



## Effect of Different Doses of Sodium Azide on Cytogenetical and Biochemical changes in Fenugreek (*Trigonella foenum graecum*)

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**ABSTRACT:** Sodium azide is a popular plant mutagen. The present study was conducted to assess the mutagenic/cytogenetic changes in root tip cells in the local variety of fenugreek (*Trigonella foenum graecum*). Seeds of *Trigonella* were treated with various concentrations of sodium azide (0.1%, 0.2%, 0.3% and 0.4%) at room temperature for 3 hours and were germinated. The treated root tip cells exhibited abnormalities such as stickiness, laggards, unequal separations and bridges. The other parameters of the study included biochemical variations like protein, carbohydrate and proline variations.

**Keywords:** Chromosomal abnormalities, fenugreek, stickiness, biochemical variations, chemical mutagen.

### INTRODUCTION

Fenugreek (*Trigonella foenum graecum*) also known as methi is an economic value herb. It is an important, short duration; multipurpose cash crop of India belongs to Family Fabaceae, subfamily Paplinoideae. The cultivation of the herb is carried out around the world for seed, vegetable and fodder production. The seeds of plant are grown as pot herbs and used as a spice or as herbal medicine in most of the parts of Asia (Bashir *et al.*, 2013 and Lust, 1986). *Trigonella* have potential properties as antiulcer; wound healing, CNS stimulant, antioxidant, antidiabetic, antineoplastic and antipyretic drugs (Zargar, 2014 and Srivastava and Srivastava 2018).

Genes are the building blocks and basis of growth and development of plant. To study the nature and function of genes, mutations are being used as important tool. By this genetic improvement of economic important crops takes place (Adamu *et al.*, 2007, Bashir *et al.*, 2013). In the present scenario mutational breeding helps in a bigger manner of genetic variability. This genetic variability induced by chemical and physical mutagens. These can be used for getting the desired characters. Mutational breeding helps in improving one or more character and the rest of the genotype does not change (Rajorja *et al.*, 2016). Higher mutation rates are found in chemical mutagens treated plants as compared to physical mutagens. Chemically induced mutagenesis gives higher efficiency, more efficient for morphological and genetical variability and greater specificity of mutation (Dixit *et al.*, 2013, Bhosle and Kothekar 2010, Goyal and Khan 2010, Prabha *et al.*, 2010a and b, Aviject *et al.*, 2011, Bhat *et al.*, 2005 and Srivastava *et al.*, 2019). The present study was undertaken to

investigate the effects of sodium azide at different concentrations in *Trigonella foenum graecum* for mutagenic exploitation of the crop.

### MATERIALS AND METHODS

Healthy *Trigonella* seeds of uniform size were selected. Seeds were surface sterilized with teepol. The seeds were then soaked separately in solutions of 0.1%, 0.2%, 0.3% and 0.4% of Sodium azide for 3 hours. Control groups were soaked in double distilled water. Seeds of various treatment groups were placed in petri dishes on moistened cotton.

The root tips after cutting were fixed in Carnoy's fixative and transferred in 70% alcohol after 24 hours and stored at room temperature. The squash technique as described by Savaskan and Toker (1991) was used to make the chromosome spreads.

Lowry's (1950) method was used to determine the protein content. The results are expressed in  $\mu\text{mg}^{-1}$  protein. Carbohydrate content was estimated by Anthron's method. Proline activity measured as explained by Bates *et al.* (1973). The supernatant was read at 520nm by spectrophotometer.

### RESULT AND DISCUSSION

#### A. Cytological analysis

The application of plant mutagen is of significant importance in improving the field, quality and economic value of the plant. Sodium azide is one of the most commonly used and most efficient plant mutagen. Mitotic investigations in the control root tips exhibited no irregularities in the structure and behavior of chromosomes and revealed normal chromosomes at metaphase and anaphase stage (Fig. 1).



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यह कल के मन जीवन चमत्क मिलने स्वाम है, अ से बा छिर उग्र अंश हर का डि डि 3 2 1

**शोध आलेख प्रकाशन संबंधी नियम**

शोध आलेख 2500 से 5000 शब्दों का होकर युनिकोड मंगल अथवा कृतिदेव 10 में 12 के फॉन्ट साइज में ही भेजे। शोध आलेख एपीए एमएलए फॉर्मट में होना आवश्यक होकर फुटनोट व रिफरेंस के साथ भेजना आवश्यक है। अंग्रेजी माध्यम के शोध-पत्र टाइम्स न्यू रोमन (Times New Roman), एरियल फॉन्ट (Arial) में टाईप करवाकर माईक्रोसॉफ्ट वर्ड में अक्षरवार्ता के ईमेल पर भेजने के बाद हार्ड कॉपी तथा शोध-पत्र मूलिक होने के घोषणा-पत्र के साथ हस्ताक्षर कर अक्षरवार्ता के कार्यालय को प्रेषित करें।

**पुस्तकों से संदर्भ देने के लिए क्रम**

लेखक का अंतिम नाम (सरनेम), पहला नाम, पुस्तक का शीर्षक (इटैलिक में), प्रकाशक का नाम और पूरा पता (प्रकाशन का वर्ष) कोष्ठक में; पृष्ठ संख्या ...।  
*द्विवेदी, हजारी प्रसाद, कबीर, नई दिल्ली, राजकमल प्रकाशन, चौदहवीं आवृत्ति, 2014, पृ. 108*

**पत्रिकाओं के संदर्भ**

लेखक का अंतिम नाम (सरनेम), पहला नाम। लेख का शीर्षक। जर्नल का शीर्षक/नाम (इटैलिक में)। वॉल्यूम। संस्करण (माहिना, वर्ष)। पृष्ठ संख्या। प्रकाशन मीडिया।

**वेबसाइट के उद्धरण का प्राप्ति**

लेखक का अंतिम नाम (सरनेम), पहला नाम। "पृष्ठ का शीर्षक।"  
 क्षेत्र शीर्षक। (साईट) प्रकाशित करने वाली कंपनी। (यूआरएल) तथा सर्व डेट (अभिगमन तिथि)।  
 पुस्तक, पत्रिका, आर्थिक, वेबसाइट आदि के शीर्षक को इटैलिक में लिखें।  
 शोध आलेख के साथ प्लेगरिज्म रिपोर्ट / स्व घोषणा पत्र (आलेख की मौलिकता व अप्रकाशित होने के संदर्भ में) अवश्य भेजें।  
 आलेख की वर्ड और पीडीएफ दोनों फाइल अनिवार्य रूप से भेजें।  
 शोध आलेख प्रत्येक माह की 7 तारीख तक आगामी माह के अंक के लिए स्वीकार्य होंगे।  
 शोध आलेख का प्रकाशन रिव्यू कमेटी द्वारा अनुसंधान के आधार पर किया जाएगा।



## 'छोटी सी आशा' लघु कथा संग्रह

लेखिका - डॉ. रेणु चन्द्रा

समीक्षक - डॉ. शीताम शर्मा

हिन्दी विभागाध्यक्ष, कनोड़िया पी. जी. महिला महाविद्यालय, जयपुर, राजस्थान

एक राई के दाने में समाहित करने की चुनौती सम्मुख खड़ी हो जाए; और वह कहते हुए मैं गौरवान्वित हूँ कि हमारी महिला कथाकार आज इस कार्य को सफलता पूर्वक कर रही है।

लघु कथा लेखन बिल्कुल वैसे ही है जैसे कोई काव्यकार अपने विषाद भाव व चिंतन को सिर्फ अड़तालीस मात्राओं के लघु छंद में समेटने को संकल्पबद्ध होता है। तो ऐसी स्थिति में रचनाकार की कल्पना की समाहार शक्ति और भाषा की सामासिकता की कड़ी परीक्षा होती है। इन दोनों का सामंजस्य जितना समुचित होगा, रचना की मारक क्षमता उतनी तीव्र होगी। जैसी कि रीतिकालीन रचना बिलहारी सतसई की।

लघु कथा गद्य साहित्य की वह विधा है जो लघु कलेवर में संवेदना की विराहता लिये होती है। बिल्कुल ऐसे कि बावन अवतार की भ्रान्ति। या वूँ कहूँ कि सहृदय सामाजिक को चुल्लू भर पानी में ही असीम तृप्ति प्रदान करदेती है जैसे पीयूष की एक बूँद।

रेणु जी के संग्रह में सहृदयों के लिए कितना आहलद सुधा प्रस्फुर है इससे पूर्व एक सरसरी दृष्टि हिन्दी साहित्य में लघु कथा साहित्य के इतिहास पर डालें तो पाते हैं कि वैदिक युग में जो आरण्यान की प्रवृत्ति थी, प्रथम प्रमाण 'पंचतंत्र' माना जाता है इसी से इस विधा के तार जुड़े हैं। मध्यकाल में बाहरी आक्रांताओं के कारण यह परम्परा सुचारु नहीं रह सकी किन्तु आधुनिक काल में इसका विकास पर्याप्त रूप से हो रहा है।

यूँ तो लोक जीवन में अनेक छोटे-छोटे किस्से सदियों से प्रचलन में हैं किन्तु लिपिबद्ध रूप में आज हिन्दी साहित्य के गद्य इतिहास में जिन रचनाओं ने स्थान अंकित करवा लिया है उनमें कन्हैयालाल मिश्र प्रभाकर कृत 'आकाश के तारे धरती के फूल' (1952 ई.), रावी कृत 'मेरे कथा गुरु का कहना है' (1958 ई.), लक्ष्मी चन्द्र जैन कृत 'कागज की किशतियाँ' (1960 ई.), रामनारायण उपाध्याय कृत 'नाक का सवाल' (1983 ई.), प्रबोध कुमार गोबिल कृत 'मेरी सी लघु कथाएँ' (1948 ई.) तथा हरिशंकर परसाई की रचनावली-1 व 2 शीर्षक से 1985 ई. में प्रकाश में आए संग्रह प्रमुख रूप से देखे जा सकते हैं। तथा लघु कथा शब्द का प्रयोग 1903 ई. में इलाहाबाद में हुई एक राष्ट्रीय संगोष्ठी में सर्वप्रथम प्रयुक्त हुआ। राजस्थान में लघु कथाओं

पर राजस्थान के ही शोधार्थियों द्वारा दो शोध कार्य किए जा चुके हैं।

डॉ. रेणु चन्द्रा जी की कलम गद्य-पद्य दोनों में ही समान रूप से चल रही है। कुछ समयपूर्व ही आपके काव्य-संग्रह 'धूप के रंग' का लोकार्पण हजुआ तो समीक्षा का सुअवसर मुझे ही प्राप्त हुआ था और आज भी। कविता में आप विषयों को कहते-कहते कब गम्भीर अंतरवेतना में पाठकों को खींच ले जाती हैं पता ही नहीं चलता और जब पाठक आंखे खोलता है तो स्वयं को आपके रचे विम्ब विधान में डूबता-उतरता पाता है तो कभी टगा सा क्योंकि विम्ब विधान जब गजानन माधव मुक्तिबोध को स्पर्श करने लगे तो वहीं ध्यंजना का स्तरीय प्रयोग होता है किन्तु गद्य में आप अभिधा की सरलता से ही पाठक की संवेदना तक पहुंच बनाने में समर्थ रही हैं। लेखिका ने अपने भाव व चिंतन को कुल अस्सी कथा मोतियों में पिरोया है। इस माला में 'खुशी' प्रथम तथा कांयल और कौआ अंतिम मनका है।

इन कथाओं में वर्तमान आधुनिक जीवन की अनेक विसंगतियों को बड़ी बारीकी से उकेरा गया है। हमारे सम्य समाज कीपारिवारिक विखण्डन और संवेदन हीनता की सीमाओं का चित्रण है। रेणु जी ने यह कथाएं नहीं लिखी अपितु आधुनिक जीवन के अमानवीय पहलुओं ने उनसे लिखवा दी हैं ऐसा लगता है क्योंकि जितने भी विषयों को स्पर्श किया है सब स्वयं लेखिका कोएसे छूकर गुजरे कि आज आज तक गया न हो और यही रचना की सफलता होती है। अपनी के ही द्वारा वृद्धों की उपेक्षा, 'पश्चाताप' व 'वसीयत', रेनोवेशन समय का फेर शीर्षक में बड़ी मार्मिक बन पड़ी है।

मैं छोटी नहीं हूँ, गुलाबी फ्रॉक, थोड़े आदर्श स्वाभाविक बाल मनोदशा की सुन्दर अभिव्यक्ति हैं।

सास-बहू के कई किस्से हैं कहीं सास अटपटी है, तो कहीं खटपटी सी है। संस्कार, अपना-अपना हिस्सा, तरकीब, एडजस्टमेंट आदि कहानियों में।

- मुक्तिदान, परोपकार, तलब कथाओं में दानदाता स्वयं की कितना मूर्खपाता है जब उसे ज्ञात हो कि दान लेने वाले उनकी वस्तुओं को बेच देते हैं और कहीं उन्हें नसीब ही नहीं होने देते दलात।
- गृह प्रवेश, कैसी बदनामी, तलाक शुद्ध, सुहाग का सुख परित्यक्ता रूदाली, एक और हादसा, कथाओं में स्त्री-विमर्श के स्तर देखे जा सकते हैं। सामंती समाज में आज भी हर स्तर पर स्त्री को संघर्ष करना पड़ रहा है। कैकेई, सीता द्रोपदी, हो या अहल्वा इस परम्परा में आज भी सशक्ति करण के दौर में आधी आबादी सतप्त है।
- इसके अतिरिक्त कहीं राजनीति को शक्ति, कहीं चिकित्साविभाग

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# Shodh Chetna शोध चेतना

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## स्वामी विवेकानन्द के व्यक्तित्व निर्माण में खेतड़ी का योगदान

□ डॉ. जुल्फिकार\*

### सोप-सारांश

भारतीय पुनर्जागरण के अग्रदूत, भारतीय सभ्यता और संस्कृति की जाह्नवी को पाश्चात्य देशों में प्रवाहित करने वाले मनीषी, योगी का खेतड़ी के राजा अजीत सिंह के साथ वही सम्बन्ध है, जो डाल एवं पात का है। जहाँ एक के बिना दूसरा अधूरा है। कर्मयोगी विवेकानन्द को अजीत सिंह के रूप में वह रत्न मिल गया, जिसके सहयोग से विवेकानन्द ने शिकागो विश्व धर्म सम्मेलन में भारतीय सनातन धर्म की जो नवीन व्याख्या की एवं भारतीयों में गौरव का भाव पैदा किया, संसार इसके लिए सदैव उनका ऋणी रहेगा।

