption, monetary policy*

## **INTRODUCTION:**

On May 26, 2014, Narendra Modi became India's 15th prime minister. This was the result of a long electoral campaign that saw the National Democratic Alliance, which is led by the Bhartiya Janata Party, win a surprise victory. If the Indian economy is to continue its tryst with destiny, any new administration would need to make adjustments to policy and governance. Now that the campaign hyperbole is over, it's time to get to work, and expectations are sky high. If the Indian economy wants to grow at a faster rate, the new government must be brave in addressing some concerns. The Indian economy is currently in horrible shape, with GDP growth below 5% and the possibility of a significant current account deficit.



# **SOME COMMON PROBLEMS WITH STATISTICS IN PAPERS AND PRESENTATIONS**

*1\* Ms. Bandana Swain, 2Mr. Biswas Kumar*

*1\*Asst. Professor, DEPT. OF Basic Science & Humanities, NIT BBSR,*

*Asst. Professor DEPT. OF Basic Science & Humanities, KIST, BBSR*

*1\* bandanaswain@thenalanda.com, kumarbiswas@gmail.com*

## **ABSTRACT**

It is always a struggle to write papers and talks that contain statistical information as the presentation methods used for analytic results do have an impact on the comprehension of the reader or audience. Furthermore, fundamental statistics are often misunderstood or obscured by the author rather than clearly explained. The fact that one can never be sure of the statistical sophistication of a reader or audience makes it easy for the author to write material that muddles rather than clarifies the results. Then, the reader or audience is left wondering if the author's work is just "lies, damn lies or statistics." This paper provides a short discourse on fundamental statistical theory intermixed with a few thoughts and suggestions on the use and presentation of statistical results. After all, any paper or presentation is useless if the intended audience misunderstands or misinterprets the information being presented.

**KEYWORDS:** *Statistics, graphs, tables, presentations*

# THE EFFECT OF SALES PROMOTION ACTIVITIES ON ATTITUDES AND INTENTIONS TO BUY PRIVATE LABEL GOODS

<sup>1\*</sup> Mr. Trinatyh Sahoo, <sup>2</sup>Ms. Aysaa Das

<sup>1\*</sup> Asst. Professor, DEPT. OF Master of Business Administration, NIT BBSR,  
Asst. Professor DEPT. OF Master of Business Administration, STAR, BBSR

<sup>1\*</sup> sahootrinatyh @thenalanda.com, dasaysaa@gmail.com

## Abstract

This study looks at how customers' perceptions towards PLs are affected by sales marketing efforts for PLs and how such sentiments affect their purchase intentions.

In order to achieve this goal, the study covered the top three clothing retailers in India in terms of the number of branches.

In addition, since apparel is often eaten and apparel PLs have substantial market shares in most of the nations, the PLs of the apparel product category from each of the retail outlets were analysed.

In the scope of the study, 481 surveys were gathered and analyzed. Regarding the results, it was seen that the effect of sales promotion activities on consumers' attitudes toward PLs is 0.30. Moreover, the effect of consumers' attitudes toward PLs on their purchase intentions is 0.48, which means that if consumers' attitudes toward PLs can be developed positively, it will increase their intention to purchase these products or brands by 48%. The findings of the study provide important implications for practitioners and scholars in the marketing and retailing fields.

Keywords: *private label attitude, sales promotion, purchase intention.*

# More on Strongly $g^*$ -open sets in Topological spaces

*1\* Mrs.Soubhagini Mohapatra, 2Mr.Santanu Naik*

*1\*Asst. Professor, DEPT. OF Basic Science & Humanities, NIT BBSR,  
Asst. Professor DEPT. OF Basic Science & Humanities, KIST, BBSR  
1\* bandanaswain@thenalanda.com, naiksantanu@gmail.com*

## Abstract:

In this paper, we derive more on Strongly  $g^*$ -closed sets and introduce the concepts of interior and closures of Strongly  $g^*$ -closed and open sets and studied some of their properties.

**Ke words:** *Strongly  $g^*$ -closed sets.*

## Introduction:

In 1970, Levine generalized the concept of closed sets to generalized closed sets. After that there is a tremendous progress took place in the field of generalized open sets (complement of respective closed sets). In General Topology, the notion of closedness is of tremendous importance. In 1978, Long and Herrington, probably inspired by the work of Singal and Singal, studied the basic properties of regular closed functions.

O. Njastad introduced and defined  $\alpha$ -open and  $\alpha$ -closed sets. Since then, various mathematicians turned their attention to the generalizations of various concepts in topology by considering semi-open and  $\alpha$ -open sets. The concept of  $g$ -closed,  $s$ -open and  $\alpha$ -open sets played a significant role in the generalization of continuity in topological spaces. The modified form of these sets and generalized continuities were further developed by several mathematicians.

# PERSONAL WELL-BEING AMONG ADULTS AND ALTRISM

<sup>1\*</sup> Mr. Debasis Jena, <sup>2</sup>Mr. Soumya Jena

<sup>1\*</sup>Asst. Professor, DEPT. OF Master of Business Administration, NIT BBSR,  
Asst. Professor DEPT. OF Master of Business Administration, STAR, BBSR

<sup>1\*</sup> jenadebasis@thenalanda.com, jenasoumya@gmail.com

## **ABSTRACT:**

Good deeds today are linked to a longer-lasting state of wellbeing than fleeting individual victories. This research is thought to have enormous potential for improving both quality of life and altruism. An essential component of one's psychological makeup is wellbeing, which is a state of mind that enables one to retain equilibrium while rooted in optimism and hope even in the face of adversity. Altruism is defined as doing without regard for one's own interests in order to improve the lives of others. The current study uses an exploratory research approach to investigate the relationship between adult adults' wellbeing and generosity. The variables are predicted to significantly correlate with one another.. The study includes 202 adults consisting of both men and women. The sample is collected using simple random sampling technique. The tools used are Personal Wellbeing Index –Adult by Cummins et al (2013) and Adapted Self-Report Altruism Scale by Peter Witt and Chris Boleman (adapted version 2009, original version by Rushton, 1981). The results indicated a relationship between altruism and personal well - being. It also pointed out that personal well-being differed among gender.

**Keywords:** *Altruism, Personal Well – Being*

## **INTRODUCTION:**

To be empathetic and have a positive regard for all irrespective of their relationship creates positivism around us. In this competent world, people are very busy and running behind the goals that they want to achieve. All are more focused on their personal life and their family. There are some who are busy with their own self where they do not have time for others. But there are some people who dislike helping others and intentionally avoid doing good deed for others. On the other hand, there are also individuals and groups who work and devote their time for the needy. They involve in social services helping people. Many conceptual frameworks and empirical studies postulate that individual with high prosocial behaviour tends to live happier than others. The art of giving and the satisfaction that an individual gets is soothing. People who are unconditionally helpful and concerned for the welfare of others tend to have a better subjective and mental well - being. A prosocial behaviour tends to energise within oneself and creates positivity, a sense of happiness.

# Photon Structure and Wave Function from the Vector Potential Quantization

*1\* Dr. Sunita Bal, 2Dr. Jyotirmaya Satpathy*

*1\* Professor, DEPT. OF Basic Science & Humanities , NIT BBSR,*

*Asso. Professor DEPT.OF Basic Science & Humanities, NIT, BBSR*

*1\* sunitabal@thenalanda.com, jyotirmayasatpathy@thenalanda.com*

## **Abstract:**

A photon structure is advanced based on the experimental evidence and the vector potential quantization at a single photon level. It is shown that the photon is neither a point particle nor an infinite wave but behaves rather like a local “wave-corpucle” extended over a wavelength, occupying a minimum quantization volume and guided by a non-local vector potential real wave function. The quantized vector potential oscillates over a wavelength with circular left or right polarization giving birth to orthogonal magnetic and electric fields whose amplitudes are proportional to the square of the frequency. The energy  $\hbar\omega$  and momentum  $\hbar k$  are carried by the local wave-corpucle guided by the non-local vector potential wave function suitably normalized.

**Keywords:** *Photons, Photon Wave Function, Vector Potential Quantization, Photon Electric and Magnetic Fields, Photon Structure, Wave-Corpucle Representation, Photon “Energy-Vector Potential” Equation*

## **Introduction:**

A single photon is a particular relativistic massless wave-particle for which scientists have still major difficulties to attribute a clear physical representation. Historically, the scientific understanding of light’s properties, guided each time by the interpretation of the experiments, was a continuous balancing between the wave and particle natures. Before going ahead to the quantum description of the photons and the possible associated wave functions it is of crucial importance to understand the historical evolution of our concepts about the nature of light.

# DEMONETIZATION'S EFFECTS ON THE TAX SYSTEM, TAX COLLECTION, AND FINANCIAL SYSTEM

*<sup>1</sup> Mrs. Monalisha Sahoo, <sup>2</sup> Mr. Sudhir Mohanty*

*<sup>1</sup> Asst. Professor, DEPT. OF Master of Business Administration, NIT BBSR,  
Asst. Professor DEPT. OF Master of Business Administration, STAR, BBSR*

*<sup>1</sup> monalisasahoo@thenalanda.com, mohantysudhir56@gmail.com*

## ***Abstract:-***

The Indian government implemented Demonetization on November 8th, 2016, in an effort to combat corruption, dark money, the existence of a parallel economy, counterfeit currency, and the funding of terrorism.

The 500 and 1000 dollar high value notes were no longer considered legal tender as of midnight on November 9, 2016.

These currency notes (also referred to as specified bank notes-SBNs) formed 86% of the total currency in circulation. The objective of this paper is to analyze the macro impact of demonetization on various aspects of the economy- tax structure, inflation, growth rate. This study will help us to know about positive and negative impact of note ban decision taken by Indian government, the effect of demonetization create so many hurdles for the citizen of India. It is the combination of demonetization, goods and service tax, and the real state regulatory authority (RERA) that has seen work in the sector come to a halt.

***Keywords:-*** Demonetization, Indian government, tax collection, macro impact.

## **I. INTRODUCTION**

Indian economy relies mainly on cash. Nearly 78% of all payment transactions happen in the form of cash. The decision to demonetize such a hugely used currency was a set of efforts made by the Indian government to curb corruption, increase rate of savings, acceleration of financial markets and the digitalization of economy. As the scale of operation of Demonetization was wide, the impacts were felt by the whole population. The benefits of Demonetization are long – term but the adverse effects of currency crunch were to be felt in a shorter time duration. Cash squeeze was reported to deflate economic and financial activity coupled with temporary decrease in India's growth rate.

# Plastic Flow Macrolocalization: Autowave and Quasi-Particle

*1\* Dr. Monalisha Panda, 2Mr.Tarakanta Moharana*

*1\* Professor, DEPT. OF Basic Science & Humanities, NIT BBSR,  
Asst. Professor DEPT. OF Basic Science & Humanities, NIT, BBSR  
1\* monalishapanda@thenalanda.com, tarakanta@thenalanda.com*

## **Abstract:**

A new approach is proposed to describe the autowave processes responsible for plastic deformation localization in metals and alloys. The existence of a quasi-particle, which corresponds to a localized plastic flow autowave, is postulated and its characteristics are determined. The above postulate leads to a number of corollaries and quantitative assessments that are considered herein. The deformation processes occurring on the macro- and micro-scale levels are found to be directly related.

