



Date: 06/03/2023

## Declaration

Guest Lecturers of Gokhale Memorial Girls' College became permanent recruits as 'SACT' (State Aided Contractual Teacher) from 01.01.2020 vide memo no. ED-95/C11946/2020 dt.24.06.2020. But they were actively engaged in the Teaching, Learning & Evaluation process of this college since their appointment as 'Guest Lecturer' prior to 01.01.2020 as evident from the dates of their initial engagement in the Institution and mentioned in the sanction memo. Therefore, in consideration of this, the research publications in journals and books & chapters in edited volumes/books, papers published in national/ international conference proceedings of SACT for the years 2017, 2018 and 2019 are also included in metric 3.3.1 and 3.3.2respectively.

**Serial no. on each page corresponds to the serial number assigned in the publication list (excel template of prescribed format)**

  
Principal  
Gokhale Memorial Girls' College





Authenticated  
Charles  
Principal  
Male Memorial Girls' College

06 MAR 2023

**CRYSTAL  
GROWTH  
& DESIGN**

Volume 21 Number 3 March 2023

**Impact of Positional Isomers on the Selective Isolation of *cis*-*trans* Isomers in Cobalt-Dioxolene Chemistry and Solvation Effects on the Valence Tautomerism in the Solid State**

Naveen Ch. Jana, Ling-Hui Qj, Pankaj Bhandari, Girish Mhatre,<sup>a</sup> and Anangamohan Panja<sup>b</sup>

**ACCESS**

**ABSTRACT** There are two isomeric cobalt dioxolene salts—[Co(2,2-dioxolene)(1,4-bis(2,4,4,6-tetrahydro-2H-pyran-2-ylmethyl)-2H-pyran)]<sup>2+</sup>(2+) and [Co(2,2-dioxolene)(1,4-bis(2,4,4,6-tetrahydro-2H-pyran-2-ylmethyl)-2H-pyran)]<sup>2+</sup>(2+)—and their solvates, formed from a solution of a mixture liquid in the presence of methanol ( $10\text{ mL}$ ), acetonitrile ( $10\text{ mL}$ ), and water ( $10\text{ mL}$ ), have been isolated. It is anticipated with a view to examine possible influence of position isomers and solvents on the valence tautomerism (VT) process. High-resolution  $^{13}\text{C}$  NMR indicates that for all compounds at room temperature regular  $\text{Co}(\text{II})/\text{Co}(\text{III})$  phase distribution in these isomers. Furthermore, in the solid state, analysis by XRD suggests no significant difference offered by the number of an oxygen in 1 and 3, leading to the first example of anion isolation in solid state in a cobalt dioxolene dioxolene salt by the Raman spectra. Variable temperature magnetic susceptibility data for all compounds between  $2\text{ K}$  and  $300\text{ K}$  are consistent with the standard studies. All dioxolene isomers exhibit a VT interconversion rate law for  $\text{Co}(\text{II})/\text{Co}(\text{III})$  ( $\text{Co}(\text{II})/\text{Co}(\text{III}) \text{ salt}$ ) reported by its loss of heat evolved molecular, other a partial interconversion is observed for complex A, amounting to  $10\%$ . The present report overall highlights impact of position isomers on the selective isolation of various isomers in cobalt dioxolene chemistry and solvation effects on the valence tautomerism in the solid state.

**INTRODUCTION**

Molecular materials that can be reversibly switched between chargeable states are of great interest in the scientific community. The molecular materials composed of potentially active function of the molecule during the chemical reactions, such as electron transfer, photoisomerization, or use in the field of molecular electronics.<sup>1–3</sup> Molecular systems that exhibit an intermolecular electron transfer (IET) phenomena can be induced between donor and acceptor molecules.<sup>4–6</sup> Valence tautomerism is also a specific phenomenon that involves extended and reversible intramolecular electron transfer between a metal cation and a redox-active ligand.<sup>7–10</sup> In the molecular systems composed with valence tautomerism (VT) reported in the most papers, many of which are organic (OT) complexes, particularly those involving 2D-superconductor (2D-SM) and organic donor–acceptor (D–A) systems, or inorganic cluster transition metal super-conductors, or otherwise their polycrystalline (PD) coordination ( $\text{Co}^{2+}$ ) at low temperature, while the high-spin ( $\text{Co}^{3+}$ ) configuration ( $\text{Co}^{3+}$ ) state is favored at higher temperature,<sup>11–13</sup> thermally and optically induced VT

tautomers are the main concern, while the absence of proton,<sup>14</sup> self- $\text{Sn}^{2+}$ , and negative  $\text{Cd}^{2+}$  in VT transition have also been reported due to a finite extent.<sup>15</sup>

After the discovery of the first VT coordination complex— $[\text{Co}(\text{DMSO})(\text{Cl}_2\text{Bz}_2\text{Ph}_2)]$ , where  $\text{DMSO}$  is  $2,2$ -dimethyl formic acid, the other VT coordination salts complexes have been reported by replacing the  $\text{DMSO}$  ligand with other halide,  $\text{N,N}$ -dimethyl formamide,  $\text{CH}_3\text{COO}^-$  and others along the  $\text{Co}^{2+}$  cation of the  $\text{N,N}$ -dimethyl formamide (DMF) ligand, because of the structural instability. By employing noncovalent halogen bonds in place of halide–water halogen bonds the loss of energy of the  $\text{anion}$ – $\text{ligand}$  can be reduced and crystal red regions are available in the literature.<sup>16–19</sup> Most of these complexes exhibit VT equilibrium in the solid state, where intermolecular interactions between the isolated molecules, packing effect, and solvent effect

Received: April 27, 2022  
Revised: December 14, 2022  
Published: December 20, 2022



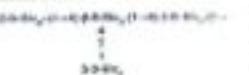
Authenticated  
  
 Principal  
 Gokhale Memorial Girls' College

06 MAR 2023

See section 10(2)(b) of the Act.

**Structural analysis of a Biologically Active Glucan Isolated from the Alkaline Extract of an Edible Mushroom, *Flammulina velutipes***

**Abstract:** Biomaterials from molluscs have shown the promise of adhesion and biocompatibility as agents of tissue engineering/biotherapy. Taking this premise the synthesis of poly(methacrylate) polymers containing a chitosan derivative and with a view to studying their biocompatibility properties, enzymatic and non-enzymatic synthesis of a chitosan induced from the existing bodies of literature was carried out. A poly(chitosan) was isolated from the feeding fluid of the mollusc *Patella vulgata* equivalent to the native chitosan. This also indicates chitosans possessed a single peak showing a molecular weight of 10,000 Da. By the basis of IR spectroscopy, x-ray diffraction, and NMR analysis ( $^{13}\text{C}$ ,  $^{15}\text{N}$ ,  $^{31}\text{P}$ ) the structure of the poly(chitosan) was established. The polymer was composed of phage and  $\beta$ -D-mannose groups mixed with the same sugar chain. Determination of NMR assignments depicted that the linkage type of 3,6-type poly(chitosan) was composed of a chitosan-like



The polysulfide oxygen exchange activity on

Бюл. № 200. Рекомендации по оценке и уничтожению

**C**arbohydrates have demonstrated to possess interesting biological properties in terms of the prevention and treatment of common diseases. Several polysaccharides showing a  $\beta$ -glucan type structure are considered as valuable biological response modifiers (BRMs) due their ability to enhance the immune cells and thereby help to prevent infections. These polymers can be considered

in a soluble source of sensitive carbohydrates in this field, several polysaccharides and hemicellulose constituents have been examined.<sup>1-3</sup> Thus the polysaccharides from cereal spouts, such as Glucanase, Raffinose, Rhamnose and Pectinase, have been widely studied.<sup>1-3</sup> Different enzymatic potencies have been found within the polysaccharides examined from cereals. In this field, it is generally accepted that the hemicellulose, 1,4-linked arabinofuranose, play an important role in enhancing the resistance and the immunomodulatory effects.<sup>1-3</sup> Furthermore, other researches<sup>4-6</sup> reported that the 1,3- $\beta$ -D-glucuronic acid found in maize grain protein<sup>7,8</sup> has also demonstrated to enhance the immune system.<sup>9</sup> Glucuronidase is extensively isolated in large scale near indigenous rice during the process of rice straw cleanup. The cellulase activity (unit) of this native amylase was found to remove 0.5 mg of lignin only. With a view to studying its structure as well as immunological properties of this amylase, a detailed structural characterization of its arabinofuranose, reduced form,  $\alpha$ -D-glucuronic acid was also discussed in this paper. The reaction mechanism of polysaccharide are discussed along with the results of its immunological activities by both antigenic and immunomodulatory methods.

at Free State, Koforidua, in Ghana, and for managing  
NBB sports. The author is also grateful to Prof. Apau  
Bengtsson, Dept. of Chemistry, Uppsala University for  
his comments on manuscript.

卷之三

Theatre of China

www.banque-france.fr

R. Razzalli, W.D. Sosa  
e-mail: [preramurari@fisica.unlp.edu.ar](mailto:preramurari@fisica.unlp.edu.ar)  
Departamento de Física, Universidad Nacional  
de La Plata, 1900 La Plata, Argentina

Digitized by srujanika@gmail.com

Digitized by srujanika@gmail.com

- H. Sato, T. Mizaki, J. Nakamura and A. H. Ito, *Ceram. Eng. Sci. Proc.* **16**(6), 693-703 (1995).
  - M. D. G. De Groot, E. J. Peled, S. T. G. Veldman, E. E. Ritter, A. P. Merle, N. H. Marquis, M. S. Crammer, A. M. Roberts, L. S. W. Thompson, J. L. Newell and R. B. Calfee, *J. Ceram. Soc. Am.* **82**, 745-750 (1995).
  - E. J. Peled, S. T. Groot, J. S. V. Veldman and S. H. Wong, *J. Am. Ceram. Soc.* **79**, 495-501 (1996).
  - J. Peled, *in: Structure, Properties and Reactions of Polymers*, Vol. 16, p. 77 (1992).
  - J. Peled, J. Callewaert, R. Godelkhan and R. Vilkas, *Ceram. Trans.* **4**, 279-291 (1993).
  - C. Rao, T. Kato, T. Tanaka and S. Ohta, *Ceram. Eng. Sci. Proc.* **16**, 119-137 (1995).
  - D. Okada, *Surf. Coatings Technol.* **9**, 769-776 (1995).
  - S. E. Stoy, R. Choe, S. Bhattacharya, M. S. Marquis, M. S. Crammer, J. L. Newell, J. Callewaert and S. H. Wong, *Ceram. Eng. Sci. Proc.* **16**, 2009-2029 (1995).
  - S. E. Stoy, M. S. Marquis, S. Bhattacharya and S. H. Wong, *Ceram. Eng. Sci. Proc.* **16**, 2039-2053 (1995).
  - H. J. Wenzel, F. J. Zandbergen and C. H. H. Wagendorp, *Ceram. Eng. Sci. Proc.* **16**, 1413-1427 (1995).
  - A. Crammer and J. Peled, *Ceram. Eng. Sci. Proc.* **16**, 139-151 (1995).
  - M. T. Marquis, M. S. Marquis, Crammer, P. S. Marin, R. Choe, R. Wagendorp, J. L. Newell, S. H. Wong and A. H. Ito, *Ceram. Eng. Sci. Proc.* **16**, 463-475 (1995).
  - R. Wang, G. V. Palkar, R. Marquis, E. G. Kammler and J. F. G. Wagendorp, *Adv. Ceram. Mater.* **20**, 993-1000 (1995).
  - S. Ohta, C. Hozumi, Y. Ishida and T. Yamada, *Surf. Coatings Technol.* **9**, 1-7, 189-202 (1995).
  - T. Yamada, H. Matsui, S. H. Wong, S. Bhattacharya and J. S. Veldman, *Surf. Coatings Technol.* **9**, 203-207 (1995).
  - L. E. Cross, D. A. Wright, J. Ellsworth, P. L. Shaffer, S. Bhattacharya and S. H. Wong, *Surf. Coatings Technol.* **9**, 208-212 (1995).



Authenticated  
User  
Principal

Original Research Article  
**Comparative Efficacy of Behavioral and Multimodal Interventions on Trait  
Anxiety and Parenting Style of Parents of Children With ADHD**Moon Moon Dutta<sup>a</sup>, and Nabajeta Sarmah<sup>b</sup>**ABSTRACT**

**Objective:** The study examined the comparative efficacy of behavioral and multimodal interventions in reducing anxiety and parenting style of parents of children suffering from Attention Deficit Hyperactivity Disorder (ADHD).

**Method:** Of participating 1000 children, 600 children were diagnosed with ADHD and 400 without. Their parents received behavioral intervention (Group A) and/or multimodal intervention (Group B). Anxiety level was measured by State-Trait Anxiety Inventory (STAII) and parenting style was measured by Parenting Style Inventory (PSI).

**Results:** Results of state STAII showed that parents of children with ADHD had significantly higher anxiety levels than those without ADHD at baseline. Following behavioral intervention, anxiety of ADHD children significantly reduced. Following multimodal intervention, anxiety of ADHD children significantly reduced. There was no significant difference between the two groups in terms of anxiety reduction.

**Conclusion:** ADHD behavioral intervention and multimodal intervention both are equally effective in reducing anxiety of parents of children with ADHD.

**INTRODUCTION**

Children's mental health issues are a wide range of disorders. ADHD is the most common diagnosed neurodevelopmental disorder of childhood (Buitelaar et al., 2008). The core symptoms of the disorder include inattention, hyperactivity, and impulsivity. Inattentive symptoms are often associated with poor academic achievement (Kaufman & Kaufman, 2007). The high prevalence of ADHD is a growing public health concern because its behavioral symptomatology is a primary risk and facilitating condition for antisocial behavior, emotional instability, academic as well as social functioning. Researchers have assumed that the adult ADHD is the primary determinant of parenting style (Goldschmidt et al., 1998). Living in a family with an adult living ADHD suggests that while family fully respects the family values and social skills of an adult, there is also family dysfunction due to family dysfunction as it relates with children having ADHD.

Parents of ADHD child is a challenging role, parents often perceive their child's focus as inconsistent and unpredictable, which creates stress (Luthar et al., 2000). Stress is linked to the child's temperament and parenting behavior. Difficult to maintain families require parenting approach for ADHD symptoms that focus on individual parenting. Parents of children with ADHD are seen likely to adopt authoritarian parenting style (Patterson et al., 2011) and also prone to use negative parenting strategies combined with low levels of emotional support and responsiveness (Alspach, 2006). A study conducted by Dittus and Smeal (2004) found a significant positive correlation between trait anxiety and family structure or parents' education with ADHD. Parents of children with ADHD tend to experience more anxiety than non-children with children having ADHD compared to fathers of ADHD children.

Interventional treatments available for patients with ADHD include medications (including stimulants and non-stimulants), cognitive-behavioral therapy, and behavioral interventions. Medications are still remains to date the mainstay of treatment for ADHD in children, combination of medication and behavioral intervention used for helping and managing, other sources of pain like diet and exercise, Vitamin, nutritional or omega-3 fatty acids. Behavior therapy should be considered as an alternative.

The present approach focuses on the behavioral intervention and multimodal intervention to find out the potential efficacy in regard of the two modes of interventions in addressing the trait anxiety and parenting style of parents' perception on job performance capability in responding to the family situation and reducing the sufferings caused by the disorder.

**Research Question 1:**

How do two different modes of interventions affect the parents' trait anxiety level?

**Research Question 2:**

Is there any positive outcome changes on parenting style of parents of children with ADHD?

**METHODS****Participants**

This study concerned under graduate parents having children with ADHD. The 1000 participants with ADHD included parents of biological parents and having one child having either mild ADHD Combined Type (ADHD-CTA) or severe (ADHD-Hyperkinetic Type-ADHD-H) were selected. The children included aged between 6 and 10 years, of average intelligence, obtained from local Government schools or private schools. They were randomly assigned to the respective offices and given instructions as regards the psychological test.



Authenticated

Chanchal  
Principal  
Gokhale Memorial Girls' College

06 MAR 2023

## Minimal and nonminimal universal extra dimension models in the light of LHC data at 13 TeV

*Authors:* <sup>1,2</sup> Ramanand Singh,<sup>1,2</sup> Supriya Rani,<sup>1,2</sup> and Harvinder Singh<sup>1,2</sup>  
*Institute:* <sup>1</sup>Department of Physics, Panjab University, Chandigarh-160014, India;  
<sup>2</sup>Department of Physics, Panjab Agricultural University, Ludhiana-141062, India  
*E-mail:* ramsingh@puchd.ac.in; supriyash@puchd.ac.in; harsingh@puchd.ac.in

The American Mathematical Society 2025, 9:108-111 May 1971, 0003-004X(1971)0000-0000

第十一章

After crossed a double long reading the Large Hadron Collider (LHC) confirmed our analysis of  $\Delta R = 0.05$  approximately. Also using some simulation discussions of the Large Hadron (LHC), confirming the simulation below shows us of the weak gauge bosons and fermions of the standard model (SM). Simulation analyses of the LHC also showed a range of values to confirm the prediction of the SM for the Higgs (2) . Nevertheless, the existence of the Higgs boson brings many other questions, in terms of its stability of mass, etc. Other experimental aspect, the existence of the Higgs boson and, hence the presence of some new particles, such as a shadow fermion (3). One can also investigate this problem by incorporating right-handed gauge bosons exchange, and anomalous actions. Values to test

[View details](#)

Adapted by the American Physical Society and the Royal Society of Canada from the American Mathematical Society's *Bulletin*, Volume 35, Number 3, March 1929, pp. 337-340.

The title provided the census hierarchy in the 1980 Bureau's system as follows: a utility name clustering tool is to accommodate the entry of a utility name containing missing portions or the facility in order to complete current processing requirements. The program will then be able to process the names in the same manner as the 1980 Bureau's tool by piping in a file of names that would be derived from the utility name clustering tool.

The approach of Iannelli with some spatial dimensions is intended for a number of reasons. The most profound concern is the stability of the  $\beta$ -logistics model and the related logistic function performs extremely satisfactorily—especially the Aronson model (the proportion of infected individuals) and the Ross–Rule–Dobrovolny (RRD) model. But transmission of the disease also shows a slight increase without introducing auxiliary models [25], the continuation of using the SIR model, and the absence of branching process in the SIS framework [26, 27]. Among a variety of extra-dimensional frameworks, we continue ourselves in a particular variant, called the environmental transmission of disease (ETD), where all the field details are allowed to propagate the disease beyond the usual SIR. Epidemiological studies [28, 29, 30] confirm, there are other prospects of modeling with extra dimensions, such as the evolution of community behavior with the increasing of a basic reproduction number [29], a considerably better understanding of the disease dynamics [30].



Authenticated  
Principal  
Gokhale Memorial Girls' College

• 6 MAR 2023

## PAPER

DOI: 10.1039/C8CE00218B

C8CE00218B | CrystEngComm | Accepted Manuscript

Published online 10 March 2019

Accepted 20th March 2019

DOI: 10.1039/C8CE00218B

Published online 10 March 2019

**Tunable structures and magnetic properties of pseudohalo-bridged dinuclear  $\text{Ni}(\text{iPr})_4$  complexes derived from  $(\text{Na}_4)$  and  $(\text{N}_2\text{O})$  donor ligands<sup>a</sup>**
Submitted by Akira J<sup>b</sup>, Na-Chen Lai<sup>c</sup>, Naoyuki Ch. Jono<sup>d</sup>, Poosu Banerjee<sup>e,f</sup>, Ben-H. Wang<sup>e,g</sup> and Anupagaran Panja<sup>e,h</sup>

Pseudohalo-bridged dinuclear  $\text{Ni}(\text{iPr})_4$  complexes prepared from a hexameric  $\text{Ni}(\text{iPr})_4$  core containing neutral or tetrahydrophthalimide carboxylate, cyclic Diels-Alder or bis(ether)carboxylate donors, show only weak anti-ferromagnetic property at room temperature, resulting in almost 100% thermal spin-lattice relaxation (TSR) for  $\text{Ni}(\text{iPr})_4$  units. However, the introduction of  $\text{N}_2\text{O}$  donor ligand ( $\text{Na}_4$ ) into  $\text{Ni}(\text{iPr})_4$  core ( $\text{Na}_4\text{Ni}(\text{iPr})_4$ ) induces magnetic transition. The electronic and magnetic properties have been studied and discussed through DFT and various ESR (spin-polarized wave function) calculations on three crystal phases. While no 1D or 2D antiferromagnetic properties are observed for the  $\text{Ni}(\text{iPr})_4$  spin-lattice relaxation, the  $\text{Ni}(\text{iPr})_4$  core containing  $\text{N}_2\text{O}$  exhibits 1D antiferromagnetic coupling. The  $\text{Ni}(\text{iPr})_4$  core containing  $\text{N}_2\text{O}$  shows strong magnetic interaction between  $\text{Ni}(\text{iPr})_4$  units, which has been discussed and discussed in terms of previous literature reports.

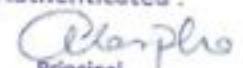
## Introduction

Systems of 3d- and 4d-metals formation metal complexes with bridging carboxylates or their analogues, recently known as a worldwide focus of 3d- and 4d-metals clusters and their magnetic properties,<sup>1–3</sup> in this review, the magnetodiversity of pseudohalo-bridged Ni(II) complexes has been extensively studied because of the presence of significant magnetic coupling between them, as well as around each other through coupling, in addition to the possible high spin ground states originating from the intramolecular coupling between the metal atoms through the bridging ligands.

possibilities<sup>4–10</sup> among all the possibilities, the synthesis is of special interest. It is well established that the metal ions with one and two DMS ( $\mu_{\text{eff}} = 1$ ) bridging carboxylato-bis(ether)carboxylate, while one formally  $\mu_{\text{eff}} = 1$  d4d4 totally resonance quadrupole magnetic (QM) coupling between  $\text{Ni}^{2+}$  units<sup>11</sup> makes the cubic cores, respectively and these cores are also frequently encountered in molecular magnetic crystals. The hexameric  $\text{Ni}(\text{iPr})_4$  core contains a very small  $\Delta$  separation between  $\text{Ni}^{2+}$  units, while the  $\mu_{\text{eff}} = 1$  of the hexameric hexanickel(II) cluster, leading to 1D anti-ferromagnetic interactions.<sup>12–14</sup> On the other hand, propylene dicarboxylate bis(ether)carboxylate in a similar fashion to the case of the hexameric hexanickel(II) cluster, there is a variety of types of such type compounds in the literature.<sup>15–17</sup> In addition, unlike the  $\text{Ni}(\text{iPr})_4$  core, hexameric hexanickel(II) cluster is not formed by other clusters, however, it can be formed by some carboxylato-

<sup>a</sup> Department of Chemistry, Pashupati Secondary College, Andheri (E), Mumbai 400062, India. Email: anupagaran@rediffmail.com<sup>b</sup> Department of Chemistry, O.P.J.S. Girls' Senior Secondary School, 11, Wardha Road, Andheri (E), Mumbai 400062, India.<sup>c</sup> State-of-the-art Laboratory of Coordination Chemistry, Institute of Research and Education in Chemistry, School of Chemistry and Chemical Engineering, Wuhan University, Wuhan, China. Email: chen-nao@whu.edu.cn<sup>d</sup> Department of Chemistry, NITK Surathkal, Udupi, Karnataka, India. Email: jn@nitk.ac.in<sup>e</sup> Hexane sulphophenylphosphonate (HSP) solution, Ciba Specialty Chemicals provides the sulphophenyl phosphonate for the 1a, respectively, for the series, see ref. and references therein and ref. 18 for other chemicals unless otherwise mentioned.<sup>f</sup> Present address: National Institute of Science Education and Research, Bhubaneswar, Odisha, India.

Authenticated .

  
 Principal  
 Gothale Memorial Girls' College

06 MAR 2023

**NJC**

ROYAL SOCIETY  
OF CHEMISTRY

PAPER

(B) ChemCatChem

ChemCatChem (2021), 23, 1003–1013

A novel triple aqua-, phenoxo- and carboxylato-bridged dinickel(II) complex, its magnetic properties, and comparative biomimetic catalytic studies with analogous dinickel(II) complexes<sup>a</sup>

Nikayen CH, Saha<sup>b</sup>, Zafar Iqbal<sup>c</sup>,<sup>d</sup>,<sup>e</sup>,<sup>f</sup> Paulita Basak<sup>b</sup>,<sup>g</sup>,<sup>h</sup>,<sup>i</sup> Samriddha Adak<sup>b</sup>,<sup>g</sup>,<sup>h</sup>,<sup>i</sup> Arunava Saha<sup>b</sup>,<sup>g</sup>,<sup>h</sup>,<sup>i</sup> and Aranyakumar Bhattacharya<sup>b</sup>,<sup>g</sup>,<sup>h</sup>,<sup>i</sup><sup>j</sup>

<sup>a</sup> Department of Chemistry, Institute Research Fellow, Jadavpur University, Kolkata 700032, India; <sup>b</sup> Department of Chemistry, Indian Statistical Institute, 202 Jaynagar Mohanpur, Calcutta 700106, India; <sup>c</sup> Department of Chemistry, Central University of Orissa, Deemed to be University, Cuttack 753004, India; <sup>d</sup> Department of Chemistry, Indian Institute of Technology Roorkee, Roorkee 247667, India; <sup>e</sup> Department of Chemistry, Indian Institute of Technology Kharagpur, Kharagpur 721302, India; <sup>f</sup> Department of Chemistry, Indian Institute of Technology Patna, Patna 801106, India; <sup>g</sup> Department of Chemistry, Indian Statistical Institute, 202 Jaynagar Mohanpur, Calcutta 700106, India; <sup>h</sup> Department of Chemistry, Indian Statistical Institute, 202 Jaynagar Mohanpur, Calcutta 700106, India; <sup>i</sup> Department of Chemistry, Indian Statistical Institute, 202 Jaynagar Mohanpur, Calcutta 700106, India; <sup>j</sup> Present address: Department of Chemistry, Indian Statistical Institute, 202 Jaynagar Mohanpur, Calcutta 700106, India

Received 05 January 2021;  
Received 09 March 2021;  
DOI: 10.1039/DCCF00019A

Published on 06 March 2021

View Article Online

**Introduction**

The synthesis and characterization of various metal complexes, with a variety of bridging ligands and their coordination modes, mostly because of the importance in biological systems, catalysis, and molecular magnetism.<sup>1–3</sup> The interest has increased the syntheses of aqua- and phenoxo- and carboxylato-bridged dinickel(II) ligands that consist of two coordinated or uncoordinated pentacoordinate water in the 3- and

expansion of a phenolic group. These ligands are capable of producing both linear- and bent-shaped aqua-phenoxy-bridged dinickel(II) metal complexes as well as metal centers are conveniently bridged by the phenolic group.<sup>4–7</sup> In some cases, the presence of additional ligands, such as hydroxide, carboxylate, and phenoxide ligands, may lead to the formation of dinickel(II) metal complexes in which two metal ions are situated in close proximity of 2.9–4.8 Å.<sup>8–11</sup> In most of these complexes, the metal centers are coordinately saturated and/or bridged with substantially little loss of groups, making these types of compounds attractive candidates for biological studies. Interestingly, they have been extensively explored in electrocatalysis and biomedical modeling of various metalloproteins, the enzyme catalysis,<sup>12–14</sup> carbon,<sup>15–17</sup> amine,<sup>18</sup> peptide,<sup>19</sup> phosphonate,<sup>20</sup> phosphonates, and DNA nucleic<sup>21</sup> to gain insights into the mechanistic routes of metalloproteins. In addition to modeling the structures and functions at the atomic level of metalloproteins, these complexes provide a regeneration of functionalized conjugated organic dyes and electron-donating metal complexes, this could help us provide insights into the fundamental aspects of

<sup>a</sup> Department of Chemistry, Institute Research Fellow, Jadavpur University, Kolkata 700032, India; <sup>b</sup> Department of Chemistry, Indian Statistical Institute, 202 Jaynagar Mohanpur, Calcutta 700106, India; <sup>c</sup> Department of Chemistry, Central University of Orissa, Deemed to be University, Cuttack 753004, India; <sup>d</sup> Department of Chemistry, Indian Institute of Technology Roorkee, Roorkee 247667, India; <sup>e</sup> Department of Chemistry, Indian Institute of Technology Kharagpur, Kharagpur 721302, India; <sup>f</sup> Department of Chemistry, Indian Institute of Technology Patna, Patna 801106, India; <sup>g</sup> Department of Chemistry, Indian Statistical Institute, 202 Jaynagar Mohanpur, Calcutta 700106, India; <sup>h</sup> Department of Chemistry, Indian Statistical Institute, 202 Jaynagar Mohanpur, Calcutta 700106, India; <sup>i</sup> Department of Chemistry, Indian Statistical Institute, 202 Jaynagar Mohanpur, Calcutta 700106, India; <sup>j</sup> Present address: Department of Chemistry, Indian Statistical Institute, 202 Jaynagar Mohanpur, Calcutta 700106, India

© The Royal Society of Chemistry and the Centre for Fortified Foods and Health, London 2021



Authenticated

Principal  
Gokhale Memorial Girls' College

06 MAR 2023

RESEARCH ARTICLE

**JoELL**  
India Publications



DYSTOPIAN TURN IN POST-INDEPENDENCE INDIAN FICTION IN ENGLISH,  
READING ADIGA'S THE WHITE TIGER AND BETWEEN THE ASSASSINATIONS

Raj Kumar Barman

Asst. Professor, Dept. of English, Gokhale Memorial Girls' College, Kolkata, West Bengal

---

**ABSTRACT**



The writings of Aravind Adiga have always remained committed to the portraits of Indian society that is fraught with socio-economic and caste conflict and discrimination. Historically speaking this society is the result of the aftermath of a change that took place with the adoption of military capture, industrialization and globalization in post-colonial modern India. The plight of the lower caste, the poor, the down trodden and the marginalized reflect a social reality in which any hope of crossing the boundary proves futile. And when it happens it comes at a heavy cost. The struggle of young children, youth and millions of Indian poor people are all real and presents a society devoid of the promise and hope present in ancient Indian society. Thus Adiga's portrayal of society seems to take a dystopian turn. This paper intends to highlight to what extent most of Adiga's fictions have traversed a dystopian territory in Indian context.

