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Year : 2019, Volume : 5, Issue : 1  
First page : (36) Last page : (45)  
Print ISSN : 2395-2229, Online ISSN : 2682-2091, Published online : 2019 June 1.

### Regional Imbalance, Agrarian Distress and Statehood Issue in Vidarbha

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#### Abstract

One of the most distressed regions in the country today, Vidarbha has been demanding statehood since the pre-independence era. The region has been facing developmental challenges and agrarian stagnation since it was merged into the state of Bombay in 1956 and into Maharashtra in 1960. This was done disregarding the recommendation of the States Reorganisation Commission which had suggested a separate state of Vidarbha. This, coupled with underdevelopment and the chronic agrarian distress has formed the basis of the contemporary demand for statehood in the region. However, the demand has faced stiff opposition in the state owing to staunch linguistic sub-nationalism by parties like Maharashtra Navnirman Sena and Shiva Sena and has also been subject to apathy of successive governments at the centre. This paper is an attempt at situating the demand for statehood for Vidarbha in its context by analysing its causal factors rooted in its post-independence as well as contemporary history.

#### Keywords

Agrarian distress, Farmers' suicides, Regional imbalance, Statehood, Vidarbha.

Epidemiology of Oral and Vaginal Candidiasis | SCIRP Open Access | DETECTION OF CHITINASE | Search Publications | Research | Sci-Hub article not found

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### Epidemiology of Oral and Vaginal Candidiasis

International Journal of Science and Research (IJSR)  
ISSN: 2319-7064  
ResearchGate Impact Factor (2018): 0.28 | SJIF (2018): 7.426

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**Abstract:** *Objective:* The aim of this study was to determine the prevalence of fungal agents, sex distribution and predisposing factors involved in candidiasis. *Methods:* The samples from 192 clinically suspected patients of oral and vaginal candidiasis were collected from different clinics of Kurukshetra between September 2016 and August 2017. *Results:* Mycological examination has revealed the confirmation of oral and vaginal candidiasis in 41.5 and 25.1% resp. of the suspected patients. *Practise:* has been found as the most common symptom in vaginal candidiasis. Their infection has been diagnosed clinically on the basis of the following symptoms: Itching, white discharge, edema, and erythema of the vulva in case of vaginal candidiasis. It has been found to be more prevalent in females in the age group of 25-49 years, higher incidence occurring after menstruation cycle. Oral candidiasis in the form of thrush (whiteish, semi-coherent membranes). The fungi involved in infections belonged to Genus *Candida* in different species. Of these, *C. albicans* is the dominant one. *Conclusion:* Finally, we can say higher incidence of oral and vaginal candidiasis may be due to number of reasons. So, keeping in view the high prevalence of candidiasis in India, critical diagnosis of the causative agent by employing aseptic and proper culture techniques and susceptibility testing for proper treatment of this disease is the need of the hour.

**Keywords:** *Candida*, oral, vaginal candidiasis, epidemiology

#### 1. Introduction

Candidiasis is an infection caused by species of *Candida*, a dimorphic fungus. Candidiasis encompasses infections that range from superficial, such as oral thrush and vaginitis, to systemic and potentially life-threatening diseases. (Fenn, 2007). Infections due to *Candida* and other yeast have increased dramatically in recent years and are of particular importance because of rising number of immunocompromised individuals and due to the countless medical advances available in medical sciences for example,

#### 2.1 Mycological investigations

Mycological investigation of the fungal pathogens involved in oral and vaginal candidiasis was carried out in the Mycology Laboratory, Department of Microbiology, Kurukshetra University, and Haryana. The samples were processed for direct examination of the *Candida* spp. on malt yeast extract agar (MEA) media. For direct microscopic examination, a small portion of the specimen was mounted in 10% KOH and observed microscopically to see the presence or absence of budding cells and the

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**Innovative HR Practices in IT Sectors**

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**Prof. Nirmala Chaudhary**  
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**Abstract**