**Keywords:** *Localization, Plastic Deformation, Autowave, Quasi-Particle*

## **Introduction:**

The experimental studies of plastic flow in solids carried out during last decades allow one to throw light upon the plasticity phenomenon and to detect the most important experimental fact that the plastic flow would exhibit a localization behavior from yield point to failure. Recently strong experimental evidences for the above viewpoint were presented independently by several workers. In order to visualize the localization patterns observed by mechanical testing, a technique of double-exposure speckle-photography was developed.

## MANAGING INTERPERSONAL CONFLICTS AT WORKPLACE

<sup>1\*</sup> Mr. Prafulla Kumar Dwivedi, <sup>2</sup> Mr. Ayaan Sharma

<sup>1\*</sup> Asst. Professor, DEPT. OF Master of Business Administration, NIT BBSR,  
Asst. Professor DEPT. OF Master of Business Administration, STAR, BBSR

<sup>1\*</sup> prafullakumar@thenalanda.com, sharmaayaan81@gmail.com

### **ABSTRACT**

Workplace interpersonal disputes are highly prevalent and unavoidable. The personalities, backgrounds, expectations for the job, attitudes, and behaviours of employees vary. Conflicts are more likely now than ever before since people from many cultures and states or countries are working together. If interpersonal disagreements are not resolved quickly and effectively, they can have a number of detrimental effects on the workplace environment. Some of the negative effects of interpersonal problems at work include absenteeism, poorer productivity, greater wastages, non-cooperation, unionisation, and lawsuits. This essay examines the several types of interpersonal conflict, their causes, and the HR-approved methods for resolving them.

**KeyWords:** *Interpersonal conflict, Sources of interpersonal conflicts, Conflict management, Conflict resolution strategies.*

### **INTRODUCTION:**

Every workplace and environment has conflict by nature. It occurs frequently in ordinary circumstances and can take on different levels and intensities. There will undoubtedly be conflicts when people collaborate. While some of these disputes are minor, others have the potential to develop into serious confrontations. Unresolved disagreements can cause long-lasting tensions and employee discontent, which has a significant impact on both organisational and individual performance.

An estimated 30% of a manager's time is spent handling disputes and legal matters (By John Ford). Effective conflict management reduces the negative effects of workplace disagreements and improves relationships inside the office.

### **OBJECTIVES OF THE STUDY**

This paper is a literature review to examine the following concepts:

- Meaning and Types of Interpersonal Conflicts
- Sources of Interpersonal Conflicts
- Conflict Management “Positive and Negative aspects”
- Interpersonal Conflict Resolution Strategies



# Measurement of Relative Metastable Level Population of Gd Atoms in Hollow Cathode Lamp with LIF Method

*1\* Dr. B. B. Sahoo, 2Mr. Sipuna Biswal*

*1\* Professor, DEPT. OF Basic Science & Humanities, NIT BBSR,  
Asst. Professor DEPT. OF Basic Science & Humanities, NIT, BBSR  
1\* bibhutibhusan@thenalanda.com, sipunabiswal@thenalanda.com*

## **Abstract:**

Relative metastable level population of metal plasma having low-lying metastable states departs from equilibrium value. It needs to be experimentally investigated. This paper reports the use of hollow cathode lamp based Laser Induced Fluorescence (LIF) spectroscopy technique to measure Relative metastable level population of metal in a plasma produced by a hollow cathode lamp. The relative population of ground state and  $533\text{ cm}^{-1}$  levels of Gd atoms in hollow cathode lamp is measured with LIF method.

**Keywords:** *Gadolinium, Fluorescence, Population*

## **Introduction:**

Gd metal has widespread applications in medical, astronomy and nuclear industries. Work on various parameters of this metal has drawn the attention of many researchers. Hollow cathode lamps are mainly used for investigating various parameters of Gd Metals. The scattered atoms of the Gd metal in the lamp have metastable levels, with low energy and high life time. These levels will be populated due to number of collisions such as the collisions of atoms with each other, collision of atoms with electrons, and collision of atoms with lamp's wall. The population's measurements at these levels are of a significant importance, especially in those experiments related to laser and material interactions where atoms from metastable levels are excited to other levels which have higher energies. Therefore the knowledge of knowing when the states are fully populated is essential in analyzing these types of activities. There are different methods for the measurement of level's populations, like absorption spectrum measurement which is the most current method. However one of the main problems with this method is its high optical noise. In this paper, the use of inductive fluorescence method is

## **TRUE SOURCE OF WEALTH CREATION IS INTELLECTUAL CAPITAL**

*1\* Mr. Pratyush Dash, 2Mr.Partha Rout*

*1\* Professor, DEPT.OF Master of Business Administration, NIT BBSR,  
Asst. Professor DEPT. OF Master of Business Administration, SEARC, BBSR*

*1\* pratyushdas@thenalanda.com, routpartha@gmail.com*

### **ABSTRACT:**

Intellectual capital refers to collective intangible assets in a firm. Such assets are considered as real drivers of value in the new economy. Despite their importance, these assets are rarely valued by firms. If intellectual capital can be measured then it could provide an indicator of a firm's value creation capacity in future. This article explores the methods that can be used to value a firm's intellectual capital.

### **INTRODUCTION:**

Intellectual capital includes intangible assets that are the real source of value creation in a company. This source of wealth is not tangible like machinery, land or building. It is the information and knowledge that is applied in the value creation process along with the tangible assets. Traditionally, intangible assets like brand name and customer loyalty were included in the balance sheet under the heading „goodwill“. Intellectual Capital goes a step further to include assets like the company's ability to adapt to its fast changing environment or the ability to learn and maintain the future value creation capability either through in-house research and development or by purchase of technology and patents from outside.

# Bohr Correspondence Principle and Multiphoton Nature Raleigh Light Scattering

*1\* Dr. Minushree Pattanaik, <sup>2</sup> Mr. Tarakanta Moharana*

*1\* Asst. Professor, DEPT. OF Basic Science & Humanities, NIT BBSR,  
Asst. Professor DEPT. OF Basic Science & Humanities, NIT, BBSR*

*1\* minushree@thenalanda.com, tarakanta@thenalanda.com*

## **Abstract:**

The correspondence principle and the condition of supplementation were introduced by N. Bohr for the submission of light phenomena, taking into account the wave nature of electromagnetic radiation on one hand, and its quantum structures on the other. In this paper, correspondence principle combines two models of matter, namely, the classical point of view of environment can be considered as an ensemble of equally-frequencies oscillators, *i.e.* electrons in the surrounding various atoms (molecules) of the matter and characterized by its own set of frequencies (but not hesitant in the absence of an energy source) and the quantum environment could be presented as a set (ensemble) two-level systems, a wide range of Bohr frequencies. According to the correspondence principle Bohr jump-frequencies of atoms (molecules or nano particles) and natural frequencies oscillations of electrons of the same environment - oscillators are equal to each other. The dispersion characteristics of the environment in the every study range of optical frequencies correspond to the model of the classical harmonic oscillator of Lorenz, capable oscillates with Bohr frequency. Using the laws of classical mechanics to describe the environment and its dispersion properties, and the simultaneous presentation of light radiation in the form of a beam interacting with the environment of photons (quanta, corpuscles) helps explain peculiarities of the spectral composition Raleigh light scattered.

**Keywords:** *Correspondence Principle, Complementarily Condition, Raleigh Light Scattering, Classical Harmonic Oscillator of Lorenz, Bohr Jump-Frequencies*

# INNOVATION AND ENTREPRENEURSHIP DEVELOPMENT FOR SOCIAL WELFARE

*1\* Mr.Susanta Kumar Swain, 2Mr.Prasanjit Mahapatra*

*1\* Professor, DEPT.OF Master of Business Administration, NIT BBSR,  
Asst. Professor DEPT. OF Master of Business Administration, SEARC, BBSR*

*1\*susantakumarswain@thenalanda.com,prasanjit07@gmail.com*

## **ABSTRACT:-**

Social welfare consists of various local, states, and government programs designed to assist people with food, housing, and medical care. Social welfare systems provide assistance to individuals and families through programs such as health care, food stamps, unemployment compensation, housing assistance, and child care assistance. Innovation and entrepreneurship has assumed tremendous importance for accelerating economic growth in both developed and developing countries. It promotes capital formation and creates wealth in country. It reduces unemployment and poverty and it is a pathway to prosper. Innovation refers to new product, process or service while entrepreneurship is the process of exploring the opportunities in the market place and arranging resources required to exploit these opportunities for long-term gain. Hence, innovation and entrepreneurship development is becoming a key policy matter for all economies. On the other hand, entrepreneurial intention is a function of entrepreneurial attitudes and many variables affect the entrepreneurial attitude. In this scenario, India is eyeing towards more entrepreneurial activities and the government is keen to facilitate innovation and entrepreneurship development. Adopting a grounded theory approach and in depth literature review the aim herein is to understand innovation and entrepreneurship development for reviving the economy.

**Keywords:** *Business, Development, Entrepreneur, Government Schemes, Policies, Strategies*

# CYBER CRIME IN INDIA

*1\* Mrs. Tania Mishra, 2Mrs. Sonia Padhi*

*1\*Asst. Professor, DEPT. OF Master of Business Administration, NIT BBSR,  
Asst. Professor DEPT. OF Master of Business Administration, STAR, BBSR  
1\* taniamishra@thenalanda.com, padhisonia19@gmail.com*

## **ABSTRACT:-**

Cybercrime has grown in leaps and bounds as the computer has become central to trade and commerce, leisure, entertainment, and government.

Cybercrime involves an attack on information about individuals, groups, corporations, or governments.

An important aspect of cybercrime is its international character. This poses severe problems for law enforcement since previously local or even national crimes now require international cooperation.

Cybercrime ranges across a spectrum of activities. At one end are crimes that involve fundamental breaches of personal or corporate privacy, midway along with the spectrum lie transaction-based crimes, and at the other end of the spectrum are those crimes that involve attempts to disrupt the actual workings of the Internet.

Cybercrime in India has been examined in this study. There are several sources of information used in this study including National Crime Records Bureau (ncrb) records as well as the internet and media articles.

**Keywords:** *Internet, Technology, hacking, Crime, Phishing, Cyber Stalking.*

# INVESTIGATING THE MOTIVATIONAL FACTORS AFFECTING WOMEN IN THE DELIVERY OF HEALTH PROGRAMS

*1\*Mr.Amit Kumar Parida, 2Mr.Sourav Mahakul*

*1\* Professor, DEPT. OF Master of Business Administration NIT BBSR,  
Asst. Professor DEPT. OF Master of Business Administration, SEARC, BBSR  
1\*amitkumar@thenalanda.com,sourav88@gmail.com*

## **ABSTRACT:**

As unforeseen risks have become the norm, people from all over the world are becoming more and more aware of the significance of health insurance policies. In order for marketers and decision-makers to effectively engage women as consumers of health insurance policies, it is important that we have a thorough grasp of the elements that affect women's decisions to purchase health insurance. The health insurance market offers a considerable opportunity, particularly for the underserved women's market. Data were gathered from 200 respondents via a questionnaire, and the results of the EFA show five elements, including quality of service, promotional factors, financial factors, benefits and coverage, and convenience, that affect women's purchasing decisions for health insurance in Tamil Nadu.