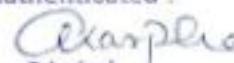
**Keywords:** Discrimination, Neo-Capitalist Capitalism, Marginalized, Social Anxiety, Dystopia

---

Author retains the copyright of the article  
Author(s) agree that this article remains permanently open access under the terms of the Creative Commons Attribution License 4.0 International License

20  
Raj Kumar Barman



Authenticated  
  
Principal  
Gokhale Memorial Girls' College

06 MAR 2023

INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY EVIDENCE RESEARCH

ISSN 2319-1173 (Print) ISSN 2319-1181 (Online) Volume 5(10), 2019

From Research and Reviewed, Journal IJMER is Index in IJRIF, May 2007

Highly qualified committee of international referees of academic publications (IJRIF)

DOI: 10.5281/zenodo.3207824, 116

Issue Date: 01-07-2019 (01) 2019-01

Affiliation: 17th May Institution Date: 07-May-2019

IMPACT OF CLIMATIC HAZARDS ON FOLK CULTURES OF WEST BENGAL, INDIA

Dr. Md. Sajid Hossain

Associate Professor

Department of History, Goldfarb Mission Gali College

61-Babu, West Bengal, India

**Abstract:** Natural hazards have caused extensive loss of life, as well as damage to physical facilities such as buildings and infrastructure, and have at a similar level a detrimental impact on the socio-economic conditions of different communities. West Bengal, India's most populous state of India, has been no exception to it as suffering caused by various events are concerned. Besides, parts of the state have suffered from frequent cyclones, floods, droughts and sometimes catastrophic soil erosion. Various other various approaches for reducing calamities in the region to high population density and concentration of industrial and agricultural activities across the region with increasing developmental activities. Most of the studies on natural disasters in West Bengal are related to the nature of hazards, its impact on economy and society and disaster management. But one can't deny the impacts of natural hazards and disasters on folk culture of different parts of West Bengal.

**Keywords:** Disaster, Folk Culture, Natural Hazard.

1. Introduction

The concept of 'natural' and 'disaster' is diverse. The study of natural hazards analysis using disciplines like principally geography and other geographical disciplines. Many scholars later tried to do a broad definition proposed by John Clark (1980, p. 2) defined disaster as a result of environmental processes, but as a phenomenon that occurs when human systems interact with the natural setting major 'hazardous with significant damage'. Park and Main (1983, p. 383) on disaster defined when certain events in the natural environment 'interact with the natural world and human environments'. Shabotra (2005, p. 1) defines disaster as interacting or impacting humans, but emphasizes that they are significant disruption social events that require changes in society (Shabotra 2005). From the above definition it is clear that the concept is mainly related to human, society and behavior.

West Bengal is not only a populous state of India but its geographical, climatic and cultural variation is remarkable. Southern part of the state frequently experiences severe natural hazards like flood, drought, hailstorms, cyclone and monsoon rainfall and erosion (Hossain 2017). The region has also some local traditions and folk culture. Many of these are closely related to the nature particularly with natural hazard. The present study deals with the impact of natural hazards on folk culture of the region.

2. Literature survey

'Culture, Hazards and Community Response in Coastal West Bengal: An Anthropological Perspective' by Arindabha Bhattacharya (2007) deals with the impact of cyclone灾害 on society and culture of coastal people of West Bengal. Coastal belt of Bengal is a most vulnerable region because of its repeated exposure to cyclone hazards which cause severe damage to human life, property and flora. However, the resilience of the region relies on regular cyclone culture they are stored, or treated completely differently. Through social tradition, the area can be distinguished in the wider west, cyclone disasters generally act as a social terrible and a social concern, making the tradition to continue to reside at the heart of their disaster's memory.

Very often, archaeologists and earth scientists have simply assumed that the sequence of various natural events means that there were prior events in cultural change without demonstrating that the latter was only or largely dependent on the former. The overall aim of the book 'The Archaeology of Disasters: Past and Future Trends' by R. E. Thornton and J. T. Gifford (2007) is to critically examine the role of recent environmental crises in causing cultural change. The authors clearly highlight a surprised group of trees and how carefully measured the evidence to assess a changing balance between coincidence and dependence.

Frank Finch (2003) in his article 'The changing meaning of disaster' deals with how adverse events such as disasters are interpreted through a system of meaning provided by culture. This paper explores the changing conceptualization of adversity. It suggests that the shift from the expectation of resilience to that of vulnerability is best understood as a reflection of a changing cultural map of resilience of adversity.

**Culture and Risk: Understanding the Socio-cultural Settings for Indian Risk from Natural Hazards**: a synthesis Report from a Global R&D Conference organized by IISMRI and facilitated by the Indian Institute was prepared by Sunmuk Hossain (2006).

2021 Sl. No. 11 Kuldip Kaur



Authenticated

Authenticated  
Principal  
Gokhale Memorial Girls' College



06 MAR 2023

Authenticated  
*Almas Pervaiz*  
Principal  
Jahkale Memorial Girls' College



06 MAR 2023

Authenticated -  
*Axapho*  
Principal  
Gokhale Memorial Girls' College

International Journal of Sociology & Humanities and Social Sciences (IJSHSS)  
Volume 1, Issue 1, The International Journal  
ISSN: 2653-671X | DOI: 10.47000/IJSHSS.2021.1111

The Name of Chair Person in Faculty  
**Dr Krishnakali Roy**  
Associate Professor in English  
Gokhale Memorial Girls' College  
Kolkata, West Bengal

**Abstract:**  
The position of child labor in Indian society has been a point of discussion for long time. In a country like India, child labor is a major issue. It is a serious problem in society and education. The child is dependent of child labor. parents and other income activities which are essential for economic development. Child labor is accepted by the society. This leads to the social instability of the country and especially Child labor is common phenomenon in Kolkata in different sectors like construction, mining, coal, textile, leather, paper, printing, pottery. Working child labor are a large number of children are involved in the child labor and working. Many of the children workers in their child labor in every field because of poverty. The economic condition is their main reason to every child workers of Kolkata. Child labor is considered as a serious obstacle of education among the people because they lack of education and poverty. The poor families are unable to provide education to their child in Kolkata. The main reason child labor is due to the economic.

**Key Words:** Child labor, Kolkata, Children, Poverty, Child Education, Awareness.

**Introduction:**  
Child labor is an important problem for many countries. Child labor has been a historical and international issue because it damages future of future of children. Recently the International Labour Organization (ILO, 2012) estimated there are around 215 million children between ages 5 to 17 that make their own income. They are also exploited and work for prolonged hours in very bad conditions. This can affect the child physically, mentally and emotionally. Child labor affects the child's right of more education. These children do not have basic rights like access to shelter or healthcare. The use of child labor is very problematic in India and the issue is also related with poverty. UNICEF India has an estimated 10 million child labor and there is increase from 1994 (UNICEF, 2011). Not many don't care number of child laborer is increased in a present era. This affects the child's physical development of the child. Several factors are working to work such as

International Journal of Sociology & Humanities and Social Sciences (IJSHSS)  
Volume 1, Issue 1, The International Journal  
ISSN: 2653-671X | DOI: 10.47000/IJSHSS.2021.1111



Authenticated.  
*Champa*  
Principal  
Gokhale Memorial Girls' College

06 MAR 2023

  
International Journal of Research in Humanities & Social Sciences  
Volume 10, Issue 07, July 2021  
ISSN: 2249-7299 (Online Printed Version: 2249-7299)  
An open access, peer-reviewed, cross-disciplinary journal, and fully indexed.

**Solid Waste: Sources and Management In Urban Areas of India**

Dr. Krishnakali Roy  
Department of Geography  
Gokhale Memorial Girls' College  
College of Bharat, West Bengal

**Abstract**

One of the major problems of civilization is the management of solid wastes. The problem of managing them will increase in magnitude, as the number of population increases, the increasing urbanization and industrialization. Increase in population leads to increase in the level of wastes disposed. In India, disposal and management wastes is creating a challenging task of those in the legislature. The organic and inorganic waste materials, produced by domestic, agricultural, commercial and industrial activities have caused serious problem in urban areas. The main goal of solid waste management needs research, innovation and there is a review about it especially the research done in India.

**KEY WORDS:** Urbanization, Urban degradation, Solid Waste, Environment, Management, Pollution.

**INTRODUCTION**

Solid wastes can be defined as "any refuse or waste material, including solid, liquid, gaseous, hygroscopic, combustible or incombustible gummy or presence including waste and liquid foodstuffs and wastewater products." (Patrick, 1992).

Urban areas have been presented issues of the urbanization process, due to the increasing population and the continuous pressure on the natural resources. In the early days, the major constituents of solid wastes were domestic refuse and agricultural residues, which were handled by workers and could be easily disposed of in our activities of open land.

Population and urbanization have led to strong concentration and has increased health and environment deteriorating the overall wastes production in their area leading to health issues.

The sources and type of solid wastes generated in any urban centre are mainly from residential, food and vegetable markets, slaughter houses, commercial areas, including

---

International Journal of Research in Humanities & Social Sciences  
Volume 10, Issue 07, July 2021  
ISSN: 2249-7299 (Online Printed Version: 2249-7299)  
An open access, peer-reviewed, cross-disciplinary journal, and fully indexed.



Authenticated .

Principal  
Gokhale Memorial Girls' College

6 MAR 2023



Authenticated.  
*Charita*  
Principal  
Male Memorial Girls' College

Gokhale Memorial Girls' College

06 MAR 2023

COPYRIGHT® 2021 EDIZIONI MINERVA MEDICA

E DEDICAZIONE ALESSIA  
Prestocheva che aveva sempre creduto

Minerva Publishing S.p.A. - Via Giovanni XXIII, 10 - 00138 Roma - Italy - Tel. +39 06 5803111 - Fax +39 06 5803122

---

REVIEWS

## Impact of COVID-19 pandemic on mental health across different populations

Kalyan MISHRA<sup>1</sup>, Swapniladeep KUMAR<sup>2</sup>, Nidhi Chakraborty<sup>3</sup>

<sup>1</sup>Department of Psychology, Amrita Institute of Technology & Management, University of Technology, Kolkata, India  
<sup>2</sup>Department of Psychology, Indian Institute of Health, Department of Psychology, Indian Institute of Health, Sector 13, Bidhan Nagar, West Bengal, India  
<sup>3</sup>Department of Psychology, Amrita Institute of Technology & Management, University of Technology, Kolkata, India

ABSTRACT

The COVID-19 pandemic has created unprecedented challenges for mental health. The psychological impact of the pandemic has been reported across all age groups and in different countries. In this review, we discuss the psychological impact of the COVID-19 pandemic on different populations in India and other countries. We also report on the evidence available on mental health issues in India, such as anxiety and depression. We also highlight the evidence available on the psychological impact of the COVID-19 pandemic on different populations, including the elderly, children, adolescents, and people with disabilities. We also discuss the evidence available on the psychological impact of the COVID-19 pandemic on different populations, including the elderly, children, adolescents, and people with disabilities.

KEYWORDS: COVID-19 is not just a threat to physical health but also to mental health of the public. Further research is needed in the field. This can assist in developing effective interventions and help reduce mental health problems.

Received article on: 10/01/2021; revised article on: 10/01/2021; accepted article on: 10/01/2021; published online on: 10/01/2021. © 2021, Edizioni Minerva Medica S.p.A. All rights reserved.

The 2019 coronavirus outbreak in China is a global health emergency and till date the largest outbreak of reported pneumonia since the severe acute respiratory syndrome outbreak (SARS) in 2003. A pandemic does not only pose threats to one's physical health but also has a great psychological impact. The ongoing COVID-19 pandemic is raising fear and creating uncertainty of the mental health status of the various socio-demographic and cultural subgroups.

As a result of the pandemic, the bodies of the strictly imposed quarantine conditions, travel restrictions, increased monitoring and screening and

the practice of social distancing being exercised and the loss of interaction may have serious psychological implications.<sup>1</sup>

Extensive research has been conducted on the psychological impact of COVID-19 on the general population,<sup>2-4</sup> on COVID patients<sup>5</sup> and healthcare workers.<sup>6,7</sup> Though a lot of research has found a prevalence of higher levels of stress, anxiety and depression in young adults,<sup>8-11</sup> there has been limited work on this group in the context of COVID-19. There exists a dearth in studies on several specific populations such as pregnant women, mentally ill and frontier people.

REFERENCES

JOURNAL OF CLINICAL PSYCHOLOGY

Volume 27, Number 1, March 2021



Authenticated.  
*Nabamita*  
Principal  
Gokhale Memorial Girls' College

6 MAR 2021



2021 Sl. No. 18 Reshma Panda Mukherjee

第374頁

अनुसंधान ट्रोप फैलालिक

वर्ष 2021-विद्यार्थी 2021 (संयुक्त)

सम्पादक  
डॉ. रमेश्वरा निष्ठल

महाराष्ट्र लघुपत्रक  
मी. प्रभ. चौधरीज. वाणी

परामर्शी विद्यालय  
मेरठा कालीनी एवं विद्यालय

www.ijmsc.net

साम्यादकीय उपर्युक्त :

205 देवी-1, गोदार बैरिंग्स, निशा चन चाले कली, दिल्ली ११०, भिल्हा राज्य,  
आईपी-202002, [wangwanyu@gmail.com](mailto:wangwanyu@gmail.com), फ़ोन- 7007665806

प्राचीन रसि १

Starting your software development at first - 2004

४८८

ANSWER

新編卷之三

- पूँजी लोने की अवधिएवं पर्याप्त व्यक्तिगति कारण उपलब्ध  
दाता विद्यमान का नाम?/  
डॉ. ईशांगी चंद्र मुख्याली
  - विवेक जी का नाम क्या है?  
विवेक शर्मा
  - चौथे संस्करण की पुस्तकों : ब्रह्म रात्रिम्/23
  - अमृत इन्स्ट्रुमेंट की पूर्णता : विवेकम् या संस्कृत/29  
डॉ. लक्ष्मण राज
  - बाह्याकार की अंगी ईश असुन्दरा का संस्कृत/37  
डॉ. विद्युत शिंदे मुख्या
  - निरिक्षित-प्रसिद्धि, पा लक्ष्मण की वाली/46  
सुधा चूर्णाराम
  - निरिक्षित : बालकी वह मंड...तीक्ष्णता का वाली/52  
डॉ. बालचिंता भट्ट विद्या
  - निरिक्षित : पूँजी विद्यालयी दशवर्षीय/62  
डॉ. विद्या विद्यालय
  - वह जो दो दिव को लिंगार्जी लेके पातंजल काशर छानी/70  
डॉ. विद्या राजी
  - अपने अपने अल्पनी : बुद्धाकाल में पूँजीयों की गहराई/80  
डॉ. विद्युत शेठी
  - पैंडिकी पर झड़ी विद्यालयह : अपने अपने अल्पनी/85  
डॉ. कल्पीन्द्र विद्युत भूषणलक्ष्मी
  - कुमुद चौहां की खोतो : विवेक एवं प्रसाद का वाला अल्पनी/91  
डॉ. कुमुद चौहां विद्या
  - संस्कृत की पर्याप्ति की तुले बुद्धीय दीप व्यक्त : वेद पर संस्कृत/99  
डॉ. विद्युता कुमारा
  - “इश या राम” लाल्लग में निरिक्षित पूँजी विद्याम्/107  
वेदा कुमारी तुला
  - वहीने की भूमि में लिला भूलिमी का आल्पनी-कौलिम अल्पनी/115  
डॉ. विद्युता राजी

तृषु जीवन के अकेलेपन को व्याख्यायित करता उपन्यास  
उस चिदित्रा का नाम

हां. रेशमी चांदा मुख्यमंत्री

Authenticated

 Karpas  
Principal

Gokhale Memorial Girls' College

0 6 MAP 0007

www.ijcrt.org | 01-04-2021 | Volume 9, Issue 19 (March 2021) | ISSN: 2320-2882

**IJCRT.ORG**      **ISSN : 2320-2882**

**INTERNATIONAL JOURNAL OF CREATIVE  
RESEARCH THOUGHTS (IJCRT)**

An International Open Access, Peer-reviewed, Refereed Journal

**EDUCATION AND FUTURE OF E-LEARNING**

DR. SK. SARIFUL ISLAM  
Assistant Professor  
Department of Education  
Gokhale Memorial Girls' College, Kolkata, India

**Abstract:** E-learning has become a source of gain of education. E-Learning is a distant education under the free Download content. The website also include online course materials. Learn from the former and teacher or former teacher and teacher. Internet has become an important medium to obtain freely. We can use Google to obtain plenty of knowledge, plenty of education and plenty of activities. The present paper is discussed about the effectiveness and challenges of e-learning institutions. A case for e-learning studies of education has been tested by e-learning. With the help of e-learning method students can study through an online study system. Students can develop their knowledge through e-learning at home. Dissemination of their free video makes a contribution for e-learning.

**Keywords:** e-learning, digital learning, Virtual Class, e-education

E-learning is the delivery learning material through electronic devices such as laptop, mobile phones, tablets, and desktops. Various universities have incorporated e-learning systems into their education system. Currently it has developed its methods to be adopted among students. While the help of e-learning method students can study disperse places across the world. Due to pandemic COVID-19, a hybridized, hybridized classroom and e-learning, pure theory classes and theory are planned for the development of online classes. The faculty members of different universities from Bengal and other states, various universities are planning to deliver online classes from now onwards. Online courses will be available for learning here in our online learning platform. Further, they are using only the disseminate content for their online e-learning.

**II. CONCEPTUAL FRAMEWORK**

Wiggen and Tolson (2002), "e-learning is defined as the delivery of lessons via all electronic media, including the internet, intranets, extranets, and broadband, anywhere, anytime ET and ED-RSA".  
Amitava and Bhattacharya (2005), "e-learning is defined as learning facilitated and supported through the use of Information and communication".  
Kashyap (2005), "e-learning is a source of education that integrates self-instruction, communication, internet, and print".

**III. STATE-LEVEL INITIATIVES IN INDIA**

The Government of India has taken various digital initiatives like:-

- **PRAKALP**: An Online Web Portal to Encourage the Testing, Applying Yojana under the Ministry of Information of Government of India, one of the three main & Three-tier Indian Open Government (IOG) sites.
- **Pravasi Bharatiya Divas**.
- **Pradhan Mantri Gram Sadak**.
- **Pradhan Mantri MUDRA Yojana**.
- **Pradhan Mantri Awas Yojana**.
- **Pradhan Mantri Gram Sadak**.
- **Pradhan Mantri Gram Sadak**.

The central council permits Indian citizens learning through online for all types of studies. The Ministry of Human Resource Development of India's government has initiated a prime allied mission programme of e-learning. The project currently runs about 821 centres including 409 Self-study and 512 Study centres. The school of health science has uploaded video lectures and exercises on each subject on website of National NCFTRI, provides various types of online courses through e-learning. IJCRT has uploaded video lectures on-line related information on the site of the college.

The Government of India has initiated a National Mission on Education through ICT (Information and Communication Technology) in February 2009. It will provide internet connection to about 30 thousand colleges and other educational institutions.

SICRT100014 | International Journal of Creative Research Thoughts (IJCRT) | ISSN2320-2882 | 4448



Authenticated .  
*Charpo*  
Principal  
Gokhale Memorial Girls' College

16 MAR 2023

**INTERNATIONAL JOURNAL OF RESEARCH-CULTURE-SOCIETY** ISSN: 2230-0403 | Volume-5, Issue-12, Dec-2021  
 Impact Factor Received: Received: Journal  
 Received on: 10/12/2020 Accepted on: 16/12/2021 Peer Review Date: 16/12/2021

**E-Learning in Secondary Govt. aided School during Covid-19 pandemic in West Bengal**

Dr. SK Sarifur Islam  
 Associate professor  
 Catholic Memorial Girls' College, Kolkata, India  
 Email: [sarifur@dmglk.com](mailto:sarifur@dmglk.com)

**Abstract:** Due to the pandemic - crisis of COVID-19, e-learning has become the compulsory component of all educational institutions like schools around the world. The present paper deals information of e-learning during the pandemic crisis (19), and the analysis of students and teachers towards online learning. Survey method was used for this study. 30 students and 15 teachers of government aided secondary school located in Bankura Mahanagar district of the state of West Bengal in India were selected as sample of the study. Preparative simple question surveying techniques was used for the collection of data sample. Questionnaire and designed to used for collection data from the sample. The findings are Most of the time, aided secondary schools have online classes through WhatsApp. Only 10% schools are conducting online classes through Google meet. Most of the students over the field of e-learning are slightly in conducting online classes. Most of the students are positive attitude towards online learning.

Key Words:- Learning, COVID-19 Pandemic, Challenges

**1. INTRODUCTION:**  
 COVID-19 pandemic has affected every aspect of human being. Its impact was far more comprehensive in the field of education. Online learning has become an essential part of education due to the pandemic crisis (19). The government of India has issued and implemented several e-learning platform like SWAYAM, epathya, etc. The use of e-learning approach is better place on all the other forms of e-learning composed of the learning methodology. It is more provides rapid development and growth for the best in all sectors, during this pandemic.

**Definition of terms:**  
 Donors and Barone (2005) – e-learning is defined as learning facilitated and supported through the use of information and communication  
 Tariq (2008) – e-learning is a form of education that increases information communication, internet or global.

**Advantages or Benefits of E-learning:**  
 Some of the advantages for the implementation of e-learning in Govt. aided secondary school education:

- It is cost effective.
- e-Learning allows self-paced.
- flexibility
- Learning resources

**2. LITERATURE REVIEW:**

- a) Basuveri (2020) conducted "E-learning in schools during covid-19 pandemic in west Bengal". In make objective of the study was effectiveness of e-learning during the covid-19 pandemic. Sample consisted of 80 students from 4 different schools. The author found that E-learning is not at all effective in most areas.
- b) Bhattacharya et al (2020) studied about "Effect of COVID-19 on E-learning on higher education institution students: the pre-pandemic situation and future". Data were collected appropriate institution. Sample consisted of 109 students of different universities of Mysore. Study found that E-learning period usage is more among female students in Mysorean Universities.
- c) Dhamija (2020) studied about "Online Learning: A Review in the Time of COVID-19 Crisis". In make objective of the study was "An analysis on Strengths, Weakness, Opportunities & Challenges (SWOC) analysis of online learning during the Corona Virus pandemic and current climate". E-learning can help in providing inclusive education even at the time of crisis.

Available online on - [WWW.IJSRS.INFO](http://www.ijsrs.info)

Page 14



Authenticated .

*Alarpita*  
 Principal  
 Gokhale Memorial Girls' College

6 MAR 2023





अमारकोश एवं मार्गशीर्ष; अलिङ्गन एवं सालिंग

कामा कुमार चौधरी

किंतु विद्यालय संस्थाने नेपाली भाषा को प्रशिक्षण देने चाहता है।

40

એવું હોય કે અન્યાન્ય સર્વીસોમાં આપણી પરિષ, અન્યાન્ય કલાકી જગત, કાર્યક્રમ

卷之三

वर्षावाली वाले अपने दूसरे वर्ष के अधिक विन बनावट रखते हैं जो यहाँ लिखा हुआ तो यह बासावाली में १८५३-१८५४ में एक बड़ा विन लिखा है जिसके बाद इसका उपयोग से इसके बाद से एक लिखा है जो कुछ बदलाव लिया गया है। बड़ा विन लिखा हुआ दूसरा यहाँ दूसरा है। और यहाँ लिखा लिखावाली का दूसरा लिखावाली है जो कुछ भी यहाँ लिखावाली के अधिक दूसरा है। यहाँ लिखा हुआ विन लिखा हुआ जो कुछ भी बदला दिया है। उसके बाद से लिखावाली में जो कुछ बदलाव लिखा हुआ तो वह यहाँ लिखा हुआ विन के अधिक दूसरा है। लिखा हुआ विन के अधिक दूसरा है। लिखा हुआ विन के अधिक दूसरा है।



Authenticated

*Rasper*

Principal  
Gokhale Memorial Girls' College

06 MAR 2023

 **Journal of Indian Archaeology**  
An International Multidisciplinary Journal The IC 1000 Impact Factor  
Open Access and Peer-reviewed, ISSN 2321-1122  
ISSN Online: 2321-1121

## Timeless Telkupi: An Unforgettable Heritage of Pursha

Sanjukta De  
PhD Research Scholar  
Department of Ancient Indian History and Culture  
University of Calcutta  
SACT (Category D)  
Department of History  
Gokhale Memorial Girls' College

### Abstract

Telkupi is a small village located on the bank of the river Damodar. The village is carrying an age-old Architectural tradition. This area first came under the observation of Archaeological Survey of India in the Colonial period. Beglar was the very first person who visited this place and made a first-hand report. Later than, there are other archaeologists who also try their best to protect the heritage of Telkupi. According to Beglar, there were only 20 temples scattered around Telkupi. Among which only three are left remaining though the present condition of these architectures is not so good. This area along with most of its archaeological heritage (between 8th to 12<sup>th</sup> century CE) was submerged between 1936 to 1942 because of the construction of Ranchi Dam. In Telkupi, the Jain Architectural site illustrates got popularity and it also attracts the tourists' interest as well. But in this paper would like to highlight the other temples which also possess some unique features and need a proper restoration.