**विशेष शब्द**—स्वामी विवेकानन्द, राजा अजीत सिंह, खेतड़ी यात्राएँ।

### भूमिका

स्वामी विवेकानन्द और राजा अजीत सिंह की प्रथम मुलाकात 4 जून, 1891 ई. को राजस्थान के मार्सेट आबू में हुई थी। राजस्थान के शिमला के रूप में मशहूर मार्सेट आबू में खेतड़ी नरेश राजा अजीत सिंह ग्रीष्मकाल व्यतीत कर रहे थे। स्वामी विवेकानन्द अपनी परिव्राजक अवस्था में दिल्ली, अलवर, जयपुर, किशनगढ़ और अजमेर होते हुए मार्सेट आबू पहुँचे। यहीं दोनों की मुलाकात संयोगवश हुई। तत्कालीन किशनगढ़ रियासत के वकील मुंशी डॉ. फैंज अली खॉं 'फैंज' जिनके यहाँ स्वामीजी रुके हुए थे, के माध्यम से खेतड़ी के मुंशी जगमोहन

लाल स्वामीजी से मिले। स्वामीजी की प्रतिभा से प्रभावित मुंशी जी ने राजा अजीत सिंह से स्वामीजी के विषय में चर्चा की। अजीत सिंह की इच्छा पर मुंशी जी ने विशेष आग्रह कर स्वामीजी को खेतड़ी हाऊस चलाने के लिए तैयार कर लिया। स्वामीजी 4 जून, 1891 को खेतड़ी हाऊस पधारे। यह दोनों की प्रथम मुलाकात थी। राजा अजीत सिंह को शास्त्रों का विलक्षण ज्ञान एवं अभिरुचि थी। धर्म एवं दर्शन की ज्ञान पिपासा उनमें बड़ी प्रबल थी। उनकी पारखी नजर ने स्वामीजी में छिपे अलौकिक व्यक्तित्व को पहचानने में गलती नहीं की। आबू में रहे स्वामीजी से निरन्तर मुलाकात प्रगाढ़ता में

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## सावित्री परमार के कथा साहित्य में स्त्री विमर्श

डॉ. शीताभ शर्मा\*

### शोध-सारांश

इस संदर्भ में भारतीय इतिहास पर दृष्टिपात करें तो उत्तर वैदिक युग से ही हमारे समाज में वर्ण चतुष्टय (ब्राह्मण, वैश्य, क्षत्रिय और शूद्र) के अतिरिक्त एक और जाति का उदय हुआ—नारी जाति। तब से अब तक इस आधी आबादी की पीड़ा अनवरत है, स्थिर है। अचल है और अटल—सी भी लगती है; बस कुछ बदला है तो यह कि इस पीड़ा से मुक्ति के संघर्ष के किस्से प्रायः सुनने को मिल जाया करते हैं शेष संत्रास आज भी कायम है। बस युगानुरूप यह पीड़ा अपने रूप बदलती रही है। नारी की इस पीड़ा को हिन्दी कथा साहित्य में नारी द्वारा जो अभिव्यक्ति मिली है, वह संवेदना के विविध स्तरों को परत-दर-परत झकझोर देने वाली खरी अनुभूति है। नारी की यह पीड़ा और इसके लिए किये जा रहे संघर्ष के विविध रूप नारी पात्रों में देखे जा सकते हैं।

हिन्दी कहानियों में नारी पात्रों द्वारा किया जा रहा संघर्ष विविध रूप लिए है, जिसमें कहीं यह आन्तरिक संघर्ष है तो कहीं बाहरी उपेक्षा व दबाव से उपजा जीवन संघर्ष है। कभी चार दीवारी के अन्दर रहकर भी वह आन्तरिक कलह और मानसिक तनाव से ग्रसित है जो उसे पारिवारिक सन्दर्भों (चाहे वे पुरुष हों अथवा स्त्रियों) की उपेक्षा से मिला है, तो कहीं आजीविका चलाने हेतु चुने कार्यक्षेत्र के कारण बाहरी तत्त्वों द्वारा प्रदत्त है। वह निरन्तर इस संघर्ष में पिस रही है।

“ढोल, गँवार, शूद्र, पशु, नारी। ये सब ताड़न के अधिकारी।” जैसी घोषणा करने वाले तुलसी दास जी के पुरुष हृदय ने इस समाज में न जाने ऐसा क्या देखा? क्या महसूस किया? कि उपरवर्णित उक्ति में पंचम संज्ञा नारी के लिए निम्न संवेदना व्यक्त करने को विवश हो गये—

“कत विधि सृजिं नारि जग माँहि।

पराधीन सपनेहु सुख नॉहि।”

इस संदर्भ में भारतीय इतिहास पर दृष्टिपात करें तो उत्तर वैदिक युग से ही हमारे समाज में वर्ण चतुष्टय (ब्राह्मण, वैश्य, क्षत्रिय और शूद्र) के अतिरिक्त एक और जाति का उदय हुआ—नारी

जाति। तब से अब तक इस आधी आबादी की पीड़ा अनवरत है। स्थिर है। अचल है और अटल—सी भी लगती है; बस कुछ बदला है तो यह कि इस पीड़ा से मुक्ति के संघर्ष के किस्से प्रायः सुनने को मिल जाया करते हैं, शेष संत्रास आज भी कायम है। बस युगानुरूप यह पीड़ा अपने रूप बदलती रही है।

नारी की इस पीड़ा को हिन्दी कथा साहित्य में नारी द्वारा जो अभिव्यक्ति मिली है वह संवेदना के विविध स्तरों को परत-दर-परत झकझोर देने वाली खरी अनुभूति है। नारी की यह पीड़ा और इसके लिए किए जा रहे संघर्ष के विविध रूप नारी पात्रों में देखे जा सकते हैं।

हिन्दी कहानियों में नारी पात्रों द्वारा किया जा रहा संघर्ष विविध रूप लिए है, जिसमें कहीं यह आन्तरिक संघर्ष है तो कहीं बाहरी उपेक्षा व दबाव से उपजा जीवन संघर्ष है। कभी चार दीवारी के अंदर रहकर भी वह आन्तरिक कलह और मानसिक तनाव से ग्रसित है, जो उसे पारिवारिक सन्दर्भों (चाहे वे पुरुष हों अथवा स्त्रियों) की उपेक्षा से मिला है तो कहीं आजीविका चलाने हेतु चुने कार्यक्षेत्र के कारण बाहरी तत्त्वों द्वारा प्रदत्त है। वह निरन्तर इस संघर्ष में पिस रही है।

यह सतत संघर्ष किसी अवस्था विशेष में न होकर नारी की प्रत्येक अवस्था में कभी-भी आरंभ हो सकता है, जैसे—‘बंजर खुशियों का दर्द’ कहानी की प्रमुख नारी पात्र ‘गौरा’ और उसकी दो छोटी बहनों के जीवन में बचपन से ही नारी विषयक उपेक्षा का विष उसका पूरा जीवन नारकीय बना देता है, जिसमें भाइयों की मृत्यु का कारण भी उन्हें ही माना जाता है। देखिए एक उदाहरण—

“धीमें शब्दों में कहा जाने लगा कि तीनों लड़कियाँ भाई की मौत का कारण बनी हैं। न तीनों नागिनें पैदा होतीं और न हट्टा—कट्टा भाई मौत का ग्रास बनता।”

इतना ही नहीं, आगे चलकर ये धीमें शब्द

घोषणा में बदल जाते हैं और माँ-बाप के साथ पूरा समाज ये कहने लगता है—

“माँ बिना किसी लाज-हिचक के जोर-जोर से घोषणा करने लगीं कि मेरी तो लड़कियाँ ही साक्षात् मौत बनकर पूरा कुनबा खत्म करने आई हैं, इनका तो मुँह देखना भी पाप है?” मोहल्ला, पड़ोस, रिश्तेदार सभी परिवार के सदस्यों के साथ तीनों बहनों को भरपूर कोसने लगे, अपने ही घर में तीनों मिली एकांत कोने में पड़ी रहती हैं ... तीनों की इच्छाएँ मर कर काठ हो गईं। लाख सोचने पर भी वे यह समझ नहीं पाई कि, “भाइयों की मृत्यु से उनका क्या संबंध है? वे मनहूस क्यों हैं?”<sup>2</sup>

विवाह पश्चात् ससुराल में किसी उपेक्षा और पीड़ा से मिला संघर्ष प्रायः अधिक देखने को मिलता है जिसमें अधिकांश कहानियों में नारी पात्रों द्वारा दी जाने वाली प्रताड़ना या पति की उपेक्षा का यथार्थ चित्रण है। धुला आकाश की ‘नीला’ को बड़ी-बहिन की मृत्युपरांत उसके पति से व्याह दिया जाता है, जिसके तीन बच्चे हैं। ‘नीला’ बच्चों को तहेदिल से प्यार करती है लेकिन उसकी बुआ सास से ये बर्दाश्त नहीं होता और इसी से घर का वातावरण दूषित हो जाता है, जिसमें सर्वाधिक पीड़ा नीला को होती है और वह कह उठती है—

“ओह दीदी! आप तो चली गईं!... कहीं किस आफत में मुझे डाल गई हो। ओह!”<sup>3</sup> लेखिका आहत मन से नीला की इस पीड़ा को व्यक्त करते हुए कहती है—“जाने किस पाप का दण्ड भुगतने के लिए इस जाल चक्र में भगवान ने उसे फँसा दिया है!... जाने कब तक यों ही पत्थर की तरह बुत बनी सोघती रही, आँसुओं की लड़ियाँ आँचल भिंगोती रही।...”

इतना दर्द, पीड़ा तो तब है जबकि नीला ने गोलियाँ खाकर अपने आपको सदा के लिए बाँझ बना लिया और बहिन के बच्चों के लिए ही जीवन समर्पित कर दिया।

बेमेल विवाह अथवा पहले से शादीशुदा पुरुषों

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The main purpose of *Journal of Computational Analysis and Applications* is to publish high quality research papers in all areas of Computational Mathematics, Numerical Analysis, and its applications, applied and computational, in all areas of Mathematical Sciences. Areas where research and results are experimental in nature.



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# Solution of Integral Equations of Fredholm Kind Involving Incomplete $\aleph$ -Function, Generalized Extended Mittag-Leffler Function and $S$ -Function

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## ABSTRACT

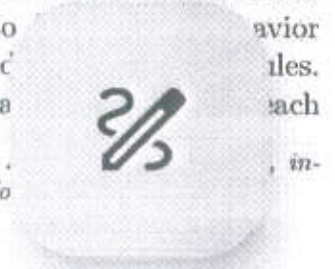
The main objective of this paper is to solve Fredholm integral equations (IEs) that involve  $S$ -function, generalized extended Mittag-Leffler function (GEMLF), and incomplete  $\aleph$ -function as the kernel. These types of integral equations appear frequently in applied mathematics, particularly in mathematical physics, engineering, and finance. To solve these integral equations, we employ two powerful mathematical tools, namely fractional calculus (FC) and integral transforms. Specifically, we use the Weyl operator and Mellin transform to solve the integral equation associated with  $S$ -functions, GEMLF, and incomplete  $\aleph$ -functions. These techniques allow us to express the solution in a closed form, which is essential for practical applications. Moreover, we present several special cases of the solutions obtained, which provide additional insights into the behavior of the solutions. These results are significant for the study of integral equations, as they can be used to derive several known results. Furthermore, the techniques used in this study can be applied to other integral equations that involve different types of functions.

**Keywords:** Integral equations of Fredholm kind,  $S$ -function, generalized extended Mittag-Leffler function, incomplete  $\aleph$ -functions, Mellin inversion theorem, Weyl fractional integral operator, Mellin transform.

## 1. Introduction and Preliminaries

Integral equation is an essential tool in solving problems related to science and engineering. The equations are highly versatile and are used in a diverse range of fields. In the problems related to heat and mass transfer, these equations are used to model and predict the behavior of thermal and fluid systems, such as the flow of fluids through pipes and the transfer of heat in buildings. In scattering theory, these equations are used to study how particles or waves interact with each other and with their environment. In the kinetic theory of gases, they are used to study the behavior of gases on a microscopic level, including the motion and collisions of molecules. In integral geometry, these equations are used to study how geometric shapes interact with each other.

*Key words:* Integral equations of Fredholm kind,  $S$ -function, generalized extended, incomplete  $\aleph$ -functions, Mellin inversion theorem, Weyl fractional operator, Mellin transform





## Review: Rice Fortification

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### ABSTRACT

Rice, also known as *Oryza sativa* in whatever form, is one of the main staple crops farmed in India and is a common food in many developing nations where Hidden hunger is a problem. This Review Paper Addresses that it presents a special chance to boost nutrition through the fortification of rice. A type of rice that has been upgraded with added nutrients to address nutritional deficiencies in a particular population is referred to as fortified rice, also known as bio-fortified rice or enriched rice. Rice is one of the most extensively consumed foods in the world and is a staple in many cuisines all over the world. It can account for up to 70% of a person's daily calorie consumption in low-income countries. Despite being an energy source, it is a poor supplier of micronutrients and has little nutritional value overall outside carbohydrates and proteins. The widespread consumption of rice presents an opportunity to narrow the nutritional gap in rice-eating populations through enhancing the nutritional value of rice. Through post-harvest fortification of rice, a wide range of vitamins, minerals, and other nutrients, including amino acids and fibers, can be added. The Indian government is also intrigued by this. In order to successfully combat malnutrition and encourage sustainable development

**KEYWORDS** :- *Oryza sativa*, Staple crops, Hidden hunger, Fortified Rice, Malnutrition, Sustainable development

### INTRODUCTION

Nutrient deficiencies in the population must be addressed and prevented, especially in areas where the average diet lacks key nutrients. These are some major justifications for fortification. The most prevalent micronutrient deficiencies worldwide are those related to iron, vitamin A, iodine, and zinc (WHO 2009).[1]

Fortified rice can help combat significant nutritional shortfalls and lower the risk of associated health issues. Iron fortification is one strategy to address iron insufficiency. While vitamin A fortification can aid in the prevention of anemia, vitamin A deficiency, a major contributor to blindness in impoverished nations, can also be prevented. [1-2]

This Review paper highlighted the techniques of Fortification of rice and positive impact of Fortified Rice in our daily lives and on our health

## TERMINOLOGY

1. **FORTIFIED KERNEL PART-** Vitamin and mineral premix kernels: A fortified rice product that resembles a rice kernel. Fortified kernels are those that are 10% the length of a rice kernel.[3]
2. **FORTIFICANT** - A substance, either chemical or natural, that is added to a particular food vehicle to boost its nutritional content is known as a Fortificant. [4]
3. **PREMIX** - a product created by combining the food vehicle with a significant amount of fortificants (such as through coating, dusting, or cold extrusion).
4. **FORTIFIED PRODUCT** - A product that has a Fortificante or nutrient added to it in the form of a premix at a specific ratio is known as a Fortified Product.
5. **FORTIFIED PREMIX** - The grains must be blended with natural rice, which is typically 1 part fortified premix to 199 parts untreated milled rice, to form fortified rice. The grains contain high concentrations of vitamins and minerals fortificants.[4]

## TECHNIQUES USED FOR FORTIFICATION

In order to fortify rice, a coating of vitamins and minerals is typically applied to the rice grains. Depending on the demands of the population, different nutrients may be included in rice that has been fortified. Fortified rice frequently contains iron, folic acid, vitamin A, and other B vitamins.[5]

Depending on the specific nutrient or nutrients being added, rice can be fortified utilizing a variety of methods.[5-6]



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A Review: Biomedical Waste

Author(s)

Tejawati Singh, Dr. Nikta Gupta

Keywords

Biomedical Waste, Management, IDW, Environment, Treatment.