***Keywords:** women buyers, decision making, health insurance*

## **INTRODUCTION:**

Health insurance in India is a growing segment, yet it hasn't taken off fully and several measures are needed to improve and expand insurance coverage. In addition to physical illness, accidents and emergencies in the form of natural calamity demand for protection and well-being of human life at all times. Although health insurance is mandatory in developed countries, developing countries are yet to impose regulations on its purchase. Despite the fact that the role of women in household management is now changing, there are not many studies focused on their insurance behavior. A better understanding of women buying behavior of health insurance would surely facilitate better market penetration in the women segment, but there is lack of knowledge in this section of study. This research is oriented towards the study of purchase intention of health insurance policy among women. While there have been several approaches to study consumer behavior, there is little evidence of a study which explains the purchase intention of women towards insurance. This research evaluates the significance of purchase intention on buying behavior of women. The purpose of this research is to examine health insurance purchase intention among women in India. By determining which factors most influence women's health insurance purchase decisions, the current study can be instrumental in helping insurance providers to design more effective programs for potential women consumers of health insurance.

# **CASH MANAGEMENT IN PUBLIC SECTOR COMPANIES: ECIL, HYDERABAD, AS A CASE STUDY**

*1\*Mrs.Tania Mishra, 2Mr.Dhananjay Rout*

*1\* Professor, DEPT. OF Master of Business Administration, NIT BBSR,  
Asst. Professor DEPT.OF Master of Business Administration, SEARC, BBSR  
1\*taniamishra@thenalanda.com,routdhananjay@gmail.com*

## ***ABSTRACT:***

To meet a firm's short-term planning demands, short-term funding is crucial. Every company strives to grow, upgrade, and innovate for greater success and profitability, which demands money that should always be available to it. Minimizing unproductive cash holdings, taking advantage of temporary cash surpluses, and planning for both anticipated and unforeseen cash demands are all priorities for cash or liquid cash. In all seriousness, managing a company's cash flows includes controlling its inflows and outflows of cash as well as its internal cash flow and its current cash balances. In order to provide appropriate funding and minimise the impact of uncertainty around monetary demands, Firms must assess the requirement for protective liquidity while dealing with liquidity. This study makes a modest attempt to analytically and statistically assess the cash turnover, cash inflows, and cash outflows of ECIL, Hyderabad.

***Keywords:*** *Cash, cash flow statement, ratios involving cash, and cash turnover*

# CONSUMER PERCEPTION AND ATTITUDE TOWARDS GREEN PRODUCTS: A STUDY

*1\*Mr. Kanha Rout, 2Mr. Rutuparna Patanaik*

*1\* Professor, DEPT. OF Master of Business Administration, KIST, BBSR,*

*Asst. Professor DEPT. OF Master of Business Administration, NIT, BBSR*

*1\*routkanha@gmail.com, patanaikrutuparna@thenalnda.com*

**Abstract:** Customers' awareness of green products is growing steadily over time, and demand for them is rising quickly. Customers are beginning to understand the value of green products because they are so beneficial to their health. The purpose of this essay is to discuss how consumers view and feel about green products. The Sikar district of Rajasthan state has been chosen for analysis of customer behavior and attitude. The paper makes an effort to investigate the different important variables that are significant in the choice of green products and that have recently been successful in luring clients.

**Key Words:** *Consumer impression, customer attitude, and green marketing.*

## 1 INTRODUCTION:

According to Philip Kotler (2011), if sustainability is to be accomplished, the Corporations must make significant changes to their manufacturing, financial, marketing, and research-and-development activities. Yet in addition to sustainability, there are a number of issues that need to be addressed, such as the atmosphere's changing composition, the ozone layer's thinning, soil degradation and increased desertification, as well as rising air and water pollution. Fortunately, green marketing has emerged as a unique idea that is said to be more environmentally friendly than others. Green marketing encompasses a wide range of actions, such as product modification, production process adjustments, sustainable packaging, as well as advertising changes. Yet, defining green marketing is not an easy undertaking because many meanings overlap and conflict with one another will be the term's association with various social, environmental, and retail definitions. Environmental marketing and ecological marketing are two other phrases with comparable meanings.

Green, environmental, and eco-marketing are examples of modern marketing strategies that aim to challenge conventional wisdom and offer a vastly different viewpoint rather than merely refocus, alter, or enhance it. In particular, green, environmental, and eco-marketing fall under the category of strategies that aim to address the mismatch between the existing practice of marketing and the ecological and social realities of the broader marketing environment. (F, 2009)



# **E-COMMERCE IS TRANSFORMING INDIA'S RETAIL INDUSTRY**

*<sup>1\*</sup> Prof. Dr. Manoj Kumar Sahoo, <sup>2</sup>Mr. Sivasish Jena*

*<sup>1\*</sup> Asso. Professor, DEPT. OF Master of Business Administration, NIT BBSR,  
Asst. Professor DEPT. OF Master of Business Administration, STAR, BBSR*

*<sup>1\*</sup> manojkumarsahoo@thenalanda.com, jenasivasish@gmail.com*

## **Abstract:**

What do you do when you need to buy a gift for your parents or friends for a holiday or birthday? The majority of people now quickly access the internet, peruse a few gift-related websites, place an order for one of them to be delivered to the recipient's address, and then wait for it to arrive. It only requires a click and a few minutes at most! Nowadays, very few individuals bother or even have the time to drive down to a store, browse all the products there, move on to the next one, and so on, until they finally decide on a gift, at which point they head to the courier shop to package it up.

The growth of e-commerce industry has made lives easier for countless people. It's not just gifts but even everyday items like grocery and notebooks and pens that can be bought online. Books, clothes, shoes, jewellery and accessories, travel tickets and hotel bookings are some of the commonly purchased items online. E-commerce is trading of products and service through the medium of internet. In this paper we present factors that are fuelling growth in ecommerce sector in India. The methodology of my study is from secondary sources such as

articles, journals, reports, papers ,blogs and conference proceeding . Ecommerce one of the highest growing business, with India having great market potential for investments. There has been huge surge in investment since last year and more is expected in coming years. The rapid growth in use of mobile and internet users has facilitated ecommerce business in both urban and rural cities. The topics covered include the terms study of commerce, key drivers of growth, market growth potential, investment, retail market, logistics infrastructure, internet regulations, key challenges and future of ecommerce.

**Keywords:** *Ecommerce, Retail, Sales, Investment, Logistics, Internet Regulation.*

# A STUDY OF CONSUMERS' GREEN CONSUMPTION PATTERNS

*1\*Dr. Manoj Kumar Sahoo, 2Mr. Sarthak Swain*

*1\* Professor, DEPT. OF Master of Business Administration, NIT BBSR,  
Asst. Professor DEPT. OF Master of Business Administration, SEARC, BBSR  
1\*manojkumarsahoo@thenalanda.com, sarthak55@gmail.com*

## **ABSTRACT:**

Companies that are promoting themselves as green businesses have begun to prosper. In order to prevent environmental damage, governments are giving environmental issues like global warming, pollution, and retracted captivating phases more attention. The world appears to be more environmentally conscious today than it did in the past, thus businesses should create and market environmentally friendly products. Due to growing customer awareness and concern, green marketing is becoming a common convincing strategy. As a result, a wide range of events are protected by green marketing strategies. It includes modifying the product, assembling calamities in the manufacturing process and packaging, as well as positively influencing promotion.

**Keywords:** *Green marketing, Eco friendly, Ecological Marketing, Green products.*

# **ETHICS' PART IN A SUSTAINABLE ENVIRONMENT**

*1\* Mr. Sanjeev Nanda, 2Mr.jivan jyoti*

*1\*Asst. Professor, DEPT. OF Master of Business Administration, NIT BBSR,  
Asst. Professor DEPT. OF Master of Business Administration, SEARC, BBSR*

*1\* sanjeevnanda@thenalanda.com, jyoti87@gmail.com*

## **ABSTRACT:**

Due to modern urbanization, industrialization, over population growth, deforestation etc our environment has degraded. The qualitative and quantitative degradation of natural resources has immensely affected life of humans, animals, plants and micro organism. This environmental degradation can be prevented with the change in our life style and with the inculcation of some moral principles and eco friendly living. Then only we can provide a sustainable future to our children. Moral principles and ecofriendly living define the responsibility of particular person and the nation towards the environment

**Keywords:** *Environment, Pollution Ethics, Management*

# THE DEVELOPMENT OF GREEN GOODS AND GREEN MARKETING: A RESEARCH

*1\* Mr.Amit Kumar Parida, 2Mr. Adarsh nayak*

*1\*Asst. Professor, DEPT. OF Master of Business Administration, NIT BBSR,  
Asst. Professor DEPT. OF Master of Business Administration, STAR, BBSR  
1\* amitkumar@thenalanda.com, adarshnayak00@gmail.com*

**ABSTRACT:** - At least since the first Earth Day in 1970, the idea of green marketing has existed. Yet, the concept did not become popular until the 1980s, when a rise in environmental awareness sparked a demand for more green goods and services. Manufacturers labeled hundreds of new products as "environmentally friendly" in response to consumer interest by making claims that the products were biodegradable, compostable, energy efficient, or similar.

The green marketing movement experienced significant setbacks in the late 1980s despite its rising popularity because some sectors made untrue promises about their goods and services.

A frequent belief in green marketing is that traditional features like pricing, quality, or service should be emphasised if we want the general public to purchase our goods. The "greenness" of a product is probably not important to many mainstream consumers. The Holy Grail for green marketers may therefore be to provide a product that is competitive on both traditional and eco-friendly dimensions.

The biggest number of things would be sold as a result, and the environmental impact would be greatest. Because of this, the paradox of the green product can be difficult for marketers to overcome. Such items can be both financially successful and ethically responsible for specific businesses. It only becomes clear that such products may, paradoxically, have a negative impact overall when looking at the big picture and possibly a little into the future.

This essay focuses on green products, their marketing landscape, and their expanding marketing potential.

**Keywords:-** *Brand, rivals, environmentally friendly goods, green marketing, etc.*

# **A STUDY OF A SHORT-TERM DIGITAL BUSINESS STRATEGY: DIRECTLY ACCELERATING VISIONS**

*1\* Mr. Sanjeev Nanda, 2Mr. Bibhuti Nayak*

*1\*Asst. Professor, DEPT. OF Master of Business Administration, NIT BBSR,*

*Asst. Professor DEPT. OF Master of Business Administration, STAR, BBSR*

*1\* sanjeevnanda@thenalanda.com,nayakbibhuti56@gmail.com*

## **ABSTRACT:**

Despite the variety of technical innovations and methods for their operation, incorporation, dominance, etc., digital instruments have fully developed into powerful giants in recent years, while businesses that dominate their trades have discovered that their traditional value proposition is in danger. That is a common belief today, and India has embraced globalization, suggesting that the digital revolution will likely continue to advance in the near future. As smart applications, spreadsheets, and paperwork are used interchangeably for business administration, it is possible to determine how business is conducted, to engage with customers, and how technology is used. It transcends the traditional functions of sales, marketing, and customer service. The digital transformation, in its way, begins and ends with how business houses Think about and focus on, clients. Internet banking is included in digital transformation, as is a general transformation of information and services made available online. The process of utilizing digital knowledge to create new or modify existing company practices, ethos, and customer interaction in order to meet different business and market obligations is known as digital transformation. Digital transformation is the reimagining of corporate in the digital age.