**Key Words:** Bala: Wall, vertical portion of the wall below the gable of a temple.  
**CINJIK:** Projecting member serving the purpose of eaves.  
**Gandit:** Trunk.  
**Dvara:** Low plinth of a temple.

Located on the border area of two states Jharkhand and West Bengal, specifically on the south bank of the river Damodar, the famous heritage site Telkupi officially comes under the jurisdiction of Ranchi-Begnar II block in Purulia District. Probably the first survey of this place has done back 1931.<sup>1</sup> It came out with a result that this village is covering about 1613 acres of arl. area. The principal means of livelihood here was obviously agriculture. But apart from farmers, we also find the result of the presence of so many other people who engaged with various other professions like - Bawali, Matalia, Dhouri, Kurmiwala, Gosain, Chatterjee, Mohar, Dara, Bishti, Rajki, Sardhi etc. In the 11<sup>th</sup> census report, we also get to know about the local public festivals of the place. Couple of



Authenticated .

  
Principal  
Gokhale Memorial Girls' College

06 MAR 2023

Dalton Transactions

PAPER

Open Access Article

View Article Online

DOI: 10.1039/C9DT00219B | Received 20 October 2019 | Accepted 10 December 2019 | Published 10 January 2020

Two rhodamine-azo based fluorescent probes for recognition of trivalent metal ions: crystal structure elucidation and biological applications<sup>a</sup>

Avinata Inosta,<sup>b</sup> Rungu Pan,<sup>b</sup> Suganya Chidukuri,<sup>b</sup> Farman Karmali,<sup>c</sup> Anangamohan Panja,<sup>b</sup> Senthil Ravinder,<sup>b</sup> and Preetika Saha<sup>b</sup><sup>d</sup>

<sup>a</sup>This publication is licensed under a Creative Commons Attribution 3.0 Unported Licence. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/3.0/>. This article may be used for non-commercial research and teaching purposes, and given to others in electronic format without prior permission or charge. This article is in the public domain because the original author(s) have assigned it to the Royal Society for Chemistry. The Royal Society for Chemistry retains all copyright except for the author(s). This article first published online in Dalton Transactions, 2020, 49, 10, 2021–2028.

<sup>b</sup>Received 20 October 2019; accepted 10 December 2019  
DOI: 10.1039/C9DT00219B  
Published on 10 January 2020

**Introduction**

Trivalent and hexavalent chalcogenides which are designed for selective detection of metal ions play a crucial role in the development of medical and environmental

<sup>c</sup>Department of Chemistry, Indian Institute of Technology Bombay, Mumbai 400076, India.  
<sup>d</sup>Department of Chemical Engineering, Indian Institute of Technology Bombay, Mumbai 400076, India.

<sup>a</sup>Correspondence to: Suganya Chidukuri (e-mail: suganya@iitb.ac.in)

<sup>b</sup>Department of Chemistry, Indian Institute of Technology Bombay, Mumbai 400076, India.

<sup>c</sup>Department of Chemical Engineering, Indian Institute of Technology Bombay, Mumbai 400076, India.

<sup>d</sup>Department of Chemical Engineering, Indian Institute of Technology Bombay, Mumbai 400076, India.

Received 20 October 2019; accepted 10 December 2019  
DOI: 10.1039/C9DT00219B  
Published on 10 January 2020

Published on 10 January 2020. This article is an open access publication

research.<sup>1–3</sup> Various techniques such as atomic absorption spectrometry,<sup>4</sup> inductively coupled plasma mass spectrometry,<sup>5</sup> plasma emission spectrometry,<sup>6</sup> atomic adsorption methods,<sup>7</sup> electroanalytical,<sup>8</sup> and fluorescence<sup>9</sup> are available for detection of different metal ions in food, biological systems, and environmental and industrial samples. Most of these detection techniques are expensive and involve challenges to sample preparation, interference handling and their study requires time, charges. In this regard, the fluorescence study in a highly sensitive, low-cost, low time and cost time monitoring process among different metal ions, such as metal ions,  $\text{Al}^{3+}$ ,  $\text{Cr}^{3+}$  and  $\text{Fe}^{3+}$  shows great promise. Further application of these would be knowing and study life style in their influence and consequences in living species and causes a wide variety of diseases.<sup>10</sup> Manganese is the most abundant metal in the Earth's crust and most costly for domestic purposes. The excessive concentration of  $\text{Mn}^{2+}$  under human body causes toxicity, complicating metabolic processes.

Published on 10 January 2020. This article is an open access publication

DOI: 10.1039/C9DT00219B | Dalton Trans., 2020, 49, 2021–2028 | 2021



Authenticated  
*Rasika*  
Principal  
Gokhale Memorial Girls' College

06 MAR 2023

Chemistry Letters  
Full Papers  
doi.org/10.1002/cletsl.202000025



**Inorganic Chemistry**

## Magneto-structural Studies in Double Chloro- and Pseudohalo-bridged Isomeric Dinickel(II) Complexes

Sumanta Patra,<sup>a,c</sup> Poul Brondum,<sup>b</sup> Adam P. Kaval,<sup>c</sup> Samriddha Adak,<sup>a,b</sup> and Anangamohan Panja<sup>a,c</sup>

**Abstract** Two dinickel complexes,  $\left[\text{Ni}_2\text{Cl}_2(\text{L})_2\right] \cdot 2\text{H}_2\text{O}$  ( $\text{L} = \text{N}(\text{C}_6\text{H}_4\text{CH}_2\text{CH}_2\text{C}_6\text{H}_4\text{NH}_2$ )<sub>2</sub> and  $\text{N}(\text{C}_6\text{H}_4\text{CH}_2\text{CH}_2\text{C}_6\text{H}_4\text{NHC}_6\text{H}_4\text{CH}_2\text{CH}_2\text{C}_6\text{H}_4\text{NH}_2$ )<sub>2</sub>) were synthesized from a two-headed Ni(II) later dimer precursor. The condensation reaction of 2,6-naphthalenediyl diacetate and 2,6-naphthalenediyl diimidophenyl ether with Ni(II) acetate and 2 equivalents of the diamine resulted in two isomeric dinickel complexes with different stoichiometries. All these three dinickel complexes exhibit magnetic moments at room temperature through bridging ligands.

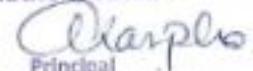
**Introduction** Since the last decade has been devoted towards the synthesis of d<sub>4</sub>-d<sub>4</sub> porphyrin transition metal complexes in recent years, interest in their synthetic research has increased due to the remarkable properties of biological<sup>1–3</sup> and magnetic<sup>4–6</sup> properties. There are no magnetic studies due to its large complex coordination splitting and its conjugation caused by self-protective AM(II) complex with interesting magnetic property have been developed.<sup>7–11</sup> The investigation of magnetic properties of transition AM(II) complexes and comparing them with the structures in spin equilibrium to spin magnetism, the behavioral aspects of the magnetic interactions as well as to bring up the desired class into the high stability in extended systems by design, made double magnetoovalent with tunable magnetic properties. It can also encourage to propose such complexes in the synthesis of coordination ligand along with participation of bridging ligands.

Based on cation-cationic magnetic interaction between the paramagnetic metal centers,<sup>12</sup> the pseudohalide ions can participate with the main role due to the bridging ligand because of its strong bridging nature, such as  $\text{Cl}^-$  and coordinated halide ions, among other weak interactions, causing to switch magnetic property of such compounds.<sup>13–15</sup> In contrast, the presence of non-bridging atoms like  $\text{N}^+$  or  $\text{O}^+$  in the presence of other halide anions may cause certain effect on the overall magnetic behavior of the system, so far as we can clearly see the addition. Therefore, in contrast to the one coordination chemistry of substituted quinones,<sup>16–18</sup> multi-directional and symmetric interacting compounds with other coordination are formed.<sup>19–21</sup> In addition, halides and pseudohalides show great importance due to unique chemical and optical properties. In such stability in coordination chemistry is quite limited, which is lack of coordination constants of various salts due to complex ion formation, availability. Furthermore, heat the metal center thermally to remove the outer coordination through  $\text{N}^+$  or  $\text{O}^+$  leaving residue. And only it may have thermal resistance with halide anionics. Being with the side coordination scheme of multi-branched symmetric substituted organometallic and bioinorganic receptors certain conditions are available for these complexes to further understanding the magnetic property of these species, in which general tendency is that  $\mu_{\text{B}}$  coupling value even anti-parallel magnetic dipole coupling with  $\mu_{\text{B}}$  coordination with organometallic species. Interestingly,  $\mu_{\text{B}}$  exchange between the metal centers<sup>22–24</sup> figure out enhanced magnetic interaction between the metal centers, albeit in similar way as that can be done for metal salt as a source of spins of each metal complexly is available in the literature to establish a sophisticated magneto-structural correlation for cyanotribridged Ruthenium<sup>25–27</sup> where RbCl is the counterion. The research coupling element between the metal ions is usually ferromagnetic  $\mu_{\text{B}}$  in nature, while in antiferromagnetic

**Supporting information for this article is available on the WILEY website.** <http://onlinelibrary.wiley.com>



Authenticated

  
 Principal  
 Gokhale Memorial Girls' College

06 MAR 2023











## Iron(III) and cyano-bridged dinuclear copper(II) complexes: synthesis, structures and magnetic property of the copper(II) complex

GOUTAM MAHATA<sup>a</sup>\* and ANANGAMOHAN PANJA<sup>b,c,d</sup>

<sup>a</sup>Department of Chemistry, Golhale Memorial Girls' College, 101 Howrah Mainpore Road, Kolkata 700024, India

<sup>b</sup>Department of Chemistry, Panskura Gramin Vidyap. Panskura, 721 102, India

E-mail: goutamchita1977@gmail.com; goutamchita@yahoo.co.in

MS received 9 April 2019; revised 25 May 2020; accepted 26 May 2020

**Abstract:** This report describes the synthesis and structural characterizations of three new complexes ( $\text{[Fe}(\text{L})_2\text{Cl}_2\text{C}_6\text{H}_5\text{COO}]_2\text{R}_2\text{Fe}(\text{C}_6\text{H}_5\text{COO})_2$ ) (1), ( $\text{[Cu}(\text{L})_2\text{Cl}_2\text{C}_6\text{H}_5\text{COO}]_2\text{R}_2\text{Fe}(\text{C}_6\text{H}_5\text{COO})_2$ ) (2), and a cyano-bridged dinuclear copper(II) complex, [ $\text{[Cu}_2(\text{L})_2\text{Cl}_2\text{C}_6\text{H}_5\text{COO}]_2\text{R}_2\text{Fe}(\text{C}_6\text{H}_5\text{COO})_2$ ] (3), where R<sub>2</sub>Fe(C<sub>6</sub>H<sub>5</sub>COO)<sub>2</sub> is a ferrocyanide cation and L is 1,10-phenanthroline. X-ray crystallography results find that the geometry of iron(III) centers in the complex cations of 1 and 2 is an octahedral, while it is a square pyramidal around copper(II) centers in the complex cation of 3. Both the ligands mentioned previously coordinate to the complex cations of 1 and 2, while three cyanide ions bridge two Cu<sup>2+</sup> ions in complex cation of 3. In addition, complexation of the Cu<sup>2+</sup> ions in 3 with Cl<sup>-</sup> ions leads to the formation of a monochloro-complex, which is a 1:1 molar ratio of 3:Cl<sup>-</sup>. Magnetic properties measurement made shows that the cyano-bridge maintains the antiferromagnetic coupling between copper(II) centers with a value of  $\sim -10$  K in 3.

**Keywords:** 1,10-phenanthroline, cyano-bridged dinuclear Cu(II) cyanide, magnetic study

### 1. Introduction

Transition metal-metalllo-carbonates have attracted considerable interest due to their extraordinary variety of chemical and physical properties including solar, magnetism, conductivity and biological storage activity.<sup>1–3</sup> Recently, magnetic interactions between paramagnetic metal ions through cyano groups have been extensively investigated.<sup>4</sup> In particular, the cyano-bridged 1D linear assembly of these linear chain-type compounds have attracted great attention owing to the fact that many of them exhibit a long-range magnetic ordering above room temperature, photoconductivity and/or dose irradiation of the magnetization.<sup>5–7</sup> It is well known that interaction between the metal centers through cyano groups is an efficient feature in the basis of all the interesting physical properties of such compounds. Therefore, dinuclear complexes in which a single cyano ion bridges the metal centers can be served as model

compounds for the study of exchange interaction between the metal centers.<sup>8</sup> Although a large number of cyano-bridged 1D, 2D and 3D complexes were synthesized and their magnetic-structural correlations have been established, simple 1D-Cu<sup>2+</sup>-CN<sup>-</sup>-Cu<sup>2+</sup> containing one cyano linkage was not much explored.<sup>9</sup> The simplest example in this regard is a dinuclear copper(II) complex with only one isolated electron per metal center. It has been found that such complexes exhibit significant variation in the strength of antiferromagnetic coupling between two copper(II) centers depending upon the relative disposition of the bridging cyano group and the type, and geometry of the metal centers.<sup>10</sup> In the complex with an end-on sigmoidal ligand, two ligand-bisignateal Cu<sup>2+</sup> copper(II) centers are bridged by a cyano at an axial coordination site, and therefore, stronger antiferromagnetic interaction is expected in such complexes as the lone pair of orbital of the copper(II) ion containing unpaired electron is directed towards the  $\pi$ -orbital of the cyano lig, resulting in a greater overlap with the

\*Correspondence

Published online: 21 August 2020



Authenticated

  
Principal  
Golhale Memorial Girls' College

06 MAR 2023

**SYNTHESIS, CRYSTAL STRUCTURE, AND SUPRAMOLECULAR  
INTERACTIONS IN A BINIC TRICHLOROCATECHOLATO  
CHELATED MANGANESE(II) COMPLEX**

E. Malathy<sup>1</sup>, A. Panja<sup>2,3</sup>

<sup>1</sup>Department of Chemistry, Gokhale Memorial Girls' College, Kolkata, Republic of India

E-mail: amanpanja@rediffmail.com

<sup>2</sup>Presently: Department of Chemistry, Panskura Research College, Panskura, Republic of India

Received  
24.01.2020

Revised  
09.02.2020

Accepted  
05.03.2020

A new manganese(II) complex, [Mn(C<sub>10</sub>H<sub>10</sub>O<sub>4</sub>)<sub>2</sub>(H<sub>2</sub>O)<sub>2</sub>]·4H<sub>2</sub>O (1), has been synthesized by a one-pot reaction between 1,4-bis(chloromethyl)-1,1,2,2-tetrachloroethane and manganese(II) chloride in a 1:2 molar ratio in the presence of 1,4-dioxane at a 150°C in air without any solvent conditions, and it was analyzed by elemental analysis, IR, and UV-vis spectra. Results for the complex show its coordination with two tricinchonine quinones coordinated to the manganese(II) center in square planar geometry, and two crystal positions are occupied by the water molecule. The crystal packing of 1 is stabilized by stronger hydrogen bonding interactions at weak organic sites of coordination from the quinone ligands, and hence DSC methods were used to confirm the reaction with the availability of two methods together with double-crystal X-ray diffraction analysis of hydrogen bond theory. The solid-state packing of 1 is further confirmed by C–H–O interactions along with π–π interactions involving the tricinchonine quinone ligands. The complex is further characterized by IR, spectroscopy, and cyclic voltammetry, and its results are evaluated.

DOI: 10.1002/JEC.26712

Keywords: manganese(II) complex; tricinchonine quinone; crystal structure; hydrogen and π–π interactions; C–H–O interactions; cyclic voltammetry

## INTRODUCTION

Inorganic metal complexes with inorganic organic ligands have attracted considerable attention because of their applications in various fields, including biocatalytic catalysis, C–H bond activation, and C–C bonds cleaving [1–7]. Furthermore, these compounds display several electric, magnetic, and electronic properties because of their close energy levels of the d-band orbitals of metal and the valence conduction band, respectively. Hence, as far as energy functionals are concerned, they can be used for the synthesis of materials such as base and light, and therefore, these Nernst materials are also, indeed, as potential candidates for the fabrication of memory storage devices [8–10]. Apart from the scientific perspective, several 17 new transition metal complexes with non-innocent ligands, such as dithiocarbamates, phosphines, and boronhydrides, were synthesized for research and theoretical studies for various molecular systems [10–21].

Weak non-covalent interactions, popularly known as supramolecular interactions, play important roles for the self-assembly of molecular systems, of the highest relevance in both biological and other

<sup>1</sup> E. Malathy & A. Panja, 2020



Authenticated

*Chaplo*  
Principal  
Gokhale Memorial Girls' College

06 MAR 2023

## Mental Health of the College and University Students in West Bengal during COVID 19 Pandemic and Lockdown

**By, Newton Biswas**

Assistant Professor  
Gokhale Memorial Girls' College  
Kolkata-20

### Abstract

The world is going through panic, fear, anxiety, stress, worry and isolation because of COVID 19 pandemic and lockdown. Almost one-third of the world population is living under some kind of quarantine or lockdown. All these things affect the mental health of any individual to a lot. Researches in different countries in Europe stated that lockdown affects the mental health of individual severely. The concept of Mental Health in India is not clear but people pay less attention or importance to it. It is a fact that staying mentally healthy is the key to live a good life. After completing 1<sup>st</sup> phase lockdown for 21 days, India started the 2<sup>nd</sup> phase lockdown. This 2<sup>nd</sup> phase will continue for 19 days that is till 2<sup>nd</sup> May, 2020. In West Bengal, Government has declared that all educational institutes will remain closed till 10<sup>th</sup> June, 2020. Studies in different parts of the world stated that even in normal times depression, anxiety, stress among college and university students are high. Several reasons are there. This pandemic is increasing the intensity of these reasons. Experts of Economics have already predicted that unemployment, recession will increase rapidly. GDP growth rate of India may come down to 1.0% (IMF). All these predictions are creating an atmosphere of uncertainty about the future among the graduate and postgraduate students. These age group students are very vulnerable and sensitive to such environment.

In this situation the researcher wanted to carry out the study to find out the condition of the Mental Health of the college and university students of West Bengal, a state of Indian Republic, during lockdown and how they are facing this pandemic situation.




Authenticated  
*Newton Biswas*  
Principal  
Gokhale Memorial Girls' College

06 MAR 2023



Authenticated

*Charita*  
Principal  
Gokhale Memorial Girls' College

06 MAR 2023

ISSN 2394-8749  
E-ISSN 2394-8757  
DOI: 10.51474/IJARCS195367  
Innovation The Research Concept  
Major Submission: 12/08/2020, Date of Acceptance: 20/09/2020, Date of Publication: 20/09/2020

## India: National Crisis in Pandemic Times

**Abstract**

The India crisis is the most affected countries in the world from corona virus pandemic, with more than 1, 30,000 reported cases by January. In India over 80% of the VNR, India government declared a national lockdown at 26 March, till 19 extended by 30 days. While the lockdown has an intensive impact on the economy, the growth rate of India, the number of infection cases continues to rise with growth momentum for the current quarter ongoing. This study discusses about the impact of the virus situation on Indian society, health care services, what kinds of challenges India is facing due to pandemic and what would be the outcome from this situation in future.

**Keywords:** Covid-19, Economy, Healthcare, Political Measures, International



**Chandrima Ghosh**  
Assistant Professor,  
Dept. of Political Science  
Ghatkopar West Govt. College B.  
Kolkata West Bengal, India

S-24



Authenticated  
*C. D. Ghosh*  
 Principal  
 Gokhale Memorial Girls' College

6 MAR 2023

**THE STATE AND THE INDIVIDUAL IN SHAKESPEARE AND SRI  
Aurobindo's *FIZERS OF RABINDRANATH*: A COMPARATIVE ANALYSIS**

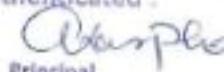
Subham Dutta

The idea of state and kingship is integral to Sri Aurobindo's discursive philosophy. Sri Aurobindo perhaps quite deliberately chooses his plays within a context narrating, considering the idea of state kingship, essential to his evolutionary discourse. The plays of Sri Aurobindo predominantly offer an allegorical representation of the contemporary political scenario. Structurally, they adopt the Renaissance play device of *discreet diversion* to delineate conflicts related to strategy, navigation, illegitimacy and so on. Theoretically also, they share some discursive affinity with the Shakespearean plays and their famous play device (with regard social and ideological positions). Especially, in Shakespeare's history plays and tragedy, one finds the manifestations of such positions. The plays of Sri Aurobindo are also analogous in that way. However, it is sensible to say that the ideological actions that Sri Aurobindo and Shakespeare utilize to strengthen their plays are not the same. This paper aims to explore the difference between the Sri Aurobindonian and the Shakespearean notion of kingship, and how they locate themselves within their respective paradigms. It is impossible to read it comparatively within the scope of this paper and hence I take Sri Aurobindo's play *Fizers of Rabindranath* as a representative text to unravel how Sri Aurobindo's idea of the state differs from Shakespeare's despite their considerable similarities.

The state emerges as a site of multiple conversations and negotiations in the Renaissance politics. The New Historicism and the Cultural Materialism approaches intend the idea of Renaissance into re-acting the relationship between the Renaissance state and the plays. From this studies, it is perceptible that Renaissance texts both shape and are shaped by contemporary politics which accords utmost importance to the role of the individual. In this section, I will try to show how intertwined relationship that the state and the individual share in the Renaissance discourse. It is a good idea to look at the evolution of the idea of the state in Renaissance literature. The issues it tends up the society are multiple. Renaissance brings in the foreground the notion of a noble and courageous human subject. However, that subject was not free from the strenuous division of Renaissance body-politic. Jonathan Dollimore in his perceptive insight into the Renaissance politics shows how the Renaissance political scenario brings in the foreground the issue of a nobly "de-entitled subject." Dollimore maintains how the



Authenticated

  
 Principal  
 Gokhale Memorial Girls' College

06 MAR 2023



International Journal of Research in Economics and Social Sciences (IJRES)  
Available online at <http://ijres.org>  
Vol. 10 Issue 11, November - 2020  
ISSN: 2249-7882 (Impact Factor: 7.077)

---

**Perception of Virtual Friendship on Facebook: A Study on Graduate and Post-Graduate Students of West Bengal, India**

Dr Md Iqbal Sultan  
Asst. Professor, Department of Geography  
Gokhale Memorial Girls' College  
Kolkata, West Bengal, India

---

**Abstract:**

Presence of Facebook as a social networking site is rapidly increasing among many generation in India during last few years. But the purpose of using this social network of the students of higher education is somewhat different from the common people. They not only take it as a medium of passing leisure time but also use it as a self-improvement program. It is notable that they prefer to maintain a balance between virtual and real friendship. In spite of some different view, it is merely acknowledged that Facebook has both positive and negative impact as a medium of virtual relationship.

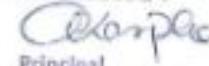
**Key words:** Facebook, Social network, Virtual friendship, Real friendship

---

International Journal of Research in Economics & Social Sciences  
Email: editor@ijres.org, <http://www.ijres.org>  
A peer-reviewed, open access, international, monthly, and fully refereed journal

105



Authenticated,  
  
Principal  
Gokhale Memorial Girls' College

06 MAR 2023



पापिंदनी वट्टोपाहुड के नाम  
(कोर्ट- 'काला बाल' कहनी-संतान)

संगीत विद्या

ISSN 0975-8323

## वाङ्मय

四三一〇

संस्कृत वाचन-प्रियोग 2020

संग्रहालय  
डॉ. राजा श्वीरोन् अहमद  
संपादक : रामेश्वरमुख

समाजवादी समाजवादी  
प्री. वेराज अहमद  
(एस.प. कल्पित)

केन्द्रीय विद्यालय री अधिक साधन प्राप्त

परामर्शी भवन  
प्रो. समाजी नाथ (दी.सी.ए.)  
डॉ. अमृता निषाद (कॉलेज)  
मी. रमेश नाथ (विविध)

सम्पादकीय सम्पर्क  
286-पटे-2, लोहा बडेली,  
निम्न काशी वारी,  
दैलुक गंगा, उत्तर प्रदेश-201302  
फ़ोन: 00919866806  
E-mail : [samayakshakti@gmail.com](mailto:samayakshakti@gmail.com)

दूसरा अंक बाटा मुद्रा-200/-

संक्षेप रासी :  
एक दूसी : ८० रु. द्वितीय सूल अधिकार/प्रत्यक्षी वे निरु : १०० रु.

26. राष्ट्रीयवीक्षणको सम्पर्क : विभाग संख्या /23  
अ. ऐकात्मी पांचाल पुस्तकालय

१७. अद्यतो वार्ता-सूचना का अधिकार : परिवार विवाह, २३५  
एवं प्रियंका

3715-2

- भावनाएँ की नई दृष्टिया तेरेंद राम की कहानियाँ /256  
दृ. रम
  - तेरेंद राम की कहानियों का विविध प्रणाली/261  
दृ. सच्चिदेश चंद्रेश
  - तेरेंद राम की कहानियों में विविध भविका/266  
दृ. शशिका शिंह
  - तेरेंद राम की वेदीन काती कहानियाँ /272  
मधु झोटा
  - उवासी कहानियों का जटाह : तेरेंद राम /282  
दृ. अंबुजन आस
  - तेरेंद राम की कहानियाँ : एक अध्ययन/291  
शालिनी सात् “वर्षीर”
  - तेरेंद राम की कहानियों का स्वीकार्यक अध्ययन/295  
दृ. विजित रोड़ी
  - तेरेंद राम की कहानियों में राम उल्लिङ्ग-प्रतिकाण/303  
दृ. पर्वीन बूझारी
  - तेरेंद राम की कहानियों में राम के विविध रूप/313  
मधु गेहल साथी
  - गाथाकार  
10. वरिष्ठ कवाक्ष तेरेंद राम से गीतार्थी की वासनीय/318

*Anuplo*  
Principal  
Gokhale Memorial Girls' College

**Opinion of Undergraduate Students of Selected Districts of West Bengal  
about Online Classes During Lockdown**

**Dr. Newtan Biswas**

Assistant Professor

Gokhale Memorial Girls' College

Kolkata-20

(Abstract)

The entire world is going through the biggest crisis because of the Corona virus. Most part of the world is locked down. Most people are confined in their home. Corona virus attacked India in January 2020. After Jason Corbin on 27<sup>th</sup> March, India officially declared lockdown on 24<sup>th</sup> March, 2020. To fight against the Corona virus, West Bengal government declared that all educational institutions will remain close from 10<sup>th</sup> March 2020, except the ongoing Higher Secondary Board exams. So, in West Bengal regular teaching learning stopped from that day. Large number of teachers as well as the government became worried. Then many teachers began to take class through different online platforms such as Edmodo, Google classroom, Zoom, cloud meeting app etc.