Abstract

The production of biomedical waste increases exponentially in tandem with the expansion and development of healthcare and medical facilities. The production and elimination of this trash has become an issue for nations everywhere, not just India. It is created when people and animals are being sampled, tested, diagnosed, treated, immunised, operated on, and in research studies. The difficulties and solutions related to disposing of biomedical waste properly are examined in this review paper. It explores the classification of biomedical waste and highlights the importance of careful collection, disposal, and segregation techniques. Biomedical wastes have the potential to cause physical harm and health hazards; they can also spread diseases like Hepatitis B, C, E, dengue, and HIV through improperly contained contaminated sharps; they can also multiply and mutate the pathogenic microbial population in municipal waste through the dumping of untreated biomedical waste. The problems that could result from poor management, such as the spread of infectious diseases, are also highlighted in this study. Additionally, it talks about how laws and technological advancements support efficient biomedical waste management.

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# A Review: Biomedical Waste

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**Abstract:** The production of biomedical waste increases exponentially in tandem with the expansion and development of healthcare and medical facilities. The production and elimination of this trash has become an issue for nations everywhere, not just India. It is created when people and animals are being sampled, tested, diagnosed, treated, immunised, operated on, and in research studies. The difficulties and solutions related to disposing of biomedical waste properly are examined in this review paper. It explores the classification of biomedical waste and highlights the importance of careful collection, disposal, and segregation techniques. Biomedical wastes have the potential to cause physical harm and health hazards; they can also spread diseases like Hepatitis B, C, E, dengue, and HIV through improperly contained contaminated sharps; they can also multiply and mutate the pathogenic microbial population in municipal waste through the dumping of untreated biomedical waste. The problems that could result from poor management, such as the spread of infectious diseases, are also highlighted in this study. Additionally, it talks about how laws and technological advancements support efficient biomedical waste management, guaranteeing a secure and long-lasting healthcare environment.

**Keywords:** Biomedical Waste, Management, HIV, Environment, Treatment.

## INTRODUCTION

A variety of substances that could be harmful to both human health and the environment are included in biomedical waste, which is a result of healthcare operations. It is crucial to control biomedical waste in order to stop the spread of illnesses and save ecosystems. An overview of the problems with biomedical waste and the urgent need for organised, effective management is given in this introduction. It examines the various origins and forms of biomedical waste, highlighting the need for careful management from creation to disposal. The effective handling of biomedical waste becomes more and more important

as healthcare services grow. In order to guarantee a safer and healthier society, this introduction lays the groundwork for a thorough examination of the tactics, laws, and technology used in biomedical waste management.

The interaction and integration of a person's micro (internal) and macro (external or surrounding) environments determines the health status of an individual or community. An imbalance between these two could have detrimental effects on the health of the country. Thus, in order to raise living standards and encourage a healthy community, a balance needs to be maintained [1].

Due to environmental contamination brought on by pathological waste produced by expanding populations and the consequent sharp increase in the number of health care facilities, most countries in the world—especially developing ones—are in grave danger [2]. Clinical wastes are another term for medical wastes in hospitals. According to the National Research Council Recommendations Concerning Chemical Hygiene in Laboratories (2013) [3], waste products are the usual word used to describe wastes generated in healthcare facilities (hospitals, clinics, doctor's offices, and veterinary hospitals). Waste management has not yet been seen as a problem in the medical field. In the 1980s, there were concerns expressed about the possibility of contracting the hepatitis B and HIV viruses. Thus, the proper disposal of biological wastes has emerged as a significant global issue, not only in India. Planning and implementing procedures and practices that are updated at different levels of the plan on the management of biomedical wastes and their relationship to environmental health are urgently needed [4][5].

Safe and dependable waste management is not only required by law, but it is also a social responsibility. When it comes to appropriate hospital waste management, there are several problems that might



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# Sustainable Future: Transforming Education via Virtual Lab

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**Abstract:** The teaching learning scenario all over the world bringing the new platform of learning in virtual mode has been changed due to COVID-19. It's a blessing for the practical lovers who could not perform the experiments. In this paper statistical data is presented before the usage and feedback taken from the students on the basis of various practical's performed by higher education aspiring students via Virtual lab.

**Keywords:** Virtual Lab, Simulations, Blended Learning

---

## I. INTRODUCTION

Virtual Lab is Computer based activity where anyone can perform the experiments via simulations as well as explore abstracts and concepts without stepping into the laboratory physically. Virtual lab can be defined as the laboratory available at virtual platform which can be accessed 24\*7 hours. An experiment under Virtual lab has been so constructed that it provides all practical related basic and fundamental information like Aim, Apparatus needed to perform it, Principle, Theory and Procedure. The lifeline of the virtual lab is simulation, which provides a real lab feel. Further it provides pre and post practical quizzes along with reference material.

The first and foremost object of the virtual labs is to cater the students pursuing studies via higher education and to enable them to learn the concepts at their own pace. The data presented in reference to the virtual labs established by the Ministry of education (MoE) under the National Mission of Education through ICT. It provides the complete learning management system comprising the study material, animated demonstrations and self-evaluation [1].

## II. OBJECTIVES BEHIND THE VIRTUAL LAB

Virtual laboratories interface to help in growing our skills. Also, a rich and interactive interface will deliver smooth and flexible e-learning experiments as well remote access to labs in various disciplines of Science and Engineering and to share costly equipments and resources providing the experimental result through the computer interface which can also be plotted graphically. Virtual Lab provides an opportunity of blended learning as well as provides unlimited time to repeat experiments for practice at your pace explaining complex concepts and procedures in a simulating way. The most important part of the Virtual labs is simulator which enables the students to yield the results of the particular experiment by providing an approximate version of the 'Real World Experiments.

## FACTORS AFFECTING ANTHROPOMETRIC INDICES, BODY COMPOSITION AND WEIGHT REDUCTION

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### ABSTRACT

**Introduction:** Obesity is a multifactorial disease arising from a complex interaction between genetic and environmental factors. Why some people succeed at adopting and sustaining behaviors associated with weight control while others, undergoing similar treatment programs, do not, remains largely unknown

**Objective:** To identify factors affecting response vs. non-response in subjects undergoing comprehensive weight reduction program.

**Methodology:** Purposive sampling technique was used to enroll subjects in the age group of 20-60 years visiting a commercial weight reduction center with the purpose of weight loss. Baseline data included 624 subjects (310 males and 314 females) with the BMI  $\geq 25\text{kg/m}^2$ . Total 200 subjects participated in the study with 102 visiting a commercial weight reduction center and 98 visited a Gymnasium. In the comprehensive study these subjects were assessed at both pre and post intervention stages for various parameters such as nutritional status - anthropometric indicators, body composition and diet recall.

**Results:** Factors such as food habits, skipping of breakfast, marital status, stress, change in physical activity, cardiorespiratory fitness affect weight loss, change in body composition and fitness levels. Significant associations were found between different variables. The macronutrient, stress and physical activity level model had a strong association with weight loss ( $r = 0.649$ ) and was responsible for 42.13% variability.

### INTRODUCTION

Obesity is a multicomponent disease arising from a complex interaction between genetic and environmental factors. However, the dramatic increase in obesity prevalence observed in the last decade seems attributable mainly to environmental changes promoting the intake of energy dense foods and/or reduced physical activity due to high number of sedentary jobs, different transportation systems and increasing urbanization. A 'running society' with a high level of stress develops compensatory and gratifying behaviours, where eating has a primary role (Grave *et al.*, 2013). The treatment of obesity continues to present major challenges, including poor adherence to diet, inadequate and unsatisfactory weight loss, weight regain and high rates of attrition (Colombo *et al.*, 2014). Why some people succeed at adopting and sustaining behaviours associated with weight control while others, undergoing similar treatment programs, do not, remains largely unknown (Wing 2003). Findings of a recent research also stated that health behaviour changes such as eating more fruits and vegetables, increasing physical activity and reducing stress were all predictive of clinically significant weight loss (Carpenter *et al.*, 2014).

**Objective:** To identify factors affecting response vs. non-response in subjects undergoing comprehensive weight reduction program.

### MATERIALS AND METHODS

The study was conducted in Jaipur city. Purposive sampling technique was used to enroll women in the age group of 20-60 years visiting a commercial weight reduction center (CWRC) with the purpose of weight loss. Baseline data included 624 subjects (310 males and 314 females) with the BMI  $\geq 25\text{kg/m}^2$ . Success rate of any commercial weight reduction programme have been predicted to be 20%. Therefore, a sample size of 176 (44 in each group) women was computed, at 5% confidence

interval and 10% confidence limit; for the comprehensive study on the basis of willingness to participate in the study. Total 200 subjects participated in the study with 102 visiting a commercial weight reduction center and 98 visited a Gymnasium. In the comprehensive study these subjects were assessed at both pre and post intervention stages for various parameters such as nutritional status – anthropometric indicators, body composition and diet recall. Anthropometric indicators such as height, weight, waist circumference (WC) and hip circumference (HC) were measured using standard W.H.O. protocols (Jeliffe, 1966). Body composition was assessed by OMRON HBF-362 body composition analyzer based on biological impedance. Body fat % was compared against the standards given by American College of Sports Medicine (2009). Diet and nutrient intake were assessed by 24 hour food recall. 'Overload and stress assessment' questionnaire by Girdin *et al.*, (1996) was used for stress assessment. Written consent was acquired from all participants and the study was approved by Sanjeevani ethical committee in Jaipur.

## RESULTS AND DISCUSSION

### Classification of responders and non-responders

After the post-treatment assessment participants were classified as responders and non-responders on the basis of "Key Recommendations Clinical Guidelines on the Identification, Evaluation and Treatment of Overweight and Obesity in Adults: Evidence Report, 1998" which states that adequate weight reduction is about 1 to 2 pounds per week (about 0.450 kg – 0.900 kg/ week). This quantity sums up to 1.8 – 3.6 kg /month (3.6 -7.2 kg/ 2 months) (NHLBI 1998). Subjects were assessed for their total weight reduction during the 60 days period. Subjects who were able to reduce  $\geq 3.6$  kg were considered as respondents (R) and those who reduced  $< 3.6$  kg were considered as non-respondents (NR). Mean weight loss for females was higher than that for males but the difference was not statistically significant. When analyzed for subjects attending different Centers mean weight loss for CWRC ( $3.58 \pm 2.82$  kg) subjects was higher as compared to weight loss of subjects attending Gym ( $1.95 \pm 2.84$  kg) and the difference was statistically significant at 5% significance level ( $t = 3.62$ ). This rejected our null hypothesis that there will be no difference in the weight loss of subjects attending different combination program (Table 1).

Table 1: Mean Weight Loss (kg) of Subjects

Variable	Weight (kg)	t-Test	
CWRC			3.62**
Males (n=50)	$3.26 \pm 2.50$	0.722 <sup>NS</sup>	
Females (n=52)	$3.75 \pm 2.96$		
Total (n=102)	$3.58 \pm 2.82$		
Gym			
Males (n=50)	$1.84 \pm 2.32$	0.361 <sup>NS</sup>	
Females (n=48)	$2.03 \pm 3.15$		
Total (n=98)	$1.95 \pm 2.84$		

\*Significant at 5% \*\*Significant at 1% level NS – Not significant

Overall, 30% subjects were successful in achieving the target. Response rate was low among subjects attending Gym (17%) as compared to those attending CWRC (45%).

### Association of various parameters with weight loss, anthropometric indices and changes in body composition

**A. Family and Personal Profile:** Gender was not found to have any effect on weight reduction. Among females strong association was observed for professionally engaged women and homemakers. Type of family was found to have no effect on obesity grades and weight loss. For females menstrual cycle regularity had significant relationship with obesity grades and weight loss. Presence of comorbidities affected weight loss and obesity grade significantly (Table 2).

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## LOGISTIC MANAGEMENT OF HANDLOOM INDUSTRY

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### ABSTRACT

The handloom industry plays an important role in the country's economy. It is one of the largest economic activities after agriculture. According to the Fourth All India Handloom Census(2019-20), the total number of households in India engaged in handloom activities (weaving and allied activities) is 31.45 lakhs. This tradition is prevalent till date and is developed by generation of artist and craftsmen who translate their imagination and visualization into wonderful creation of art. The leverage and development of the industry can only be acquired through diminishing the problems and issues arising in logistic management in this industry. Hence the research paper discusses the various logistic management issues such as Inventory management, transfer of information, the view of time, warehousing, packaging, distribution and transport management, role of information technology, buyer-supplier relationships in handloom industry.

The Handloom Industry in the state is operated through Rajasthan Rajya Bunkar Sahakari Samiti (RRBSS) and Rajasthan Handloom Development Corporation (RHDC). The respondent selected for this study included senior officials (50) of the two handloom government organizations working for the development of handloom weavers in Jaipur District. The data was collected through interview method, observation and secondary sources. The results depicted that handloom organizations were not making wise logistics management decisions. This paper further gives way forward which may support and enable to remove the industries' core issues for sickness starting from sourcing of raw materials to delivery of finished products.