**Keywords:** *Business strategy, digitalization of processes and operations, and digitization.*

# **A RESEARCH ON THE EFFICACY OF RECRUITMENT ORGANIZATIONAL SUPPORT IN ITeS**

*1\* Mr.Abdul Muntakim Khan, 2Miss. Jiya Gandhi  
1\*Asst. Professor, DEPT. OF Master of Business Administration, NIT BBSR,  
Asst. Professor DEPT. OF Master of Business Administration, STAR, BBSR  
1\* [abdulmotakim@thenalanda.com](mailto:abdulmotakim@thenalanda.com), [jiyagandhi@gmail.com](mailto:jiyagandhi@gmail.com)*

## **ABSTRACT:**

The main goal of this study is to comprehend the effectiveness of hiring, the hiring process, and organisational support for knowledge-based decision-making. The effectiveness of recruiting has gained popularity as a metric for determining the organization's recruitment process and as a tool for creating recruitment processes. Only a small amount of empirical data supports the effectiveness of recruitment in this organisation. Here, the researchers have used a variety of variables related to individual aspects that affected upbringing in an effort to determine how the demographic factors and the person elements interacted. Several statistical techniques, including percentage analysis, regression, and correlation, have been used by the researchers

**Keywords:** *Effectiveness, Recruitment, Support, Knowledge*

# STUDY OF A PERSON'S BEHAVIOR IN A WORKPLACE FOR IMPROVED RESULTS

*1\* Mr.Ashis Pahi, 2Mrs.Sanjukta Bhoi*

*1\*Asst. Professor, DEPT. OF Master of Business Administration, NIT BBSR,  
Asst. Professor DEPT. OF Master of Business Administration, SEARC, BBSR*

*1\*ashis@thenalanda.com,bhoisanjukta@gmail.com*

**Abstract**—This study investigates the factors at play when it comes to employee involvement. The results of the empirical research show that employee involvement is positively impacted by high internal marketing intensity and negatively impacted by low internal marketing intensity; sentimental relationships have a strong and positive influence on employee involvement; and employees with internal control personality traits demonstrate a higher level of involvement than those with external control. This paper briefly summarizes what has been learned about lazy people so far.

**Index Terms:** *Performance, Employee Loyalty, Employee Engagement, Absenteeism, and Motivation.*

## **INTRODUCTION:**

Every company asks how they can make lazy employees into hard workers. Once in awhile there are workers that just seem to be getting lazy. It is generally found that the employees were not lazy when they were hired on, but have become so with the passing of time. To know how to make lazy employees into hard workers, a company must understand why the employees have become lazy. One can't motivate employees but can only remove the barriers to motivation. People motivate themselves. The more de-motivator we remove, the less lazy employees become barriers to motivation are the followings-a. Misalignment of values, b. Lack of respect for employees, c. Poor boss-employee relationship,d. Lack of employee self-actualization.

There are employees that will take all the time in the world to do a job that an employer could have done in 30 minutes. How to make this type of lazy employee into a hard worker may take more than simple incentives or job relocation. Employers will have to stay positive with whatever they do so that there are not worse circumstances. If criticism is needed then it should be tried to encourage and compliment before telling the employee that they need to get the work done faster. Another option for employers to try is to give the employee some choices. This works great for toddlers and adults alike. Lazy employees can become hard workers. How to make them into hard workers will depend on what they are lazy in doing and what a company has the power to do.

It's an established fact that there are many differences between the work environment, attitude, perspective etc of a public sector and private sector employees and both can't be handled with the same stick and hence it's necessary first of all to take into account the differences and then only we can discuss about the measures to be taken for motivating the employees. There are differences in career development opportunities, job content, financial rewards, social atmosphere, and work-life balance. Traditional management thinking focuses on the idea that individual's motives have to be assessed in order to understand how a person will act in a given set of circumstances. Traditional View In earlier models first assumed that people were basically the same, that they had the same wants and needs. A more modern approach looks at the individuals: abilities, personality, personality traits, ethics and culture.

# INVENTORY MANAGEMENT PROCEDURES IN SMALL-SCALE INDUSTRIES ARE BEING RESEARCHED AND ANALYZED

*1\* Mr.Abdul Muntakim Khan, 2Mrs.Pratima Naik*

*1\*Asst. Professor, DEPT. OF Master of Business Administration, NIT BBSR,  
Asst. Professor DEPT. OF Master of Business Administration, SEARC, BBSR  
1\*abdulmotakim@thenalanda.com, naikpratima@gmail.com*

**Abstract:** - This project/research looked at product quantity analysis (analysis) in this process to gather three months' worth of data from the company that is needed to finish the task for various products from a plant are timed classified into runners repeaters and strangers this information helps plan the production on a flow line vs. occasionally low volume high value produce that can be completed in a job shop the study was conducted at an automobile company that is primarily facing two problems.

**Keywords:** - *Product Quantity Analysis, Job-Shop Production, Inventory Management, and Supply Chain Management*

## **INTRODUCTION:**

Analysis of product quantities Data about product demand must be gathered and understood as the initial step in this process. A cumulative Pareto percentage by volume of all products' stock keeping units is created to achieve this. These customer-generated data points serve as the starting point for demand behaviour analysis. Demand information for annualised product stock keeping units should be divided into monthly, weekly, and daily demand categories. This data often originates from the business plan forecast, which has a time horizon of six to twelve months and is expressed in units. Both high and low volume products start to present themselves by showing the cumulative proportion. It's crucial to take real customer order and sales data into account in addition to the prediction data. By doing this, the actual demand volume and mix variation, which are crucial inputs for calculating takt time, are taken into account.



# **A PRODUCTIVITY CASE STUDY OF THE MEDIA INDUSTRY IN ODISHA, INDIA: OPPORTUNITY FOR E-MARKETING**

*1\* Mr. Pratyush Dash, 2Mrs. sneha mallick*

*1\*Asst. Professor, DEPT. OF Master of Business Administration, NIT BBSR,*

*Asst. Professor DEPT. OF Master of Business Administration, STAR, BBSR*

*1\* pratyushdas@thenalanda.com, snehamallick@gmail.com*

## **ABSTRACT:**

All country should priorities its media sector since it serves as a key barometer of its socioeconomic progress. The majority of developing countries and its neighbouring states are covered. Odisha is still one of India's most backward states on a number of levels. There is still need for progress in a number of sectors, including the economy, education, and entrepreneurship. The current case study evaluates the print media in Odisha (India) as a standalone industry and assesses its challenges with growth and productivity. How is the print media doing right now in Odisha? What function does marketing, specifically e-marketing, provide for this print media? What role does print media play in the internet age? Is the sector prepared to fully benefit from e-marketing? The current study examines a number of variables that have an impact on this business and makes some marketing recommendations.

**Keywords:** *Productivity, Print-media, e-marketing, case-study-method.*

# A PUBLICATION ON INVENTORY CONTROL AND MANAGEMENT

*1\* Mr. Susanta Kumar Swain, 2Mrs. avaa mohapatra*

*1\*Asst. Professor, DEPT. OF Master of Business Administration, NIT BBSR,*

*Asst. Professor DEPT.OF Master of Business Administration, STAR, BBSR*

*1\* susantakumarswain@thenalanda.com , mohapatraavaa@gmail.com*

## **ABSTRACT:**

This study suggests getting exposed to inventory, which is crucial to the business. The purpose of controlling the transaction between consumer goods is to assure quality in company. In the production company, good inventory management and control are crucial. This research examines inventory management at the top brake manufacturer (WABCO INDIA). This study illustrates an analysis of the ABC items used in the inventory, SAP, and stock policy. The complete inventory department process is covered. Also, it was discovered that the organisation does not perform effective demand forecasting; rather, suppliers complete this task and deliver goods to the business together with the demand predicted in SAP. This has an impact on the business's production process.

It causes the finished goods inventory to be reduced. Because C class products are the most numerous and take up the most space in the inventory, ABC analysis has demonstrated that management needs to have more control over them than A and B items. This is achieved by keeping regular order checks in SAP; additionally, by maintaining accurate forecasts, the inventory's dead stock will be reduced.

**Key words:** - *SAP, ABC analysis, Total quality management.*

## **INTRODUCTION:**

The term "stock" references to the products or materials that a company uses with the intention of production and sale. It also includes the items that are used as powerful materials to promote generation.

The term "stock" references to the products or materials that a company uses with the intention of production and sale. It also includes the items that are used as powerful materials to promote generation.

Stock constitutes one of the vital things of current resources, which licenses smooth operation of creation and deal procedure of a firm. Stock administration is that part of current resources administration, which is worried about keeping up ideal interest in stock and applying successful control framework in order to limit the aggregate stock cost.

Stock enhancement in production network, ABC investigation is a stock order technique which comprises in partitioning things into three classes, A, B and C: A being the most profitable things, C being the minimum significant ones. This strategy plans to draw directors' consideration on the basic few (A-things) and not on the paltry numerous (C-things).

# A STUDY ON RECRUITMENT AND SELECTION PROCESS ORGANIZATION WITH THE HELP OF RECRUITING AGENCY

*1\* Mr.Ashis Pahi, 2Mr. Asutosh Jena*

*1\*Asst. Professor, DEPT. OF Master of Business Administration, NIT BBSR,*

*Asst. Professor DEPT. OF Master of Business Administration, STAR, BBSR*

*1\* ashis@thenalanda.com, jenaasutosh @gmail.com*

## **ABSTRACT:**

In recent times the company has started considering the human capital as the most valuable assets. The recruitment process is keenly monitored by the organization because it provides the advance growth for the organization. The word recruitment has become as a logistic of human resource capital for many organizations. Business organizations are advancing modern recruiting and selection methods due to the entry of consultancy. The aim of the paper is to study the recruitment and selection process followed by the client companies of recruitment agency. The best human capital availability in organizations makes them competitive advantage and as well as they become the real life blood of the organizations. This research studies the review of literature for recruitment and selection procedures followed by the consultancy. The research was done using both primary and secondary data. Primary data was collected from 30 employees using questionnaire method. The results were obtained from percentage method. The research findings reveal that recruitment follows best recruitment and selection process and they are satisfied with the organizational climate and the organization follows ethical recruitment policy.

**Keywords:** *Employees, recruitment, selection, recruitment process, recruiting agency.*

# AN OVERVIEW OF GREEN MARKETING IN INDIA

*1\* Mr.Raj Kumar, <sup>2</sup> Mrs.Tania Mishra*

*1\* Asst. Professor, DEPT. OF Master of Business Administration, KIST BBSR,*

*Asst. Professor DEPT. OF Master of Business Administration, NIT, BBSR*

*1\* kumarraj@gmail.com, , taniamishra@thenalanda.com*

## ***Abstract-***

A change in consumer behaviour is the result of growing consumer awareness of the many environmental issues. Consumer perceptions towards living a green lifestyle have changed. Humans are actively working to lessen their environmental impact. This is not common, though, and it's still developing. Yet, organisations and businesses have observed this shift in consumer views and are attempting to gain a competitive edge in the market by taking advantage of the green market industry's potential. The most pressing necessity at the moment is to maintain consumer loyalty in the present era of globalisation, as well as to maintain the safety of our environment. Green marketing is a trend that has gained a lot of attention In the contemporary marketplace, sustainability has become a key idea both in India and other developing and developed nations. It is seen as a key tactic for promoting sustainable development. The concept, necessity, and importance of green marketing have received the most attention in this research work. Information has been gathered from a variety of sources, in addition to books, journals, websites, and news publications. It examines the key concerns with implementing green marketing strategies. The study discusses the difficulties that green marketing faces while describing the Indian market's current situation.