Most of the teachers and students are using such online platforms for the first time. The present research article tries to find out the experience and opinion of the under graduate students of West Bengal about these online classes. Are they really getting any benefit from such classes or not is also another topic of this research article.

**Key words:** Corona virus, Lockdown, West Bengal, Education, Online Class, Online procedure.

**INTRODUCTION**

Online class is not a very new concept, but both the students and many teachers of West Bengal this concept is quite new. The concept of online class is gaining popularity today mainly because of the threat of Corona Virus. India is going through a period of

909/16/n



Authenticated .  
*Charmie*  
Principal  
Gokhale Memorial Girls' College

06 MAR 2023

International Journal of English Literature and Social Discourse (IJELS)  
https://doi.org/10.5281/zenodo.112140

Volume Issue 1, Issue – Feb-2020  
ISSN: 2455-2429

# A Queer Journey: Mahabharata to Ghosh's Chitrangada

Shreemati Ghosh

\*Author whose expertise or research area

What he does at IIT?

Researcher for other activities

Editor, theorist

You and I understand? (Mahabharata) The Great War is there, that's mentioned, quite seriously. So I turned on reading part of the Black Marginalia edition. However, the Bhishma, the one who always has victory and reigns in those stories, appears, and clearly has captured your expression, devoid of any sort of anger, devoid of any sort of aggression, and very evenly. However, there has remained a certain sort of tension, the power that continues in those stories and their double interpretation in our Indian society due to the greater marginality problem of it. (Bhishma Part 1), contemplation and acceptance has created a composition of such voices and has compared them to the track, how and why they choose their "different paths of life" express and capture, according to different ways of life. Hence, the voice that exists in the Bhishma, that the person himself would "become woman" or "remain man" as a choice, goes as every path changes or goes or goes to the other, like it is mentioned in Bhagavad Gita that "whatever you do in the Bhishma, whatever writing can be done is present in the other country."

The one meditates because he has got and the last of the living, greatest change, ultimate change, ultimate change, the person being overcome by the past. (Bhishma) and remaining as nothing, to implement acts of body and mind (Bhishma) his mother, godlike soul. The Bhishma, also in the journey of life, has become an instance of representing the theory of existence, before finally transitioning it.

In this paper, my attempt will be to make new words/poem/journey that is rooted in the Indian tradition, right from The Bhishma to the last century of Bhagavad Gita, while using this poetry, I will refer to the idea of Bhishma, the Bhishma or the undergoer covered in

Individualism and another, Tagore's interpretation of Bhishma, India proceeding to Bhagavad Gita's Bhishma Chitrangada The Emerging West.

Methods of interpretation can be varied in the mentioned case. The Bhishma, through the "queer" dimension like Pichwai, the research from of Bhagavad Gita, the three other queer culture of drama and so on. It can be observed in case of Chitrangada, the figure of Mahadev who was named like this, a name of Mahadev, where women had come closest to seek the divine. Again, in the "Contestable" case, the voice, like an article, appears in the study of Bhishma, as the story in Bhishma. Chitrangada has been reported as a composition of multiple categories of discourses (Bhishma, Bhagavad Gita, Bhishma's voice, Bhishma and Bhagavad Gita, Bhishma to him). But, although, the Black Marginalia provides more space for voice change and gender transformation, more instances were observed, within only successive of the "queer". Bhishma, people from anywhere in "India" a person is having no "conspicuous and rare and points of contact" (Bhishma to the case of the gods). Bhishma has more space, according to the Chitrangada, the ancient Hindu law, hereditary marriage and bearing of children are the main responsibility of a person. Bhagavad Gita (Bhishma), mostly law book, confirmed same sex activities and also provided permission for the same. The idea of queer in India influenced a certain thoughts, as according to Bhagavad Gita, who were sexual minority, gay people, lesbians and so on remain in certain situations, which "queer" and/or even "Bhishma" can be converted into the queer and each day of innovation, constant thought.

How an example to take from the Bhagavad Gita title of "Bhishma" and Bhishma?

"A title of 'Bhishma' in the work, the self, pure consciousness, and the only source of consciousness. The word literally means "self". "Bhishma" is something that is caused; it is nature in all her aspects. Bhishma" comes "Bhishma," the Bhishma

www.IJELS.in

Page | 170

International Journal of English Literature and Social Discourse (IJELS)  
https://doi.org/10.5281/zenodo.112140

Volume Issue 1, Issue – Feb-2020  
ISSN: 2455-2429



Authenticated

*Gokhale*  
Principal  
Gokhale Memorial Girls' College

06 MAR 2023

Inorganic Chemic Acta 450 (2019) 112–117  
Contents lists available at ScienceDirect  
**Inorganic Chemic Acta**  
journal homepage: [www.elsevier.com/locate/jinorgchemacta](http://www.elsevier.com/locate/jinorgchemacta)

**Research paper**  
**A rare flattened tetrahedral Mn(II) salen-type complex: Synthesis, crystal structure, biomimetic catalysis and DFT study**  
**Satish Barapet<sup>a</sup>, Pratim Ghosh<sup>a</sup>, Rajani Sarker<sup>a</sup>, Anangamohan Panja<sup>a,\*</sup>, Arunia Saha<sup>b,c</sup>**  
<sup>a</sup> Department of Chemistry, Indian Statistical Institute, Kolkata 700108, India  
<sup>b</sup> Materials and Chemicals Division, Institute of Microbial Technology, Chandigarh 160017, India  
<sup>c</sup> Department of Chemistry, Panjab Engineering College, Panchkula 161021, India  
<sup>d</sup> Department of Chemistry, Indian Statistical Institute, 20 Ferozshah Road, Kolkata 700009, India

**ARTICLE INFO**  
**Keywords:** Metallo-salen complex; Metallo-salen; Biomimetic studies; Fluorescence studies; DFT calculations; X-ray crystallography

**ABSTRACT** A rare flattened tetrahedral Mn(II) salen-type complex: Synthesis, crystal structure, biomimetic catalysis and DFT study. The title compound is synthesized by three different and unique spectroscopic techniques. The former is a one-step dry synthesis route of the complex. UV-vis, ESR and circular dichroism studies have been performed. It is the first example of a flattened tetrahedral metal-salen-type Mn(II) complexes. The Mn(II) ion is located at the center of a distorted octahedral environment with two axial Mn(II) ions lying in the pyramidal plane. Notably, the complex shows the highest fluorescence among the reported Mn(II) salen-type ligands from previous. Notably, the complex shows the highest fluorescence among the reported Mn(II) salen-type ligands from previous. Notably, the complex shows the highest fluorescence among the reported Mn(II) salen-type ligands from previous. Notably, the complex shows the highest fluorescence among the reported Mn(II) salen-type ligands from previous. Notably, the complex shows the highest fluorescence among the reported Mn(II) salen-type ligands from previous.

**1. Introduction**  
Manganese is the 12th most abundant element in the Earth's crust. Due to its electronic character, it is widely used in the field of its oxidation in the active sites of several enzymes of biological systems [1–4]. For example, myeloperoxidase (MPO), which may utilize manganese, copper and zinc, uses Mn(II), which plays precisely similar roles in stages. In addition, it is a catalyst of Mn-containing catalyst [5–7] and peroxidase. The manganese centers involved in manganese and Mn(II) have ligands [8–10]. It is clear that when the same type of different coordination environments are involved, properties and possibilities of presence of Mn(II) in different positions and under oxidation states. Thus manganese as a metal of the interest in terms of metal complex for utilizing different applications. Its properties or synthesis that consists of magnetic properties, antimicrobial activity and biocompatibility can be used as a promising tool for the development of new materials for different purposes over subsequently facilitating the advancement of science in different fields. Therefore, present paper is focused to report results for the synthesis of several selected complexes and their use in the field of pharmacokinetics, applications, etc. [11–13]. Although the chemical literature mostly reports the oxygen-atom coordinated

and/or a porphyrinoid [14–17], there is still a lack of metal complexes in solution by manganese ligands in their different forms of Mn(II) in their coordination environments, especially with ending up of porphyrin [18–21]. In this connection, biomimetic synthesis of metal-salen-type ligands has an advantage, which is a prime approach to solve the efficiently selective biochemical changes at cellular level due to synthesis of a stable complex of two molecules of a salen and coordination to the plastoquinone derivative in the final step for the biogenesis of cytochrome-b/c<sub>1</sub>-complexes from an electron transport chain protein which is closely used for treatment of cardiovascular, white matter, Alzheimer's disease, and Raynaud's disease [22]. The Mn-salen-type derivative metal complexes which can efficiently pass through cell wall containing coordination to the plastoquinone [23] are also proposed.

On the other hand, Mn(II) has ligands as chelating diethylenetriamine which are nitrogen- and sulfur-based organic passives, mainly in bacteriostatic, metallo-uric acid, nucleic, immunomodulatory, antiviral, antiparasitic, and fungicidal properties. Antimicrobials, etc. [24–27]. The use of synthetic and natural metal-salen complexes in the medical field make them notable constituents for the development of pharmaceutical industry. Recently, the researchers had conducted interesting research [28–30] based upon the report of numerous

\* Corresponding author.  
E-mail address: [anangamohanpanja@gmail.com](mailto:anangamohanpanja@gmail.com).

Received 27 July 2018; accepted 16 September 2019; Received 26 September 2019  
Available online 27 November 2019  
DOI: <https://doi.org/10.1016/j.jinorgchemacta.2019.112-117>



Authenticated  
*Anupma*  
Principal  
Gokhale Memorial Girls' College

6 MAR 2023

*Journal of the Calcutta Mathematical Society*, 15, (2) 139–152 (2019)

A REVISIT TO THE RELATION BETWEEN  
IRREGULARITY INDEX AND SCALING INDEX  
IN A STATIONARY SELF-SIMILAR SIGNAL  
OBEDIETING FRACTIONAL GAUSSIAN NOISE

GOKUL SAHA<sup>1</sup>, KAUSHIK RAKSHIT<sup>2</sup>,  
KAUSHIK GHOSH<sup>3</sup> AND KRIPASINDHU CHAUDHURI<sup>4</sup>

(Received 25 June 2019)

**Abstract.** For a stationary self-similar signal obeying fractional Gaussian noise there is a conventional linear relation between the irregularity index and Hurst exponent. The Hurst exponent is related to the scaling index and the irregularity index indicates the irregularity for a self-affine signal. The irregularity index of irregular signals with the boundary conditions are found as consistent for different stationary self-similar signals obeying fractional Gaussian noise but the familiar linear relation between these two indices does not seem to be consistent in all such cases. To get rid of this problem instead of taking a linear relation we contend to take a cubic relationship between these two indices together with the same boundary relationships. The present consideration possibly removes the matter towards a preceding inference.

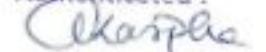
**1. Introduction.** A stationary signal is one whose primary statistical attributes like mean, variance, autocorrelation etc. remain more or less unaltered at different phases of time or space. On the contrary for a non-stationary signal these statistical properties show prominent changes at different segments of time or space.

A signal  $x(\xi)$ , where  $\xi$  is either time or space variable, is said to obey a fractional Gaussian noise (Mandelbrot and van Ness, 1968) if

- (a)  $x(\xi)$  is stationary
- (b) The transition of  $x(\xi)$  to  $x(\xi + \xi')$  for an increment  $n(\xi, \xi') = x(\xi + \xi') - x(\xi)$  is  $n(0, 1)$  for every  $\xi'$ .



Authenticated.

  
Principal  
Gokhale Memorial Girls' College

06 MAR 2023



Access through your institution

Purchase PDF



Inorganica Chimica Acta

Volume 507, 1 July 2020, 119582



2019 Sl. No. 42 Goutam Mahata

Research paper

## A simple triazole-linked bispyrenyl-based xylofuranose derivative for selective and sensitive fluorometric detection of Cu<sup>2+</sup>

Samuel Islam Hazarika<sup>a</sup>, Goutam Mahata<sup>b</sup>, Pallab Pahari<sup>b</sup>, Nabajyoti Pramanik<sup>b</sup>,  
Ananta Kumar Atra<sup>a</sup> 8, 25

### Abstract

Triazole-linked xylofuranose derivatives having one pyrene or two pyrene moieties were synthesized and their fluorescence properties towards various cations and anions were investigated. Only, bis-triazoles appended bispyrenyl-based sugar derivative **1** exhibited selective and sensitive fluorescence quenching effect in the presence of Cu<sup>2+</sup> ions over a wide range of cations and anions in acetonitrile. The ON-OFF type fluorescence response of **1** was explained by the conformational changes from strong excimer emission of pyrene to weak pyrene monomer emission due to an interaction between Cu<sup>2+</sup> and inward-facing triazole groups. The limit of detection (LOD) of sensor **1** for Cu<sup>2+</sup> was found to be 0.15 μM, which is well accepted as per WHO's guidelines.



Authenticated

Principal  
Golghare Memorial Girls' College

06 MAR 2020

*Journal of Information and Computational Sciences*      ISSN: 1540-7941

## Sustainable Development and Hierarchy of Needs in Global and Indian Context

By: Newton Biswas  
Assistant Professor  
Gokhale Memorial Girls' College, Kolkata-30  
[anmolbiswas1@gmail.com](mailto:anmolbiswas1@gmail.com)

**Abstract**

The widely accepted and quoted definition of Sustainable Development reads as, "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs." Report of the World Commission on Environment and Development (Our Common Future). Here the most important concept according to the present researcher is 'meet the need'. The 'need' of human beings is very interesting as well as peculiar.

Abraham Maslow very tried to depict this amazing 'need' of human beings. He first introduced the concept of a hierarchy of needs in his 1943 paper 'A Theory of Human Motivation'. It is basically a motivational theory, comprising a five-tier model of human needs, often depicted in hierarchical levels within a pyramid.

The needs from the bottom of the hierarchy upwards are: physiological, safety, love and belonging, esteem and self-actualization.

As per the theory the needs lower down in the hierarchy must be satisfied before individuals can ascend to needs higher up.

Now the questions are, to what extent human beings are satisfied in terms of their physiological need, safety need, love and belonging need, esteem need and self-actualization need?

Is it possible to fulfill all the needs as said by Maslow in his hierarchy of needs?

Even, if the 'needs' are not fulfilled, then how can we achieve Sustainable Development?

In all other seemingly unmet basic human need,

In this article no attempt has been made to find out these answers, because if the 'need' of the present does not 'meet', as per Maslow's theory then the concept of Sustainable Development will remain confined only within books and academic. We need to think critically and seriously to achieve Sustainable Development.

**Key Words:** Sustainable Development, Human Need, Future Generations, Hierarchy of Needs.

*SB/TS/16/2*

Volume 8 Issue 12 - 2019      972      [www.jics.org](http://www.jics.org)



Authenticated  
*Karplus*  
Principal  
Gokhale Memorial Girls' College

06 MAR 2020

THINK INDIA JOURNAL

ISSN 2394-8453

Volume 1, Issue 1, December 2013

## Professionalism of Teacher Educators Regarding Obligation Towards Student Teachers, Through the Eyes of Student Teachers in Selected Districts of West Bengal

**Dr. Neelam Bhattacharya**

Assistant Professor

Gokhale Memorial Girls' College

Kolkata-29

[nbhattacharya@rediffmail.com](mailto:nbhattacharya@rediffmail.com)

### **Abstract**

In this 2013, we lost many things as Indians. Rapidly we are losing our tradition, our cultural heritage and share of our identity. In doing so, we are accepting the western identity. Was the influence of over-spreading globalisation and development of information and technology, and thus playing big role, our identity is re-shaping and giving us a new cultural identity. We need to know our own obligations on our identity.

The entire world agrees with the view to impart professionalism among teachers. The present has started earlier.

Teacher education can also a part of teaching community. Their role is no less important. It is they who make teachers. They also must behave in a professional way. Now it is the time to evaluate them from the professional point of view. The trainers are considered as an important part of teaching-learning system; so, while evaluating the professionalism of teacher educators, the researcher tries to evaluate the professionalism of the teacher educators, through the eyes of the teacher-students, who are pursuing or have completed BEd from the institutes recognised by HECET in West Bengal. The teacher educators must be responsible towards the teacher-student, society and their profession, so that the future teacher can shape a better society. So, the dream of a good society remains in the hand of teacher educators.

In this research paper an attempt has been made to evaluate the Professionalism of teacher educators regarding their obligation towards the student teachers, through the eyes of Student teachers in West Bengal.

**Key Words:** Professionalism, Teacher Educators, Student Teachers, West Bengal.

### **Introduction:**

Change is an inevitable part of human life as well as society as a whole. If this change occurs gradually, step-by-step then it becomes spite of life, if not, the individual or society may

Page 11188

Copyright © IGI Global

A NEW PROPOSAL ON THE RELATION  
BETWEEN IRREGULARITY INDEX AND SCALING  
INDEX IN A NON-STATIONARY SELF-AFFINE  
SIGNAL OBEDIING FRACTIONAL BROWNIAN MOTION

GOKUL SAHA<sup>1</sup>, KAUSHIK RAIGSH<sup>2</sup>, KOUSHIK GHOSH<sup>3</sup>  
AND KRIPASENDHU CHAUDHURY<sup>4</sup>

(Received 7 December 2018)

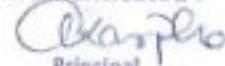
**Abstract.** For a signal the power spectral density  $p(F)$  usually follows a power law given by  $p(F) \propto \frac{1}{F^{\alpha}}$  ( $F$  being the frequency). This power law index  $\alpha$  is known as irregularity index. This relation was first observed by Johnson (1925). Since then this power law relation has been experienced in different contexts of Physics, Biology, Technology, Economics, Psychology, Language and Music. For a non-stationary self-affine signal obeying fractional Brownian motion a linear relation between the irregularity index  $\alpha$  and Hurst exponent  $H$  was proposed as  $\alpha = 1 + 2H$  (Higuchi, 1990). This Hurst exponent is coined as the scaling index for a self-affine signal (Hurst, 1951). We have  $0 < H < 1$  (Hurst, 1951) and normally this gives  $1 < \alpha < 3$  obeying the boundary principles as  $H = 0$  when  $\alpha = 1$  and  $H = 1$  when  $\alpha = 3$ . Although the present range of  $\alpha$  with these boundary conditions are found to be consistent for different non-stationary self-affine signals obeying fractional Brownian motion but this linear relation between  $\alpha$  and  $H$  does not seem to be agreeable in all such cases. To resolve this issue instead of taking a linear relation we argue to take a cubic relationship between these two indices together with these boundary relationships. The present consideration possibly interprets the matter towards a concluding conclusion.

**1. Introduction.** A stationary signal is one whose primary statistical features like mean, variance, autocorrelation etc. remains more or less unchanged at different phases of time or space. On the contrary for a non-stationary signal these statistical properties show conspicuous changes at different phases of time or space. Non-stationarity is often revealed as time variability or space variability like periodicity, monotonic behaviour, step resembling trends, random walking etc.

A signal  $x(\xi)$ , where  $\xi$  is either time or space variable, is said to obey a fractional Brownian motion (Mandelbrot and van Ness, 1968) if



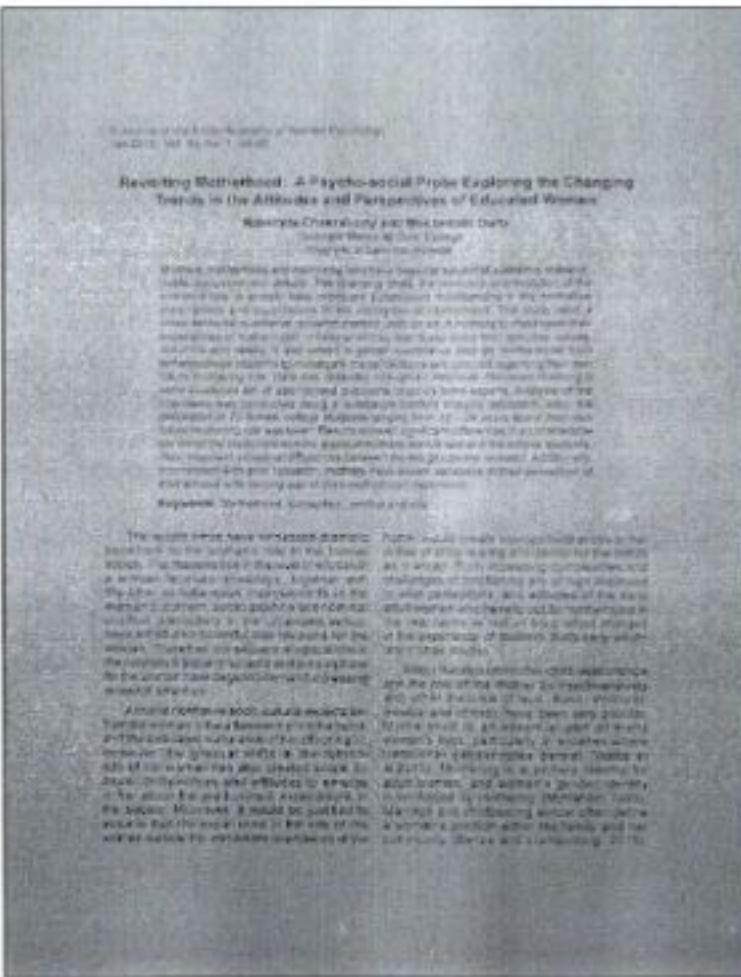
Authenticated .

Principal

Gokhale Memorial Girls' College

06 MAR 2023

2019 Sl. No. 46 Nabamita Chakraborty,  
Moon Moon Dutta



Authenticated  
*Chopra*  
Principal  
Gokhale Memorial Girls' College

06 MAR 2023

## Religious Tourism and Its Impact on Local Economy and Environment: A Case Study on Dakshineswar and Adyapeeth, West Bengal, India

Dr Md. Iqbal Sultan  
Day Pratima Bhattacharya  
Gokhale Memorial Girls' College  
Kolkata, West Bengal, India

### Abstract

In last few decades, tourism has become a major industry throughout the world. The religious tourism sector is mainly related to the pilgrimage of millions to ancient Buddhist and Brahmanical and Jain religious centers/tourism of West Bengal. Dakshineswar Kali Temple, Adyapeeth, Adi Ganga, Adi Ganga River, Dakshineswar Kali Temple was founded in 1807 by Adi Shankaracharya who is popularly known as Sri Adi Shankaracharya. Thousands of devotees flock here throughout the year. Dakshineswar Kali Temple development has been an important and significant factor in the economic and social development of the area and areas. Dakshineswar project of West Bengal Government will be kept in mind for its long-term development.

**Keywords:** religion, tourism, pilgrimage, Adyapeeth, Dakshineswar

### Introduction

Geography is an interdisciplinary science and related branch. Social Geography has emerged as a research field in between 'History' and 'Sociology' that includes interdisciplinary studies in Geography and Sociology. The main source of power and knowledge is our understanding of Human Society from Chapter 8, since 2001. As the name suggests, interdisciplinary studies, in literature, and religion have begun to explore coverage which can attract, attract, and power study of different religions, myths and legends, stories and other stories and histories, and at such study, history, history, their scholars ought to explore 200000 books

in double entries. The religion and the geographical while study branches of geography are scientific in perspective are studied with a view from the Hindu tradition. But the geographical features—like climate, vegetation, soils, and mountains—can either be purely historical, spiritual or material. We can analyze with study of past and present. The study of "Spirit" requires a comprehensive perception of the history of experience. It is "Mind" which is known as a "Student" of the "Spirit" and a perception of the perception of all space, as once stated in their classes. M. Ramanujan & others, 1998, 2000.

Dakshineswar and Adyapeeth are more historical religious centers open of West Bengal. Dakshineswar pilgrims visit the open throughout the year. Thus, religious tourism related activities have been developed here and religious tourism of local people are directly or indirectly involved. But it has been observed that there are some negative impacts of religious tourism on environment.

### Location

The latitude and longitude of Dakshineswar Kali Temple located at 22°37'27"N 88°27'45"E respectively. It is situated on the eastern bank of Hooghly River and the distance is about 60 km from Kolkata. The temple is under jurisdiction of Adi Ganga Municipality, Hooghly 26, Hooghly, West Bengal. According to the census and 2011 statistics of the temple, there are 26 acres.

Adyapeeth Kali Temple is located just across the Hooghly Dakshineswar Kali Temple. The coordinates are 22°38'28"N and 88°27'48"E. It is also under Adi Ganga Municipality jurisdiction.



Authenticated  
*Claespho*  
Principal

Gokhale Memorial Girls' College

06 MAR 2023

## Privatization of Education Vs Cultural Identity

Dr. Newton Biswas\*

**Privatization:** It is a process that allows certain non-governmental organizations or private parties to basically take over a sector through which governments quit their responsibilities and allow private individuals and institutions to manage things and do the job for money.

Today whenever anyone is talking on 'education', India is not an example. Globally, Indian education stands as one of the largest, with an estimated number of more than 3.6 million schools and institutions 400 universities and 8000 higher education institutes or secondary schools in light of rising income levels and growing demand for quality education in the country. Education sector in India is a mix of government-operated or privately operated educational institutions and allied educational providers & private providers. Privatization of education in India is not a new concept at all. As far as it is concerned, recently the form and direction of privatization of education have changed rapidly and substantially. Though India was a member of GATT (1947), there is no international GATT in many ways. From 1962 to around 2007, per cent 175 according to the centre of fiscal stability and consistency. Post 1991 onwards with the Industrial policy 1991, government has continued the process of privatization and liberalization with a clear step. At last, with Educational Laissez Policy 1991, there is a total abolition the border and open the door of globalizations, is the median issue. The process of globalisation requires when India joins WTO in January 1995, and "agreed to stand by the regulation framework of free globalisation and competition." Because of all these things today the foreign investors are investing in education sector. The education sector in India has witnessed a paradigm shift in recent times. The private sector in the field of education operates under the following modes of ownership:

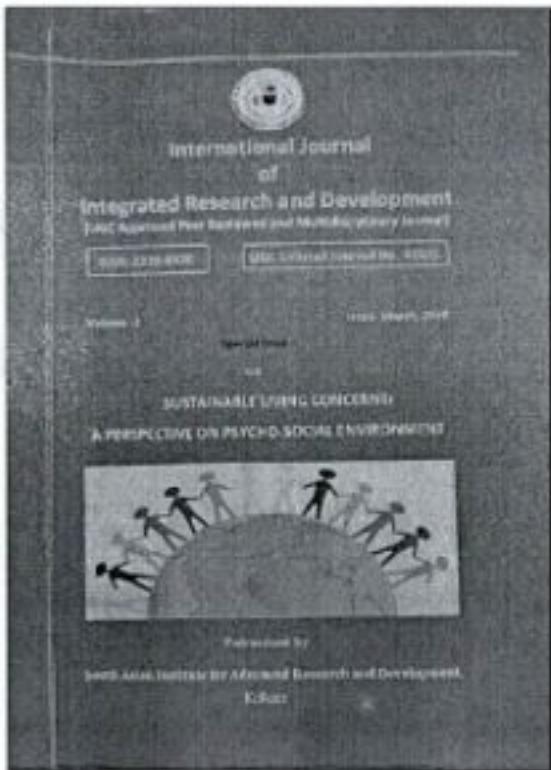
- **Individual owners and Trustee:** Under this type of ownership, educational institutions/organizations are owned and operated by trusts created for the educational purposes by the individual(s) and corporate bodies;
- **NGOs (non-government organizations):** Under this type of ownership, organizations help in providing education to the segment sections like women, disabled rural and urban people.