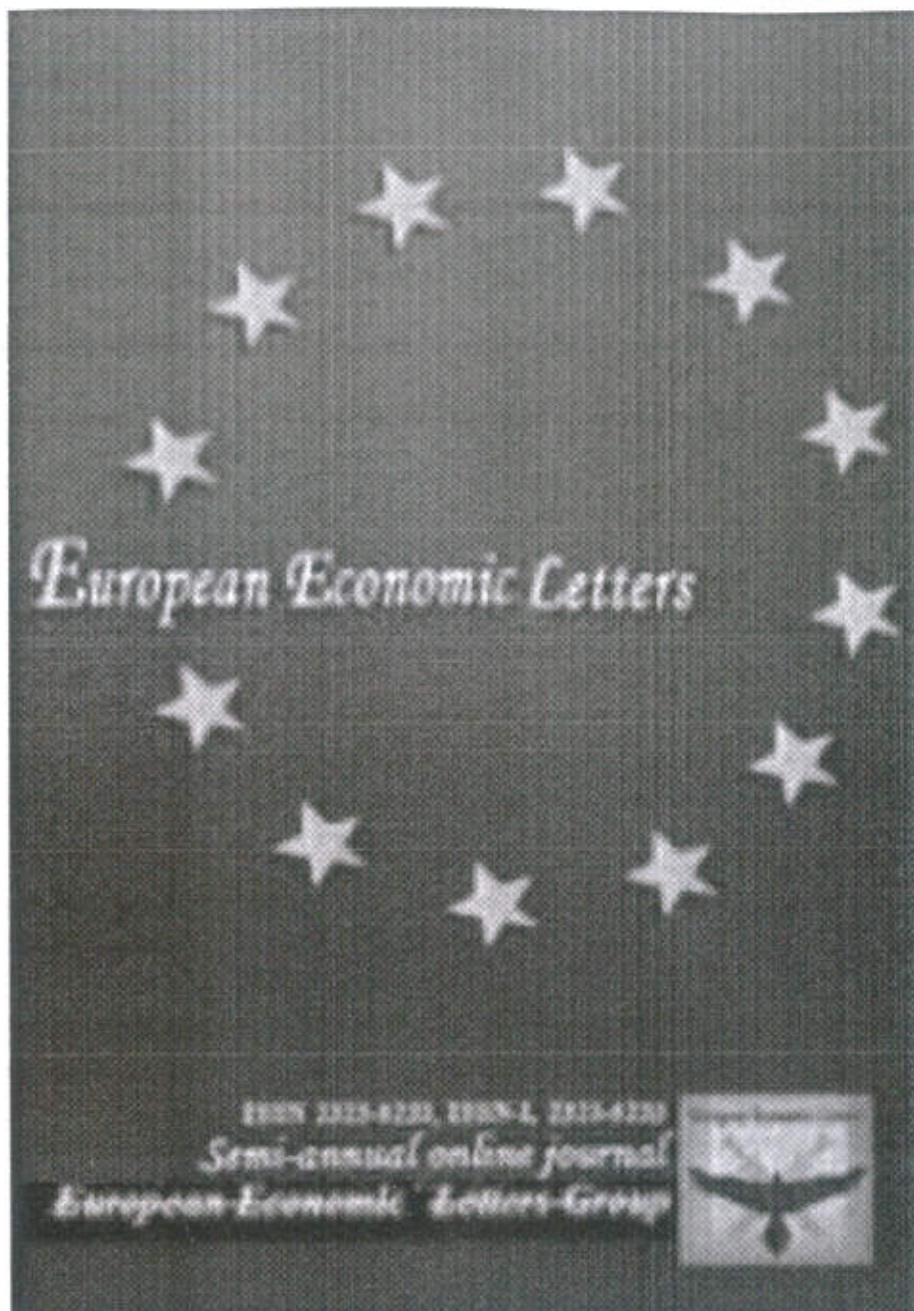
**Key words :** Handloom, Logistics, Inventory management, Transfer of information

### INTRODUCTION

Handloom industry is a traditional and a cottage industry in India. It provides employment to the large section of poor people. The technology of the loom has the advantage of being affordable and accessible to large numbers of people who have no other work option (Goswami & Jain, 2012). However, the role and significance of the industry to the national development is declining. In fact, the industry is facing lot of problems as regards to men, material,

methods, machines, money, marketing and management.

In Rajasthan for the development of handloom industry and weavers in cooperative fold Bunkar sahakari sangh is working as an apex organization in the state. It was established in 1957. The main objectives of Bunkar sangh was to provide raw material to purchase or receive for sale finished products of the member-societies and sell the same to the best, to arrange for the training of weavers (Samarika, 2001). Another government organization is



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## Impact of Social Media Addiction on Mental Wellbeing Among Youth of India

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### Abstract

Social media refers to online platforms and websites that allow individuals to create, share, and interact with others in a virtual environment. These platforms enable users to communicate, share photos and videos, post updates, and engage in online social interactions like Facebook, WhatsApp, Twitter, Instagram, Telegram, and Snapchat. Mental health for youth is a critical aspect of overall well-being, encompassing emotional, psychological, and social dimensions, and different types of problems arise in a person such as depression, stress, anxiety, food disorder, addictive disorder, and personality disorder. Today Youth spending many hours on social networking sites eventually results in poor mental health conditions in them. The present research attempts to collect and summarize the available literature on the impact of social media addiction on the mental health of youth.

**Keywords:** Social media, Mental health, Youth, Depression, Addiction

### Introduction

The impact of social media on young people's mental health is influenced by a variety of intricate factors, such as how much time kids and teenagers spend on platforms, the kind of content they consume or are otherwise exposed to, the activities and interactions social media allows, and how much it interferes with healthy behaviours like sleep and exercise. (APA, 2023)

Social media addiction is also defined as "a subtype of internet addiction, including the behaviour of checking and updating" (Saygılı,2020). The well-being and general quality of life of young people may be impacted by compulsive activity that eventually becomes a habit. (Savci & Aysan, 2017)

Teenagers and young adults around the world are the target audience for social media, which is a platform established by and for them. It is a technique to link millions of people worldwide by giving them access to a public platform where they may post their individually designed profiles. Through this forum, users can blog, chat, live stream, video chat, message (both publicly and privately), post, call, etc. They can also download images and videos and browse the web. The use of social media as a platform for enjoyment, downloading photos and videos, browsing and surfing, etc.(Vaidya & Vaidya,2020)

People now spend a lot of hours on Messenger, Instagram, Facebook, and other well-known social media platforms as part of their daily routines. Consequently, a large number of scholars and investigators explore the effects of social media and related apps on various facets of people's lives. (Bartosik-Purgat ,2017)

The psychological well-being threshold or absence of mental illness is known as mental health. It is a condition of being for someone who exhibits reasonable emotional and behavioural adjustment. The ability to enjoy life and keep a balance between activities might be a sign of mental wellbeing. psychological resiliency initiatives from a positive psychology or holistic perspective. (Kaur & Kaur, 2021)

It may be said that social media is fast changing before our very eyes and that it is nearly impossible to reject and hide our youth from this most recent technology. Media coverage is generally on a large scale. According to a survey, 73% of Indian youngsters own a cell phone, and the number of kids who use the internet and play online games regularly has been rising. In 2017, the annual rate of growth of smartphone users in India was around 129%, even more than that of China (109%).

# भगवद्गीता का नीतिशास्त्र : निष्काम कर्म योग—एक दार्शनिक विश्लेषण



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## शोध सारांश

भगवद्गीता वेदव्यास द्वारा विरचित महाभारत का एक भाग है। गीता में भगवान श्री कृष्ण तथा अर्जुन के संवाद के रूप में प्रस्तुत दार्शनिक तथा नैतिक विचारों का भारतीय इतिहास में महत्वपूर्ण स्थान है। वेदों तथा उपनिषदों में प्रवाहमान दार्शनिक तथा नैतिक विचारों का समन्वय तथा सार गीता में मिलता है। ब्रह्मसूत्र, उपनिषद् और गीता को सम्मिलित रूप से प्रस्थानत्रयी कहा गया है। समग्र रूप में ज्ञान, कर्म, भक्ति तथा योग को जिस दार्शनिकता, तार्किकता तथा सहजता के साथ गीता में व्यक्त किया गया है वह अपने आप में विलक्षण है। कर्तव्य तथा कर्म के निष्काम भाव का महत्व जैसा गीता में प्रस्तुत है वैसा विश्व के किसी अन्य ग्रंथ में उपलब्ध नहीं है। वेदों तथा उपनिषदों के विपरीत या विरोधी प्रतीत होने वाली धाराओं का समन्वय प्रस्तुत करने के कारण गीता का नैतिक सिद्धांत सर्वांगपूर्ण है तथा दार्शनिक-नैतिक सिद्धांतों का उच्चतर दार्शनिक समन्वय गीता की मौलिकता है। प्रस्तुत शोध पात्र में यह दर्शाने का प्रयास किया गया है कि गीता का कर्म का उपदेश एक ओर तो अध्यात्म से परिपूर्ण है और दूसरी ओर पूर्णतया व्यवहारिक भी है। गीता सम्मत निष्काम कर्म के उपदेश को बहुदा निरुद्देश्य कर्म समझने की त्रुटि विचारक करते हैं। किन्तु यह त्रुटि फलासक्ति से रहित कर्म के आदर्श को भली प्रकार से न समझने के कारण उत्पन्न होती है। प्रस्तुत आलेख में निष्काम कर्म के वास्तविक अर्थ की व्याख्या का प्रयास किया गया है।

**संकेताक्षर—**निष्काम कर्म, नैतिकता, कर्तव्य, कर्म, अनासक्ति योग, स्थितप्रज्ञ, समत्व, निवृत्ति, प्रवृत्ति

## प्रस्तावना

भारतीय नीतिशास्त्र अति प्राचीन और विशाल प्रवाह है। यह वेदों से प्रारंभ होकर आधुनिक पथ प्रदर्शक महापुरुषों तक अनवरत चला आ रहा है। इस लंबी अवधि में नीति पर अत्यधिक विचार-विमर्श हुआ और अनेक ग्रंथों की रचना भी हुई। वेद, उपनिषद्, महाभारत, गीता, रामायण आदि प्राचीन काल के नीति ग्रंथ हैं। भारतीय नैतिक चेतना को ऋषि-मुनियों ने अपने-अपने विचारों के माध्यम से जागृत किया है। भारतीय नीति शास्त्र में शाश्वत मूल्यों की स्थापना हुई है तथा इन शाश्वत मूल्यों से लोग प्राचीन काल में भी लाभान्वित हुए

हैं, वर्तमान में हो रहे हैं, और भविष्य में भी होंगे। शुक्राचार्य के अनुसार—

**सर्वोपजीवक लोक स्थिति कृत्रीतिशास्त्र कम्।**

**धर्मार्थकाममूलं हिरियन्ना स्मृतं मोक्षप्रदं यतः॥**

अर्थात् जो सबकी आजीविका का साधन है, लोक में स्थित बनाए रखने वाला, धर्म-अर्थ-काम का मूल और मोक्षप्रद है वह नीति शास्त्र कहलाता है।<sup>1</sup> गीता का निष्काम कर्म योग हिंदू चिंतन का सर्वाधिक महत्वपूर्ण सिद्धांत है।

भारत सहित विश्व के अनेक विद्वानों ने गीता की अलग-अलग व्याख्या की है। शंकराचार्य के अनुसार मोक्ष के लिए गीता में सर्वाधिक महत्व ज्ञान को दिया गया है। रामानुज तथा निंबार्क का विचार है कि गीता में भक्ति सर्वाधिक महत्वपूर्ण है। श्री

# Emerging Trends of Cybernated Transactions in India: An Outlook Amidst Covid-19 Pandemic

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Vishnu Priya Temani<sup>1</sup> and Shivangi Seth<sup>1</sup>

## Abstract

In Indian economy, the cashless transaction is not a new phenomenon. However, the pandemic gave a sizeable push in the endeavour to marginalise cash transactions. The objective of this article is to discover the actual impact of Covid-19 on the preferences of people while making transactions. For primary data collection, Google questionnaire was sent all over India to all age-groups. Respondents are from all types of socio-economic status. Graphical and tabulation approach was used as a data tool. In this research article, a comparative study has been done for analysis. It has been observed that when the cases of Covid-19 were on the rise in India, the digital mode of payment became a lifesaver as it not only eliminated the risk of social contact but also provided safety from leakage in the economy with better security as well as an easy and convenient way of transferring money.

## Keywords

Cashless Transactions, Cybernated Transactions, Per Capita Digital Payments, Online Survey, Digital Payment Index

## Introduction

The Coronavirus pandemic shook the overall economy of the world, so there was no way for India to be left unharmed by this major shock. According to the Ministry of Statistics, Government of India, a downfall of 3.1% in growth was experienced during the fourth quarter of fiscal year 2021. As per the Chief Economic Advisor to the Government of India, this drop was mainly due to the Coronavirus pandemic, and in the opinion of the World Bank, 'the current coronavirus pandemic has magnified pre-existing restraints on India's economic outlook'. The recently revised

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act is called the Transgender Protection act. With the help of this act, the transgender communities are getting more respect and opportunities compared to the previous situation.

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## FINANCIAL MANAGEMENT PRACTICES IN INSURANCE INDUSTRY WITH A REFERENCE TO LIC

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### Abstract

In the past several years, the insurance industry has been re-evaluating their business models, changing their products to comply with newly enacted rules, giving a greater emphasis on the requirements of their customers, and becoming more efficient. The primary problem in the insurance industry is that of maximizing operational effectiveness. Measuring efficiency helps to determine which insurers in the market are inefficient and which are efficient, which in turn improves competitiveness, profitability, and policyholder confidence, as well as provides a path for improving the overall performance of insurers. Because of this, an attempt has been made to evaluate the effectiveness of the performance of life insurance businesses in India by utilizing envelopment analysis. During the years 2008-2019 to 2012-2013, the effectiveness of twelve different life insurance firms in India was evaluated and compared. As inputs for the study, equity capital and labor (Commissioner's offices) were considered, and as outputs, net premium was analyzed.