**Keywords:** *Customer, marketer, traditional marketing, and green marketing.*

## **INTRODUCTION:**

Green marketing, according to the American Marketing Association, is the promotion of goods that are thought to be safe for the environment. As a result, green marketing encompasses a wide range of actions, such as product modification, changes to the manufacturing process, packaging improvements, and advertising adjustments. With growing awareness of the effects of global warming, non-biodegradable solid waste, the harmful effects of pollutants, etc., both marketers and consumers are becoming more sensitive to the need for a switch to green products and services. Green marketing refers to a holistic marketing concept wherein the product, marketing consumption, and disposal of products and services happen in a manner that is less detrimental to the environment. Many individuals mistakenly think that green marketing just involves promoting and advertising goods with environmental benefits. Characteristics. Consumers typically identify green marketing with terms like phosphate free, recyclable, and refillable, ozone friendly, and environment friendly.

# MARKET FOR COMMODITY DERIVATIVES IN INDIA: A RESEARCH

*1\* Mr. Bhupesh Nayak, 2Mr. Prafulla Kumar Dwivedi*  
*1\* Professor, DEPT. OF Master of Business Administration, KIST BBSR,*  
*Asst. Professor DEPT. OF Master of Business Administration, NIT, BBSR*  
*1\* nayakbhupesh@gmail.com, prafullakumar@thenalanda.com*

## **Abstract:**

Although the Indian commodity derivative market has a long history, the first organised market only came into existence in 1875. But, in the middle of the 1960s, the government took a radical move and outlawed all derivatives trading. The commodity derivative market didn't really exist for the following forty years, and it didn't really start up again until the early 2000s. Since its reintroduction, the market has grown significantly, and the present trend indicates this. However, the market's true growth trajectory will depend on the attitude of the decision-makers and the effectiveness of the regulatory system.

A direct investment in agricultural goods and commodities offers the investor a stake in the production and consumption of those goods in the nation. Yet, rather purchasing actual commodities, money managers and typical investors typically favour commodity derivatives. The typical investor doesn't want to hold metals, cattle, cereals, or crude oil. The indirect acquisition of real assets that should act as a strong hedge against inflation risk is a frequent investing goal.

Government policies in India relating the agricultural commodities futures market are constantly changing to meet the needs of the public (food) policy and the current trends in inflation. This is understandably not specific to India but is true of global commodity markets particularly in developing countries. Yet, despite brief reversals, India's current policy focus is on exploiting the commodity derivatives market to integrate the great majority of impoverished farmers into the main financial markets. The question of when and how well India's advancements in the market for commodities futures will genuinely help poor and marginal farmers and producers is still up for debate. 3 Nonetheless, there is no denying that effective markets for commodity derivatives have a huge capacity to influence prices stability and growth in the economy.

The primary goal of the current study is to examine some aspects of the Indian commodities futures market in order to determine if prices represent an efficient market or not. The Multi Commodity Exchange of India Ltd. (MCX) and the National Commodity and Derivatives Exchange Ltd. (NCDEX), two national level electronics exchanges in India, have been tracking multi-commodity indices for spot and futures prices, representing prices of a basket of commodities from various sectors. We use these index values to make comments about how effectively prices are formed in the market for electronically traded commodities futures.

**Keywords:** *commodity derivatives, market, futures, and derivatives*

# RECENT MERGERS AND ACQUISITION IN INDIAN BANKING SECTOR- A STUDY

*1\* Mr. Debasish Sahu, 2Mrs. Monalisha Sahoo*

*1\* Asst. Professor, DEPT. OF Master of Business Administration, KIST BBSR,*

*Asst. Professor DEPT. Master of Business Administration, NIT, BBSR*

*1\*sahudebasish@gmail.com, monalisasahoo@thenalanda.com*

## **Abstract:**

Consolidation in the Banking sector is very important in terms of mergers and acquisitions for the growing Indian Banking Industry. This can be achieved through Cost Reduction and Increasing Revenue. The important part over here is that why do we need consolidation in Indian Banking and what are the Challenges Ahead. The role of the Central government is also very necessary to be analyzed in the entire process as they play a crucial role in the policy formation required for the growth of Indian Banking.

In the recent times, we have seen some M&A as voluntary efforts of banks. Merger of Times Bank with HDFC Bank was the first of such consolidations after financial sector reforms ushered in 1991. Merger of Bank of Madura with ICICI Bank, reverse merger of ICICI with ICICI bank, coming together of Centurion Bank and Bank of Punjab to form Centurion Bank of Punjab and the recent decision of Lord Krishna Bank to merge with Federal Bank are voluntary efforts by banks to consolidate and grow.

Is growing in size better for the Indian banks? India is still an unbanked country and by global standards, even the biggest of Indian banks are minnows in a business where size means clout and where geographical boundaries are blurring. Even by Indian standards, most of the banking sector is disadvantaged by size: the top 25 banks — of which, 18 are owned by the government — account for about 85 per cent of banking assets.

An analysis of the Indian banking industry shows that due to factors like stability, return to shareholders, adhering to regulatory norms, etc make m & a as an imperative. Also m & a gives an opportunity to these Indian banks of creating a universal bank. Also mergers can be used as a strategic tool and also there is a possibility of strategic investments where traditional M&A are not possible. In the changing economic and business environment characterized by speed, flexibility and responsiveness to customers, size has a lot to contribute to staying ahead in the competition. It is in this context that mergers and acquisitions (M & A's) as a tool to gain competitive strength comes into the forefront with partnering for competitiveness being a recognized strategic argument for the same.

**Keywords:** *Women Entrepreneurship, Women Entrepreneurs, Challenges, MSME, Finance.*

# **GST: A PARADIGM SHIFT IN INDIA'S CURRENT TAXATION SYSTEM**

*1\* . Miss.Barsha Rani Dash, 2Mr. Saroj Khuntia*

*1\*Asst. Professor, DEPT. OF Master of Business Administration, NIT BBSR,  
Asst. Professor DEPT. OF Master of Business Administration, STAR, BBSR  
1\* barsharani@thenalanda.com, sarojkhuntia @gmail.com*

## **ABSTRACT:**

After a decade of planning, India implemented the Goods and Services Tax (GST) on July 1, 2017. The GST should ideally lower taxes while enabling businesses to invest and represent consumer preferences in the market. The fundamental GST structure creates difficulties. In contrast to the core of GST, it makes a distinction between goods and services. The preferred single- or double-rate structure is in conflict with too many rates. The range of rates is rather large. The number of new taxpayers has grown too large, which will pose problems for the tax system's administration. Every state where a dealer conducts business requires registration. This makes it possible for the federal government and each state's government to examine the same taxpayer, but it presents a compliance difficulty for small taxpayers. Moving forward, emerging issues with information technology Corrections should be made to return filing. There is no monitoring unit to assess how the GST affects income or inflation. The introduction of GST was meant to be revenue-neutral. If post-introduction revenue has pushed up the pre-introduction collection trend, the likelihood of a drop in GST rates should be taken into account. If cascading parts of the previous tax structure are eliminated or reduced under GST, there shouldn't be any major short-term negative effects on GDP. These issues require observation and correction.

To lessen its cascading consequences, petroleum must be immediately included to the Tax base. The CBEC Chairperson's weekly posts make it clear that the top administration is attempting to assist taxpayers, make compliance easier, and rein in any lingering elements of corruption.

**Keywords:** *GST, input tax credit, India, value added tax, State Finance, CBEC, Centralised Processing Centre.*

# AN ANALYSIS OF THE VARIABLES AFFECTING THE UPTAKE OF INTERNET BANKING

*1\* Mr.Samir Maharana, <sup>2</sup> Mr.Susanta Kumar Swain*

*1\* Asst.Professor, DEPT. OF Master of Business Administration, KIST BBSR,*

*Asst. Professor DEPT. OF Master of Business Administration, NIT, BBSR*

*1\* samir15@gmail.com, susantakumarswain@thenalanda.com*

## **ABSTRACT:**

Prior to the Gulf Crisis of 1991, the Indian financial system mostly served the needs of planned growth in a mixed-economy setting where the public sector dominated economic activity. The government's monopoly over bank ownership, automatic monetization of the fiscal deficit, and the imposition of significant pre-emptions on the banking industry in terms of both the statutory holding of government securities (statutory liquidity ratio, or SLR), and the cash reserve ratio, were used to meet the strategy of planned economic development's enormous development expenditure requirements (CRR). In addition, there was a complicated administrative interest rate system that was driven by social concerns and resulted in cross-subsidization. They not only damaged the viability and profitability of the market, but also negatively impacted the interest rate system banks at the 1980s' end. Perhaps there are certain aspects of such a "repressed" system that are shared by the financial sectors of many developing market economies. It follows that, despite being unique to each country's circumstances, the financial sector reform process in the majority of emerging economies shares a lot of similarities with one another. In order to understand the similarities and differences in our routes towards reform, it would be good to provide a narrative of the broad strokes of reform in India.

The nation's financial system is crucial to its economic development. Information technology has caused a transformation in the banking industry that has made it possible to provide retail electronic payment systems. These systems have advanced in recent years in many nations, and India has not lagged behind. Banks have become more modern as a result of online banking system implementation. E-banking relies heavily on IT without the clients providing direct resources to the bank and is knowledge-based and mostly scientific in how it uses electronic devices of computer resolution. Examining and analysing the developments in Indian internet banking is the paper's main goal. The report also addresses the difficulties that Banks in India are utilising technology. At the end, the author's opinions are presented as a conclusion.

**Keywords:** *Electronic banking, IT, ATMs, RTGS, NEFTs, debit and credit cards.*



# **WORKING OF MICRO, SMALL AND MEDIUM ENTERPRISES IN INDIA – A STUDY**

*1\* Mr.Santanu Mishra, 2Mr. Mr.Ashis Pahi*

*1\*Asst. Professor, DEPT. OF Master of Business Administration, OEC BBSR,  
Asst. Professor DEPT. OF Master of Business Administration, NIT, BBSR*

*1\* mishrasantanu @gmail.com, ashis@thenalanda.com*

## **Abstract:**

Any country's growth and development are dependent on the efficiency and importance of its agricultural industrial sector. Being the foundation and pillars for resolving the nation's economic issues, both of these sectors must be balanced in countries like India. Given the rate of population growth, employment creation is crucial in the current situation. In fact, industrial growth is crucial to the nation's economy's acceleration as well as to eradicating rural areas' backwardness and achieving reliance between urban and rural areas in terms of development. All unit types, including those in large, medium, small, and micro industries, need to develop. Development of Micro, Small and Medium-Sized Businesses in general crucial in the current context. The obstacles and issues that MSME's face are numerous. The Indian government has taken numerous measures to support MSME's through programmes, policies, and regulations. The workings of micro, small, and medium enterprises in India are the main topic of the current paper.

**Keywords :** *India, MSME's, the economy, the government, various industries, etc.*

## **Introduction:**

From invention to empowerment Via Made in India, Mudra Bank, Digital India, Skill India, and numerous other programmes and initiatives, the government has created possibilities for MSMEs to start up in various sectors of the economy. MSMEs are developing their management skills in a spectacular way over time. The researcher concentrated on how MSMEs operate in terms of geography, gender-based ownership, and socioeconomic categories in this report.