An important element of human resource management is the 'human approach' while managing people. Training and Development, Performance appraisal, Potential Appraisal, Career Planning and Development, Compensation and Reward are the major HR practices in any business organization. Human Resource has been considered as one of the most important factors today in managing all material facts of an organization. The present market conditions and scenario need to innovative HR practices in competitive environment. For achieving these objectives IT sectors needs to adopt innovative HR practices. The aim of this paper is to examine the innovative HR practices in IT sector. For better functioning of IT sector and for a suitable growth of this sector there, HR plays a vital role in managing manpower with the consistence to the goal of the corporation. For this reason, IT sector need to carefully evaluate their existing HR practices and modify them with innovation. In this research paper efforts are made for developing innovative HR practices. The present study attempts to explore the innovative HR practices in various information technology organizations. The employees of information technology organizations covered in this study are – Tata Consultancy Services (TCS), Wipro Technologies, Infosys Technologies Ltd., and Motorola, Hindustan Computer Ltd. (HCL) etc.

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**Key-Words :** Human Resource, Information Technology Sector.

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**Introduction**

The quality of products and services both depend upon the quality of human resource, which needs continuous and multiple-skill training. Thus, to attain such human resource, there must be emphasis on developing and nurturing a strategy-based on human resource development practices in the information technology organizations. Human resource development comprises of many components like – selection procedures, training policy, performance and promotion policy, transfer policy, wages, compensation, social-security policy, worker's welfare policy, recreational policy, employee- employee/employer/management relations, trade union, health policy, etc. All these components help to develop highly skilled, efficient, effective and dynamic human resource in these organizations. For the success of information technology organizations, it is necessary that right person must be placed at right job and his potential must be enhanced through multiple and continuous training. Thus, this sector must give more emphasis on the development of human resources by prevailing upon different aspects of human resource development practices in their organizations. All the

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Original Research | Published: 18 June 2019

## Performance analysis of skimmed milk-producing system of milk plant using supplementary variable technique

Parveen Kumari, M. S. Kadyan & Jitender Kumar *Life Cycle Reliability and Safety Engineering* 8, 227–242 (2019) | [Cite this article](#)48 Accesses | 3 Citations | [Metrics](#)

### Abstract

The objective of the present paper is to enhance the performance of skimmed milk-producing system which ensures fluent functioning of the whole milk plant. Skimmed milk-producing system is the primary section of the milk plant from, where milk is transferred as par as required to other processing units/systems such as butter production system, butter-oil production system, skimmed milk powder production system, paneer production system, and dahi (curd) production system. If the primary section of the milk plant will not function efficiently; then, it is not possible for other milk-processing units/systems to remain in operative mode in long run which shall definitely affect the performance of the whole milk plant. Therefore, to ensure the smooth and efficient functioning of the whole milk plant, primary section, i.e., skimmed milk-producing system should remains operative. The distributions of failure times of the subsystems are exponential, while the repair times of the subsystems are arbitrarily distributed. The supplementary variable technique has been used to analyze the skimmed milk-producing system of milk plant. In addition, the behavior of availability and profit of the skimmed milk-producing system is discussed for some specified values of parameters for exponential distribution, Rayleigh distribution, and Weibull

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## EMPOWERING THE POWER SECTOR THROUGH UDAY: A STUDY OF HARYANA

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### ABSTRACT

In the era of reforms, power sector has also created space for itself by launching Ujwal Discoms Assurance Yojana (UDAY) with a motive to bring and upgrade efficiency in power sector. The Discoms had bearded an amount of Rs. 2374 Crore as burden of interest on outstanding debt. In this paper, an attempt has been made to assess the performance of Haryana Discoms on operational & financial parameters. The researcher draws a conclusion on the operational parameters that DT meter (Rural), smart metering above 500 KWH and smart metering between 200 to 500 KWH parameters have an insignificant growth. On the other hand, financial parameters of UDAY scheme show that UHBVNL Discom has higher Aggregate Technical and Commercial (AT&C) losses and the Average Cost of Supply (ACS) & Average Revenue Realization (ARR) gap of DHBVNL reports to be insignificant which poses a major challenge for Haryana.