**Keywords:** Financial, Management, LIC

### INTRODUCTION

Insurance is a form of risk transfer that allows individuals or businesses to place the burden of the unpredictability that comes with life on the shoulders of another party. Everyone will have a strong desire to lead a life that is more hygienic, pleasant, and convenient. A seemingly insignificant slip-up or mistake can have far-reaching consequences, including the risk of death or permanent disability. In order to fulfill this demand, several businesses, particularly insurance firms, manufacture and offer goods and services, as well as innovate and develop new products, all while accepting a significantly higher level of risk. The life insurance industry as a whole and LIC in particular play a significant role as a financial institution in India and contribute significantly to the growth of the country's economy and capital markets. Purchasing life insurance is a long-term investment that requires a significant amount of cash and has a lengthy break-even time, which is about ten years. The vast majority of private participants have racked up



# Advances in Synthesis Approaches and Biological Applications of Silver Nanoparticles: A Systematic Review

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**Keywords:** Nanoparticles, silver nanoparticles, biological approach

## ABSTRACT

*The need for silver nanoparticles or AgNPs is rising quickly across a wide range of industries, including healthcare, pharmaceuticals, food, cosmetics, and medicine. Owing to its many functions, it has been applied in a variety of settings, including the food industry, medical devices, housekeeping, wound dressing, orthopaedics, and diagnostics. It has also been utilised as an anticancer agent. These microscopic particles can potentially be put to use for a plenty of purposes and have the ability to alter their physical, chemical, and biological properties. Three discrete approaches emerge for preparing AgNPs: chemical, biological, and physical. Of the three approaches, the biological approach is proven to be the most straightforward, environmentally friendly, marketable, and one-step procedure; it also requires the least amount of force, high pressure, or temperature. Ag NPs have been shown to halt the expansion and proliferation of numerous bacteria by linking Ag/Ag<sup>+</sup> utilizing the biomolecules that thrive in the cells of microbes.*



## Photodegradation of Acid Black 210 Dye in Aqueous Solution Using Potassium Persulfate

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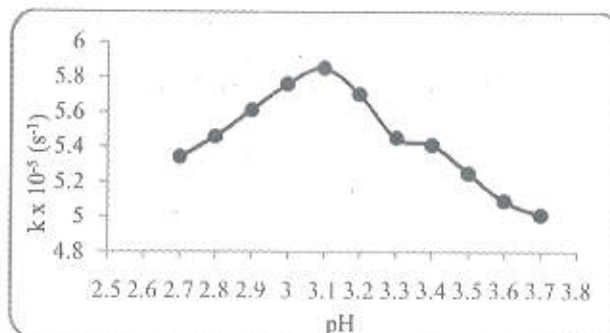
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Accepted on 20<sup>th</sup> May, 2024

### ABSTRACT

The degradation of synthetic azo dyes is a pressing environmental concern due to their widespread use and persistence in water bodies. This study investigates the dynamic changes in optical density and absorbance over time at  $\lambda_{max}$  630 nm in an experiment involving Acid Black 210. The initial high absorbance and optical density gradually decrease over time, indicating a first-order reaction with a rate constant of  $5.85 \times 10^{-5} \text{ s}^{-1}$ . Further analyses explore the influence of pH, dye concentration, potassium persulfate concentration, and light intensity on the rate constant and absorbance. At optimal pH 3.1, the dye exhibits maximum absorbance, suggesting ionization-induced structural changes. Dye concentration positively correlates with absorbance and the rate constant, indicating more effective light absorption and concentration-dependent kinetics. Similarly, increasing potassium persulfate concentration and light intensity enhance absorbance, implying the concentration-dependent formation of reaction products or intermediates. By elucidating the photodegradation mechanisms and optimizing reaction conditions, we aim to develop an efficient and environmentally friendly method for the remediation of wastewater contaminated with Acid Black 210.

### Graphical Abstract:



Effect of pH for acid black 210.

**Keywords:** Degradation of dye, Photochemical reaction optimization, Absorbance, Wastewater treatment, Azo dye



# Corrosivity Analysis of Groundwater of Ganeshwar Village in Neemkathana Block of Sikar District (Rajasthan) India

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 DOI: <https://doi.org/10.54060/jmce.v3i2.35>

**Keywords:** Corrosivity, Groundwater, physio-chemical parameters, Human Health, WHO, BIS

## ABSTRACT

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*Corrosion is an important water quality tribulation as it tends to increase some metals in drinking water pipes and fittings, which can also affect the public health. The following items are made from metals like steel, lead and copper or other metals such as: water flowing pipes, storage tanks, solders and pipe fittings etc., and if the water have corro-siveness nature then the metals will be dissolved sometimes in water and these metals creates both problems as aesthetic and health-related in certain cases. The Langelier index (LI), aggressive index (AI), Ryznar index (RI), Puckorius index (PI), and Lar-son-Skold index (LS) are the most common corrosion and scaling indices. The AI is a good scaling index as compared to others and can be used in all parameters. In this study aggressive index (AI) is used. The corrosivity of groundwater of Ganeshwar village of Neemkathana block is taken to evaluate its suitability for human health. For this purpose, groundwater samples were collected during the period of January 2022 to De-cember 2022 from the bore-well of the sampling sites. The physico-chemical parameters like pH, total hardness and total*





## Groundwater Quality Assessment of Vadlipada Village of Kushalgarh Block in Banswara District (Rajasthan) India and its Suitability for Potable Purposes

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Accepted on 12<sup>th</sup> May, 2023

### ABSTRACT

The Vadlipada village faces acute water shortage in summer due to the drying of open wells, rivers and is depended mainly on the groundwater for their daily requirements. The groundwater pollution sources in this area are open defecation, domestic effluents, discharge of sewage, septic tanks, soak pits, dumping of solid waste and use of pesticides and fertilizers in agriculture. Hence, regular monitoring and assessment of the quality of the groundwater resources of this region is quite necessary. Following physicochemical parameters were analyzed in the present investigation to determine the quality of groundwater samples collected during assessment year from April 2022 to March 2023 from the selected hand pump of the village: temperature, pH, turbidity, total dissolved solid, total alkalinity, total hardness, chloride, fluoride and nitrate. The present study is carried out the groundwater quality assessment of village Vadlipada of Kushalgarh block in Banswara district, Rajasthan, India.

### Graphical Abstract:



Assessment of Fluoride in groundwater of Vadlipada village.

**Keywords:** Groundwater, Quality assessment, Fluoride, Physicochemical Parameters.

## ACADEMICS IN THE ERA OF CHATGPT: EXPLORATION OF CAPABILITIES AND LIMITATION

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Dr. Neha Agarwal\*\*\*

### ABSTRACT

"ChatGPT", the fastest growing app of all the time. A Natural Language Processing tool driven by Artificial Intelligence allowing human like conversations is expected to impact every aspect of society. The impact of this tool on education is enormous. It can bring a lot of change in learning, assessment and evaluation. It will help the scholars to become cognizant of the AI technologies that will play an important role over the course of their careers to a great extent. The teachers can well organize their lessons and provide their students wide information. Inadequate originality, the risk of plagiarism and dependency on the model are major challenges for students conducting research. Educators must guide the students to make right use of this application. It is going to be a boon. It has the potential to create realistic virtual simulations for hands-on learning and offer personalized and effective learning experiences by providing students with customized feedback and explanations. There can be adoption of the strategies to ensure that chatAPIs are used ethically and responsibly, including creating the policies and procedures, providing training and support, and using different methods to detect and prevent cheating. Technology usually disrupts conventional approaches, requiring people to adapt and consider the possible advantages and drawbacks of new technologies. ChatGPT and AI systems' other generative are only good as their training data and can preserve biases or even create and spread misinformation. Ethical concerns are raised by the use of AI generative in education like the potential for unethical or dishonest use by the students and the possibilities of unemployment that are made redundant by technology. The current state of ChatGPT is quite impressive but flawed, it is simply a preview of what is to come. It is important for the educators to understand the implications of this technology and study how to adapt the education ecosystem to ensure that the next generation can be benefitted by generative AI while minimizing any negative consequences. This paper examines the opportunities and challenges of using ChatGPT in education, with a focus on the potential risks and rewards of these tools and the ways in which universities can address the challenges they pose. However, these tools also raise a number of challenges and concerns, in relation to academic honesty and plagiarism.

**Keywords:** ChatGPT, GPT 3, Language Model, AI, Transformer Architecture.

### Introduction

Artificial intelligence (AI) and Natural Language Processing (NLP) technologies are transforming the way we live and work, with potential applications in fields as diverse as healthcare, finance, and entertainment. One area where AI and NLP are rapidly transforming many aspects of society, and have the potential to make a significant impact is in academia, where they can be used to support research,

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## World Economy and Trade Relations

Dr. Surbhi Mathur

Designation:- Assistant Professor

Department:- Faculty of Commerce (Department of EAFM)

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### ABSTRACT

The world economy is a complex and interconnected system that is constantly evolving. It is made up of the economies of all the countries in the world, and is influenced by a variety of factors, including trade relations, political events, and technological advancements.

Trade relations are the relationships between countries that trade goods and services with each other. These relationships can be based on free trade, which is when countries allow goods and services to be traded without tariffs or other barriers, or on protectionism, which is when countries use tariffs or other barriers to protect their domestic industries from foreign competition.

Trade relations can have a significant impact on the world economy. When trade is free, it can lead to increased economic growth, lower prices for consumers, and more choice for consumers. However, protectionism can lead to higher prices for consumers, fewer choices for consumers, and slower economic growth.

### KEYWORDS:

World, Economy, Trade, Relations

### INTRODUCTION

The world economy is expected to grow slowly in the coming years. The International Monetary Fund (IMF) forecasts global growth of 3.2% in 2023 and 2.7% in 2024. This is a slowdown from the 6.1% growth rate in 2021, but it is still above the pre-pandemic trend of around 3%.

As of late, there has been a pattern towards protectionism in the world economy. This is because of various variables, including the ascent of populism, worries about employment misfortunes to unfamiliar rivalry, and the rising intricacy of worldwide trade exchanges.

The effect of protectionism on the world economy is as yet being battered by financial specialists. Some contend that protectionism can prompt a decrease in worldwide trade and monetary development, while others contend that shielding homegrown businesses from unjustifiable competition can be essential.

The fate of trade relations is dubious. Notwithstanding, obviously they will assume a significant part in the advancement of the world economy in the years to come.

Here are a portion of the key patterns that are molding the world economy and trade relations:

**The ascent of China and other rising economies:** China is presently the world's second-biggest economy, and it is normal to keep on filling quickly before very long. Other arising economies, like India and Brazil, are additionally expected to assume an undeniably significant part in the world economy.

**The development of the computerized economy:** The advanced economy is developing quickly, and it is significantly affecting the way that we trade labor and products. Online business is developing quickly, and new advancements, for example, blockchain are being utilized to make trade more effective and straightforward.

**The rising significance of intellectual property:** Intellectual property is turning out to be progressively significant in the worldwide economy. Patents, trademarks, and copyrights are important resources that can give organizations an upper hand.

**The ascent of populism and protectionism:** Populism is a political development that is portrayed by a doubt of elites and a conviction that customary individuals ought to have more power. Egalitarian developments have been on the ascent as of late, and they have prompted a resurgence of protectionism.

These patterns are probably going to keep on forming the world economy and trade relations in the years to come. It is critical to comprehend these patterns to settle on educated conclusions about the future regarding the worldwide economy.

The worldwide economy is presently in a condition of transition. The Coronavirus pandemic essentially affects the world economy, causing a downturn in numerous nations. Be that as it may, the economy is presently recuperating, and there are indications of development in many regions of the planet.

Trade relations are a fundamental region of the planet economy. They can assist with advancing financial development, make occupations, and increase living expectations. Notwithstanding, it is critical to address the difficulties and open doors confronting world trade to guarantee that it benefits everybody.

The fate of trade relations is unsure. There are various variables that could influence trade relations in the years to come, like the ascent of new advancements, the development of rising economies, and the changing political scene.

Generally, trade relations can affect the world economy. It is vital to gauge the likely advantages and dangers of trade cautiously prior to settling on conclusions about trade strategy.

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## A Study on Corporate Law and Its Need

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### ABSTRACT

Corporate law is a body of law that governs the formation, operation, and dissolution of corporations. It is a complex and ever-evolving area of law, as businesses grow and change, and new technologies emerge. However, there are some core principles of corporate law that remain constant, such as the principle of limited liability and the separation of ownership from management.

Corporate law is important for a number of reasons. First, it provides a framework for businesses to operate in a fair and orderly manner. It helps to protect the interests of all stakeholders, including shareholders, creditors, employees, and consumers. Second, corporate law can help to promote economic growth by creating a stable and predictable environment for businesses to invest and grow. Third, corporate law can help to protect society from the potential harms of corporate misconduct.

### KEYWORDS:

Corporate, Law, Business, Entity

### INTRODUCTION

Corporate law is necessary for a number of reasons. First, it provides a framework for businesses to operate and grow. Corporate law creates legal entities that can exist independently of their owners and managers. This allows businesses to raise capital, enter into contracts, and sue or be sued in their own name.

Second, corporate law protects the interests of shareholders, creditors, employees, and other stakeholders. Corporate law sets forth rules and regulations that govern how businesses must be managed and operated. This helps to ensure that businesses are run fairly and honestly, and that the rights of all stakeholders are respected.

Third, corporate law promotes economic growth and efficiency. Corporate law creates a level playing field for businesses to compete on. It also helps to reduce the costs of doing business by providing clear and predictable rules.

Corporate law is a complex and ever-evolving field of law. However, it is essential for the operation and growth of businesses of all sizes. By providing a framework for businesses to operate and grow, protecting the interests of stakeholders, and promoting economic growth and efficiency, corporate law plays a vital role in society.

Some of the key areas of corporate law include:

**Corporate governance:** This area of law deals with the structure and management of corporations. It includes topics such as the role of directors and officers, shareholder rights, and executive compensation.

**Securities law:** This area of law regulates the issuance and trading of securities, such as stocks and bonds. It is designed to protect investors from fraud and other abuses.

**Mergers and acquisitions:** This area of law deals with the process of combining two or more companies. It includes topics such as due diligence, valuation, and antitrust law.

**Intellectual property law:** This area of law protects the rights of creators to their original works, such as inventions, trademarks, and copyrights. It is important for businesses to understand intellectual property law in order to protect their own creations and to avoid infringing on the rights of others.

Corporate law is essential for any business, regardless of size or industry. By understanding and complying with corporate law, businesses can minimize their legal risks and protect their interests.

Here are some specific examples of the need for corporate law:

When a group of people decide to start a business together, they need to choose the right corporate structure, such as a limited liability company (LLC) or a corporation. Corporate law provides the rules for forming and operating different types of businesses.

When a business wants to raise money from investors, it must comply with securities laws. These laws require businesses to provide investors with accurate information about the company and its financial condition.

When a business wants to acquire another business, it must comply with antitrust laws. These laws are designed to prevent monopolies and promote competition.

When a business develops a new product or service, it needs to protect its intellectual property rights. Corporate law provides the rules for registering trademarks and copyrights.



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The future of the world economy and trade relations will be formed by a mind boggling interchange of worldwide patterns, provincial variables, and international occasions. By understanding these patterns and factors, organizations and policymakers can go with informed choices that will assist them with exploring the difficulties and benefit from the potential open doors that lie ahead.