# **EFFECTS OF SPORTS-SPECIFIC TRAINING ON PARTICULAR PHYSICAL, PSYCHOLOGICAL, AND PHYSIOLOGICAL CHARACTERISTICS, AS WELL AS ON PHYSICAL EXERCISE AND PERSONALITY: RESEARCH ON COLLEGE STUDENTS**

*1\* Miss.Rashmi Rekha Pradhan, 2Mr. Swarup Nayak  
1\*Asst. Professor, DEPT. OF Master of Business Administration, NIT BBSR,  
Asst. Professor DEPT. OF Master of Business Administration, STAR, BBSR  
1\* rashmirekha@thenalanda.com, nayakswarup@gmail.com*

## **Abstract:**

The study's goal is to examine the impact of athletic training and perceptual skill development on the muscular strength and explosive power of male intercollegiate athletes attending different colleges. Three equal groups of fifteen people each were formed by randomly dividing the participants, two of which served as experimental groups and one as controls. Because of the increased responsibilities and fast-paced nature of modern life, exercise is crucial for maintaining both physical and mental health. The researcher is highly interested in learning about the effects of yoga and physical exercise on personality factors because it is such an important component of life. a research project on college students.

**Keywords:** *Sports specific training, physical physiological psychological, college level students.*

## **INTRODUCTION:**

Physical Fitness is the capacity to carry out responsible vigorous physical activity and includes qualities in pertain to the individual health and well being. Sports training largely depend on Physical Fitness. Physical Fitness improves the general fitness, health, organic functioning capacity, strength, stability of muscular and skeleton system etc. Importance of Physical Fitness or motor abilities is the main criteria in sports training. As per Sebastian Coe - says that, the basis for overall physical fitness is achieved by improving your respiration and your circulation, and to the end the most effective activity is running. The longer you keep running and exercise well the longer you will stay well. Physical Fitness is the basic criteria for every individual in the society. To lead a successful life an individual has to undergo fitness programmes in his daily life. It is an important programme for sportsman. Through fitness a sportsman easily adapts motor abilities and conditioning.

# **STUDY THE CONSUMER BEHAVIOR OF RURAL AREA CONSUMER WHILE PURCHASING ONLINE**

*1\* Mrs.sonia ray, 2Mr. Mr.Abdul Muntakim Khan*  
*1\* Asst.Professor, DEPT. OF Master of Business Administration, OEC BBSR,*  
*Asst. Professor DEPT.OF Master of Business Administration, NIT, BBSR*  
*1\* raysonia@gmail.com, abdulmotakim@thenalanda.com*

## **Abstract:**

India has become a target market for any business organization. The area and population is very big in size. It is always a difficult task to reach all products to last part of market. Online trading is buzz subject in current era. It has many advantages as far as seller and buyers are concern. It affects lot on retail market. Even now days it is effecting big mall also. If we watch on television many advertisement about new online trading are shown. Metro people are very much habitual about online trading. In this research paper researcher would like to know the consumer behavior of rural area consumer while purchasing online in selected area. There are many things can be studied in this paper. Researcher would like to know about there is gap between metro consumer and rural consumer about occupation, frequency of purchase, problems faced during complete transaction, methods used by users for online and other related aspect can be studied.

**Index Terms** - *Trading, Online, Consumer, rural.*

## **INTRODUCTION:**

Online purchasing is boom business. Consumer behavior towards online purchasing is vital. In this study rural consumer are focused to know the point of view of them. It is important to seller to reach all parts of markets. Metro people can buy the things through all means. There are possibilities that rural may have some different view compare to metro consumer. In the metro Malls and various other options are available. This is big challenges as far as rural consumers are concerns. Education, Financial literacy, technological updates are matter to consider. This study will help to know the same status. Respondents are from rural part of Osmanabad District. It is region form Maharashtra.

# STUDY ON INDIAN MUTUAL FUNDSEQUITY

*1\* Mr.Akash Panigrahi, 2Mr. Jyoti Prakash Panda*

*1\*Asst. Professor, DEPT. OF Master of Business Administration, KIST BBSR,*

*Asst. Professor DEPT. OF Master of Business Administration, NIT, BBSR*

*1\* akash003@gmail.com, jyotiprakash@thenalanda.com*

## **ABSTRACT:**

For the purpose thirteen most preferred public and private sector equity diversified growth schemes over a period of one year viz.2007-08 have been taken through judgment sampling and Yield on 10 yr. govt. bond has been taken as the surrogate for the risk free rate of return viz.7.56% p.a. First part of paper provides a necessary insight about the mutual fund. The second part consists of data (collected from websites & Economic times) and their analysis. It's an empirical study stating the ranking & evaluation of funds based on three ratios namely, Jensen's, Treynor's & Sharpe's. The study produced sufficient information of risk and return associated with fund and their rank depending on their performance which will ultimately help investors to choose the best mutual fund generating maximum return with minimum risk. In last concluding remarks has been given

With passing time Indian mutual fund industry experiencing tremendous growth which was / is cooked by infrastructural development in India and supported by high saving and increasing foreign participation. During the period increasing income and awareness boosted risk taking ability of common investors and mutual fund became the most preferred and safest investment option among all class. After liberalization and globalization of Indian economy, market witness huge crowd towards the option of investing in mutual funds but investment in a particular funds needs a lot of specification like- investor's objectives, cost, availability of funds, risk & return factors etc. and thus invite fundamental study for better future and growth. This paper aims to know how the performance of mutual funds is assessed and ranked after analyzing the NAV and their respective returns so as to measure investment avenues.

**Key words:** *specification like- investor's objectives, cost, availability of funds, risk & return*

# EMERGING TRENDS IN COMMERCE:MANAGEMENT BY OBJECTIVES

*1\* .Dr. Deepti Mishra, 2Mr. Anup Rout*

*1\*Asst. Professor, DEPT. OF Master of Business Administration, NIT BBSR,*

*Asst. Professor DEPT.OF Master of Business Administration, STAR, BBSR*

*1\* diptimishra@thenalanda.com, routanup@gmail.com*

## **ABSTRACT:**

Management has become an important “economic organ” of the present industrial society. Proper management is a pre- requisite for a successful organization. A profit-making organization can get into a loss-making concern in the absence of proper management. MBO literally means “Management by Objectives”. It is a technique that is often used to formulate and implement operational goals. Traditionally, organizational goals are formulated by compliance. In contrast the MBO approach involves employees in the process of formulating and implementing these operational goals directly related to their jobs. This paper includes objectives and approaches to the concept of MBO. It also highlights the suggestions to improve the organization both quantitatively and qualitatively. This research paper's data has been collected from the sources: annual reports, articles, magazines, related books and websites. The present paper is worked out theoretically. It aims to study the MBO, its process and workings and its implications in Indian Companies.

**Keywords :** *Management by Objectives, Management, Companies, Managers, Objectives, Organizations*

# ATTITUDE OF SHARE BROKERS TOWARDS THE PRESENT STOCK MARKET SCENARIO – AN REVIEW

*1\*Mr.Sourav Mahakul, 2Mr. Amit Kumar Parida*

*1\*Asst. Professor, Dept. OF Master of Business Administration, SEARC BBSR,  
Asst. Professor DEPT. OF Master of Business Administration, NIT, BBSR  
1\*sourav88@gmail.com, amitkumar@thenalanda.com*

## **Abstract:**

This paper investigates investors satisfaction on online share trading and technical problems faced by the investors and attitude of share brokers. The satisfaction of investors on online share trading based on brokerage houses were analysed using percentage analysis and the technical problems faced by the investors while trading shares through online using were analysed using Garrett ranking analysis. Primary data were collected from sample 620 respondents through the structured questionnaire. A stock brokerage is an investment services company that is primarily involved in the business of buying and selling stocks and other financial securities on behalf of its clients in return for a fee or commission.

The industry operates under close government regulations that aim to protect the investing public. A stock brokerage may not open for business without filing for appropriate registrations and obtaining certain memberships. A stock brokerage may focus on different investment services and clients. It must also be able to provide a wide range of security information to clients for investment research and trade selections. As per Section 65(93) of Finance Act, 1994 "Stock-broker" means a person, who has either made an application for registration or is registered as a stock broker, in accordance with the rules and regulations made under the Securities and Exchange Board of India Act, 1992. A retail brokerage serves only individual investors, whereas an institutional brokerage has the capacity to handle large order flows from institutional investors such as mutual funds. The objectives of the study are to study the investor's perception regarding investment in stock market and to study the investor's behaviour toward market trend on his investment. To study the comparison of broking firms in terms of service provided by them to the investors. Very few brokers insist their clients to fill the 'Instruction Slip', which is required for buy / sale of scrips. Clients also don't bother to take efforts to give the slip when they trade in the market. At the time of dispute this instruction slip can become a valid document. The ignorance of investors is beneficial to brokers. When investor gives a telephonic order it becomes difficult to issue instruction slip for him. Majority of big brokers like Motilal Oswal, Angel Broking have a telephonic recording facility at their branches. So in case of dispute (for example a client gives a trade order for Reliance industries and the jobber at broker put the order for Reliance Infra, the dispute arises) this becomes a valid proof for them. It has been observed that sub-brokers or franchisees don't have the facility recording.

# **EXTREMELY EFFECTIVE CRM SOLUTION USING SALES FORCE**

*1\*Mr.Karan Kumar, 2Mr. Manmaya Kumar Tripathy*

*1\* Asst.Professor, DEPT. OF Master of Business Administration, KIST, BBSR,*

*Asst. Professor DEPT. OF Master of Business Administration, NIT, BBSR*

*1\*kumarkaran@gmail.com, manmaykumar@thenalanda.com*

## ***ABSTRACT –***

Salesforce is very hot cloud computing technology in IT industry, which is available on cloud, no need install any software as well as no hardware required. Salesforce.com (SFDC) is a number one on demand CRM, which runs on force.com platform, as well as CRM is a model used to manage organization interactions like phone calls, Emails, Meetings and Social media with customers and also prospects penetrating to Sales, Marketing and Support. In this paper, we are discussing about Introduction to Cloud Computing, Service models in Cloud Computing, Types of Cloud Computing, Architecture of Cloud Computing and Introduction to MVC as well as SFDC MVC. Further discussing about Introduction to Salesforce, SOQL and Its Comparison Operators and at last covering Force.com IDE and CRM. The aim of this paper is to show mainly importance of Salesforce.com which is a software giant that manages to give the buyer an easy to use as well as extremely effective CRM solution.

***Keywords - Cloud Computing; CRM; MVC; SFDC; SOQL***

# **FINGERPRINT/OTP-BASED ATM TRANSACTION SECURITY**

*1\*Mr.Sushant Behera, <sup>2</sup> Dr. Shiv Sankar Das*

*1\*Asst. Professor, DEPT. OF Master of Business Administration, KIST, BBSR,*

*Asst. Professor DEPT. OF Master of Business Administration, NIT, BBSR*

*1\*beherasushant@gmail.com, sivsankar@thenalanda.com*

## ***ABSTRACT-***

The topic of this essay is security measures for ATMs. Along with the use of the ATM pin, we'll utilise fingerprint or One Time Password (OTP) authentication. Under this method, the user has the option of either temporary or ongoing third party authentication. The first partner in the process, the banker, will keep a database of the customer, complete with fingerprint and mobile number. The ATM card and PIN will be given to you by the bank representative. The customer would be presented with the options of fingerprint or OTP verification for the transaction after inputting the ATM pin. Via a GSM module linked to the system, the OTP will be delivered to the customer's registered mobile phone. Authorized verification follows, and the After three consecutive unsuccessful tries, the ATM card will be disabled for 24 hours, and a message will be sent to the registered mobile number, allowing the consumer to continue with the transaction.