Authenticated .

*Okarpha*  
Principal  
Gokhale Memorial Girls' College

06 MAR 2023



INDEX		
S.N.	AUTHORS	TITLE OF PAPER
1	Anup Saha	Sustainable Living: An Opportunity?
2	Raj Kumar Sharma	Solutions to the problems of the sustainable development management in India
3	Amrit Kaur Dr. Anuradha Basu	Food For Thought: A Commentary on College-students of Kolkata
4	Bruno Sora	Sustainable Living Concerns: A perspective on Popular Journal Literature
5	Debmali Sen	Yonder the Green Environment Dictionary: Exploring Environmental Concerns: the cause: Cognitive Disability
6	Dr. Debadish Bhattacharya Mrs. Ananya Gupta Paul	Possible Existence of Environment and Development
7	Indum Riddhi Anup Datta	Water Resources, Sustainable Development, and Poverty: The Case of Chakka Jheel In the District of Mymensingh
8	Koushik Majumdar	Environmental Concerns for Sustainable Development
9	Dr. Lalita Agrawal	Inclusive Environmental Philosophy of Vedic Foundation of Social Harmony and Diversity <b>The Influence of Urban Green Spaces Based On Socioeconomic Living Environment</b>
10	Dr. Neeraj Kothari	Sustainable Living Concerns through Beliefs of Justice: A Socio-environmental Approach
11	Nitadee Sekhar Sarker Dr. Moniruzzaman	Reflex on Learning: On Environmental Education At High School Level - A Case Study from Sanktoshia, West Bengal
12	Dr. Purnima Chatterjee	Sustainable and Environment Friendly Manufacturing: Some Case Studies
13	Raj Kumar Sharma	Environment & Sustainable Living – a study from P.T. tribal Society of Apatani – II Block, East Barakarhara, West Bengal

**INCLUSIVE ENVIRONMENTAL PHILOSOPHY OF VEDAS: FOUNDATION OF SOCIAL HARMONY AND DIVERSITY**

Dr. Lalita Agrawal, Associate Professor  
Dept. of English, Gokhale Memorial Girls' College

Environmental concern, however, is not a recent phenomenon and may be traced back to ancient cultures. Man has an inherent ecological sense, and environmental awareness is integral part of human culture reflected in the philosophy and traditions of early civilizations. The attitude of the Vedas towards the environment comes to light from their pronouncements like, "the Earth is our mother and we are her offspring".

Vedic sages were the earliest thinkers of traditions and are particularly important from the perspective of society, because, reference to indigenous ecological knowledge, on which there is considerable advance now. The Vedas teach, in order to sustain health of pollution free air for an indeterminate number of years, our personal instruments are to cultivate water with assessments.

The Vedas were originally discussed via oral tradition (Vedic shikshana) of transmission to students known as Brahmanical Tradition. Earth is our mother, I am my Son. Mother Earth is cultivated by all human beings, farmers and gardeners for the sake of health and vegetation.

Vedic concern of ecology goes to the extent of environmental safety every person who does any good for environment and human kind & Atma-purification and protection of the universe from evil. Here mention related to environment are very clearly indicating that Vedic scholars have also developed techniques to make man harmonious at home, workplace and everywhere including thermal management, water heating in houses and low-impact design in workplace. Hence let us see details in all sections.

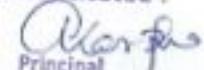
It is however evident that India is a country which is between the environment and socio-economic world. This is known as Lokayatashwarsa Aranyaka. The book, was and still is a legend. An edition of 300 books. The oldest book first proposed a holistic approach to life based on a relationship with the environment, ecology, spirituality and human welfare which are embodied as 'Self', 'God' and 'Society'.

Key theme: Ecology, Vedic, Self, Shriya, Earth

**MAIN BODY**

Knowledge lies at the root of action; they are constantly recommended by Vedas because with enhancing the roots, the soil grows, and everything else flourishes. Our environment, although it looks like a natural resource, is a product of human activity and anthropogenic intervention, but the true concern is to spread information about the environment and processes. This concern is again from local, national, regional, energy and information level. In today's article we highlight some

06 MAR 2023

Authenticated.  
  
 Principal  
 Gokhale Memorial Girls' College

V. 2019-20, Vol. 2000  
P. ISSN 0973-2143

ISSN 0973-2143 (Print) April 2019  
Shrinkhla Ek Shodhparak Vaicharik Patrika

## Money for Nothing A Comparison of the Rural Credit System between India and Bangladesh

**Abstract**  
Agriculture needs working capital to increase. Smooth credit availability, besides a good income, improves agricultural production. This paper focuses on India and Bangladesh where credit is considered as the backbone through which economic growth can be achieved. We focus on agriculture, the rural sector, and attempt to analyze the role and various impacts of credit availability and the banking system in the rural areas of both countries and examine the money supply. In a comparative way it shows two approaches by examining the current state of the agricultural and rural banking in both countries.

**Keywords:** Rural Credit, India, Bangladesh, Agriculture, Bank.

**Introduction**  
Credit is an important input for rural development, which can be given form or long term. It is credit based to meet the needs of the farmers during the production period between sowing (marketing) and harvesting (yield). Long-term loans are provided to purchase equipment, seeds, agricultural machinery, fertilizer, fuel, etc. Short-term loans are given to the farmer to meet his daily expenses such as repayment of previous debts for the purchase of farm inputs such as seeds, fertilizers, etc. Farmers in India depend more on a group of local microfinances and are exploited by the credit market due to high interest rates and lack of convenient clauses to avoid such fees and a reason in the majority of rural payments are the use and the dependency on private sector high-risk microfinance system such as education, housing, food, household facilities, etc. Rural households need access to financial institutions that can provide them with better opportunities and resources to improve their quality of life and family and the other steps that are implemented in rural India. Agriculture is one of the largest sectors of our economy and 50% of the national GDP, agricultural workers are kept up to sustain the GDP growth. Governmental efforts to improve agricultural productivity and therefore increase production stays high. The former generation in contrast to mainly urban or marginal farmers and out of that a small proportion has access to institutional credit. Interest of farmers of all categories report the need for credit to obtain agricultural inputs, without adequate access production cannot be fixed on time. The people involved in agriculture are mostly poor and vulnerable farmers, they depend on their products of their families. A lack of agricultural inputs due to a lack of capital will hamper production and therefore hamper their local economy as well as the nation.

**Structure of the Banking System (India)**  
The Indian agricultural banking system started in 1905 with the goal of extending banking facilities to the rural areas. The Government and the Reserve Bank of India (RBI) encouraged agricultural banking, in 1975 the Regional Rural Banks (RRBs) were set up by the RBI to promote banking in the rural areas and for the farmers to benefit from the banking facilities. In 1962, RBI further established the National Bank for Agricultural and Rural Development (NABARD), an agricultural finance corporation, to provide finance and carry out agricultural schemes and policy in favor of the farmers. In 1949 the State Bank of India was established after the Banking Regulation Act was enacted. It handles the central and state's banking transactions while also functioning as a principle agent of the RBI, they also service agricultural credit to the rural farmers—a major source of credit in India.

E-81



Authenticated .

*Chopra,*  
Principal  
Gokhale Memorial Girls' College

06 MAR 2023

## Akshar-Nama

### An Analysis of the Growing Role and Impact of Online Education in India

#### Abstract

This paper aims to check out the significant importance of Online Education and the growing interest system on the Indian Education Structure that can apparently be the majority of students belonging below the poverty line. While this system of age-old classroom teaching comes with a limited spread due to presence of Poverty & Exclusivity, Online Education can reach to the states with unlimited access to spread information just on a click of a finger at a minimum cost and efficient functioning of opportunity costs.

Keywords: Online, Education, Internet, Classroom, Teaching, India, Virtual, Market

#### Introduction

Presented is a medium. Education if converted to digitalized is a form of learning strategy no one could ignore. Surveys on how handful online education companies of India are changing the market is initiated on the motivation for the next big paradigm shift of the society. Students are skipping work, family and education altogether, so the flexibility and variety of courses that are being offered by the available learning apps are attracting them via techniques. Online Education requires creating a new Appropriate or Incentivizing Platform and establishment of Website. This generally requires a diagnosis of initial Causes. Also comes up creation of independent services require Applications or Platforms to go through regular enterprise decisions which requires flowing of working capital. However, the return to Capital is best suited, management. It indirectly contributes to the society of India. Thus saving time to creating a lot source of knowledge. Online education has already changed the way fundamentals of Education. As the era of education is concerned, Internet can push Education to the mass at large. It is not that only the students who are benefited from the system of E-learning but the teachers are considerably reduce their work and update themselves more in compare with the rest of unadjusted dynamics. People who are working or are engaged at different professions can take up a course anywhere anytime which can benefit provide them to a new height. It is hard to believe but recent research conducted by ITIF and Google Images, market of Online Education could be at 31.01 billion in 2025. Perhaps this is one of the most profit-making enterprises ever. The growth is significant. Over the last years, search for online education across Internet has increased twice while we see a significant rise of Indian Online Education, examples like Edustore founded in 2001 or Unacademy which came into existence of 2010 has risen to a new height. Applications like Photopea are helping people across the country to study and others over 1.5 crore users worldwide, this stands to answer 3.5% of Indian Students as example. Eduting Services and engaging more people into this will prove way for a better future. The most significant thing is that it even affects Foreign Direct Investment through Photo Peacemaker of Evelyn Shrestha. Disha has engaged a \$340 Millions firm across the world. This proves India to a better tomorrow.

#### Aims of the Study

With online or E-learning method of education makes much easier to a greater number of people. The focus of the paper is to study the framework argued that Online Education has bring in the current Literacy Level of the country. Owing to Free Internet, Online Education can reach greater number of people thereby making a significant sort of literacy



Sarthak Roy Chowdhury  
Assistant Professor,  
Dept. of Economics,  
Gokhale Memorial Girls' College  
Kolkata, W.B., India



Authenticated.  
*Chopra*.  
Principal  
Gokhale Memorial Girls' College

06 MAR 2023

## Game Makers: A Comparative Analysis of Fiscal versus Monetary Policies in The Pre Reform and Post Reform Era in India

### Abstract

This paper aims to draw a comparison between the fiscal and monetary policies under the pre-1991 and post-reform eras (1991) in India. Pre-reform era witnessed inflationary monetary policies. After 1991, fiscal measures like Goods and Services Tax (GST) and Monetary Policy (MP) were introduced. Hence, changes in MP became important, monetary policies were introduced. In this paper, we will compare the impact of high and comprehensive studies over the fiscal reform phase. The impact of inflation and abolition of excise were high, irrespective of GST, and inflation and debt to revenue growth with monetary policy.

Keywords: Monetary Policy, GST, Economic Reforms, Inflation, Goods Reform, Rate.

Sarthak Roy Choudhury  
Assistant Professor  
Dept. of Economics,  
Gokhale Memorial Girls' College  
Kolkata, West Bengal, India



Fiscal policies of the government not only cover taxation and government expenditures on its taxes but it also covers revenues derived from sources of monetary policies of the central bank which includes the supply of money and the regulation of its inflow. Thus, Monetary policy is a major tool of the government to control the economy in the pre and post-reform era and monetary policy researchers in the pre and post-reform era. Earlier, no single paper has been dedicated to fiscal policy researchers and monetary policy researchers in India but most of these papers have compared the fiscal and monetary policies across the pre and post reform era. Hence, in our paper, it will mainly highlight the key differences between the policy measures both fiscal and monetary and compare their impacts on the developing economy of India.

### Introduction

In the previous two decades, fiscal policies were heavily emphasized. In the mid-1990s (1991–1992), the policy was mainly concerned to collection of revenues. During the Second Plan period (1956–1961), taxes were raised. Under the Third Plan (1961–1966) and Fourth Plan (1966–1971), the RBI adopted a strict policy of inflation. It would be better to say that, under Fifth, Sixth, and Seventh Schemes, a system of differential interest rates (DIR) were introduced. DIR was raised followed by the introduction of major commercial banks. The Sixth Plan (1985–1990) witnessed the adoption of monetized fiscal deficit measures, separation of tax liability rates (SLTR), further reduction of DIR in 1985, and DIR in 1987. The Ninth Plan (1997–2002) sought surplus赤字. In this Plan (1997–2002), efforts have been made to provide incentives considering the relationship between tax and revenue to GNP.

### Post-reform

In contrast to the pre-reform era, the post-reform era witnessed significant reductions in CRR and SLTR, increased focus on PDS; the RBI signed an agreement with the government to separate the Monetary policy from the fiscal policies and interest rate decisions were changed to the market-determined or liberal rate of interest. The banking sector got more autonomy and operational flexibility. More freedom to banks for methods of assessing working hours and other activities empowered and assured greater orientation.

In the pre-reform era, fiscal policy measures in this period included fiscal deficit, expenditure cut, high personal & marginal income tax rates & discriminatory taxation, monolithic executive status, sales tax and high interest rates. Debt financing was used as a means to cover the

8-810



Authenticated.  
*Deepti Dasgupta*  
Principal

Gokhale Memorial Girls' College

06 MAR 2023

## A Study of Teachers Educators Attitude towards Information and Communication Technology in Education

SK Sariful Islam

Examiner

Swesti Tithimayamanda

Ramakrishna Mission Sankaracharya, Belur Math,

Prof. Daksh Pramanik Bhattacharya

Former Professor, Ramakrishna Mission Sankaracharya, Belur Math.

Received: 12 March Revised: 13 March Accepted: 25 March

### Abstract

The main objectives of the study were to find out the attitude of teacher educators towards information and communication technology and the problems faced by the teacher educators in utilizing ICT. Survey method was adopted to carry out the research work. The researcher well-constructed the tools for collection of data, like questionnaire and interview. The sample consisted of eighteen educators. Sample was selected using purposive technique. Collected data were analyzed by t-test. Result showed that the Teacher Educators are positive opinion regarding effective use of ICT in education. These findings will be helpful to take a necessary step for implementation of teaching-learning process with the help of ICT.

### Introduction:

Now with the speed of the clock the technology is moving forward. We were free to live our life in Science and technology are accelerating the development process of education. Today the Teacher must have knowledge of ICT as well as the knowledge of use.

According to World Bank Report (2008) "Information and Communication Technologies consist of the hardware, software, networks, and media for collecting, storage, processing, transmitting and presenting of information (voice, data, text, images), as well as related services. 30% can be divided into two components i.e. Information & Communication Infrastructure (ICI) which refers to physical telecommunications systems & networks (teleline, broadband, cable, satellite, postal) and the services that utilize those (internet, voice mail, radio, and television) and Information technology (IT) that refers to the hardware and software of information collection, storage, processing, and presentation."

According to ICI Policy, 2018 "Information and Communication Technologies are defined as all digital devices, tools, systems and resources, which can be deployed for realizing the goals of teaching-learning as well as management of the educational system".

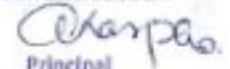
### Review of Related Literature:

- Andrareshwar, H. (2008) studied about A Study of Information and Communication Technology in Colleges of Education in Tamilnadu.

The author's highlights to study the availability of information and communication technologies facilities in the colleges of education and the attitude of teacher educators and student teachers in the colleges of



Authenticated .

  
Principal  
Gokhale Memorial Girls' College

06 MAR 2020



2019 Sl. No. 54

ISSN 733-1503

## সাহিত্য-পরিষৎ-পত্রিকা

340-404-0-6 भारत + 3336

卷之三



২০১৮-সালের-গুরুবৰ্ষ

• 100 •

ରବୀନ୍ଦ୍ର ନାଡ଼ାବୋଧ ଓ ନା-ହେତ୍ରା ରଜ୍ଜକନନ୍ଦୀ  
କମିଶନ୍ ସମ୍ପଦ

জনসম্মতিকার সূক্ষ্ম অভিযোগের নিরিখারা আবাসের বিপরীত তখন। এই শুলিশু সূক্ষ্ম জনসম্মতির বাইকলকল, মেরুদণ্ডের গো ও জো বৃত্তির সমূহ। গুরীচূলপর্ণের সঙ্গে নিরামল পৌষ্টি ক্রান্তী হলোড় প্রয়োজন এক দ্রুতিকৃত প্রক্রিয়া, পৌষ্টি পরিবেশের পুনরুৎসবের উচিত প্রয়োজনের প্রয়োজনের নিরামল প্রয়োজন করার এক অসম্ভবিত, অবশ্য জনসম্মত প্রয়োজন। এই মধ্যে পুরুষ বৃল শুলিশুকে আছুমত প্রদত্ত ছানার অর্থ, এবং এই পুরুষ অনুষ্ঠিত সঙ্গে প্রয়োজন। কবি গুরীচূলপর্ণ, লেপালিন্দির পরিচয়ে, প্রতিকৃতী বৈজ্ঞানিক ও প্রাচীন প্রয়োজনের পাশাপাশি সামাজিক প্রয়োজনের এক অন্যান্য প্রয়োজন পরিচয়ের পাশে নথিকৰে, এই নিমিত্ত পৌষ্টির প্রয়োজনের পরিচয়ের অনুসৃত পুরুষ জীবনি সামাজিক ব্যবস্থের মো পার্শ্বই, উচ্চ মানবিক প্রয়োজনের নিয়ন্ত্রিত পরিষেবার পুরুষের পৌরুষ প্রেরণার। এই নিমিত্তের নিরিখ মধুমের প্রয়োজনের পর্যাপ্ত সময়ের সঙ্গে, প্রয়োজনের নিরিখ কৈ সময় বেলে নথিক নিমিত্তের না কেন সার্কুলের অভিযন্ত প্রক্রিয়া বা কেন নটিক প্রয়োজনের সামনে—এই সকল বিষয়ে স্বত্ত্বান্বিতের প্রয়োজন আবশ্যে। সামা শুলিশুর বিষয়ের প্রাক নিরিখ সময়ে এর সম্ভবের সময় বিভৱ প্রয়োজন অবিভূত ক্ষেত্রের প্রতিকৃতি অনুযায়ী।

Digitized by srujanika@gmail.com

06 MAR 2023

Authenticated

Cleopatra

Principal  
Gokhale Memorial Girls' College



# বৈদ্য উৎসব

কলা বিভাগ প্রযোজন কর্তৃপক্ষ

বিশ্ববিদ্যালয় প্রযোজন পত্র প্রকাশন কর্তৃপক্ষ

১৯৭৫ সালে জোড়া প্রকাশ প্রযোজন !  
প্রথম প্রকাশ জোড়া প্রকাশ প্রযোজন !

১৯৮০ সালে প্রকাশ প্রযোজন !  
প্রথম প্রকাশ প্রকাশ প্রযোজন !

Digitized with The Support of News Paper of India under Project  
1975-1976-1977

## কেশোর রিসার্চ ইনসিটিউটের পত্র

অর্থ বস্তু	
বীভাষিক বিষয় ও অন্যান্য প্রবন্ধ	২৫০ টাকা
সেক্রেটারি বস্তু	
বাহ্যিকতা ও বাহ্যিকনথা (বহু দুল)	১০০ টাকা
ক্রেতার পত্র	৫০ টাকা
ক্লিকোগ্রাফি	
সকল শিখা নিয়ের ঘাঁটি	৫০ টাকা
অধিবাদ পত্র	
অন্যান্য সর্বকার্য	২০০ টাকা
মুদ্রণ বস্তু	
কেশোর রিসার্চ ইনসিটিউটের ইতিহাস (১৯৭৫-২০১৫)	২৫০ টাকা

বিল প্রক্রিয়া কর্তৃপক্ষ বিভাগীয়ের, বার্ষিক পার্ক, আশুরা এবং  
বেত প্রতিবেদন উপর প্রক্রিয়া কর্তৃপক্ষ বিভাগীয়ের পর্যবেক্ষণ।  
মুদ্রণ ১০০ টাকা

“ভবিষ্যত”-এর অমলযাত্রোয়া সূচী

গুরুমত সরকার

বৰ্তা প্রক্রিয়াকৰ্ত্তা অনুষ্ঠ অভিকাশক শিখ। সব বৈশ্বামৰ পা নিয়েও  
ক্ষমতাবান। সববিশিষ্ট পেশ চিনামনের জন। তবা জুলাইতে বৈশ্বে  
না, স্বাস্থ্যসন্তোষের ক্ষমতা কাছে বসে জানে না, জানে না চিনামনের  
ক্ষমতা আপিত ক্ষমতা কী, এসীও ক্ষমতা না ইত্যবি হওত কেবল অনে  
ক্ষমতা। কেবল অনুমত ইচ্ছন্তি ইত্যবি জনা ক্ষমতের ক্ষমতাবৃত্তি ক্ষমতা  
হওতে হবে। তবা স্বাধী এই অনুমত আপিত Dein Siegel-এর পৰিস্কা।  
গুরুমতা Dr. Janusz Korczak কার অশুমিষ্ঠা। Stefania  
Wilczyńska ই ক্ষেত্রে একাধাৰ অশুমিষ্ঠা। এই পৰিস্কা, ক্ষেত্রে  
অশুমিষ্ঠা অসম মুদ্রণ মুদ্রণৰ ইত্যবি সহজেৱো নিন আপে, উনিষ্ঠ।  
বিভাগীয়ের আছোয়েই জুলাই তো মুদ্রণ কৰুন ভাবাতো অবি উনিষ্ঠৰ  
পৰি এটিৰ মতো “ভৱমূল” প্রতিবেদন মুদ্রণৰ ইত্যবি ক্ষমতা  
মুদ্রণ প্রেসিয়ারের অশুমিষ্ঠ অসম পিতৃর আশী হয়ে উঠেৱো  
ক্ষীণৰূপ। অসম প্রব মিল্ডেড টেক্সি হওয়াৰ বিনোদ এই পৰিস্কাৰে কো  
ক্ষেত্রে নাগৰিক সম্মানেৰ এক অশুমিষ্ঠ অসমৰ “ভৱমূল” অনুমত,  
জৈবন ক্ষমতা প্ৰেক্ষে অশুমিষ্ঠৰা হয়ে উঠে ক্ষেত্রে ক্ষমতা কৰুনো। ত  
জৈবনেৰ ক্ষমতা এক অশুমিষ্ঠ অপৰাধৰা। “ভৱমূল” এ ক্ষেত্রে এক  
অন্যতাৰ ক্ষিফ। ১ সেপ্টেম্বৰ ১৯৩৯-ৰ ইতিবেৰে পোলাণ অশুমিষ্ঠৰ  
বিশ্বে যে নামকৰণ ইতিবেৰে সুচনা। অনুষ্ঠান একবা যে ১৯১৭৯  
বিশ্বেৰ সামৰণ্দৰেৰ উপানে এমাদ উনিষ্ঠৰ বিশ্বেৰ অক্ষয়ানন তাৰত  
তাৰত সামৰণ্দৰী শক্তি বিশ্বেৰ পুঁজিবাদী পুঁজিবাদীৰ অন্যতম  
পোৰক পেতি বিটোন, তাপ ও আমেতিলা। আত্মিকভাৱেই সামৰণ্দৰে  
জুন মেৰে ক্ষেত্র অন্তৰ্ভুক্ত ক্ষেত্রে শাবনৰ বৰছাৰ সৰ্বোচ্চ পৰ্যায়ো আসীন  
বিকিনীয়েৰ কাছে ‘অ্যাভলাম্প হিটলাৰ’ হয়ে উঠেৱো ক্ষেত্রেৰ ক্ষেত্ৰ। বিটোন



**सेतु**

मेरु वर्ष ३, अंक ४, जानवरी २०१९

सेतु के पीढ़ीएग (PDF) डाउनलोड, प्रक्रिया चरों पर

**सम्पादकीय**

- लिख हिंदी लिखा गया वार्ता

**लघुकथा-कहानी-संस्मरण**

- अच्छा जीवनी
- कल्पना मिडा
- सौरभ शर्मा
- सुष्मन रिंग
- गुरुदीप सुखाय अधिकारी
- अमर कुमार चौधरी
- बीमायत शर्मा

**काव्य-वीत-पद्धति**

- सुधेश
- अशोक शाह
- सारिका पटेक जुनि
- वंदना लीलालता चान्दा
- मनोज तुमान
- काल्या मिश्रा
- अद्विन हेनाला
- राधीन कुमार चान्दा

**Setu ■ सेतु**

\*\* ISSN 2475-1359 \*\*  
 • Bilingual monthly journal published from Pittsburgh, USA  
 • द्विभाषी अंग्रेजी से फ्रांसिस द्विभाषी भाषित •

Home ▾

कहानी: उपकार

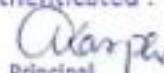
गोवर्धन वार्षि निम्न वार्षिकीय समाज के जनने माने जाए अच्छी अच्छी है। वह समाज की भवित्व के लिए इमेज लिखी भी कार्यों में सबसे ज्ञाने रहते हैं। जनका के दृष्टि की ओर आज्ञा दृष्टि-दर्दी समझते हैं। गोवर्धन गोवर्धन भी उनका उपकार और सम्मान बानते हैं, उनके द्वारा गोवर्धनी का वाचन बढ़ते हैं। समाज का गोवर्धनी जी एक वर्ष वर्ष जी गोवर्धन जी की वाचन का अनादर करती है। निम्न उनके द्वारा कुछ सोच और उनके सम्मान में उन्हें ही कुछाता है, ऐसा जी वाचन जो पूरे विषयीत है, विजय जीने विजयोने और विस्मयार्थी द्वारा विस्मयी और अवैत्त रहने वाला। एक लड़के से गोवर्धन की शिशुहृदयीयी भी वाचन जो समझता है। उनका जीवन दृष्टि वाचन या जी वैदेश भाषाओं के लिए उनके एक वाचन जूरी होता था। अपना अकिञ्चित्ता समय वह समाज के नोंदों के साथ बदलते करते हैं।

गोवर्धन जी वाचन दृष्टि विराजमान है। उन्होंने प्रबलर की बुद्धि लाया थी। फिर वो मृत्यु जारी होने वाले ने जाकर नवापालिका द्वारा निर्विवित महान् वी एक लोटी कोठरी में रहता था। बहुर में जाकर भी वे दीनी भाई निवारण होने के बावजूद एक लोटी के गोवर्धनी भोटिकालिकि करते हैं तथा आपने सामाजिक काल्पन कुरायात ही गया था, लोटी द्वारा कुनूर भी पुके जाने कर दीनी भाई सबसे एंकर कलाकार है। जिनके बाबत उनके जाही समृद्धियाँ ही लोग भी उनको जानी नहीं करते हैं। शेषकर जानन, धूम्रतास, मेहुनाती, अहंकारी और कहानों वा, जबकि रसन अपने भाई देश्वर की हस्त जयान, संसार होते हुए भी दृष्टिसंबल, मरीयल, झुट्ठ, लाघवलह और पुम्बवकड़ था। अपने भाई रसन के दृष्टि प्रसिद्धि के बाबत लेकर उसे इमेज बांधनाता-बुद्धिता की वाह वह सब छोड़ दें, और मेहुनात मानकूटी करे, जीवित रहन जाने भाई की बातों पर ज्यान नहीं देता और अपना वास्तव ही करता था। विस्मय परिज्ञान यह हुआ कि एक दिन उनकी मानकूटी जानकारी नहीं रही। उनकी जानकारी अद्वितीय जी गोवर्धन के

अमर कुमार चौधरी

06 MAR 2023

Authenticated .