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**ISSUED AND CHALLENGES OF NEW EDUCATION POLICY 2020**

**Dr. Manjari Bharadwaj**

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Assistant professor

**ABSTRACT**

*Education is necessary for fully realizing the potential of the human race creating a society that is more equitable, and making forward on the path toward national growth. To a large extent, India's continued ascent and leadership on the international stage in terms of economic progress and growth, social justice and equality, scientific advancement, national cohesion, and cultural preservation can be attributed to the country's commitment to making access to education of a high quality available to all of its citizens. In addition, India's continued ascent and leadership on the international stage can be attributed to the country's commitment to preserving its culture. In addition, India's success may be attributed to the country's commitment to issues of social justice and equality, as well as to the advancement of science, the maintenance of national cohesion, and the protection of cultural traditions. When there is strong teaching education, the educational system is provided with both a solid foundation and a driving force to drive it forward, which is essential for its continued success. The current system for the education of teachers is beset with a number of obstacles that are caused by the variety of its many different components. These issues are preventing the system from reaching its full potential. The brand-new and all encompassing National Education Policy, 2020 (NEP2020) lays out the goal and objectives that are intended to be accomplished by the redesigned educational system that will be implemented in India. Not only does it bring this exciting new dimension to the education of teachers specifically, but it also delivers this new dimension to the education of students in general. This new dimension gives the education system as a whole an exciting new dimension.*

**Keywords:** Teacher, Student, School, NEP-2020.

**INTRODUCTION**

**Teacher education refers to Policy of Education 2020**

"Teacher education" is a word that refers to the rules and processes that are supposed to equip prospective educators with the information, attitude, and conduct in addition to the skills they need to properly carry out their responsibilities in classrooms, within the school, and outside of the school. These rules and procedures are referred to as "the teacher education standards." The



# Graphene Quantum Dots: Sustainable and Greener Synthetic Approaches

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Open Access

## Abstract

*Honeycomb crystal lattice graphene has proved to be a subject of a great deal of investigation over the previous decades owing to its intriguing electrical, optical and physical properties. Graphene identification imparts a significant lift and vital dimensions to nanotechnology and materials science. Graphene quantum dots (GQDs), a nano-material with zero dimensions (0D) demonstrated encouraging potential in biomedicine because of their really tiny and harmless nature, water solubility, outstanding biological compatibility, adjustable fluorescence, and photo resilience thereby gaining a great deal of interest in the biomedical sector. GQDs wide bandgap and their flexibility to engineer its bandgap over an extensive range and carrier selectivity play a major role in catalysis and energy applications. There are wide range possibilities for new applications due to their unique structure – related features such as optical, electrical, physico-chemical qualities and exceptional biocompatibility when compared to other nano-materials. They have gained tremendous attention along with other graphene derivatives in the last few years. Therefore, the development of GQDs became a remarkable catalyst for the utilization of graphene. Top down as well as bottom-up methodologies are applied for production of GQDs. Sustainable synthesis of GQDs has a variety of advantages, including the least cost and non-corrosive material, faster reactions, environmentally conscious resources, and simpler post-processing procedures than with synthetic methods. In this review, we have compiled a few of the green methods utilized by various research groups worldwide, for the green synthesis of GQDs and some of its biomedical applications.*

## Keywords

*Graphene quantum dots, graphene, green methods, biomedical applications.*

## 1. Introduction

Numerous studies on carbon and its derivatives have been conducted over the previous several decades. Among them graphene has played a vital role. Due to delocalized electrons, graphene, which is essentially a single, densely packed sheet of carbon





## *Corynandra chelidonii* var. *pallai* (Reddy and Raju) V.S. Raju (Cleomaceae) - An Addition to the Flora of Rajasthan, India

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**Key words:** *Corynandra chelidonii*, Rajasthan, Pratapgarh, New record, Cleomaceae.

<http://dx.doi.org/10.12692/ijb/23.3.69-74>

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### Abstract

The plant *Corynandra chelidonii* var. *pallai* (Reddy and Raju) V.S. Raju belongs to the family Cleomaceae. During the botanical exploration of Pratapgarh District, we discovered a new variety of *Corynandra chelidonii*, i.e., var. *pallai*, which is unrecorded for the state's flora. Previously, the plant was only reported from Andhra Pradesh and Maharashtra state of India. This paper envisages a brief citation, description, distributional notes, flowering and fruiting time followed by ecological notes, artificial key, and photo plate of the species.

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## Introduction

Rajasthan, the largest state in India, is characterized by a wide range of ecosystems, including semi-arid, arid and sub-humid regions. The state is located between 23°3' and 30°12' N latitude and 69°30' and 78°17' E longitude and covers about 3,42,239 km<sup>2</sup> land area. Despite its harsh climatic conditions and arid landscape, the state harbours a remarkable diversity of plant species. These distinctive habitats and climatic conditions always attract taxonomists. Henceforth various papers on plant diversity with their ecological and taxonomical information are available for the state of Rajasthan (Puri *et al.*, 1964; Bhandari, 1978; Sharma and Tiagi, 1979; Shetty and Singh, 1987, 1991 & 1993; Singh and Singh, 2006 and Singh and Srivastava, 2007). Recently, Kotiya *et al.* (2020) have published and updated Flora of Rajasthan, India.

Several new additions to the Flora of Rajasthan were made by Kumar *et al.* (2020), Solanki *et al.* (2020), Suresh Kumar *et al.* (2020), Purohit (2020); Purohit *et al.* (2020); Choudhary and Meena (2021); Kotiya *et al.* (2021); Sushila *et al.* (2021); Sharma *et al.* (2022); Sharma and Sarsavan (2023).

The district Pratapgarh is located at 24.03° N 74.78° E. The district has an average elevation of 491 meters. It is the second highest place in Rajasthan after Mount Abu and has a subtropical climate with an average rainfall of 750 mm. The district is situated at the junction of the Aravali hills range and the Malwa plateau. The primary vegetation of the area is dry deciduous, along with thorn scrub, grassland and riverine vegetation.

*Cleome chelidonii* var. *pallai* (Reddy and Raju) V.S. Raju belongs to the family Cleomaceae. Genus *Cleome* L. comprises around 250 species worldwide (Mabberley, 2008). Raghvan (1993) documented 15 wild species, two cultivated species (*C. hassleriana* Chodat and *C. spinosa* Jacq.) and two varieties (*C. gynandra* var. *nana* (Blatter & Hallberg) Bhandari and *C. viscosa* var. *nagarjunakondensis* Sund. of *Cleome* in Indian Flora (BSI) under the family

Capparaceae. *Corynandra chelidonii* var. *pallai* (Reddy and Raju) V.S. Raju (Reddy and Raju, 2001) and *Cleome hirta* (Klotzsch) Oliv. (Bhatt *et al.*, 2017) were recently reported from Andhra Pradesh and Gujarat.

In Rajasthan, it has only 10 species (Shetty and Singh, 1987). Later, one more species of the *Cleome* that is *C. burmannii* was reported from Bhilwara for the flora of Rajasthan by Yadav and Meena (2009). Hereafter, 11 species of *Cleome* have been reported from Rajasthan.

Now, *Cleome chelidonii* L. f. is considered as *Corynandra chelidonii* (L. f) Cocharane and Iltis (2014). Cochrane and Iltis (2014) just listed the variety *pallai* as a synonym of *Cleome chelidonii*, stating that they had not seen the type of material. Somkuwar *et al.* (2018) reported this variety as a new record from Nagpur for Maharashtra state, India. Sirangi *et al.* (2020) studied intraspecific genetic variation in *C. chelidonii* and justified the recognition of the two subpopulations of *Corynandra chelidonii* based on genetic and environmental variations as two distinct varieties, *C. chelidonii* var. *pallai* (Reddy and Raju) V.S. Raju and *C. chelidonii* var. *chelidonii*.

As a result of the intraspecific morphological and molecular diversity, there is clear evidence for two varieties in *C. chelidonii*. After studying regional flora and other taxonomic literature, it was found that this variety has not yet been reported from Rajasthan. Hence, this article is about the first time reporting of *C. chelidonii* var. *pallai* (Reddy and Raju) V.S. Raju for the flora of the state. The plant was collected from four areas of the Pratapgarh district of Rajasthan.

## Material and methods

During an extensive field survey in the Pratapgarh district of Rajasthan, India, the authors collected plant specimens along with their field data such as habit, habitat, flowering and fruiting time. The plant was collected from Manohargarh, Nanirel, Padaliya and Dhamloo, etc. areas of Pratapgarh district of Rajasthan (Fig. 1).



## *Bidens bipinnata* L. (Asteraceae): A new species record to Rajasthan state, India

Yogita Solanki<sup>1\*</sup>, Naveen Kumar<sup>2</sup>, Archana Meena<sup>3</sup>, Jai Singh<sup>4</sup>, Amit Kotiya<sup>5</sup>

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**Key words:** Asteraceae, *Bidens bipinnata*, Rajasthan, Jamwa Ramgarh Wildlife Sanctuary

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### Abstract

*Bidens bipinnata* L. (Asteraceae), first-time distribution records from the State of Rajasthan. Previously, this species was distributed only in Jammu & Kashmir, Himachal Pradesh, Uttar Pradesh and Punjab. In Rajasthan, it is reported as an addition to the flora of the State. This article provides habitat, distribution, detailed description, plant association, flowering and fruiting time, artificial key and photographs of the species.

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### Introduction

Rajasthan, the largest State of India, is widely recognized for having arid and semi-arid biogeographical habitats. The State of Rajasthan is located between a latitude of  $23^{\circ}3'$  and  $30^{\circ}12' N$  and a longitude of  $69^{\circ}30'$  and  $78^{\circ}17' E$ . The State's total area is  $3,42,239 \text{ km}^2$ . The State's distinctive flora has been studied and published by a number of taxonomists (Biswas and Rolla, 1953; 1964; Bhandari, 1978; Sharma and Tiagi, 1979; Shetty and Pandey, 1983; Shetty and Singh, 1987, 1991 & 1993; Sharma *et al.*, 2005; Tiagi and Aery, 2007; Singh and Srivastava, 2007; Kotia *et al.*, 2008; Meena and Yadav, 2011; Kumar *et al.*, 2020; Solanki *et al.*, 2020). Kotiya *et al.* (2020) published updated information about the flora of Rajasthan. Recent studies by Purohit (2020), Kotiya *et al.* (2021), Sharma *et al.* (2022), Ravikumar *et al.* (2022), Sharma and Sarsavan (2023) and Kumar *et al.* (2023) have expanded our knowledge of the State's floral composition. Asteraceae is one of the largest and most widely distributed families of dicot plants. The family is represented by around 43 tribes, 1600-1700 genera and 25000 species under 16 subfamilies (Funk *et al.*, 2005; Funk *et al.*, 2009;

Stevens, 2017). In India, the family comprises 1314 species under 204 genera and 24 tribes (Mitra and Mukherjee, 2017). The genus *Bidens* L. comes under the Helianthinae tribe of the family. Approximately 280 species of genus *Bidens* are distributed in tropical and temperate regions of the world (Mitich, 1994). Currently, the genus has 249 accepted species (The Plant List). 10 species and 2 varieties of *Bidens* have been reported in Flora of India (Chowdhery, 1995). The recent addition of a new species, *Bidens bachulkarii*, from the Western Ghats by Jagtap *et al.* (2016) brings the total number of species to 11 for the flora of India. To represent the genus *Bidens* L., the Flora of Rajasthan only listed the species *Bidens biternata* (Shetty and Singh, 1983). With the completion of this study, Rajasthan's flora now contains two species of *Bidens*.

### Material and methods

During the floristic exploration in different parts of Jaipur, Rajasthan, the plant specimens were collected from Jamwa Ramgarh Wildlife Sanctuary. The sanctuary's geographical coordinates extend from  $76^{\circ} 03' E$  longitude to  $27^{\circ} 02' N$  latitude (Fig. 1).

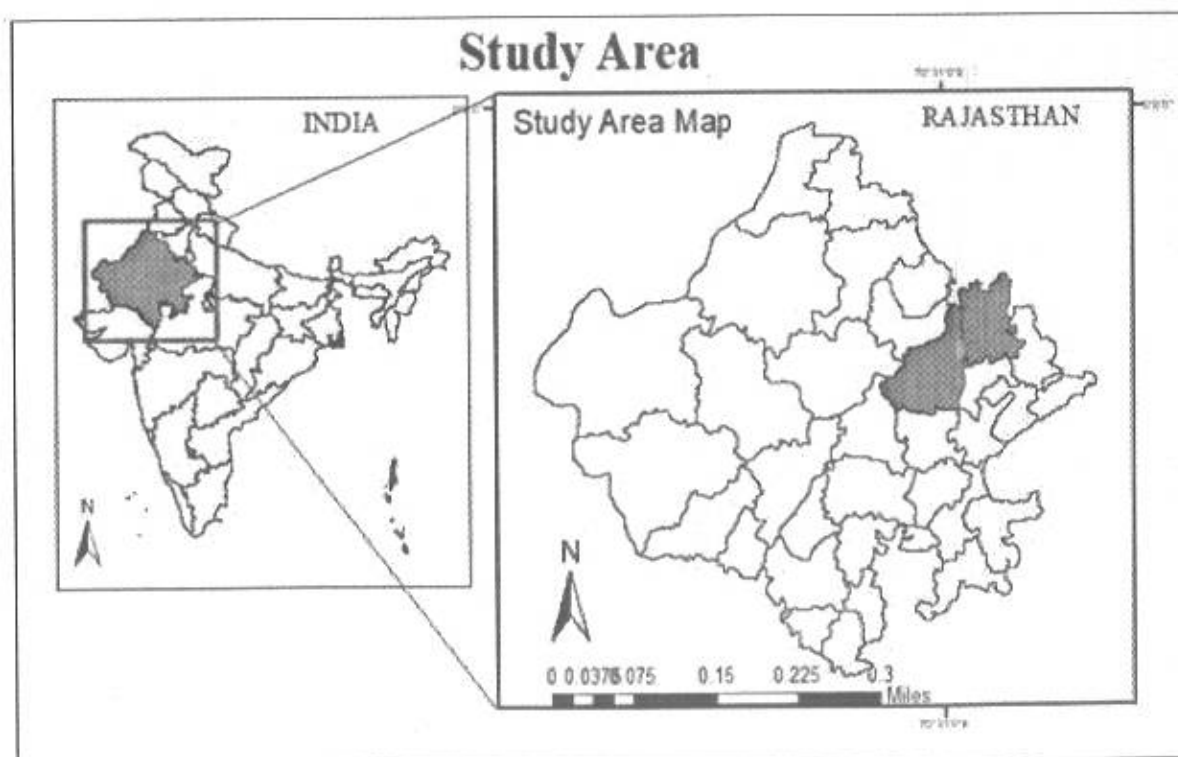


Fig. 1. Showing the map location of *Bidens bipinnata* L. collection point from Jamwa Ramgarh Wildlife Sanctuary, Jaipur, Rajasthan.





# Histopathological Reproductive Toxicity Of Methanolic Fruit Extract Of *Citrullus Colocynthis* In Adult Male Albino Rats: Rising Approaches Of Herbal Male Contraceptives.

1CHETNA SHARMA, 2Pawan Kumar Soni, 3MRADULA CHATURVEDI

1ASSISTENT PROF, 2Asst. Professor, 3Professor

1University of Rajasthan,

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## Abstract

This investigation on the histopathological reproductive toxicity of *Citrullus colocynthis* fruit extract in adult male albino rats was the goal of the study. To find a reversible male contraceptive, male rats were given the 50% petroleum ether extract of *C. colocynthis* fruits orally at doses of 50, 100, and 200 mg/kg body wt/day for 60 days. For a light microscopic examination, samples from the epididymis, prostate, vas deferens, and seminal vesicles were gathered. All organs' epithelium and connective tissues experienced histological changes as a result of the fruits of *C. colocynthis*. In comparison to controls, interluminal space was increased.