***Keywords-*** *ATM, OTP, fingerprint, ATM pin, mobile number, microcontroller.*



# The recent challenges of highly contagious COVID-19, causing respiratory infections: Symptoms, diagnosis, transmission, possible vaccines, animal models, and immunotherapy

DR. BISWANATH BISWAL<sup>1\*</sup>, KAJAL PARASHAR<sup>2\*</sup>,

<sup>1\*</sup>Assistant Professor, Department of Basic Science and Humanities, NIT, Bhubaneswar, Odisha, India

<sup>2\*</sup>Assistant Professor Department of Basic Science and Humanities, ABIT, Cuttack, Odisha, India

\*Corresponding author e-mail: [biswanathbiswal@thenalanda.com](mailto:biswanathbiswal@thenalanda.com)

## ABSTRACT

COVID-19 is a highly contagious pathogenic viral infection that originated in a wholesale seafood market in Wuhan, China in December 2019 and has rapidly spread around the world. A recent outbreak of novel coronavirus (CoV) is thought to have originated in bats and causes respiratory infections such as influenza, dry cough, fever, headache, shortness of breath, pneumonia, and possibly severe acute respiratory syndrome (SARS). Human-to-human transmission of this widespread zoonotic virus has resulted in nearly 83,000,000 cases in 213 countries and territories and 50,686 deaths as of June 19, 2020. This review discusses the origin, transmission, symptoms, diagnosis, potential vaccines, animal models and immunotherapy of this new virus, and provides researchers with a wealth of indicators for the continued development of therapeutic agents and vaccines, as well as to prevent its spread of illness.

## KEYWORDS

COVID-19 pneumonia, diagnosis, entry mechanism, possible vaccines, animal models and immunotherapy, symptoms, transmission

## INTRODUCTION

Coronavirus (CoV) is a positive single-stranded RNA virus that causes respiratory infections such as common cold, flu, rarely pneumonia, and finally *Severe Acute Respiratory Syndrome* (SARS) (Tyrrell & Bynoe, 1966). It belongs to Coronaviridae family in the Nidovirales order. The external surface creates crown-like spikes of 9–12 nm long

(Weiet al., 2020) and hence, termed as coronavirus (Latin: corona means crown). The genome (nucleic material) size varies from 26 to 32 kbs in length (Shereen, Khan, Kazmi, Bashir, & Siddique, 2020). There are four subfamilies, namely alpha-, beta-, gamma-, and delta coronaviruses, exist till date. The alpha- and betacoronaviruses are originated from mammals (bats), whereas gamma- and delta coronaviruses are originated from birds and pigs. There are seven human coronaviruses identified till date (Table 1; Chan et al., 2020; Franquet, 2011; Hansell et al., 2008; Lee, 2020; Malainou & Herold, 2019). Among these seven subtypes, betacoronaviruses are causing severe diseases and fatalities, while alphacoronaviruses cause mildly symptomatic infections. As per the genomic analysis, SARS-CoV-2 is identical with bat CoV (96%) and pangolin CoV (86%–92%), so bats could be the possible primary reservoir (GISAID, 2020; Shereen et al., 2020; Zhou, Yang, et al., 2020). The major four structural genes encode the spike protein (S), nucleocapsid protein (N), membrane glycoprotein (M), and small membrane protein (SM) with an additional hemagglutinin esterase (HE) if present (HE is only present in some betacoronaviruses). The genome RNA is

# Atomic structure of silicon nanoribbons on Ag(110)

Mr. BIPIN BIHARI BHOI<sup>1</sup>\*, Mr. SITANSHU NAYAK<sup>2</sup>\*

<sup>1</sup>\*Assistant Professor, Department of Basic Science and Humanities, NIT, Bhubaneswar, Odisha, India

<sup>2</sup>Assistant Professor, Department of Applied science, KIIT, Bhubaneswar, Odisha, India

\*Corresponding author e-mail: [bipinbihari@thenalanda.com](mailto:bipinbihari@thenalanda.com)

**Abstract.** Silicon nanoribbon (NR) growth on Ag(110) substrate is reinvestigated using scanning tunneling microscopy (STM) and low energy electron diffraction (LEED). Deposition of a single silicon monolayer at 230 ° C results in the formation of one-dimensional 1.6 nm wide silicon nanoribbons into a well-ordered compact array with a nanometer scale of only 2 nm. Based on STM analysis, we obtained an atomic model of silicon nanoribbons (NRs) in which they are essentially twisted, and the quantum confinement of electrons in NRs contributes to the electron density of states.

## Introduction

Substantial efforts have been focused recently on the electronic properties of two-dimensional (2D) materials in the perspective of their integration new devices [1]. Given the impact of graphene over the last few years [2], the isomorphic silicene [3] and germanene [4] are now considered to be promising novel materials with the advantage of being compatible with existing semiconductor technology [5]. Theoretical investigations of free-standing silicene show that these two novel materials have electronic structures with band structures presenting a linear crossing at the K and K' points of the surface Brillouin zone indicative of semi-metallic character, and massless Dirac fermion character. These result in similar properties such as a large charge carrier mobility and Hall effect [4,6-8]. For the moment, the primary method for growing silicene and germanene is on solid substrates, in particular silver: Ge/Ag [9-12] and Si/Ag [3, 13-15] and recently on gold [16] and iridium [17]. On Ag(111), silicene forms a continuous sheet [15], with at least three distinct ordered phases [18-21], depending on the deposition conditions. Free-standing silicon sheets only exist as silicon nanotubes [22] or multilayer silicene from chemical methods [23]. Now, nanoribbons are very interesting because of their potential for 1D dispersion effects with directional conductivity. A perfectly well defined edge structure is required and the coherent electron confinement will lead to observable effects such as quantum interference channeling at their edges [24]. To achieve this, graphene nanoribbons have to be synthesized chemically [25, 26], and Bi nanolines on Si(001) require a high formation temperature (600°) [27], while Si nanowires on SiC did not show any 1D conductivity [28]. On the Ag(110) surface, one-dimensional silicene nanoribbons (NRs) [13] can be grown. The isolated NRs show a low

# NT10: Recent Advances in Carbon Nanotube Science and Applications

DR. DEBADUTTA DAS<sup>1\*</sup>, AKSHAYA KUMAR PANDA<sup>2\*</sup>,

<sup>1\*</sup> Assisiant Professor, Department of Basic Science and Humanities, NIT, Bhubaneswar, Odisha, India

<sup>2</sup> Assistant Professor, Department of Basic Science and Humanities, PMEC, Berhampur, Odisha, India

\*Corresponding author e-mail: [debaduttadas@thenalanda.com](mailto:debaduttadas@thenalanda.com)

**ABSTRACT** An overview of recent advances in carbon nanotube science and applications is presented based on what was learned at the NT10 11th International Conference on **Nanotube** Science and **Applications**, held in Montreal, Canada, on June 10. July 2010.

Nanostructures have in recent years become a central theme in materials chemistry, while carbon nanotubes have become a model one-dimensional (1D) nanostructure of the nanoscale world. In this context, advances made in the science and applications of carbon nanotubes have been reported annually for more than a decade at the international carbon nanotube conference series, with NT10 being the 11th conference in the series, taking place in Montreal, Canada, during the week of June 29—July 2, 2010. As interest in carbon nanotubes has grown during the time frame of the conference series, so has worldwide attendance, reaching a level of 700 attendees in 2010, reflecting the growth of publications in the field (Figure 1). One tradition of the nanotube conference series has been the conference summary presented here, which attempts to capture some of the highlights at the conference, describe the notable trends occurring in the carbon nanotube research field, and provide an outlook toward the future.

One noteworthy trend is that the carbon nanotube field has not only grown over the past decade but has also impacted other areas of science and technology. As a result of this, four satellite conferences have been spawned, which in 2010 met prior to the main NT10 conference. These satellite conferences have led to cross-fertilization with the carbon nanotube research community as well as cross-fertilization among the four satellite conferences themselves. After more than a decade of the nanotube conferences, we now see further growth with four tutorial lectures preceding the start

of NT10. The topics covered in the tutorial lectures were selected by the local organizing committee and served as an orientation for newcomers to these research fields. The four satellite workshops were called (1) the sixth International Symposium on Computational Challenges and Tools for Nanotubes (CCTN10); (2) the fourth International Workshop on Metrology, Standardization, and Industrial Quality of Nanotubes (MSIN10); (3) the third Carbon Nanotube Biology, Medicine, and Toxicology Satellite Symposium (CNB-MT10); and (4) the first Graphene Satellite Symposium (GSS10). The four tutorials were (1) Nucleation and Growth of Carbon Nanotubes by David Geohegan, (2) Nanotube Structure Determination and Population Evaluation with Transmission Electron Microscopies and Spectroscopies by Annick Loiseau, (3) Fundamentals of the Optical Properties of Carbon Nanotubes and Current Status by Anna Swan, and (4) Graphene and Carbon Nanotube Electronics and Optoelectronics by Phaeton Avouris.

The long-term vitality of the carbon nanotube field has benefited from a fluidity of researchers moving in an interdisciplinary way from carbon nanotubes into other fields of science as well as into new types of applications through the interdisciplinarity and outreach of nanoscience in general. This outreach of the carbon nanotube field highlights the desirability of identifying future research directions for carbon nanotubes. Some insights and suggestions about new research directions come from studies such as the U.S. National Academy of Sciences Decadal Study on Condensed Matter Physics entitled "The Science of the World Around Us";<sup>1</sup> this outreach opportunity was noted by some NT10 speakers, such as Paul McEuen, who also participated in this decadal study. In this study, six research directions were identified for this decade,

# Multiwalled Carbon Nanotube Aqueous Dispersion Terahertz Absorption Properties Tested by Microfluidic Technology

DR. AMIT KUMAR JANA <sup>1\*</sup>, SUTANU MANGAL<sup>2\*</sup>,

<sup>1\*</sup>Assistant Professor, Department of Basic Science and Humanities, NIT, Bhubaneswar, Odisha, India

<sup>2\*</sup>Assistant Professor, Department of Basic Science and Humanities, GIET, Bhubaneswar, Odisha, India

\*Corresponding author e-mail: [amitkumarjana@thenalanda.com](mailto:amitkumarjana@thenalanda.com)

## Abstract

The remarkable electrical, mechanical, and structural properties of multiwalled carbon nanotubes (MWCNTs) are significantly hampered by their poor dispersion structure and massive aggregates. Through the use of ultrasonic dispersion and surfactant modification, a stable MWCNT dispersion in an aqueous solvent has been achieved, serving as a model for increasing MWCNT dispersion in diverse materials and solvents. In this study, microfluidic chips are made using a cyclic olefin copolymer that has a high transparency to terahertz (THz) waves. The THz absorption characteristics of MWCNT aqueous dispersion are then investigated using a combination of microfluidic and THz technologies under various EF, MF, and MF action time conditions. The findings demonstrate that the absorbance increases and the THz spectrum intensity of MWCNT aqueous dispersion decreases. EF, MF, and MF action time all rise in intensity as does coefficient. A microscopic explanation is provided for this occurrence. In order to explore the features of MWCNT aqueous dispersion and lay the groundwork for understanding its molecular microstructure, microfluidic and THz technologies have been combined.