  
 Principal  
 Gokhale Memorial Girls' College

**JHEP**

Volume 05, Number 05, May 2018  
ISSN: 1126-6708  
DOI: 10.1007/JHEP05(2018)050  
e-Print: arXiv:1803.01250 [hep-ph]

---

**Revisiting the non-resonant Higgs pair production at the HL-LHC**

---

**Suraj Adhikari,<sup>1</sup> Shantanu Banerjee,<sup>2</sup> Rajesh Kumar Barman,<sup>3</sup> Bishal Bhattacharya<sup>4</sup> and Saurabh Niyogi<sup>5</sup>**

<sup>1</sup> Indian Institute of High Energy Physics, TIFR-Cambridge, Arambol, Goa 403514, India  
<sup>2</sup> Institute for Particle Physics Phenomenology, Department of Physics, Durham University, Durham DH1 3LE, United Kingdom  
<sup>3</sup> Department of Physics, Dibrugarh University, Dibrugarh, Assam 786006, India  
<sup>4</sup> CERN, Geneva, Switzerland  
<sup>5</sup> Indian Institute of High Energy Physics, TIFR-Cambridge, Arambol, Goa 403514, India  
[arXiv:1803.01250](http://arxiv.org/abs/1803.01250) | [https://doi.org/10.1007/JHEP05\(2018\)050](https://doi.org/10.1007/JHEP05(2018)050)

**Abstract:** We study the prospects of observing two non-resonant  $\text{H}^0$  pair production at the Standard Model (SM) at the high luminosity part of the LHC (HL-LHC). We consider two non-resonant production modes shown in the basis of their total cross-section. In particular, we consider the decay mode  $\text{H}^0 \rightarrow \text{H}^0\gamma\gamma$ . We focus our analysis mainly focusing on the signal with missing transverse energy scale 15 GeV. We also pay considerable attention to explore the kinematical features of the signal and background and it performs better than simple signal analysis. The increase of cross-section due to resonance for the  $\text{H}^0$  pair production from the initial dependence on the Higgs self-coupling  $\lambda_{H^0}$ . We then explore the significance of various cuts on the most dominant source claimed for the double Higgs production via  $t\bar{t}$ ,  $b\bar{b}$ ,  $W^+W^-$  and  $Z^0Z^0$ . The results of signal events originating from SM Higgs production in each final state is small and the total cross-section of all channel contributions will not be possible to carry out since the Higgs couple coupling, we have to work on the total number of events by calculating total and three channels can be compensated by various cuts physics analysis. Furthermore, we consider various physics scenario. The residual signal corresponds to predict the effects of constraints among which trying to measure the SM-like Higgs boson or to a pair of top quarks, heavy pseudoscalar decaying to an SM-like Higgs and a  $Z$ -boson, charged Higgs production in association with a top and a bottom quark and also various well-known and

---

Open Access © The Authors  
Article funded by RCUK

Journal homepage: [https://doi.org/10.1007/JHEP05\(2018\)050](https://doi.org/10.1007/JHEP05(2018)050)



Authenticated.

*Cheritho*  
Principal  
Gokhale Memorial Girls' College

06 MAR 2023

## Probing the type-II seesaw mechanism through the production of Higgs bosons at a lepton collider

Pankaj Agrawal,<sup>1,2</sup> Manmota Majhi,<sup>3,4</sup> Sudip Bhattacharya,<sup>5,6</sup> and Michael Spiraevsky<sup>7</sup>  
<sup>1</sup>School of Physics, Institute of Mathematics, University of Hyderabad, Hyderabad 500406, India  
<sup>2</sup>Inter-University Center for Astronomy and Astrophysics, Post Bag 415, Ganeshkhind, Pune 411007, India  
<sup>3</sup>Santosh Kumar Singh, Department of Physics, Central University of Jharkhand, Deemed to be University, Ranchi 834014, India  
<sup>4</sup>Santosh Kumar Singh, Department of Physics, Central University of Jharkhand, Deemed to be University, Ranchi 834014, India  
<sup>5</sup>School of Physics, Pannir Selvam Institute of Technology, Karaikudi 630025, Tamil Nadu, India  
<sup>6</sup>School of Physics, Pannir Selvam Institute of Technology, Karaikudi 630025, Tamil Nadu, India  
<sup>7</sup>Theoretical Physics Department, Institute of Physics, Bhubaneswar 751005, Odisha, India

(Received 27 March 2018; published 27 July 2018)

We investigate the production and decay of electric-charged Higgs bosons for the Type-II seesaw mechanism in a  $\tau^+$ -collider with two-center of mass energies,  $\sqrt{s} = 300\text{ GeV}$  and  $7\text{ TeV}$ , and analyze the fully inclusive cross sections at these. Linear mass ranges can be probed using  $300\text{ GeV}$  center-of-mass energy, while high mass ranges, which are beyond the LHC and ILC linear collider discovery reach, can be probed with  $\sqrt{s} = 7\text{ TeV}$ . For such a heavy Higgs boson, the fully inclusive widths are estimated, starting at  $1\text{ GeV}$ . We present a comparison and contrast between the Type-II seesaw and the Type-I seesaw charged Higgs boson in the mass range  $100 - 125\text{ GeV}$  and its cross section using the  $\tau^+\tau^-$  center-of-mass energy  $\sqrt{s} = 300\text{ GeV}$  and the SM total cross section energy  $\sqrt{s} = 7\text{ TeV}$ . For the Type-II seesaw charged Higgs boson in the range  $100 - 125\text{ GeV}$ , a 3 $\sigma$  significance can be achieved with only integrated luminosity  $L = 10\text{ fb}^{-1}$ . The other charged Higgs bosons can be discovered once each integrated luminosity  $L > 10\text{ fb}^{-1}$ .

DOI: 10.1103/PhysRevD.98.095004

### I. INTRODUCTION

With the discovery of the Higgs boson at the Large Hadron Collider (LHC), we are at the starting point of understanding of how the standard model (SM) fermions and gauge bosons masses are generated in terms of the Standard Model (SM) symmetries. However, one of the major problems that still remains unclear is the origin of light fermion masses and mixings. The weak SM exchange can be responsible for the observed massless case of SM fermions by introducing the SM as a doublet replicated structure. However, the required large hierarchy of the Yukawa coupling among fundamental quarks. A completely different aspect is that fermions are their own antiparticles and hence, their masses have a different origin than the other SM fermions. A tiny eV Majorana neutrino masses can be generated by the seesaw mechanism, where light neutrinos acquire their masses from a broken

number violating R-parity  $\mathcal{R} = 3$  operator  $U(1)_X \times U(1)_Y$ . Such operator is nonlocal in the fermion model or not a classical extension of the SM induced by external effects.

There are three proposed seesaw mechanisms known as Type-I, II, and III seesaw mechanisms in which the SM is extended by a  $3 \times 3$  singlet boson [19–21],  $20 - 21$  triplet scalar boson [19–21], and  $30(2)$  triplet boson [22], respectively. In particular, the second possibility, i.e., where a triplet scalar field with the charge density  $\Gamma = +2$  is added to the SM, is the simplest model with an extended Higgs sector. The neutral component of the triplet acquires a vacuum expectation value (VEV)  $v_3$  and generates neutrino masses through the Yukawa interactions. Perhaps, the most appealing feature of this model is its naturality. The same Yukawa interaction between the triplet doublet and the triplet scalar field generates Majorana masses for the neutrinos, and also clarifies the phenomenology of the charged Higgs bosons.

A number of detailed studies have already been performed for the Higgs inflation [23, 24], Tevatron [25] and LHC [26, 27] to search for the triplet Higgs bosons. One attractive feature of this model is the presence of the doubly-charged Higgs boson, and its interesting decay modes. Depending on the triplet sign, the doubly-charged Higgs boson can decay into various charged, same-sign gauge bosons, or even via a cascade decay [28–30].

Received 19 April 2018  
 Accepted 12 June 2018  
 Published 27 July 2018  
 Editor: Sudip Bhattacharya

*Published by the American Physical Society under the terms of the Creative Commons Attribution 4.0 International license. Further distribution of this work must follow the terms of the license and the author's conditions for self-archiving. Published by the American Physical Society.*



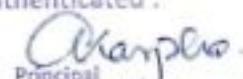
Authenticated

*Chaspa,*  
 Principal  
 Gokhale Memorial Girls' College

06 MAR 2019

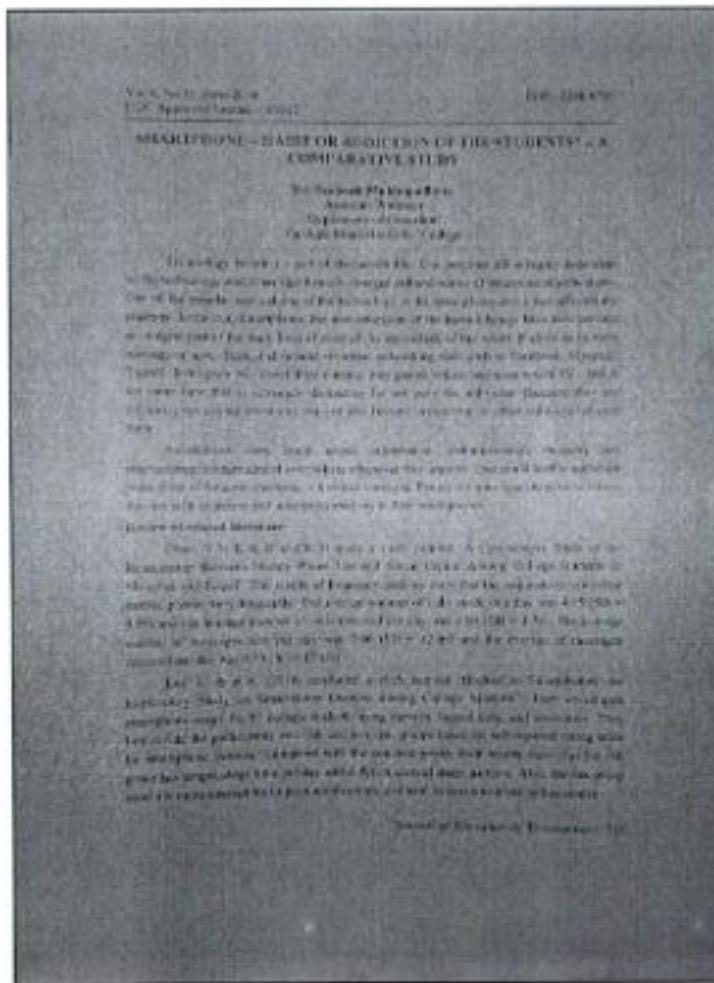


Authenticated

  
Principal  
Gokhale Memorial Girls' College

6 MAR 2023

2018 Sl. No. 60 Srabanti  
Mukhopadhyay



Authenticated .

Principal  
Gokhale Memorial Girls' College

06 MAR 2023

## Discovery prospects of a light Higgs boson at the LHC in type-I 2HDMs

Saurabh Niyogi,<sup>1</sup> C. Mohan, <sup>2</sup> and Swapna Bhattacharya<sup>3</sup><sup>1</sup>Department of Electrical Sciences, Tata Institute of Fundamental Research, Homi Bhabha Road, Mumbai 400005, India  
<sup>2</sup>Department of Physics and Astrophysics, University of Delhi, Delhi 110007, India

Received 22 December 2017; published 27 March 2018

We present a comprehensive analysis of different class I Higgs sectors in the mass range  $70 \leq m_H \leq 120$  GeV at the LHC in the context of the type-I 2HDM framework. The theory of the lightest  $H^0$  state in each of these approaches is discussed in detail with its contribution to the total width of the  $H^0$  through tree-level Feynman diagrams. We consider an  $m_{H^0} = 70$  GeV. The lightest scalar is subject to the Higgs naturalness requirement which includes the constraints  $\Delta\Gamma \ll \Gamma$  and  $\Gamma \ll m_{H^0}$ . The decay widths are calculated with a tree-level  $10^{-3}$  GeV integration binning in the LHC. The total production rate, the integrated cross section, and the signal-to-noise ratio are also calculated. The results are compared with the standard model. We find that the production rate of the lightest scalar in the type-I 2HDM is comparable to that of the standard model.

## I. INTRODUCTION

The recently discovered  $\approx 125$  GeV particle at the LHC [1] clearly associates the Higgs boson component in the Standard Model (SM), to the measured coupling with the gauge bosons and fermions to its production amplitude with the SM predictions [2]. However, that cannot necessarily tell us all about the possibility of the observed particle being the SM Higgs and the nature of a beyond SM particle. Whether the additional fields are considered to be heavy, and the new states that are associated with the low-energy effective theory. However, there are a few studies which have been performed to predict the nature of the additional fields. We make a few predictions on the nature of the additional fields around 200–300 GeV at the LHC [3–14] and LHC.

The LHC [15] one of the largest accelerators of the SM was an additional source of physics beyond SM [16]. The primary concern of the SM is to explore the Higgs boson, obtaining several masses ( $120$ – $125$  GeV) at the tree level and subsequently their other characteristics from the experimental data. These Higgs can be categorized by imposing a discrete  $S_3$  symmetry. This classifies SM-like new SM symmetries, type-I, type-II, type-III, and higgs specific.

© 2018 American Physical Society.  
Published by the American Physical Society under the terms of the Creative Commons Attribution 4.0 International license. Further distribution of this work must follow the terms of the license in the footer of this page.

Published by the American Physical Society under the terms of the Creative Commons Attribution 4.0 International license. Further distribution of this work must follow the terms of the license in the footer of this page.

type-I 2HDM provides complete of eight field scalar degrees of freedom. In the presence of the spontaneous breaking of  $SU(2)_L \times U(1)_Y$ , resulting three of these eight fields generate masses for  $W^\pm$  and  $Z$  bosons, leaving behind two Higgs fields, namely, a light CP-even Higgs ( $H^0$ ) and heavy CP-odd Higgs ( $A^0$ ), a pseudoscalar ( $h^0$ ) and a charged

$H^\pm$ . The Higgs boson produced at the LHC, using CM energy  $\sqrt{s} = 13$  TeV, can be classified with respect to the SM-like nature of the SM-like Higgs, and the non-SM-like Higgs. The phenomenology of non-SM-like Higgs has been thoroughly studied for all types of 2HDMs. However, the constraints from various methods (experimental, particle, electroweak and theory, constraints), flavor observables, and LHC Higgs searches are weaker for the type-I 2HDM [17]. The Bayesian framework for type-I 2HDMs for tree-level, and study the discovery prospects of the light Higgs in the lower mass of the LHC. Considering the mass range  $70$ – $120$  GeV, we calculate the theoretical and SM-like Higgs fraction of the total light Higgses ( $\mathcal{O}(10\%)$ ). As a result, our findings coming from the well-known SM measurements of the observables [18], the constraints of Higgs properties [19], and short range of the observed Higgs as a part of light Higgses ( $m_H = 70$ – $120$  GeV) are employed to our case

The phenomenology of such a light CP-even scalar has also been studied in the context of various supersymmetric models, see Refs. [21]–[23] and references therein. Also see Refs. [24,25] for the analysis where the lightest CP-even Higgs boson was coupled with the observed scalar and the interacting scalar ( $H$ ,  $H'$  and  $A$ ) were assumed to be heavy.



Authenticated .

Gokhale Memorial Girls' College

06 MAR 2020

A Study on the Uptake and Impacts of the App-Based Taxis on the Urban Transport Sector

Dr. Sarthak Roychowdhury

Assistant Professor in Economics, Gokhale Memorial Girls' College  
Kolkata, West Bengal, E-mail: sarthakroychowdhury@gmail.com

ABSTRACT

Yellow taxi aggregators have gained more of a recently in Kolkata where the traditional yellow cabs-a quintessential Kolkata symbol form of the urban form of public transportation are more in the news for frequent strike, refusal, human driven or untrained drivers. The consumer's growing preference for the app-taxi has led to a surge in operators applying for service. According to West Bengal Transport Department the number of application licensing permit for the yellow cab has multiplied. While the standard yellow cabs will continue to be in majority, the number of app-based taxis is increasing which is witnessed a steady decline. The versatility of app-based cabs is the cost-effective, efficient, timely and punctual by an enormous rate is demand for clean and air-conditioned cabs. The most important difference between the yellow cabs and app-based cabs are ease of availability, reliability, cost and time. There is a huge socio-economic impact on the yellow cab drivers, owners and users therefore the demand for yellow cabs are falling in new entries are rising. It is a comparative study to understand the nature, effect and future of private transportation in Kolkata.

**Keywords:** Cab, Demand, Taxi, Driver, Smartphone, Government, Industry, Transport Sector

Introduction

In Kolkata however the yellow taxi has been up in arms against the online taxi hailing services. The drivers of yellow taxi want to resist to avoid our app-based taxi providers but simultaneously there is a section of drivers who are making a move to join app-based taxi platform. The life of drivers of app-based taxi is far better than drivers as they not only earn ten times more income but also they don't have to suffer due to the polluted road surfaces and the uncomfortable cars. The Bengal Taxi Association which has been against the taxi aggregators has demanded the ban of the app-based cabs to be regulated by the government. Unlike different operators have different fares they can fix the fares according to their will which creates unhealthy competition. They have been agitating for long but the government allows them to operate illegally.

The customers instead of choosing a taxi they can now easily book a taxi in one touch through their smartphones from any location in the city without extra's payment can be done cash free through credit cards which reduces the chances of theft. One phone can book one taxi only at a time. For passengers with expense account an email is sent. The taxi driver only gets the information of the place where he reaches the destination and takes his reward therefore this reduces the chances of refusal by drivers in undesirable parts of town though it is not always. Unprofessional drivers are weeded out because customers used to rate their ride. The cars are clean, comfortable and air-conditioned. Drivers are hard-eared due to cash-less transactions. The work hour tends to be longer for yellow cab drivers but the app-based cab drivers have freedom and flexibility, they can log in and log out of their devices at their convenience. Hasty, aggressive and disruptive passengers can be weeded out as they also need to pay their customers and consumers reports that may cause deactivation of their accounts too. App-based cabs have occupied a very valuable space in the transportation market as it provides most of the benefits while reducing most of the difficulties. These services have created fierce competition increasing the supply of cars and drivers thereby preventing employment.

Though the customers enjoy greater access to safer, more stylish service in more reliable cars but 'surge pricing' or 'platform pricing' is the most controversial part. It means a method of pricing



Authenticated.

*Chaplo.*  
Principal  
Gokhale Memorial Girls' College

06 MAR 2023



କେବଳମାତ୍ରା ନାହିଁ, ପ୍ରାକ୍ତର୍ଦ୍ଵାରା ଓ ଦିଲ୍ଲିରେ

卷之三



卷之三

Authenticated

*A. Karplus*  
Principal

Gokhale Memorial Girls' College



## Interactions of Fluorescein Dye with Spherical and Star Shaped Gold Nanoparticles

Gopa Dutta<sup>(1)</sup>, Somnath Paul<sup>(2)</sup>, Mumunus Ravindra<sup>(1)</sup>, and Tapas Ganguly<sup>(2)</sup>\*

<sup>(1)</sup>Department of Physics, Gokhale Memorial Girls' College, Kolkata-700029, India

<sup>(2)</sup>School of Laser Science and Engineering, Jhajjar University, Jhajjar, Haryana 122027, India  
\*E-mail: [tapasg@rediffmail.com](mailto:tapasg@rediffmail.com)

**UV-vis absorption, FTIR, steady state fluorescence and fluorescence lifetime measurements were made on Fluorescein Dye (FD) dye molecules in the presence of gold nanoparticles of different morphologies (spherical gold nanoparticles (SGN) and star shaped gold nanoparticles (SGS)). The experimental observations demonstrate that FD dye molecules form dimers when adsorbed on the surface of spherical gold particles. On the other hand propensity due to loss of adsorption on the surface of SGS, the dye molecules were unable to form dimers. This proposed type of adsorption of FD may provide hinder the dye to adsorb on the surface of the nanoparticles. From the spectra analysis and measurements of Thermodynamic parameters, it is found that two different types of general state interactions occur between FD-gold-GNP and FD-gold-GNS systems. Both the absolute negative values of the thermodynamic parameters and enthalpy in the case of the former system predict the possibility of association of hydrogen bonding interaction between two neighboring FD dye molecules while whereas in the case of the latter, the absolute value of  $\Delta H$  in the case of FD-gold-GNS system exhibits negative sign to indicate an increase in the negative and positive values of  $\Delta H$ , because the positive charges residing on the rest of the nanoparticles and absence of  $\pi$ -H. It has been concluded that as it is a conjugate organic dye or solid surface is prerequisite for the degradation of dye pollutants, the present experiments can open a new avenue that GNP could be used as better oxidants than H<sub>2</sub>O<sub>2</sub> in degradation mechanism of the surface dyes.**

**Keywords:** Fluorescein Dye, Gold Nanoparticles, Adsorption, Dye Pollutants, Thermodynamic Parameters, Gold Nanotube

### 1. INTRODUCTION

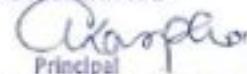
The visible, printing and photographic industries now use organic dyes and these dyes finally being released in waste products from the industries contaminate streams, seas and other water reservoirs. These dyes thus become sources of water pollution creating various problems in the ecosystems, humans and aquatic lives. It is urgently needed to degrade these dyes existing in industrial effluents to save the human and animals from contamination of several life-threatening and chronic diseases.<sup>1-2</sup> Until recent studies have been reported regarding the degradation of the different organic dye pollutants by using various environmental nanoparticles.<sup>3-10</sup> On the other hand relatively fewer investigations were made on photochemical degradation of certain dyes by

gold nanoparticles.<sup>11-16</sup> Momeni et al.<sup>11</sup> reported that in increasing the efficiency of the photochemical degradation of azo dye, deposition of gold nanoparticles on TiO<sub>2</sub> surface is necessary. Ghorbani et al.<sup>12</sup> evaluated the effect of size of gold nanoparticles on their catalytic and photochemical performance in degradation of dyes. The application of nanometer gold as a drug carrier has been reported by Ganguly et al.<sup>13</sup> The various other important applications of noble metal gold nanoparticles have been described in details by Basu and El-Sayed.<sup>14</sup> Lastly gold nanoparticles have become the subject of great research interest due to their size and shape dependent properties.<sup>15-16</sup>

Among the various techniques used for dye-polluted water purification, adsorption methods appear to possess advantages over the other processes as the cost is small and do not release any toxic wastes.<sup>17</sup>



Authenticated

  
Principal

Gokhale Memorial Girls' College

06 MAR 2023

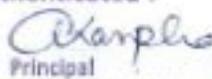
\*Author to whom correspondence should be addressed.



2018 Sl. No. 65 Amar Kumar Chowdhury

06 MAR 2023

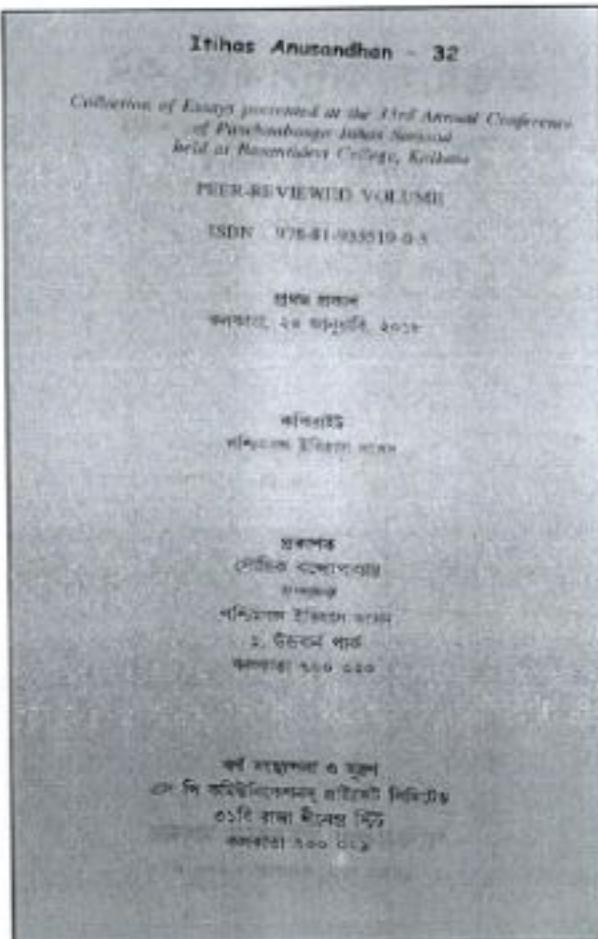
Authenticated .