**Key Word:** histological reproductive toxicity, epithelium, reversible.

## Introduction

Due to enduring gender-restrictive norms and inequities, familial arrangements, and other cultural contextual factors, women in India continue to bear the brunt of family planning (Seth *et al.*, 2020). In India and other places, where cultural factors, traditional family roles, gender equality values, and patriarchal gender order tend to undermine women's empowerment, few studies have looked into the role of men and community level factors (Gruber and Szotysek 2016; Cislighi et al. 2020; A. Singh et al. 2021). In India, there is evidence of positive associations with the use of contraceptives among uneducated women (McNay

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## हिंदी कहानी में प्रेम का स्वरूप

डॉ. धर्मा यादव

सहायक आचार्य, हिन्दी  
कानोड़िया पीजी महिला महाविद्यालय,  
जयपुर, राजस्थान

प्रेम न बाड़ी ऊपजै, प्रेम न हाट बिकाय।  
राजा पिरजा जिहिं रुचौ, सीस देइ लै जाय।।

प्रेम की व्यापकता को स्पष्ट करते हुए कबीर दास जी कहते हैं की प्रेम ना खेत में उपजता है और ना ही बाजार में बिकता है, चाहे राजा हो या प्रजा आत्म समर्पण और आत्म बलिदान के बिना प्रेम को नहीं पा सकता। कवि बोध ने भी कहा है 'प्रेम को पंथ कराल महा तलवार की धार पै भावनी है।' लेकिन आज की युवा पीढ़ी तो तलवार की नोक पर प्रेम करती है। एक समय था जब प्रेम के अस्वीकार ने महान कवि बना दिए और आज प्रेम में इनकार से आहत युवा एसिड अटैक करते हैं, आत्महत्या करते हैं या नश्वंस कृत्य कर आजीवन कारावास भुगतते हैं। क्या प्रेम ऐसी भावना है? कदापि नहीं, प्रेम का कोई दिवस नहीं होता, प्रेम में कोई अधिकार भी नहीं होता, प्रेम एक निर्मल उदात्त भाव है, जो ईष्या, घृणा, एकाधिकार और वासना से अलग है। किंतु वर्तमान में सूचना, तकनीक, सिनेमा (वेब सीरीज), सोशल मीडिया और लव साइड्स ने प्रेम की परिभाषा को ही बदल दिया है। यह डिजिटल दुनिया जितनी तेजी से हमें आपस में जोड़ रही है, उतनी ही तेजी से रिश्तों के मायने बदलकर उन रिश्तों को तोड़ भी रही है। आजकल प्रेम के नाम पर लूट, ब्लैकमेलिंग, बलात्कार, असुरक्षा ही मिलती है। त्याग, समर्पण, बलिदान और सुरक्षा का भाव कहीं दिखाई नहीं देता। मशीन बना मानव अब भावना शून्य होता जा रहा है। ऐसे में साहित्य और सिनेमा समाज को सही दिशा देने का

काम कर सकते हैं। वेलेंटाइन डे मनाने वाली युवा पीढ़ी को प्रेम का वास्तविक अर्थ समझा सकते हैं। साहित्य प्रारम्भ से ही प्रेम को एक व्यापक स्वरूप में चित्रित करता रहा है। फिर चाहे वो देश प्रेम हो, प्रकृति प्रेम या मानव प्रेम, आज की युवा पीढ़ी साहित्य से जुड़कर मानवीय भावों को समझ सकती है, उन्हें अपने जीवन में अपना सकती है।

हिन्दी साहित्य के अंतर्गत मध्यकाल में एक पूरी काव्यधारा का केंद्रीय विषय प्रेम ही था, इन प्रेमराख्यानको में भारतीय संस्कृति और मानवीय भावों का अनूठा चित्रण हुआ है। आज प्रेम के स्वरूप को समझने के लिए हिंदी साहित्य में चर्चित कुछ प्रेम कहानियों का उल्लेख करना होगा जो निःसंदेह वर्तमान संदर्भ में प्रेम के मूल भाव को स्पष्ट करने में समर्थ है। ऐसी ही हिन्दी की एक अमर कहानी है चंद्रधर शर्मा गुलेरी की 'उसने कहा था'। यह कहानी अमृतसर के एक बाजार से शुरू होती है जहां बारह वर्ष का लहना सिंह एक अनाम लड़की से दुकान पर मिलता है, उनके परस्पर संवाद से जो मधुर भावनाएं बचपन में पनपी वो जीवन में कभी नहीं मिट पाती। उनका केवल दो चार बार का मिलना और बहुत कम बातचीत, एक ऐसे विश्वास को जन्म देती है, जो स्त्री पुरुष एक अनोखे संबंध का परिचय देती है। यह कहानी पूर्वदीप्ति शैली में लिखी गई है, लगभग २५ वर्ष बाद वह अनाम लड़की सूबेदार हजारासिंह से विवाह कर सूबेदारनी बन जाती है और लहनासिंह उसी सूबेदार की दुकड़ी का एक लड़ाका है। फ्रांस में भारतीय सैनिक इंग्लैंड की ओर से जर्मनी के विरुद्ध लड़ने के लिए तैनात किए गए हैं। इस लड़ाई में जाने से पहले सूबेदारनी लहना सिंह को पहचान जाती है और बुलाकर अपने पति और पुत्र की रक्षा की बात कहती है। सूबेदारनी याद दिलाती है कि एक बार कैसे अपनी जान जोखिम में डालकर उसे बचाया था।

'तुम्हें याद है एक दिन तांगे वाले का घोड़ा दही वाले की दुकान के पास बिगड़ गया था। तुमने उस दिन मेरे प्राण बचाए थे, आप घोड़े की लातों में चले गए थे और मुझे उठाकर दुकान के तरखे पर खड़ा कर दिया था। ऐसे ही इन दोनों को बचाना। यह मेरी

## Original Research Article

# A Preliminary Study of Avian Fauna in Barkheda Lake, Jaipur, India

Anita Gajraj<sup>1\*</sup> and Renu Kohli<sup>2</sup>

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**Abstract:** The study, undertaken in January 2023, aimed to observe the avifaunal status of Barkheda Lake in the Jaipur district of Rajasthan. The primary objective was to document various avifaunal species present during the winter season in the area. Photographic evidence of the avifauna was captured using a DSLR camera, and identification was conducted by both an experienced expert and with the assistance of a field guide. A total of 21 bird species, representing 17 different families, were identified at the site. The assessment of IUCN status revealed that only one species was classified as near-threatened, while the remaining 20 species were categorized as least concerned. 11 birds were found as terrestrial while 10 were aquatic birds. 6 birds were most common in the study area, 9 were found as common and 6 were rare. Residential status of birds revealed that 14 were found as resident of the place and another 7 birds were winter visitors.

**Keywords:** Avifauna, Barkheda lake, Jaipur, IUCN.

## Introduction

Avifauna is the term used for the birds of a particular region, habitat, or geological period. Birds are one of the most diverse groups of animals, with over 10,000 species distributed across the world. Avian diversity is important because birds play vital roles in ecological processes such as pollination, seed dispersal and pest control. According to a study by Jetz *et al.* (2019), avian diversity is not evenly distributed across the globe. They found that tropical regions, particularly South America and Southeast Asia, have the highest avian diversity. In contrast, temperate regions such as Europe and North America have lower avian diversity.

India boasts a remarkable avian diversity, harboring over 1300 bird species, as documented by Grimmett *et al.* (1998), Ali (2002) and Wagh and Prathmesh (2020). This constitutes over 13% of the world's total bird species. The country's diverse topography and climatic conditions contribute

significantly to this rich birdlife. India's avian fauna encompasses both resident and migratory birds, ranging from diminutive flower peckers to majestic birds of prey such as the Himalayan Griffon. Recognizing the importance of avian species assemblages, they serve as potent indicators of ecosystem health and functioning, as highlighted by studies by Turner *et al.* (1990), Newton (1995) and Padoa-Schioppa *et al.* (2006).

Birds play an important role in ecosystem and playing vital roles in pollination, seed dispersal and pest control. They also provide food for other animals and help to regulate population levels in their habitats. Birds have their own ecological significance, and they are important natural resources that contribute both to the beauty of nature and to the worrisome effects of environmental or climate change (Brusatte *et al.*, 2015). Prior to their sensitiveness to habitat change, birds are considered as one of the most important



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## INFLATIONARY COSMOLOGICAL MODEL WITH VARIABLE BULK VISCOSITY IN ANISOTROPIC BIANCHI TYPE VI<sub>0</sub> SPACE TIME

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**Abstract:** The present paper is devoted to the study of inflation in the background of anisotropic Bianchi Type VI<sub>0</sub> space-time with variable bulk viscosity. To get the deterministic model of universe, we have also assumed that shear ( $\sigma$ ) is proportional to expansion ( $\theta$ ) as investigated by Thorne[36] and  $\zeta\theta = \text{constant}$  as considered by Zimdahal [42] where  $\zeta$  is the coefficient of bulk viscosity and  $\theta$  the expansion. We find that the observations of inflationary cosmology i.e. slow roll parameters ( $\epsilon, \delta$ ), third slow parameter ( $S$ ), estimation of  $n_s$  and  $r$ , anisotropic parameter ( $\bar{\Lambda}_{00}$ ) are in the excellent agreement with the Planck (2013) data.[1] We also find that spatial volume increases exponentially representing inflationary scenario of the universe. In special case the model isotropizes. The scenario of transition from anisotropic to isotropic one is discussed. The model also represents accelerating and decelerating phases of universe which matches with latest observations of universe. The graphical behaviour of the parameters shows that the anisotropic model is also compatible with Planck observational 2013 data. The rate of scalar field  $\phi$  is initially large but decreases with time and vanishes for large values of time. The model has Point Type singularity at  $T = 0$  (MacCallum[25]).

**Keywords:** Inflationary; Anisotropic, Bianchi VI<sub>0</sub>, Bulk viscosity

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### 1. Introduction

The universe in smaller scale is neither homogeneous nor isotropic nor do we expect the universe to have these properties in its early stages. FRW (Friedmann-Robertson-Walker) models satisfactorily describes present day universe which is homogeneous and isotropic. Patridge and Wilkinson[27] have investigated that FRW models are unstable near the singularity. Astronomical observations in late eighties revealed that the predictions of FRW models do not always meet our requirements as was believed earlier (Smoot et al.[33]). Therefore, spatially homogeneous and anisotropic Bianchi models (I-IX) are undertaken to study the universe in its early stages of evolution. Among these, Bianchi

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Research Article



**Educational  
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## Proactivity, Work - Life Balance And Learning Orientation Of Women Faculties Working In Women Colleges

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### ARTICLE INFO

### ABSTRACT

This research paper examines the interrelationships among proactivity, work-life balance, and learning orientation among female faculty members employed in women's colleges. Utilizing the Quality of Work Life (QWL) scale developed by Dhar, Dhar, and Roy (2008), the study assesses these three domains to better understand the professional and personal dynamics experienced by women in academia. A convenient sampling method was used to collect data from 97 female faculty members, aged between 23 and 60 years, through a Google Forms survey. The analysis focused on comparing the differences in the domains between married and unmarried women using the Mann-Whitney U test and finding correlation analysis between these three domains.

The findings revealed no significant differences between married and unmarried women regarding proactivity and work-life balance, suggesting that marital status does not substantially influence these aspects of their professional lives. However, a significant difference was found in the learning orientation domain, with a z-score of 6.05327 and a p-value of  $< .00001$ , indicating that unmarried women demonstrate a significantly higher orientation towards learning compared to their married counterparts. This result is significant at  $p < .01$ . Correlational analysis revealed that there is a strong correlation between creativity and work life balance whereas moderate positive correlations between proactivity - learning orientation & work life balance - learning orientation.

These insights contribute to the understanding of how marital status affects specific aspects of female academicians' professional lives, particularly in learning orientation. The study underscores the importance of creating supportive environments that promote continuous learning and professional development for all faculty members, regardless of marital status.

**Keywords:** Proactivity, Work-Life Balance, Learning Orientation, Female Faculty, Quality of Work Life

### Introduction

Maintaining a balanced personal and professional life is a goal shared by any and every working individual and thus it has been a preferred area for research in order to provide a clearer idea of predictive factors as well as to propose models that will improve the quality of life for working professionals across various fields. The research in this area is also being extended to study differences among genders, races, cultures and ethnic groups in their respective work environments. Prominent studies have suggested that women experience more imbalance due to various factors. As education is a women dominated field, the quality of work life they experience and the factors that affect it must be a question worth seeking an answer to.

Quality of work life (QWL) has been defined as a process by which an organization responds to employees' needs by developing mechanisms to allow them to share fully in making the decisions that design their lives at work (Robbins, 1989). According to Gnanayudam and Dharmasiri (2007), QWL is the employee's overall



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## Impact of Proactivity and Work-Life Balance on Learning Orientation: A Multiple Regression Analysis

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### Abstract

Using a multiple regression analysis, this study looks at how proactivity and work-life balance affect learning orientation. Using data from a sample of 200 professionals from diverse industries, the study investigates how individual proactivity and work-life balance influence one's attitude towards learning. The regression model shows substantial positive correlations, with coefficients for proactivity and work-life balance of 0.14015 and 0.20272, respectively. These findings indicate that cultivating a proactive mentality and achieving a good work-life balance can significantly improve learning orientation. This study adds to the expanding body of research on employee development and organisational behaviour by emphasising actionable elements that organisations may use to encourage continual learning and flexibility in their workforce.

**Keywords:** Proactivity, Work-Life Balance, Learning Orientation, Multiple Regression, Employee Development, Organizational Behavior

### Introduction

In an era of rapid technology breakthroughs and changing business environments, continual learning and adaptation have become critical to organisational success. Learning orientation, defined as the willingness to appreciate and participate in learning activities, is crucial for individual and organisational growth. This study investigates the roles of proactivity and work-life balance in determining learning orientation. Proactivity refers to self-initiated, anticipatory acts aimed at affecting one's surroundings, whereas work-life balance refers to the balance of professional obligations and personal life. Understanding these links can help strengthen staff development programmes and build a culture of continual improvement.

#### Organisational Behaviour and Learning Orientation

Organisational behaviour is the study of how individuals and groups interact within an organisation and how these interactions influence performance and results. It entails investigating the mechanisms that govern behaviours such as learning orientation. Organisational culture, leadership styles, and team dynamics all influence an individual's desire and capacity to participate in learning activities. An organisation that fosters a culture of learning and innovation encourages people to be more proactive and seek ongoing personal and professional development.