## 1. Introduction

Terahertz (THz) waves are electromagnetic waves with frequency and wavelength ranges of 0.1–10 THz and 30–3,000  $\mu\text{m}$ , respectively. THz time-domain spectroscopy (THz-TDS) is a mature technology, which not only can directly obtain signal amplitude and phase with a high signal-to-noise ratio (greater than 60 dB) [1]. THz absorbing materials are essential in the field of national security and information protection as well as having application potential in communications [2], signal modulation [3], imaging [4], and sensing [5]. In addition, ultrathin wideband THz absorbing techniques are effective means to realize high sensitivity and fast wideband THz

detection [6]. In recent years, researchers have designed a series of tunable THz absorbers [7–11], which can achieve narrow-band, wideband, double band, and multiband absorption. This has aroused great interest and become a research hotspot. From the perspective of absorption bandwidth and absorption intensity, the specific average THz absorption performance of multiwalled carbon nanotube (MWCNT) is achieved up to  $3.6 \times 10^4 \text{ dB cm}^3 \text{ g}^{-1}$ , which is over thousands of times larger than other kinds of materials reported previously [12]. In 2020, Gorokhov et al. [13] fabricated lightweight and compact MWCNT-based meta-surfaces, which are able to replace conventional pyramidal absorbers and have been shown to serve as a versatile platform for scalable cost-

# A novel approach on leaching study for removal of toxic elements from thermal power plant-based fly ash using natural bio-surfactant

DR. JYOTIRMAYA SATPATHY<sup>1\*</sup>, GORKY SHAW<sup>2\*</sup>,

<sup>1\*</sup>Assistant Professor, Department of Basic Science and Humanities, NIT, Bhubaneswar, Odisha, India

<sup>2</sup>Assistant Professor, Department of Basic Science and Humanities, NMIET, Bhubaneswar, Odisha, India

\*Corresponding author e-mail: [jyotirmayasatpathy@thenalanda.com](mailto:jyotirmayasatpathy@thenalanda.com)

## A B S T R A C T

---

A plant extract such as saponin obtained from the fruits of *Sapindus laurifolia* (*S. laurifolia*) by both chemical and water-based methods has been introduced as a cheap and inexpensive solvent for the removal of toxic elements from thermal power plants. coal fly ash (FA). An extraction study of elements including Cr, As, Ni, Pb, Zn and Cu from FA particles was conducted and reported systematically. The role of critical factors such as saponin concentration, time, temperature and pH of liXiviant was investigated. Extraction results of sapoin separated by aqueous and chemical extraction were compared and presented. The change in FA phase obtained by SEM analysis, such as the appearance of surface roughness of the normal phases of FA after dissolution, was well explained by the dissolution of metals from FA. Based on the hydrophobic and hydrophilic character, the interaction mechanism resulting from the adsorbed saponin with the FA surface phase during the leaching of these metals was deduced and proposed based on the the dissolution results

---

### 1. Introduction

In the present scenario, the management of solid waste like fly ash (FA) and its beneficiation is a greater concern owing to its larger rate of generation rate out from the industries and various incineration processes [1]. In a country like India, there is extensive usage of coal is noticed exclusively in thermal power plant sectors for electric energy production leading to which the generation of FA from the thermal power plant is projected to be multifold over other sectors. Nonetheless, there is a growing demand for use of coal in power plant sectors day by day as the country's 70% of power generation is exploited from the thermal power plants [2]. As per the literature survey, the electricity demand of India is expected to rise to 950,000 MW by 2030 and that would substantially produce a huge quantity of FA. The production of FA will increase by approximately 442 MT/year by the end of 2035 [3]. The

majority of the Fly ash liberated out of the industries and/or processes are disposed of off as it is for landfilling purposes. Thereby, the serious issues are accounted due to FA for causing environmental pollution upon contaminating with soil, water, and air level. The contamination of groundwater level by FA is mostly caused by the content of the heavy metal(s)/metalloid(s) such as Pb, Cd, Cr, Fe, and As in it [4]. These elements in the water level cause several acute and carcinogenic diseases to animal and plant lives [3]. Therefore, keeping in view of the greater level of the liberated amount of FA and issues of environment caused by FA [4] it becomes essential to develop a suitable processing technology for the removal of toxic elements from FA prior to its disposal to the environment and that could certainly prevent the risk of causing acute health threats up to greater extent [5,6].

The hydrometallurgical leaching methodology is commonly practiced by researchers to leach the metals from the fly ash phases using mineral acids, alkalis, and other reagents [7]. In connection with the

# The Future of Nanotechnology in Plant Pathology

DR. RAMA CHANDRA DASH<sup>1\*</sup>, ALOK RANJAN PATNAIK<sup>2\*</sup>,

<sup>1\*</sup> Assisiant Professor, Department of Basic Science and Humanities, NIT, Bhubaneswar, Odisha, India

<sup>2</sup> Assistant Professor Department of Basic Science and Humanities, DRIEMS, TANGI, Odisha, India

\*Corresponding author e-mail: [ramachandradash@thenalanda.com](mailto:ramachandradash@thenalanda.com)

## Keywords

Metallic Nanoparticles, Carbon Nanomaterials, Biosensors, Diagnostics, Plant Pathogens

## Abstract

Engineering nanoparticles are materials between 1 and 100 nm in diameter and exist as metalloids, metal oxides, nonmetals, and carbon nanoparticles, as well as functionalized dendrimers, liposomes, and quantum dots. Their small size, large surface area and high reactivity enabled them to be used as bacteria/fugitives and nanofertilizers. Nanoparticles can be designed as biosensors in plant disease diagnosis and as transport vehicles for genetic material, probes and agricultural chemicals. Over the past decade, reports of nanotechnology in plant pathology have exploded. Nanomaterials are integrated into disease management strategies and diagnostics and as molecular tools. Most of the reports summarized here have focused on pathogen inhibition using metalloid/metal oxide nanoparticles as bactericides/fungicides and nanofertilizers to improve health. The use of nanoparticles as biosensors in plant disease diagnosis is also being investigated. As global demand for food production increases in the face of climate change, nanotechnology can sustainably alleviate many disease control challenges by reducing chemical inputs and promoting rapid pathogen detection.<sup>111</sup>

# Effect of Mechanochemically Synthesized Copper (II) and Silver (I) Complexes with Cefuroxime on Some Cephalosporin Resistance Bacteria

DR. RAMESH CHANDRA RATH<sup>1\*</sup>, AMULYA KUMAR MAHTO<sup>2\*</sup>,

<sup>1\*</sup>Assistant Professor, Department of Basic Science and Humanities, NIT, Bhubaneswar, Odisha, India

<sup>2\*</sup>Assistant Professor, Department of Basic Science and Humanities, KIIT, Bhubaneswar, Odisha, India

\*Corresponding author e-mail: [rameshchandrath@thenalanda.com](mailto:rameshchandrath@thenalanda.com)

---

## Effect of Mechanochemically Synthesized Copper (II) and Silver (I) Complexes with Cefuroxime on Some Cephalosporin Resistance Bacteria

**B. B. BHOI, D.DAS**

### ABSTRACT

Drug development is based on complexation to modify the pharmacological, toxicological and physicochemical properties of drugs. In this work, copper (II) and silver (I) cefuroxime complexes were created by a solvent-free method (mechano-chemical). Physicochemical methods including infrared, UV/visible, elemental analysis, melting point, solubility and conductivity were used to characterize the complexes. Based on the data, the complexes were assumed to have the formulas  $[Cu(CFU)2H_2O]$  and  $[Ag(CFU)NO_3]$ , where CFU stands for cefuroxime. Using the plate diffusion method, the antimicrobial efficiency of the synthesized complexes was evaluated against several bacterial strains, including *Streptococcus pneumoniae*, *Bacillus subtilis*, *Salmonella typhi*, *Klebsiella pneumoniae*, *Escherichia coli*, Methicillin-resistant *Staphylococcus aureus*

### CONTENTS

1. Introduction .....	156
2. Materials and Method .....	156
3. Results and Discussion .....	156
4. Conclusion .....	159
5. Acknowledgement .....	159
6. References .....	159

PAPER-QR CODE

---



# Carbon nanotubes formation in the decomposition of heavy hydrocarbons creeping along the surface of the glow discharge

DR. SUNITA BAL<sup>1\*</sup>, ALOK KUMAR PANDA<sup>2\*</sup>,

<sup>1\*</sup>Assistant Professor, Department of Basic Science and Humanities, NIT, Bhubaneswar, Odisha, India

<sup>2</sup>Assistant Professor, Department of Basic Science and Humanities, AIET, Bhubaneswar, Odisha, India

\*Corresponding author e-mail: [sunitabal@thenalanda.com](mailto:sunitabal@thenalanda.com)

---

**Abstract.** The possibility of the decomposition of heavy hydrocarbons in the plasma of a creeping glow discharge in a magnetic field is investigated. Electron microscopic analysis of carbon accumulation on the electrodes and walls of the discharge chamber is performed, as well as gas chromatographic analysis of the gas produced during the experiment. The length of the grown carbon nanotubes is approximately 6.17  $\mu\text{m}$  and the diameter is approximately 18 nm.

## 1. Introduction

A high degree of disequilibrium is established in the glow discharge caused by a large detachment of the electron temperature from the gas one. Despite the fact that the temperature of the electrons in the glow discharge reaches many hundred thousands of degrees, the discharge itself is cold, and the gas temperature is only slightly different from ambient. In other words, in the glow discharge the electric field energy is transferred mainly to the electrons, which in elastic collisions with neutral particles do not practically lose their energy. Inelastic collisions, depending on the situation, can lead to the excitation of atoms or either ionization or to bonds rupture in the molecules. For the conversion of new hydrocarbon the bonds break between atoms is of particular attraction. The attractiveness of gas discharges for new compounds was confirmed in [1-4]. Modern hydrodynamic theory of such discharges is described in [5-6]. It is easy to provide selectivity of the reaction in the glow discharge by changing the reduced electric field. In this case there is no heating of the hydrocarbon mixture unlike thermal cracking. However, the organization of heavy hydrocarbons interaction with a glow discharge is not an easy task, as the glow discharge burns in a rarefied gas, but heavy hydrocarbons are in a liquid phase. The glow discharge arranged near the liquid surface practically does not interact with this fluid. In order to ensure the best possible interaction of the glow discharge with liquid hydrocarbons we decided to use a magnetic field.

## 2. A theoretical basis

The behavior of charged particles in the electric and magnetic fields is studied in details. As is known, an electric current in the gas is caused by the electrons and ions drift. Since opposite charged particles move in opposite directions in the electric field then the Lorentz force is routed in the same direction for all of them. By selecting the appropriate direction of the electric and magnetic fields, the discharge side of the deflection surface of the liquid hydrocarbons can be achieved.

Let us analyze the physical processes occurring in the glow discharge in a magnetic field near the surface of the liquid hydrocarbons. First, we estimate the mean free path of electrons by the formula  $\lambda = 1/\sigma n$ , where  $\sigma$  - the cross section area,  $n = p/kT$  - the concentration of particles in the gas,  $p$  - pressure,  $T$  - the temperature of the gas,  $k$  - Boltzmann constant. For estimations let us assume that the pressure is 10 Torr, the temperature is 500 K,  $\sigma = 7 \cdot 10^{-20} \text{ m}^2$ . Then the mean free path of electrons would be 0.074 mm and the potential drop in the positive column at this pressure corresponds to 10 V/mm. Thus, the mean free path of electron energy will be 0.74 eV, and the average velocity of the electron on the mean free path (i.e. the speed of the drift in the direction of the electric field) will be equal to  $0.16 \cdot 10^6 \text{ m/s}$ . At such speeds, the Larmor motion is of 1.5 microns. Therefore, if an electron in such magnetic fields begin its movement under the influence of an electric field, it will drift in the direction perpendicular to both the electric and magnetic fields. At the same time in such magnetic fields Larmor radius of the ions would be of 1 mm, and the ions in the mean free path