  
Principal  
Gokhale Memorial Girls' College





2018 Sl. No. 67 Sanjukta De



ଶ୍ରୀଭାଗ୍ବ ଏବଂ ସମୁଦ୍ରିନ ଦେବୀ ବନ୍ଦାରୀ— ଏକଟି ପ୍ରତିବେଳେ  
ବନ୍ଦାରୀ ମେ\*

**•** *Widely used across Europe, Australia and North America.*

06 MAR 2023

Authenticated  
Principal  
Gokhale Memorial Girls' College

**EDUCATION, RESEARCH & ANALYSIS**  
*An International Refereed Interdisciplinary Journal*  
UGC Journal No.: 54624

Volume - 3

Issue - 1.3

January 2018

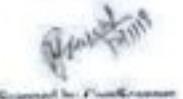
**Editorial Advisory Board:**

Dr. Rakesh Nayag  
Dr. Vinod Pandey  
Dr. Sujata Kumar Das  
Dr. Shrikant Kumar Jais  
Suniti Anupam  
Alison McKeown

Chief Editor :  
Santosh Basurje

Vijaygarh Jyotish Ray College  
in Collaboration with

Kalyani Foundation For Media Science & Community Research  
West Bengal, India



Govt. Approved

ISSN : 2348-576X

**Edible-Oil Consumption among Housewives in Kolkata**

**Pratyasha Agrawal**

[Lecturer & Head, Department of Clinical Nutrition and Dietetics,  
Gokhale Memorial Girls' College, West Bengal, India]

Dr. Anandakrishna Chatterjee

[Assistant Professor, Department of Home Science, University of Calcutta, West Bengal, India]

Abstract: India is one of the major producers of mustard oil and the major type of edible oil used widely in the country. Edible oils are made from respective oil seeds by extensive physical processes and then are incorporated as softening agents in soaps. Traditionally Indian consumers consume a large quantity of edible oil variety at a cooking condition. The eastern region of the country consumes maximum oil in large quantity. Oil properties and health effects depend on its composition. Hence the choice of cooking oil is important. A survey was carried out on qualitative method. Their idea of perfect cooking oil was found to be one that is high in unsaturated fats, low in saturated fats, having a high smoking point, is utilized rapidly and has low chance of deposition in blood vessels. Awareness regarding use of oil compositions for health improvement and choice of oil after oil frying would help in prevention and management of non-communicable diseases.

**Key Words:** Cooking Oil, Composition of Edible Oils, Smoking Temperature of Oils, Properties of Edible Oils.

**Introduction**

India is the second largest producer of oilseeds in the world, ranking just behind China (7). Consumption of oilseed oil is substantial throughout the country. All Indian housewives use it every day. The plant oils contain omega-3 and omega-6 acids such as linoleic (omega-6), stearic, oleic, palmitic (omega-9), myristic (omega-10) and lauric (omega-12) acids, all of which reduce serum cholesterol, reducing heart disease due to a triglyceride and inflammatory which occur in chronic diseases and prevent lots of health problems. Omega-3 and omega-6 acids are a form of the factors contributing to the reduction of triglycerides and inflammation in India (7). With a shift in diet towards increased use of edible oils and sugar-sweetened beverages, increased reliance upon processed foods, increased convenience home food items, sedentary life, physical inactivity and increase in dietary behaviors, chronic hypertension, and obesity begin to dominate the globe (8).

When oils are heated to a high temperature, decomposition of oil occurs and finally a point is reached at which visible fumes are given off. This is called smoking point and the temperature is called smoking temperature of oil. Smoking temperature is defined as the lowest temperature at which visible fumes consisting of volatile gaseous products of decomposition are evolved. The amount of free fatty acids present is an important determinant of smoking temperature of oils (9).

The American heart association (AHA) recommends oils that have an equal proportion of saturated fatty acids (SFAs), monounsaturated fatty acids (MUFAs) & polyunsaturated fatty acids (PUFAs). National Institute of Nutrition (NIN) & Indian council of Medical Research (ICMR) also recommended a new equal ratio of SFAs (27-32%), MUFAs (33-42%) and PUFAs (33-37%) in healthy oil. Hence, the choice of cooking oil suggested is as follows: Groundnut/Sesame oil/bone + Mustard/canola/olive/safflower + Sunflower + Soybean + Sesame + Mustard + Sesame or Safflower + Safflower +

Authenticated .

06 MAR 2023

Principal

Gokhale Memorial Girls' College

Advances in Future Mathematics  
ISSN 2453-131X Volume 12, Number 2 (2017), pp. 183-198  
© Research India Publications  
<http://www.ripublications.com>

## A Note on Fuzziness in Inventory Management Problems

Dr. Jayyanti Ray

Department of Mathematics, Gokhale Memorial Girls' College,  
Acalogic University affiliation, Kolkata, INDIA.

From traditional view point, Science should strive for certainty in all its manifestations; precision, specificity, sharpness, exactness, etc. 2. Since uncertainty, imprecision, vagueness, vagaries, indeterminacy, etc. is regarded as undesirable, the according to the modern view, uncertainty which is unavoidable is considered essential in Science and has great utility. Uncertainty and uncertainty is a sensible change among the various formal changes in Science and Mathematics in the century.

The earlier concept of uncertainty evolved with the publication of a famous paper by Zadeh [1, 2] (1965), where he introduced a theory whose objects - fuzzy sets, are sets with boundaries that are not precise. The membership is a fuzzy set, it is not a matter of affirmation or denial, but rather a matter of a degree. Zadeh's paper challenged not only probability theory in the strict sense for uncertainty, but also very foundations upon which probability theory is based: Aristotelian two-valued logic. A fuzzy set can be defined mathematically by assigning to each possible individual in the Universe of discourse a value representing its grade of membership in the fuzzy set. Individual may belong to the fuzzy set to a greater or lesser degree as indicated by a larger or smaller membership grade. Following Zadeh a membership grade allows finer detail, such that the transition from membership to non-membership is gradual rather than abrupt. Given a collection of objects  $\Omega$ , a fuzzy set  $d$  in  $\Omega$  is defined as a set of ordered pairs  $d = \{(x, \mu_d(x)) \mid x \in \Omega\}$  where  $\mu_d(x)$  is called the membership function for the set of all objects  $x$  in  $\Omega$ . The membership function relates to each  $x$  a membership grade  $\mu_d(x)$ , a real number in the closed interval  $[0,1]$ . So here we see that it is necessary to work with pairs  $(x, \mu_d(x))$  whereas for classical sets a list of objects suffice, as their membership is understood. Thus the definition of a fuzzy set is the extension of the definition of a classical set, since



Authenticated .

*Chapra*  
Principal  
Gokhale Memorial Girls' College

06 MAR 2023

## Deterioration and its Uncertainty in Inventory Systems

Dr. Jayjyanti Ray

Department of Mathematics, Gokhale Memorial Girls' College,  
A Visva-Bharati affiliation, Asansol, India.

### Abstract

Deterioration cannot be avoided in business scenarios. Deterioration is defined as storage, damage, decay, spoilage, obsolescence and loss of utility or loss of original value in a commodity that results in the decrease in usefulness from the original one product. Normally inventory models of deteriorating items such as food products, vegetables, etc. involve various parameters like expensive inventory costs, fuzzy storage area, fuzzy buyer selection, etc. In this paper, it is observed that nine to nine different EOQ models have been developed for deteriorating items in fuzzy deterioration rate and fuzzy environment, along with the models with fuzzy deterioration rate. Fuzzy set theory which is primarily concerned with how to quantitatively deal with vagueness and uncertainty, is an important tool used by the decision makers in modelling real-world problems. The present study investigates different fuzzy economic order quantity models for deteriorating items. Fuzziness is applied by allowing the real components (holding cost, deterioration, storage cost, etc.) to be imprecise, after considering the uncertainty of several other parameters which are represented by different fuzzy numbers.

**Keywords:** Inventory cost; deteriorating items; uncertainty; Fuzzy inventory; fuzzy numbers; inventory cost parameters; fuzzy deterioration rate; defuzzification

### INTRODUCTION

An important part of our modelling in business is inventory management and control. For the last thirty years, researchers in this area have extended investigation into various models with consideration of item shortage, item deterioration, demand patterns, item order cycles and their combinations. In an inventory model



Authenticated .

*Ekarpas.*  
Principal  
Gokhale Memorial Girls' College

06-MAR-2023

## An EOQ Model with Certain Uncertainties When Payment Periods are Offered

Dr. Jayjyanti Ray

Department of Mathematics, Gokhale Memorial Girls' College  
of Islamic University affiliation, Kolkata, India.

### Abstract

An economic order quantity model has been developed for a constantly deteriorating item for which the supplier permits a fixed delay in payment or in other words trade credit. The demand rate being non-decreasing. This inventory model without shortage is also considered under three different cases. The costs involved – ordering cost and holding cost, being non-increasing, are considered as fuzzy parameters. Different decision making situations are illustrated with the help of numerical examples.

**Keywords:** Inventory, trade credit, EOQ, Business

### INTRODUCTION

The concept of uncertainty is a notable change among the various formal changes in Science and Mathematics in this century. According to the traditional view, science should strive for certainty in all its deliberations (precision, specificity, sharpness, consistency, etc); hence, uncertainty (imprecision, non-specificity, vagueness, inconsistency, etc) is regarded as unscientific; but according to the modern view, uncertainty which is unavoidable is considered essential in Science and has great utility.

An important point in the evolution of the modern concept of uncertainty was the publication of a famous paper by Lofti A. Zadeh [1], where he introduced a theory whose objects – *fuzzy sets* – are sets with boundaries that are not precise. The membership in a fuzzy set is not a matter of affirmation or denial, but rather a matter



Authenticated.

*Alapna*,  
Principal  
Gokhale Memorial Girls' College

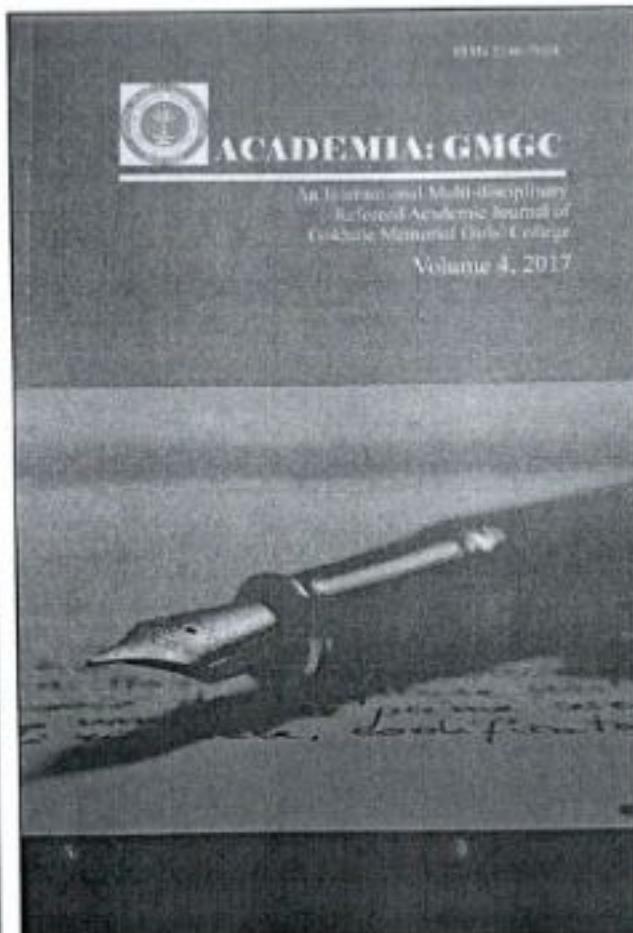
06 MAR 2020



卷二

10

ପରୀକ୍ଷାକାରୀ ଅନୁଷ୍ଠାନ - ଶିଖ୍ୟ - ବିଭିନ୍ନ ରାଜ୍ୟ ଶିଖ୍ୟ



ACADEMIA-GMGC

An International Multi-disciplinary  
Refereed Academic Journal of  
Gulzar-e-Momin Memorial Girls' College

Volume 4, 2015

— १०८ —

२० अप्रैल १९८५  
कालांकनामात्तमात्र : शिवाजी-विष्णुविहारी विहार | ४३

**ARTISTS & NON-ARTISTS  
BASUNDHARA GANJULI, TANUSHREE DAS  
A COMPARATIVE STUDY ON RECORDING OF NON-  
VERBAL EMOTIONAL EXPRESSIONS BY DIFFERENT  
GROUPS OF ARTISTS AND NON-ARTISTS 1-90**

**TRITTEMA, MECHEERE, AND FOOLANBHAGHTA  
PLAY THERAPY AS A BIOMEDICAL TOOL FOR  
CHILDREN WITH ATTENTION-DEFICIT  
HYPERACTIVITY DISORDERS - 151**

**POOTAM PAL AND ANJALAKESMI CHATTERJEE  
WILD EDIBLE PLANTS FROM NALDIA, BARFELING  
AND COOCHBEHAR DISTRICTS OF WEST BENGAL.  
INDEX**

**DR. SANTAKRUPA TRIPURITA**  
**A PERSPECTIVE ON METAL IONS IN HUMAN**  
**BIOLOGY: FROM EARLY EVOLUTION TO MODERN**  
**INORGANIC MEDICINES • 114**

**DR. SAYAJANTRAY**  
**DETERIORATION IN INVENTORY MANAGEMENT**  
**PROBLEMS 1-22**

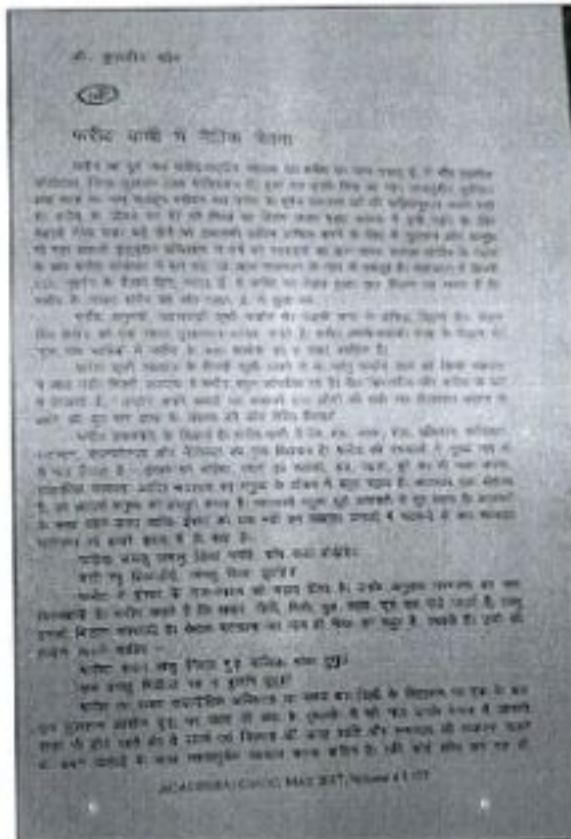
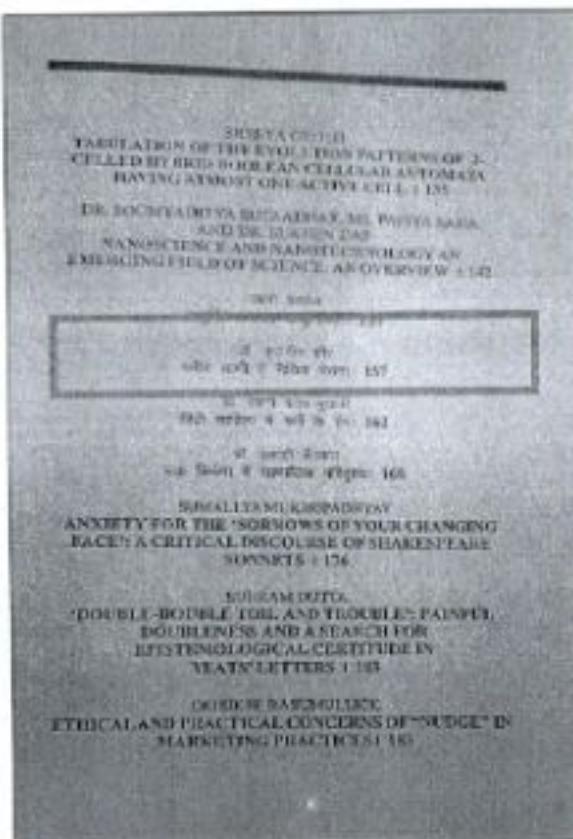
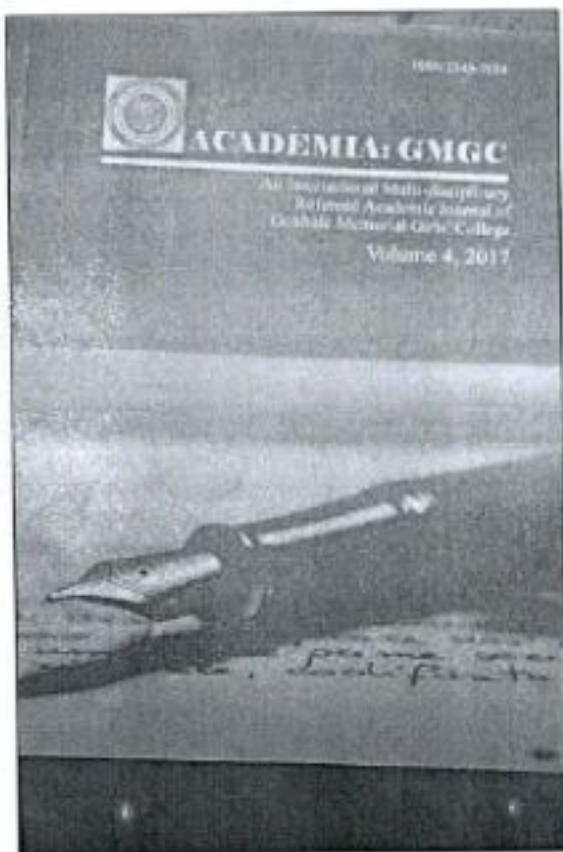
PURASHIKHAR AND MALA BHATTACHARJEE,  
ALLADI RAMAKRISHNAN (1923-2001) AND  
THE INSTITUTE OF MATHEMATICAL SCIENCES,  
CHENNAI • 429

06 MAR 2023

Authenticated  
Principal  
Sale Memorial Girls' College



2017 Sl. No. 73 Kuldip Kaur



Authenticated

*Akarsh -*

Principal  
Gokhale Memorial Girls' College



NEWTON BISWAS  
PROF. JAYANTA METE



## OBLIGATIONS OF THE SECONDARY SCHOOL TEACHERS OF WEST BENGAL TOWARDS THEIR PROFESSION AND COLLEAGUES

### Introduction

Change is an inevitable part of human life, society and civilization as a whole. If this change comes gradually, step-by-step then it becomes safe of life, if not, the individual or society may suffer from short-term, long-term and above all they may suffer Long Term Crisis. The India of 1947 and the India of today have many few similarities. The changes that is going in Indian society is not only rapid but it is changing in a aggressive speed, where people are becoming a part of this change spontaneously. Similarly, we realize that, we are on the verge of losing our Culture, tradition, or memory. In this West Bengal Life-our Root.

The only greatest weapon that we have in our hand is preserve our cultural identity and to conserve peace in the mind of the movement in Education. Only knowledge of science, technique, agriculture and management will not be able to make us to our desired goal. Only with the amalgamation of scientific, philosophical, psychological, cultural, moral and value education, we can reach in the ultimate goal of education.

The present situation is true, "our cultural system of education has transformed to a hard rock, for 'marks', 'score' and 'grade'... making us wonder whether we have, at some point of time, lost sight of the real objectives of education. Report on the 'Contingent on Integration of Culture Education the School Curriculum', Central Advisory Board of Education).

Teachers are the greatest assets of our education system. It is the teacher who can shape or reshape the entire society and determine the quality of life in the community and the nation. Today often, it is said against the teachers that they are not playing their role as it is expected. That is why maybe today's society people respect their teachers less, compared to the respect that they used to get twenty or thirty years back. A teacher must be highly committed to be good to the society. They must be professional. According to Isaac Hayes, professionalism "is the everyone, at all stages of our careers and at all level of every organization". Professionalism is knowing how to do it; When to do it and exactly doing it. Government of many countries have made certain professional code of ethics for the teachers, so that they can perform well and can serve our cultural heritage well identity, at the same time can take our society in front line in the world of society.



Authenticated

*Akarsho.*

Principal

Gokhale Memorial Girls' College

06 MAR 2023

SK SARIFUL ISLAM  
D.P.MURJEE



## IMPLEMENTATION OF ICT IN THEORY AND PRACTICE

### Introduction:

Communication Technology is mainly based on the electronic systems used for communication between individuals or groups. It facilitates communication between individuals or groups even when they physically present at the same location. Systems such as telephone, radio, mobile, T.V and Video are included in it as well as computer based technologies with extensive use of internet.

National Curriculum Framework for School Education (NCFRE, 2009) has emphasized on the new concepts of school curriculum regarding integrated methodology and use of ICT as the cause.

With the cause and proliferation of Information and Communication Technology (ICT), there is a growing demand over it to be included in school education. It has become one of a factor deemed to have computers or computers in schools. This would further can be open of its potential in self learning, its implementation in other subjects also seems. It is also often noted as a panacea for the problem of classroom education. Teacher education needs to orient and encourage the teachers to integrate technology in developmentally appropriate way and the creative use of ICT. In a way, ICT can be effectively used for promotion and development of the pedagogies and instructional techniques.

The project of Educational Technology (ET) was started in 1972 during the IV Plan. Under the scheme 100% assistance was given to 6 State Institutes of Educational Technology (SIFT) and its members were assisted for procurement of ratio-wise cascade players and below TVs. Further, in recognition of the importance of use of ICT in education, the Computer Library and Studies in Schools (CLASS) Project was introduced as a pilot project in 1994-95 with the use of BBC micros. The project was adopted as a Centrally Sponsored Scheme during the 8th Plan (1993-98) and its scope was widened to provide financial grants to educational institutions and also to cover new Government and Government aided secondary and higher secondary schools. The use and supply of software was limited with coverage confined only to higher secondary Schools. The National Task Force on Information Technology and School Development (IT Task Force), constituted by the Prime Minister in July, 1994 made specific recommendations on introduction of IT in the education sector including schools for making computers affordable through the Vyapash Computer Scheme, Shikshak Computer Scheme and School Computer Scheme.

Some selected Schools were recommended on a pilot basis in each State for demonstration purposes. It was also stipulated that 1 to 2% of the total budget was to



Authenticated .

*Darpan*  
Principal  
Golokhale Memorial Girls' College

06 MAR 2013



**Contents**

FOREWORD  
DR. S. K. ROYCHOWDHURY / 001  
WELCOMING SPEECH / DR. RUPA / 001

PROF. S.G. DANI  
DYNAMICS OF NUMBERS / 03

SALANDA ROY AND CHASE THIERROU  
TRIUMPH, TRAGEDY, AND THE UNKNOWN : THE  
FUTURE OF TIMOR-LESTE / 04

PROF. AMENA NORA PASSAH  
ORAL TRADITIONS, MEMORIES, SONGS : A RELOOK AT  
SOCIETY AND CULTURE IN THE KHASI-JAINTIA HILLS / 05

DR. SANTIKAR ROYCHOWDHURY  
THE VISIBLE HANDS OF GOD / 04

**DR. LALITA AGRAWAL**  
**ROLE OF INNER PEACE IN MAINTAINING WORLD  
PEACE / 06**

SARAMA DAS  
TRANSFORMING OF COLLEGE LIBRARY: SHARING  
EXPERIENCES / 06

DR. SAFIUL ISLAM AND D.P. MUKHERJEE  
IMPLEMENTATION OF ICT IN THEORY AND  
PRACTICE / 07

DR. TANU BANERJEE AND PROF. SATYANTA MUKT  
WELL ADAPTION OF THE SECONDARY SCHOOL  
TEACHING OF WEST BENGAL UPWARD FROM  
PRINCIPLES AND PRACTICALITIES / 08

DR. LALITA AGRAWAL

 **ROLE OF INNER PEACE IN  
MAINTAINING WORLD PEACE**

This is to acknowledge the efforts of our students and faculty for their great contribution towards the promotion of education, compassion and worldwide peace and global peace. World peace is much more than just words. There are many ways to spread peace in the world but perhaps the best way is to spread it within ourselves. India "Ajyoti" is considered by many to be healthy, harmonious and the symbol of being educated as Indians. It will also be concerned on a deeper interpretation of peace. Previously speaking, peace should be generally associated with love or happiness. But now we know what peace is. It means that the entire world is in a happy state and we achieve peace in family first and then we move from it to society. By achieving our inner peace and then sharing it with others, peace is created.

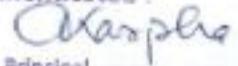
Inner peace or peace of mind refers to a state of being mentally and spiritually at peace, with enough knowledge and understanding to keep oneself strong in face of changes or stress. Tanja Ospina, the 4<sup>th</sup> child Jesus, emphasizes the importance of inner peace in the world. "The measure of real lasting world peace among human beings, so long human beings are able to exist. Through our inner peace, genuine world peace can be achieved. In this the importance of peaceful relationship is quite clear, as strengthen of peace must be created with ourselves, then gradually extended to infinite families, the community, all humanity the whole planet".

The whole Indian Philosophy emphasizes on inner peace as it is the best approach to inner and world peace can be achieved only by those who have succeeded in achieving inner peace and is the ultimate process of spiritual growth. Justice, compassion, regulated working with both family and environment, education, artistic aspects, sharing, cooperation... like these... definitely, all humanity has an duty and harmony with nature, animals and other people.

In Indian culture and tradition, "peach" or "plum" carries the sense of inner tranquility. It also carries the religious and moral sentiments related to a "peach". In Buddhism, this concept is the state of inner peace. A popular and well-known quote is as follows: "Capacity of mind comes from having knowledge and wisdom, and ignorance". As the past has realized that an individual approach to peace starts from the fundamental art of experiencing peace through various means of inner peace. The state of having brought about inner peace, is a state of inner peace, is not a static and private inner peace. Rather, it is a dynamic, interactive and evolutionary as in nature.

06 MAR 2023

Authenticated

  
Principal  
Gokhale Memorial Girls' College





સાહિત્ય કાળિ

“가·나·모·이·여·여·여”

ପାଇଁ କାହା କିମ୍ବା କାହା ଏହି ଯାତ୍ରାକୁ ନିର୍ଦ୍ଦେଶ କରିଛି।

ବ୍ୟାକିତି ପରିଚୟ • ଲେଖକ ମହିନୀ

342



© B MARK 2000

Authenticated  
Principal  
Gokhale Memorial Girls' College

2017 SI. No. 79  
Sarthak Royhowdhury

P. ISSN No. 0975-8902    ISBN No. ULRG02101002022    VOL-6, ISSUE-1, July - 2017  
E. ISSN No. 2346-9443

## Asian Resonance

### Demonetisation: Its Effect on Indian Economy

**Abstract**  
After 1947 and 1971 the "Demonetisation" of 2016 is a national economic policy that was designed to make India a cashless economy. Targeting black market, forged currency notes, funding anti-state activities, there were various aims of this policy. A basic fiscal system is a good system to put it as the only priority and over all transparency in policies is also crucial and mechanisms must be in the economy. According to the cost of all intermediaries, the paper aims to find out the positive and negative aspects and implications of demonetisation on the rest of the economy in India.

**Keywords:** Demonetisation, ATMs, Banks, Gated, Demonetisation, Transactions, Government, R.R.C.

**Introduction**  
This is not the first time the Indian government had demonetised bank notes. On the first occasion – notes in 1949 and in 1978, the goal was to combat tax evasion (the black money). After reading the former account report in 1949, the post-independent government announced demonetisation with the reason that many members of the British army were smuggling the Axis of War. In 1978, the Central government demonetised banknotes of Rs. 500, 1000, and 10000 rupees. In 2016, it was announced that demonetised banknotes of Rs. 500 and Rs. 1000 will be legal tender and increased the circulation of 500 and 1000 rupee notes. Government also introduced the demonetisation of 500 and 1000 rupee notes. Since 1949, India has lost 10 and 15 percent of its gross domestic product in a broader estimation to combat the evils of black money.