# INTERNATIONAL RESEARCH JOURNAL OF COMMERCE, ARTS AND SCIENCE



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## Review on Parenting and Parent Adolescents' Relationship in India

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### Abstract

**Background:** As the child grows, and hit puberty, while seeking the similarities, differences arises within family due to different career choices, choice of partner, division of ancestral property etc. that demands for harmonic relationship between the parent and the grown up child. Regardless of wealth or culture, the basic aim of parenting is to develop children to be healthy, independent, well adjusted, and contributing adult members of their social group. At the age of adolescence, higher chances of getting involved in drug abuse, love relationship, and pornography are common. The parental guidance in this regard could help them to identify the right choice. **Aim:** The main aim of this research is to provide a review of studies on parenting and Parent- Adolescents' relationship, in the Indian context. **Method:** A systematic review was conducted using databases from Scopus, Elsevier, Research Gate and PubMed. **Result:** All the selected researches were reviewed thoroughly and only researches on Indian population are collected in a synthesis table format. **Conclusion:** The review has generated various issues and factors that are responsible for the relationship. **Way forward:** Implications of the study along with certain suggestions are provided that could be utilised to generate empirical research on the topic.

**Keywords:** Parents, Adolescents, Parent- adolescent relationship, review paper, parenting

### Introduction

Parenthood is a phase where both husband and wife grow as better human beings, in the process to make their kids a human resource. The behaviour of an individual is seriously affected by the nature of communication followed at home and the upbringing provided. Various available theories have proven the significance of nature along with nurture on the personality of an individual (Kandler, 2012). Helping adolescents grow up and become well-adjusted individuals requires nurturing their social and emotional development.

According to Burke & Kuczynski (2018), the most common method used by parents to enforce moral standards is power assertion, which includes threat, physical punishment, denying the youngster of privileges and overall benefiting from being larger, stronger, and more powerful. If adolescents are not treated with the utmost care, the situation might lead to their involvement in illegal and unethical practices. In the view of sex education, adolescents who have a new development in body and mind will try to explore other unwanted resources, which may or may not be trustworthy.



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THIS CERTIFIES THAT

**AAYUSHI SORAL**

HAS/HAVE WRITTEN AN ARTICLE / RESEARCH PAPER ON

**THE CORRELATION BETWEEN SELF-ESTEEM AND LIFE SATISFACTION IN WORKING FEMALES:  
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## The Correlation Between Self-Esteem and Life Satisfaction in Working Females: A Quantitative Analysis

Prof. Ajay Kumar Chaudhary<sup>1</sup> & Aayushi Soral<sup>2</sup>

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### Abstract

This study looks at the association between self-esteem and life happiness among working females aged 23 to 60 years. A total of 97 individuals were assessed using two known psychological measures: Heatherton and Polivy's State Self-Esteem Scale (SSES) from 1991 and Diener et al.'s Satisfaction with Life Scale (SWLS) from 1985. The correlation study yielded a correlation coefficient ( $r$ ) of 0.4858, demonstrating a moderately positive association between self-esteem and life satisfaction. This research implies that better self-esteem is linked to increased life satisfaction among working women. The study emphasises the significance of self-esteem in the overall well-being of working women. These findings have significant implications for psychological therapies and workplace regulations designed to improve employee well-being. Employers might increase their female employees' life happiness by introducing self-esteem-boosting programmes. This study emphasises the need to create supportive workplace settings that meet the specific issues that working women experience, such as combining professional and personal duties. Overall, the study provides useful insights into the relationship between self-esteem and life happiness, emphasising the need to foster self-esteem in the workplace.

**Keywords:** *self-esteem, life satisfaction, working females, correlation, psychological well-being, workplace interventions*

### Introduction

Understanding the elements that lead to life happiness has long been a major focus of psychological study. Life satisfaction, an important predictor of subjective well-being, is impacted by a number of personal and environmental variables. Among these, self-esteem is frequently cited as an important determinant. Self-esteem, or the evaluative part of self-concept, represents an individual's total feeling of self-worth and competence. Understanding the link between self-esteem and life happiness is critical, particularly among certain groups such as working women. Working women have particular problems that might affect their self-esteem and general life happiness. Balancing work commitments with personal and family life can cause stress and perhaps lower self-esteem. Professional accomplishments and supportive work settings, on the other hand, can boost self-esteem, leading to greater life satisfaction. This study intends to investigate the relationship between self-esteem and life satisfaction among working females, with the goal of giving insights that may be used to influence treatments targeted at improving well-being in this group.

## GROWING DIGITAL DOMINIONS: A COMPARISON OF THE MERGERS AND ACQUISITIONS AND STRATEGIC ALLIANCES IN THE SECTOR OF E-COMMERCE

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**Abstract:** This study looks at the results and effects of M&A and strategic partnerships in the online retail industry. The research compares and contrasts the financial performance, changes in market share, and variables impacting the success of these deals via a regression analysis. The results show that mergers and acquisitions in the e-commerce industry often lead to greater revenue growth and ROI than strategic partnerships. Increases in market share tend to be bigger after an M&A deal has taken place. The size of the deal, the kind of business it's in, and the company's financial health before to the merger are all shown to be statistically significant predictors of future revenue and profit growth in a regression study. Incorporating key ideas and models, such as the resource-based approach and the theory of the network effect, the study adds to the understanding of mergers, acquisitions, and strategic alliances in the e-commerce business. Future research directions include investigating the long-term effects, the function of digital platforms and emerging technologies, regulatory frameworks, and qualitative research methods, while the research's practical implications inform strategic decision-making in e-commerce firms. Understanding the dynamics of expanding digital dominions in the e-commerce sector is made easier with the insights acquired from this study, which in turn helps professionals and policymakers make better decisions.

**Keywords:** Mergers and acquisitions, e-commerce sector, strategic alliances, comparative analysis, financial performance, pre-transaction financial performance, return on investment, revenue growth, network effect theory, practical implications, strategic decision-making, digital platforms, regulatory frameworks, emerging technologies.

### 1. Introduction

E-commerce has emerged as a disruptive force in today's period of fast technology growth, changing the manner in which companies function and customers make purchases. The significant expansion of the industry over the last ten years can be ascribed to several factors, including the proliferation of internet



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Discount:	0.00		0.00
Commission:	0.00		0.00
Other Deductions:	0.00		0.00
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# Green Supply Chain Management Practices in Higher Educational Institutions: A Comprehensive Review of Research and Future Directions

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## ARTICLE INFO

## ABSTRACT

This paper offers valuable information on the implementation and practicability of Green Supply Chain Management (GSCM) strategies in HEIs in terms of procurement, environmental disposal, power utilization, and people involvement. Empirical research based on the current literature and case studies reveal the benefits, risks, and tactics of GSCM in the current business environment. For instance, Stanford University's Zero Waste Program achieved an ambitious goal of 80% waste reduction in 2005; MIT deployed solar panel systems that led to a decrease in energy expenses by a quarter. As the study also shows there are factors that limit or act as barriers to implementing the strategies such as financial limitations, lack of awareness, people's resistance to change, inadequate infrastructure and legal frameworks. To overcome the above, HEIs are urged to diversify their funding strategies, ensure they provide a holistic education and write all inclusive policies. There are four research avenues for future research: The first is to conduct longitudinal studies that can assess the sustained effectiveness of GSCM strategies, the second is comparisons that would compare GSCM in different parts of the world, the third is an investigation into the effectiveness or otherwise of embracing new technologies to improve on GSCM practices. The study offers important implications of the practice to the administrators of the HEI, policy makers and scholars namely, commitment, education and innovation as some of the key areas that would aid in enhancing GSCM. Through such practices, HEIs can play a meaningful role in enhancing global sustainability, optimizing managerial processes within HEIs, and facilitating cultural changes within society.

**Keywords:** Green Supply Chain Management, Higher Educational Institutions, Sustainability, Waste Management, Energy Efficiency

## I. INTRODUCTION

Green Supply Chain Management (GSCM) has taken central stage in as a critical tool for directing sustainable resource management across the supply chain within organizations. Derived from the larger conceptual framework of supply chain management, GSCM incorporates environmental considerations into classic supply chain strategies and covers issues related to product design and development, supply of materials and other inputs, manufacturing, delivery and distribution of the final product and end-of-life disposal of the product once it has served its useful life [1]. Again, the goal is to reduce harm to the environment while at the same time increasing economic benefits as well as competitive edge. Similar to other research, this study acknowledges

that HEIs are better placed to support GSCM by embracing sustainable development due to their roles as educators, researchers, and influential agents in the society [2]. By investing in GSCM practices, HEIs have it within their bounds to interpret more as consumers of resources and producers of waste. In addition, through supply chain initiatives and other sustainable activities the HEIs will serve as a role model for the students, staff and the wider community through most importantly the promotion of sustainable consumption [3]. Although GSCM has been proved to play a significant role globally, its adoption procedure at HEIs can still be classified as work in progress and filled with potential research topics. The issues related with managing supply chain networks in educational contexts which are not just centralized but are often heterogeneous in nature, makes it quite rewarding as well as challenging. It is hoped that this review is able to discuss current trends and the particular issues of GSCM practices in HEIs, successful cases, amongst others. Further, it aims at identifying the research agendas and pointing out their weaknesses along with recommending future research avenues to facilitate the practice of GSCM in HEIs. This study can also be useful in systematically analyzing the literature and identifying strategies that can help to implement GSCM practices in various HEIs. The study can contribute not only to the academic literature, but also to the HEI administrators and policy makers will benefit from the research while attempting to implement sustainability initiatives. By such, HEIs would be able to ensure that the operational modus operandi of the institution is in harmony with the global call for environmental sustainability.

## II. RELATED WORKS

As a result, there is ample literature on green practices in several industries with appreciable concern on the HEIs as well. This section presents a focus on prior research works done in GSCM and related practices in HEIs and other similar contexts and discuss about trends, issues and future development. In another paper El-Awady and MD [15] explicate hybrid assessment methods to give stability and sustainability for supply chain management. Their study also highlights on the issue of how sustainable can be included in supply chain practices to improve the supply chain's ability to withstand disruptions and the achievement of long-term sustainable objectives. This research is relevant to a similar context in HEIs because the institutions can adopt comparable hybrid assessment approaches to assess and enhance the institution's supply chain for resilience and sustainability. Faheem et al., studied how GHRM helps in green innovation which has been discussed above. Their bibliometric analysis reveals the previous and emerging frontiers in the configuration of GHRM, which has an added appeal to organizations to bring about change via green principles. This approach will help HEIs to adopt GHM practices in enhancing the culture of sustainable and innovative staff and students. Some literature on the matter includes sustainability and circularity in waste management systems by Giurea et al. [17]. They give information on the existing arrangements regarding WM and WS and possible ways for their enhancement. This study is closely related to GSCM in HEIs because waste management component is an essential part of effective sustainable supply chain management. With the help of the aforementioned strategies, the HEIs can consider improving the efficiency of their waste management and achieve the goals of sustainability. Habeeb and Serife [18] have discussed the influence of the strategic planning and transformational leadership towards the organizational performance of higher education institutions in Nigeria, where後の They concluded that strategic and organisational management plays a critical role in achieving sustainable practices in HEIs. Hence, the present study emphasizes the need for leadership and strategic implementation among educational organizations in the execution of GSCM practices. A systematic review of the use of educational technologies and the development of entrepreneurial competencies was discussed by Hammoud in his article [19]. It is essential to state that as the problem under consideration is closely related to entrepreneurship this study sheds the light on the possibilities of using educational technologies for the development of competencies crucial for implementing GSCM practices in HEIs. Educational technologies can thus improve the ability of HEIs to equip future leaders with SCM knowledge and skills in sustainable supply chain management. Hareer et al. [20] discuss the kaknumber and its effect on knowledge sharing relating to supply chain cnts, with an emphasis on food supply chain networks. Their work uses sustainable supply chain practices that are effective in handling the difficulties arising from the complexities of the supply chain. Some suggestions that HEIs can implement from this research include the following in an attempt to reduce the supply chain complexity in their organisations as well as sharing knowledge about sustainability practices. Huang et al. [21] focus on internal incentives to minimize carbon emission in capital scarce supply chain context from a financing angle. They argue that without ensuring that rewards are aligned to prompt sustainable behaviours within supply chains, efforts towards delivering sustainable solutions with minimal impacts on the environment will be futile. This is especially so for the HEIs, many of which face this challenge due to limited funds that they have at their disposal, hence they will require to determine the available financial incentives for their GSCM activities. The relevance of GHRM practices to sustainable organisational development has been supported by Jaganac et al. [22] using investigations in Serbia and Bosnia and Herzegovina. It can be ascertained from these pieces of evidence the role of GHRM practices in the sustainable development of organizations. This case reveals that the HEIs in this study's regions can replicate the above practices to improve overall sustainability and attain enduring environmental objectives. Sustainable supply chain management in a circular economy context is explored by Ka et al. [23],

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Research Article

## Proactivity, Work - Life Balance And Learning Orientation Of Women Faculties Working In Women Colleges

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### ARTICLE INFO

### ABSTRACT

This research paper examines the interrelationships among proactivity, work-life balance, and learning orientation among female faculty members employed in women's colleges. Utilizing the Quality of Work Life (QWL) scale developed by Dhar, Dhar, and Roy (2008), the study assesses these three domains to better understand the professional and personal dynamics experienced by women in academia. A convenient sampling method was used to collect data from 97 female faculty members, aged between 23 and 60 years, through a Google Forms survey. The analysis focused on comparing the differences in the domains between married and unmarried women using the Mann-Whitney U test and finding correlation analysis between these three domains.

The findings revealed no significant differences between married and unmarried women regarding proactivity and work-life balance, suggesting that marital status does not substantially influence these aspects of their professional lives. However, a significant difference was found in the learning orientation domain, with a z-score of 6.05327 and a p-value of  $< .00001$ , indicating that unmarried women demonstrate a significantly higher orientation towards learning compared to their married counterparts. This result is significant at  $p < .01$ . Correlational analysis revealed that there is a strong correlation between creativity and work life balance whereas moderate positive correlations between proactivity - learning orientation & work life balance - learning orientation.

These insights contribute to the understanding of how marital status affects specific aspects of female academicians' professional lives, particularly in learning orientation. The study underscores the importance of creating supportive environments that promote continuous learning and professional development for all faculty members, regardless of marital status.

**Keywords:** Proactivity, Work-Life Balance, Learning Orientation, Female Faculty, Quality of Work Life

### Introduction

Maintaining a balanced personal and professional life is a goal shared by any and every working individual and thus it has been a preferred area for research in order to provide a clearer idea of predictive factors as well as to propose models that will improve the quality of life for working professionals across various fields. The research in this area is also being extended to study differences among genders, races, cultures and ethnic groups in their respective work environments. Prominent studies have suggested that women experience more imbalance due to various factors. As education is a women dominated field, the quality of work life they experience and the factors that affect it must be a question worth seeking an answer to.

Quality of work life (QWL) has been defined as a process by which an organization responds to employees' needs by developing mechanisms to allow them to share fully in making the decisions that design their lives at work (Robbias, 1989). According to Gnanayudam and Dharmasiri (2007), QWL is the employee's overall