**KEYWORDS:** UDAY Scheme, Haryana Discoms, Operational and Financial Performance.

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### Introduction

The Haryana Electricity Reform Act, 1997 restructured the Haryana Electricity Board in 1998 into four utilities namely (1) Haryana Power Generation Corporation Limited (HPGCL), (2) Haryana Vidyut Parsaran Nigam Limited (HVPNL), (3) Uttar Haryana Bijli Vitran Nigam Limited and (4) Dakshin Haryana Bijli Vitran Nigam Limited. For regulating these utilities a commission named Haryana Electricity Regulation Commission (HERC) was setup. The two DISCOMs UHBVNL and DHBVNL distribute electricity under nine circles each in twenty-two districts of Haryana. The Ministry of Power, Government of India launched Ujwal Discoms Assurance Yojana (UDAY) which was approved by Union Cabinet on 5<sup>th</sup> November 2015.

The objectives of the scheme are financial and operational improvement, cost reduction of power generation, energy efficiency and conversion of Discoms in financial turnarounds alongwith special assistance to the states achieving the set targets on time. UDAY scheme is not compulsory but optional for all states and states are encouraged to join and take benefits from the scheme. Jharkhand was the first state to join the scheme and up to March 31, 2019 twenty-seven states and five Union Territories have signed the Memorandum of Understanding (MOU) of UDAY with the Ministry of Power, Government of India. Under the scheme 75% of outstanding

## Performance analysis and initiative policies: a study of Indian power sector

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Correspondent author: [kamaljitsehjanusm17@kuk.ac.in](mailto:kamaljitsehjanusm17@kuk.ac.in) DOI 10.31150/ajebm.Vol2.Iss4.101

**Abstract:** The aim of the study is to discuss the trend of Transmission and Distribution Losses (T&D), Plant Load Factor (PLF), Deficit in power supply position, and policy initiatives government can take which will assist policy makers to take decisions. The per capita consumption has additionally increased from 15 kWh in 1950 to around 1,181 kWh in the year 2018-19. Among different modes established for gathering the consistently increasing demand of power to accomplish the focused on growth rate, generation capacity enlargement is the most imperative segment. Availability of required power is a parameter of economic growth and the economic growth leads to growth in demand for power. The real challenging task to the power sector is to minimize and eventually wipe out generation deficit, to make available a reliable and financially savvy supply of power to the customers, and to accomplish it in an ecological manner with least impact on nature. It is exceptionally important to take up with all reality measures to increase capacity addition to expand generation of power into uninterrupted supply and increasing demand of power by consumers falling under different groups.

**Keywords:** Power Sector, Transmission and Distribution Losses (T&D), Plant Load Factor, Power supply Position, Initiative Policies.

### Introduction

Power sector's development is key empowering for accomplishing economic growth of the nation as it encourage growth over a several segments of the economy, for example, manufacturing, agriculture, commercial, and railways. In any case, the enactment of Electricity Act, 2003, has acquired progressive changes in every areas

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**Job Stress and its Impact on Employees' Job satisfaction- An Investigation of Banking Sector in Haryana**

Diksha Garg\* Jasvinder Kr. Sidhu\*\*

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**ABSTRACT**

*This research paper aims to examine the level of job stress and its effect on job satisfaction of employees working in distinct banks (SBI, PNB, BOB, HDFC, ICICI and AXIS) in Haryana. The primary data was obtained by survey method from a total of 532 respondents based on convenience sampling approach. For analysis of data, statistical tools mean, standard deviation, one way ANOVA, and linear regression were applied. In addition, to determine which bank is significantly distinct from others in terms of job stress and job satisfaction level, post hoc multiple comparisons test has also applied. The investigation concluded that employees working in distinct banks are in stress but they are also satisfied with their jobs to an extent. Also, it reveals a significant association between job stress and job satisfaction and job satisfaction level of employees is negatively affected by job stress.*

**Keywords:** job stress, job satisfaction, banking sector**INTRODUCTION**

The conditions in which the organisations operate continue to evolve rapid technological change, globalization and competition to provide more and more innovative services to customers create new challenges and job requirements. The organisations need to ensure the effective utilisation of all of their resources as a means of achieving competitive advantages and due to this fact evaluating the added value of human resources management to organisational working has become increasingly popular. Human resource management in organisation underlines the importance of job satisfaction of employees. The behaviour of workers depending of their level of job satisfaction will affect the functioning and performance of the organisation (Spector, 1997). Employees who have more job satisfaction are usually less absent, less likely to leave the organisation, more productive, more committed to organisation and are more likely to be satisfied with their lives (Aarons and Sawitzky, 2006). The relationship between job satisfaction and job stress is well documented in literature and has been widely analysed. It is also suggested that a satisfied worker can increase organisational productivity through less distraction caused by absenteeism or turnover, few incidence of destructive behaviour caused due to stress and low medical costs (Robbins, 1999)