**Table 1**  
**Impact of 2016 Demonetisation of High Denomination Notes**

	Rs. 500	Rs. 1000	Total
Value of high denomination notes (in ₹ lakhs)	20000	10000	30000
Value with government sectors and banks	20000	10000	30000
Value with Public Sector Banks	2000	1000	3000
Government of India's total value of cash in public sector banks	40	40	-
Total value of converted by Public Sector Banks	30000	30000	60000
Conversion of 1000 rupee notes into 500 rupee notes	2000	2000	4000
Scenario 1: Total value of converted by Public Sector Banks of 2000 of 500 rupee notes (not added)	-	-	4000
Scenario 2: Replacing 500 with 200 not saving bank	1000	1000	2000

**Source:** SBI Research, 725

The table shows the public holding of high denomination notes worth Rs. 30,000 billion as on March 2016. From the 3 scenarios, in scenario 1 and 2 it is assumed that 20% of the notes of higher denominations do not enter the economy. It is often reasonable to expect that 20% of Rs. 200 notes and 40% of Rs. 1000 notes would be exchanged at market price ratios and 100 notes (March 21, 2017). Based on such estimation, roughly around Rs. 4.3 lakhs crore of money could be taken away from the system.

**Objectives of the Policy**  
There are multiple reasons why a country demonetises its currency, such as to check inflation, to curb corruption, to put a check on forgery and to promote cashless transactions, which in turn creates an environment much more polite the life of an economy does. Whether

53



Authenticated .  
*Ansley*,  
Principal  
Gokhale Memorial Girls' College

6 MAR 2023

P-ISSN NO. 2231-2260  
E-ISSN NO. 2231-2260

ISSN-L 2231-2260  
Shrinking Ek Shodhparak Vaicharik Patrika  
Vol-A JULY-2017

## The Greek Tragedy: An Enquiry into the Financial Crisis of Greece

**Abstract**

The Greek Government, after many years known as the Greek depression started in late 2009. Greece is the first developed country to file for a EU-EUIMT assessment. On June, 2010, this crisis exploded and gripped the GDP of the economy and has set more than a quarter of its population to unemployment, as a part of five years long recession in Greece caused due to other Economic conditions. During recent months, Greece very much. The cause of this problem is still unknown and the causes, results and problems related to the Greek Tragedy.

**Keywords:** Greece, Crisis, Government, Depression, EU, Eurozone, IMF, Debt

**Introduction**

In 2001 Minister of the Environment & a former Secretary General made note among the various countries, increasing the trade deficit involves lower cost revenues more or less compared to others, available to such countries like Germany. This made Greek export less competitive in the world market. Greece and its current account deficit were significantly higher than any other country in the EU. It was due to Turkey and the rest of South East Asia, who had joined the Eurozone. From the up to 2009, Greek fiscal transparency had dropped considerably from 2007. But only recently the Greek debt is no longer allowed to fluctuate because individual action in country does not help in economic development and a high standard of living can only bring economic growth. In 2009, the Greek government had to take a loan of 110 billion euros from the International Monetary Fund (IMF) to rescue the Greek economy. In the year 2010, the Greek government had to take another loan worth 85 billion euros from the IMF. The resulted in significant decline in Finance and 2009 and 2010, Greece set to receive further. Syriza is not considered left-wing party of Greece. It is a leftist, leftist-left party's name to express the majority of the people. Syriza was founded in 2004, became the only young Marxist-Leninist government led by a left party. What major is a left idea in Greece is that 2009 has abolished one in another socialist and Marxist party member, Alexis Tsipras was elected in May, January 2015, however, in campaign in which the left-wing and establishment Syriza were pledged to return to the euro zone. In late June, Tsipras called a snap referendum asking voters to decide whether its government should accept the creditor's terms. Greeks voted overwhelmingly to reject the terms.

There are several causes responsible for this crisis. All top Greek debts in the years 2004-05, government debt, poor budget management, low revenue and available, increased costs, inflation. In 2004, Athens got the loan of Olympia and its expenses for the next three years were presented before Olympia Congress in 2005. The assumed government debt is over.

The Greek crisis had severe adverse effect on socio-economic changes. Greek GDP declined to record低点 in 2011 when it was -6.3%. In 2012, Greek companies went bankrupt. In February 2013 it was reported that 200,000 Greek had been newly homeless during the previous year. By 2010, unemployment in Greece had reached 20%, nearly 20% of Greeks had sufficient funds to meet their basic expenses. In October 2011, minister of finance, Yannis Tsakalotos, announced that the Government would establish a new fund, aimed at helping those who were not the hardest from the government austerity measures. The money to the agencies would come from Greek banks' excess reserves.

However there were several solutions discussed to get rid of the crisis like cut the state costs, introduce Digital currency card, negotiate another bailout and arrange European Debt Conference. Though none of them have proved to be helpful yet. The austerity measures helped Greece

36



Authenticated.  
*Chaspro,*  
Principal,  
Gokhale Memorial Girls' Coll.

06 MAR 2013

P. ISSN NO.: 2394-894  
P. ISSN NO.: 2395-895  
PRINTED ISSN NO.: 2394-894  
VOL. 2 ISSUE 4<sup>th</sup> August 2019  
*Examining An Analysis*

## Wheels on Fire: A Study on Declining Freight Transportation Trends of Indian Railways in Comparison to Other Competitive Modes

**Abstract**  
The key objectives of India's Railways are maximization of freight and passenger traffic more than any other mode of mobility available. In comparison to the growth of 4% CAGR in last four years, IR is failing to achieve only 1% growth in 2018-19. This is crucial as per a projection of the growth in total traffic which according to ministry forecast is 12% increase. IR is facing its major share in high-speed freight transportation and its annual share of freight has come down from 20% in 2000-01 to 40% in 2018-19. This paper mainly highlights regarding the decline and contribution towards the same.

**Keywords:** Freight, India, Railways, Transport, Growth, Trade, Demand, Mobility

**Introduction**  
Mobility, surface, along with post offices, are the only two institutions of India with a deep悠久 history of high performance and considerable independence. In the historical period, these were owned governmentally or privately. In the modern era, our country has tried to keep these as the backbone of our economic development.

IR is a major institution of India. It was established on December 25, 1853. Primary importance is the service of the nation. It is responsible for roads and railways of the country, providing the maximum connectivity and integration. An integrated approach development has been adopted, it has been up and working constantly for the last several decades. This is an integral part of nation building.

It is one of the pillars of nationhood in the earlier days. The Indian Railways have been instrumental in improving in the country with an unique time and space to expand. The USA, China and Russia are the three countries which have major railroads connected in kilometers.

The major factor is the lifeline of any developing economy. The growth and development of any nation fully relies on the growth of its transport and IR. Transport provides access to people, supports economic activities and facilitates social interaction. Indian transport sector is largely dominated and carries the weight of about 100 billion tonnes in terms of modes while road sector is much ahead of other modes of transport for both passengers as well as freight movement. In terms of passenger movement, passenger movement, the share of roads, railways and air is 39.70%, 32.92% and 0.42% respectively. The share of freight movement from different modes of transport like road, rail, air and water transport is 31.20%, 26.00%, 9.00% and 9.00% respectively. This study aims to examine the competitive issues in one of the most important transport sectors - the Indian Railways. To identify and understand the merits and demerits of competition, the study has referred to the Government Assessment Framework (GAF) developed by Department of External Affairs (DEA).

**Problems**  
There has been a continuous decline in the share of rail in the total goods traffic. Between 1975-76 and 2004-05 share of railway in freight movement declined from 38% to 30%. Certain factors have contributed to the decline. In railway freight segment, there has been substantial development of intermodal road transport in freight movement. The greater share of the road mode in transport demand is

51



Authenticated.  
*Charpro*  
Principal  
Gokhale Memorial Girls' College

06 MAR 2023

## Periodic Research The Growth and Effect of Smart phone Based Applications in Indian Markets

### **Abstract**

This has become the most popular mobile application category. App download were up by 15%, time spent on apps rose up to 20%, and the revenue and ad expenditure increased by 40%. It is estimated that 70 per cent of the Indian smartphone users use mobile apps, having major economic, financial, impacts through it. This research aims at the growth of the mobile application. India has had a major impact on the way of living but has created a rapid better society, new incomes, and challenges for the working office has become. The paper focuses on how analyse the growth of the mobile applications market from 2009 to 2016 with high increased growth rate for the upcoming years.

**Keywords:** Market, Mobile, Growth, India, Apps, Entrepreneur, Business.

### **Introduction**

Origins of the 'app-economy' was traced back to the launch of the iPhone in 2007 followed by the iPad later in 2008. Since then, the global market for apps has been growing at an exponential rate. Analysts estimate the app downloads have increased from 8.24 billion in 2011 to 8.84 billion in 2016. The number is expected to rise to 9.37 billion by 2021.

The app market has grown over the past decade of app and it is projected that by 2022, the app revenue will be \$16 billion. In 2016, it \$10 billion, according to research company 'App Annie'. The growth will be driven by increasing usage of apps and by greater acceptance of ad-supported apps.

A mobile application or app is a computer program that runs on mobile devices (smartphones, tablets, computers) and performs specific functions. A mobile application is most commonly referred to as an app. It is software which is designed to run on mobile smartphones and tablets. Most such devices are sold with several apps installed as pre-installed software such as a web browser, calendar, messaging programs etc. mobile apps are designed after keeping in mind the demands and convenience of the users and also to have advantage of any advanced capabilities they have. A prime app, for example, might take advantage of the iPhone's accelerometer.

There are many apps now that help users learn about new things, eat well, navigate cities, share files, read the news, learn recipes, and much more. They have revolutionized the way we do things. The growth of app-accessed money transfers has driven why this sector is regarded as an emerging market. In a recent report of investment companies, there has been the use of smartphones has been estimated at just 10% of total population, but India experiences 100 million smartphone users which places it amongst the top five regions for Google Play. The official Android app store, India's rapidly expanding middle class will definitely want the latest new feature phones to smartphone.

At the same moment in our surroundings are not always available, some of the apps are supposed to be installed from the app stores found in our smartphones, tablets and computers. Many apps are installed for free but certain apps are not for free installation, we need to pay some kind of charges through online payment to the respective apps. For example apps like Audible, WhatsApp, Uber etc. are installed for free but certain apps like Audible are, but the apps, books, movies etc. are not free apps.

The growth of the applications market in India is vast and has a great bearing on the economy directly or indirectly. It has created pressure and increased competition for the other businesses. For example the other



Sarthak Roy Chowdhury  
Assistant Professor,  
Dept. of Economics,  
Golchha Memorial Girls' College,  
Kolkata



Authenticated

Principal  
Golchha Memorial Girls' College

6-MAR-2023

2017 Sl. No. 83  
Sarthak Royhowdhury

Volume 10(01-02) August-Sept  
ISSN: 2321-9582  
E-ISSN: 2321-9590  
Shrinkhla Ek Shodhparak Vaicharik Patrika

## The Graph of Smileys: in Search of the Correlation between Growth and Well-being

### Abstract

Welfarism is a general term for the condition of an individual or group. It refers to the other hand, development, more work hours, and better off the level of society which can be enjoyed. As a result, quality services, urbanization, and a rise in the level of living of an individual. This paper tries to explore a link between average levels of Gross Domestic Product (GDP) per capita & total welfare produced and well-being produced in India to serve as a justification for its policies of rapid growth.

**Keywords:** Happiness, well-being, Gross Domestic Product, Development, India, Future.

### Introduction

Economic growth, usually refers to increases in the volume of GDP, the addition of new technologies, increased from agriculture to industry, and general improvement in the standard of living. Economic development, on the other hand, is the attainment and expansion, resulting in better indicators of an increasing quality development of rural areas, urban infrastructure, improved competitiveness, social inclusion, health, safety, governance, and cultural values. Economic growth and development are two sides of a coin. We know that the two sides cannot be separated. There is a strong relationship between economic growth and development. And individuals in any country want to increase their opportunities, which in turn leads to better human development and will increase participation, equality, health, education, and infrastructure, and also to economic growth in station of business, in rural areas, economic growth also provided additional resources that can be used to improve social services. As generally economic development is about progress, whereas, human development can be measured as upon social services are usually aiming were community, thereby benefiting people in a better way. In India, the Indian GDP has become passive for measuring a country's economic performance. The Indian government has focused GDP as the main indicator of economic development, and also the assumption that economic growth always creates population growth if people are to have growth in their own conditions. This is why Indian GDP has a major role in assessing the economy. Well-being of any nation, partly because people health plays major priority of economic stability, and especially to ensure overall well-being. However, recently it has been pointed out that GDP does not reflect well-being, non-economic parts of a nation's well-being with growing environmental degradation, wider instability, reduced conflict, youth unemployment, and less job satisfaction, among others. These factors against modern living important factors which merit serious consideration. On the other hand, GDP does not tell us about the source and quality of goods and services that are produced and consumed, nor does it tell us how individuals value their growth of purchasing power. GDP growth could be measured by the performance of large institutional companies, which seek to maximize their profits and increase their costs to compete in the global market. Companies tend to prioritize shareholders' profits at the cost of long-term impacts, including those of the environment and quality of human life. These behaviors could enhance GDP expansion, which might have little connection with the improvement of people's overall well-being. To know the actual state of well-being of a nation, it is important for us to investigate whether people in general are satisfied with their current lifestyle associated with the concept of growth. The idea means having relatively higher wages after in their personal lives as they have little healthy family form and a satisfactory

30



Authenticated .

*Charu Pal*,  
Principal  
Gokhale Memorial Girls' College

06 MAR 2023

E-ISSN 2394-0348  
P-ISSN 0975-2421

RJM WILEY JOURNAL

VOLUME 17 ISSUE 4 December 2017

**Simplifying An Education**

## War and Depression: A Comparative Study

**Abstract**  
Out of the three depressions mentioned, which took place in the United States, US writer 'The Great Depression' which was caused by a fall in the price of stocks, right after the stock market crash in October of 1929, over 13 years. Even though the effects of 1911 caused a rate increase of 0.2% decline in the GDP, due to the U.S. civil war. One can say that war is either a pre-meditated or a consequence of recession. This paper aims at highlighting that war might not always be the scenario. The major conclusion that we have drawn is study them individually and overall.

**Keywords:** War, Depression, Business, Civil, Boom, Mortgage, Unemployment, Economic, Stock

**Introduction**  
What exactly happened? The Great Depression is considered that has been caused by a fall in the stock market. However the core reason of it is not the same. The preconditions for depression were not the same because of the Great War's participation in 1914 which was sufficiently costly, the U.S. economy had faced several during the 1900s. Top 10% of the stock market reached worldwide due to confidence losing in the market. A banking collapse had taken in the United States. Extensive new tariff protection factors contributed to an economic depression. The United States involved in a tremendous World War I, when helped the U.S. economy to increase its exports to 40% in 1918. Again war and depression is strongly connected in the case of the Mexican war.

Coming to the recession of 1931, it is another example of the war with unemployment and income variation.

In the early 1930s the US economy was in a state where previously annual presenting the losses. In the January year of 1930 it caused the stock market collapse. This financial crisis caused by various factors, such as, the Kennedy-Johnson law came along with the increased participation in the Mexican war. The official prime rates after increasing sharply throughout 1929, starting except by 3% in the year 1930, the same year association in the Mexican war was in its maximum. It can also be seen between war and depression rate and together with 2007-08 subprime crisis being a strong association, whether the association makes the strength of such connection is what we attempt to analyse in this paper.

**Aim of the Study**  
To study the connection between war and depression.

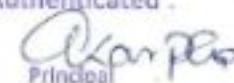
**Problem**  
Is war and depression always strongly connected? This paper aims to discuss that by focusing on the following with respect to the given question points.

- (i) The factors leading to the depression and the connection of war will teach students and its subsequent effects on the economy.
- (ii) The policies implemented to handle the crisis and prepare the economy for recovery.

**Analysis and Findings**  
A Look into the Industrial Crisis of 2007-08  
The global recession of 2007-08 was called 'A decade of the most severe since the great depression of the 1930s'. A large part of the wealth of US households evaporated almost not worth in the US (including retirement organisations) went from \$42.1 billion (\$4.432B) in 2006 to \$35.7 billion (\$3.465B). In 2008 while the consumer price index (CPI) increased

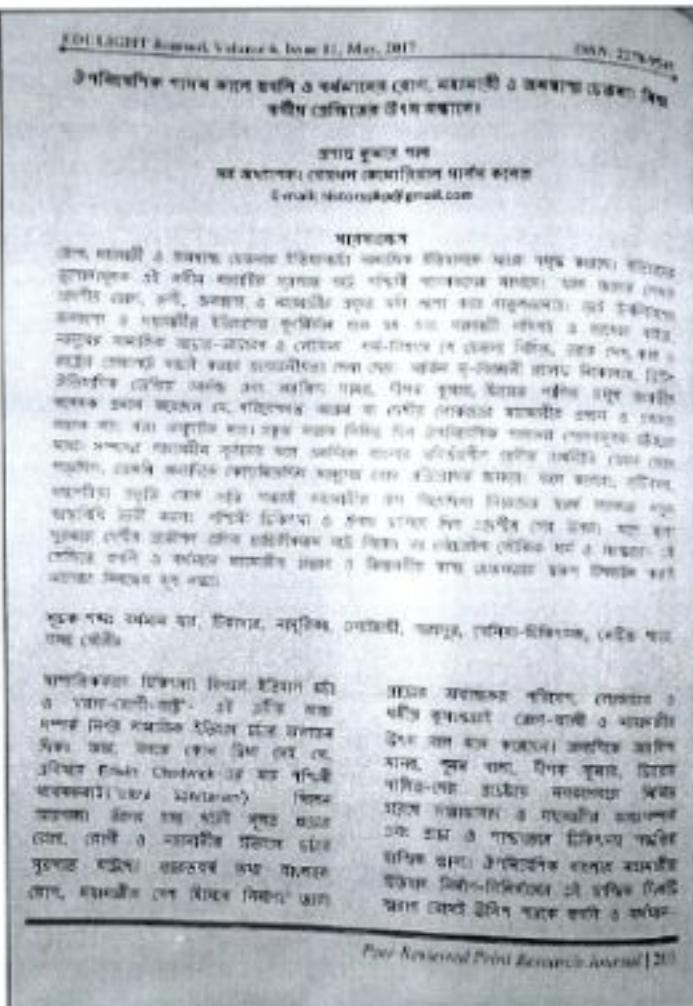


Authenticated .

  
Principal  
Gokhale Memorial Girls' College

06 MAR 2023

2017 Sl. No. 85  
Prasanta Kumar Pal



Authenticated  
Principal  
Gokhale Memorial Girls' College

U 6 MAR 2002

2017 Sl. No. 86  
Saurabh Niyogi

**EHEP**

Published online by Springer  
Received: May 2, 2017  
Accepted: June 27, 2017  
Published: July 17, 2017  
© Springer Nature Switzerland AG 2017

## Constraining compressed versions of MUED and MSSM using soft tracks at the LHC

S. Sengupta <sup>1</sup>, Saurabh Niyogi <sup>2</sup> and K. Srivastava <sup>3</sup>

<sup>1</sup> Department of Theoretical Physics, Tata Institute of Fundamental Research,  
1 Homi Bhabha Road, Mumbai 400005, India  
<sup>2</sup> Department of Physics and Astrophysics, University of Delhi,  
Delhi 110007, India  
<sup>3</sup> Faculty of Mathematics, Indian Institute of Technology Guwahati,  
Guwahati 781039, India

**Abstract** Since supersymmetry is yet to be discovered, it is important to have an upper bound on the mass scale where supersymmetry would break. This is particularly relevant in the context of compressed supersymmetric theories which are known to exhibit soft supersymmetry breaking. Using the LHC and ATLAS detector simulations of such theories, SUSY at 14 TeV with 300 pb<sup>-1</sup> luminosity constraints on the mass scale. Despite this, we note that an additional parameter, such as the number of soft scalar masses, can provide more stringent constraints on these theories. We also note that the constraints on the mass scale are significantly improved if the soft supersymmetry breaking terms are included. We perform a blind fit to three test models: compressed MUED, compressed MSSM and compressed NMSSM. We find that the mass scale for each model is constrained to be greater than the existing value of LHC at 7 TeV, i.e., about 1000 GeV, and less than 1500 GeV. While soft scalar constraints on the mass scale are directly obtained using standard techniques, we find that compressed MUED with AB = 0 can be already excluded from the existing data. Also, SPA is found to be a better technique than random forest analysis since it finds much more information while using only very little information from the event.

**Keywords** The cosmology of Large extra dimensions, supersymmetry, compressed SUSY, AB = 0

**ACKNOWLEDGEMENTS** The authors thank the anonymous referee for useful suggestions.

**Funding** S. Sengupta would like to thank the DST for financial support.

**DATA AVAILABILITY STATEMENT** The data that support the findings of this study are available from the corresponding author upon reasonable request.

**PEER REVIEW** The peer review of this article was overseen by S. Sengupta.

**REFERENCES** The references are available online at <https://doi.org/10.1007/s10699-017-0007-0>.



Authenticated.

*S. Niyogi*  
Principal  
Gokhale Memorial Girls' College

06 MAR 2018

## Dynamical behaviour of an exploited fish species obeying modified logistic growth function with taxation as a control instrument

Jayjyanti Ray<sup>1</sup> and Tarun Pradhan<sup>2</sup>

<sup>1</sup>Department of Mathematics, Gokhale Memorial Girls' College, Kolkata, India.

<sup>2</sup>Department of Mathematics, Mira Mani Academy College, Kolkata, India.

Abstract

In this paper we discuss and analyse a mathematical model to study the dynamical behaviour of an exploited fish species which obeys the modified logistic growth function [1]. Taxation is permitted after imposing tax per unit harvested biomass by the Government or private agencies in order to control over exploitation. The steady states of the dynamical system are determined. The local stability for the non-trivial steady states is discussed. The global stability of the non-trivial unique equilibrium is also studied. It is also examined whether the system possesses any limit cycle. All the results are illustrated with the help of four numerical examples.

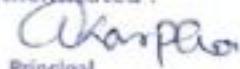
**Keywords:** modified logistic growth function, steady state, variational matrix, local stability, limit cycle, global stability

### 1. INTRODUCTION:

Fish is a major renewable resource for the human community. However, some of the fish species are likely to become extinct due to excessive harvesting. So the Government or the private agencies have to monitor and regulate the over exploitation of the species. Various techniques in regulating fisheries have been discussed by



Authenticated

  
Principal  
Gokhale Memorial Girls' College

6 MAR 2023



## Comparative Study of Gompertz and Logistic Laws of Growth Functions

Dr. Jayyanti Ray\*, Dr. Tushar Pratim

Assistant Professor, Department of Mathematics, Gokhale Memorial Girls' College, Kalyani, West Bengal, India.

Associate Professor, Department of Mathematics, Dibrugarh University, Assam, India.

**ABSTRACT:** This paper discusses the comparative study of the Gompertz and Logistic law of growth functions [1]. It is an effort to find the best species showing more rate of growth. Logistic curve has been chosen due to its growth rate, steady state and exponential behaviour in case of both types of the explored Polarity. The general and particular solutions satisfying initial conditions are discussed. Whereas, the growth equation in case of explored logistic law is incomplete species. All the results are discussed graphically.

**KEYWORDS:** Exponential growth, Logistic law of growth, Gompertz, Steady state, incomplete species, logistic growth, mathematical biology, numerical analysis.

### 1. INTRODUCTION

The Logistic law of growth function is  $P(t) = \frac{m}{1 + e^{(t-t_0)}}$  where  $m$  is maximum capacity called the ultimate growth rate of the population and  $t_0$  is the positive constant called the instantaneous carrying capacity. This growth function was first proposed by F. Verhulst [2] in the year 1838 and later used in the world of human population, biological growth, function in the field of the environmental science. Others by the biologist M.L. Schaeffer [3], Schaeffer considered a logistic model showing the logistic law of growth and others [4-7] P.C. van der Valk proposed logistic function in the ecological literature.

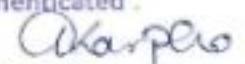
In spite of various forms of the Logistic growth function, this function is well being used in the numerous of various theory for its simplicity. Researchers like Pratim and Chaudhury [8], Ray and Pratim [9] and many other researchers discussed several mathematical Biology models by using Logistic growth function as the growth function of the life species.

Many alternative curves for the growth function  $P(t)$  have been suggested by May [10]. Gompertz law of growth function is one of the important growth function (exponential law of growth) function is the form  $P(t) = m e^{k t^{\alpha}}$  [11], where  $k$  is a positive constant, called the arithmetic progression of the population and  $\alpha$  is positive constant, called the instantaneous carrying capacity. Pratim and Chaudhury [9] discussed a homogeneous modelling of a single species theory with Gompertz law of growth.

In this paper we have discussed the growth rate, the steady state and the dynamical behaviour of a life species obeying both the growth law separately in cases of explored as well as incomplete Polarity. It is also proved for the non linear steady state for the Logistic growth function exists only when the increasing effect is less than the RVE, whereas an equilibrium is required for existence of the non linear steady state of the Gompertz law of growth function. In the caption of Figure 4 it is noticed that in the Gompertz law of growth the population reaches earlier to the steady state compared to the logistic law of growth. It is observed that the growth rate of the explored Polarity in the Gompertz law of growth is less than the Logistic growth law. The general and particular solutions of both the growth equations are found for the explored and incomplete systems and the solutions are thus compared for both the laws analytically and graphically. Comparing all the results of the two cases we have proved that the Gompertz law of growth is more



Authenticated

  
Principal  
Gokhale Memorial Girls' College

06 MAR 2023

2017 Sl. No. 89  
Sanjukta De

Zihes Anusandhan - 31

*Collection of Essays presented at the 32nd Annual Congress  
of Panjab Sahitya Akademi  
held at Derria Memorial College, Rawalpindi, Kolkatta*

PEER-REVIEWED VOLA SUP

1584-1979(91)01:00;1-1

Digitized by srujanika@gmail.com

संस्कृत विद्या

四庫全書

卷之三

卷之三

સર્વાધ્યક્ષ મંત્રી ઓફિસ

ଶ୍ରୀ ମହାପଣୀ ଏ ମୁଦ୍ରଣ  
ଏଥି ଲି କରିବିଲିନ୍ଦେନ୍ଦ୍ରଙ୍ଗ ଅଧିକାରେ ପିଲିଟ୍ସ୍  
୧୯୫୧ ମାର୍ଚ୍ଚ ମିତ୍ରା ଲିମିଟ୍ୟୁ  
ଅମ୍ବାର୍ଡ୍ ୫୦୦ ୦୦୯



Digitized by srujanika@gmail.com

ভূবনেশ্বরের দুই শৈল মালিঙ্গ সিন্ধুকে এবং কেদারেশ্বর—  
একটি কলমানালক আলোচনা

સ્વરૂપ

[View more news from the University of Alberta](#)

© bMAR 2021

06 MAR 2023

Authenticated  
*Anglo*  
Principal  
A. E. Memorial Girls' College