Stress has become an integral part of our life and is present everywhere, whether one is with family, or in business undertaking, or in other communal activity. When stress syndrome appears in staff and it becomes unreasonable, work performance gets harmed and it also hinders the ability of employee to cope up with stressful job environment. Accordingly, when level of stress is low employee is competent to perform quality work and is more productive as compare to more stressful employee. In 1936, concept of stress was introduced by Hans Selye in life science and explained stress as "the force, pressure, or strain exerted upon a material object or person which resists these forces and attempt to maintain in original state". Selye believed that the biochemical effects of stress would be experienced irrespective of whether the situation was positive or negative." Stress can be defined by two forms i.e. positive stress and negative stress. Positive stress is also termed as Eustress which positively encourages staff to work harder and stimulating and enhancing their work performance. Whereas, Negative stress is termed as distress and it may develop negative effects on staff's health and work performance.

Job stress is distinct from general kind of stress. Jobholders spend most of time at workplace and stress related to workplace known as job stress. It has been defined by different authors



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# The Motherhood Challenge: Examining the Role of Coping Styles and Personality in Infertile Women

March 2019

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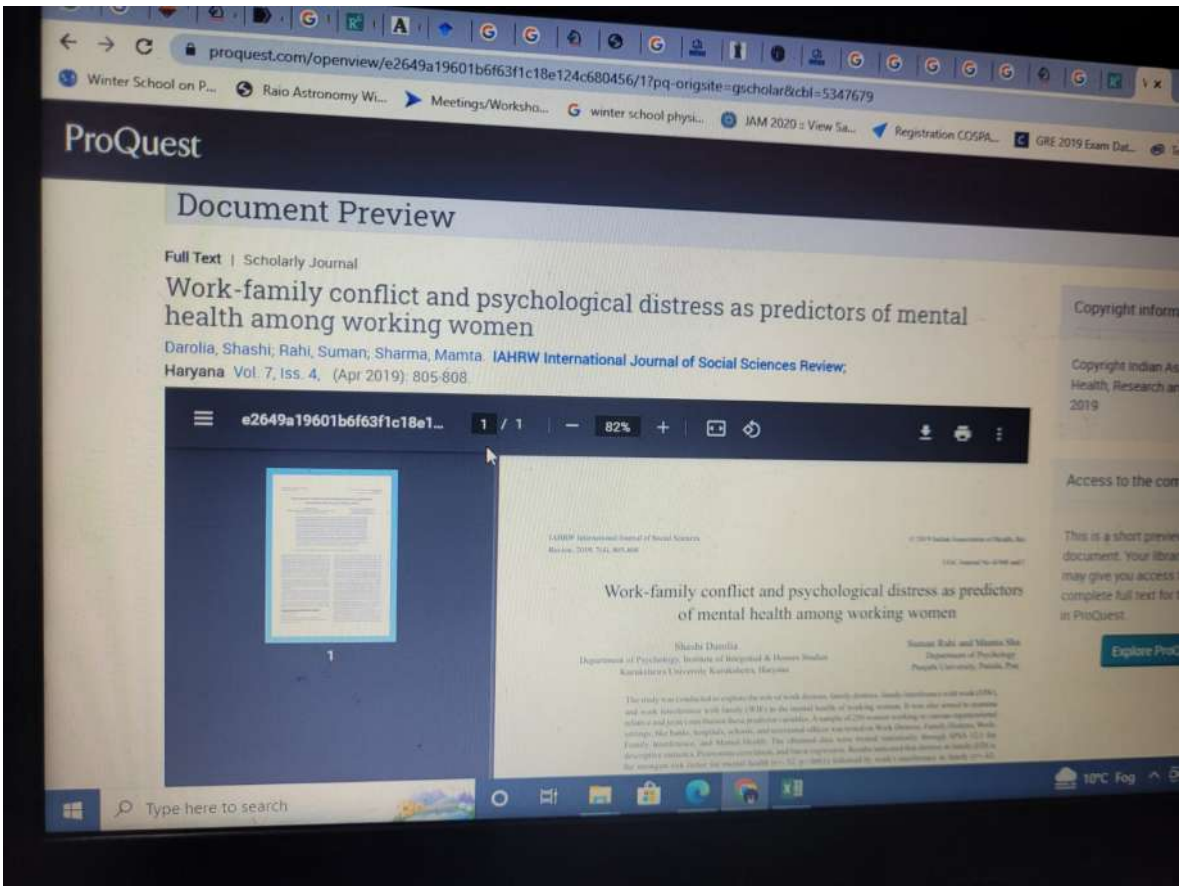
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Infertility evokes an enormous amount of psychological distress in women

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# Work-family conflict and psychological distress as predictors of mental health among working women

Darolia, Shashi, Rahi, Suman, Sharma, Mamta | IAHRW International Journal of Social Sciences Review, Haryana Vol. 7, Iss. 4, (Apr 2019): 805-808

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IAHRW International Journal of Social Sciences Review  
 Volume 7, Issue 4, April 2019

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Work-family conflict and psychological distress as predictors of mental health among working women

Shashi Darolia  
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Suman Rahi and Mamta Sharma  
 Department of Psychology  
 Punjab University, Patiala, Punjab

The study was conducted to explore the role of work distress, family distress, family responsibilities as predictors of mental health and work performance in working women. It was also aimed to examine the relationship between work-family conflict, psychological distress, mental health, and work performance among working women. A sample of 200 women working in various organizations (public, private, and government) was selected. Work Distress, Family Distress, Work-Family Conflict, Psychological Distress, Mental Health, and Work Performance were measured using validated scales. The data was analyzed using SPSS 20.0 for Windows. The results showed that work-family conflict, family distress, and work performance were significantly related to mental health. The study also found that work-family conflict and family distress were significant predictors of mental health. The study also found that work-family conflict and family distress were significant predictors of mental health.

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DOI: 10.29070/JASRAE

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Kamal Saroha\*, Ajay Aggarwal.

Subjects:  
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### Effect of Non-ionic Surfactants on in-Vitro Release of Ketorolac Tromethamine | Original Article

— Kamal Saroha\*, Ajay Aggarwal. in *Journal of Advances and Scholarly Researches in Allied Education* | Multidisciplinary Academic Research

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**ABSTRACT**

Niosomes or non-ionic surfactant vesicles are microscopic lamellar structures formed on admixture of non-ionic surfactant of the alkyl or dialkyl polyglycerol ether class and cholesterol with subsequent hydration in aqueous media. They are vesicular systems similar to liposomes that can be used as carriers of amphiphilic and lipophilic drugs. Entrapment efficiency was found to be higher in case of niosome prepared with span60 than niosome prepared with Tween. The amount of release was found to be in order of Span20> Tween60> Tween20> Span60. As the concentration of surfactant is increased in vitro release


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**Review Article**

## Regulation and Clinical Investigation of Medical Device in the European Union

Author(s): Manita, Aakash Deep\*, Vikram, Avtar C. Rana and Prabodh C. Sharma

Volume 6, Issue 3, 2019

Page: [163 - 181] Pages: 19

DOI: 10.2174/2213476X06666190821095407

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### Abstract

Background: Medical devices are the machine, tool, instrument, apparatus, implant, calibrator in vitro, software, the similar or related object intended for use by the manufacturer alone or in combination becoming increasingly important in the healthcare sector as these are used to diagnosis, control, prevention or treatment of an illness. Safety of the world population is the highest priority in order to launch new medical devices for the treatment and diagnostic of several diseases. New innovation in industries and regulations work together to provide devices for different world market and to improve quality and safety of exiting devices in the market. The main aim for disease is to classify the determination of actual clinical data which ensure the safety.

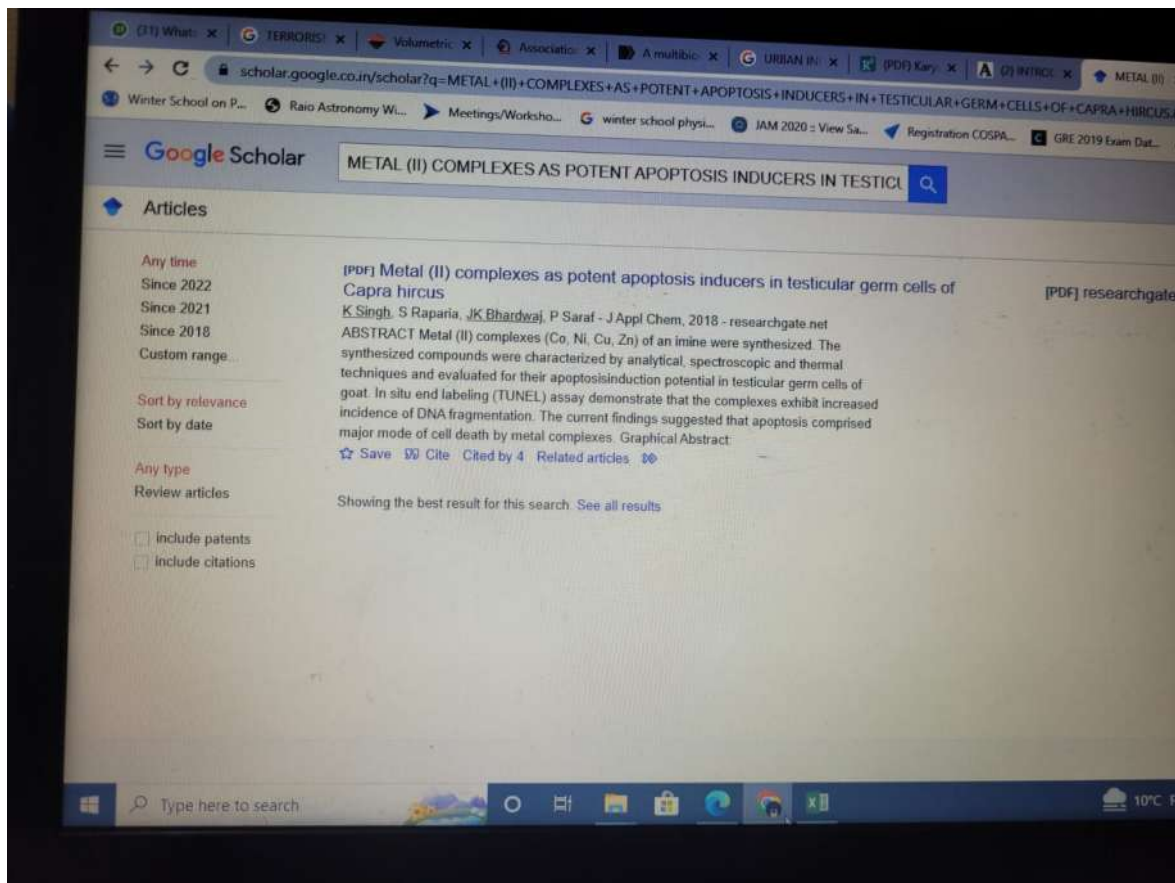
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## Antigenotoxic effects of morin against lead induced genomic damage in cultured human peripheral blood lymphocytes

Bharti Yadav, Veena Vishwakarma, Sunil Kumar, Neeraj K. Aggarwal, Ranjan Gupta, Anita Yadav

First published: 30 April 2019 | <https://doi.org/10.1111/jfbc.12883> | Citations: 6

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### Abstract

Lead (Pb) is a well-known carcinogenic heavy metal. Exposure to Pb induces DNA damage by enhancing the generation of reactive oxygen species (ROS). One of the possible ways to shield DNA from this damage is to supply antioxidants that can remove free radicals generated by genotoxicants. Hence, the current study was designed to evaluate the antigenotoxic potential of a flavonoid compound; morin against Pb-induced genomic damage on cultured human peripheral blood lymphocytes (PBL). The effect of Pb or morin or their combination was evaluated on the DNA damage using comet and sister chromatid exchange (SCE) assays. The results indicated a significant ( $p < 0.05$ ) increase in the SCE frequency and various comet parameters in a dose-dependent manner upon

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ISSN (E): 2277- 7695  
ISSN (P): 2349-8242  
NAAS Rating: 5.03  
TPI 2019; 8(1): 276-281  
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www.thepharmajournal.com  
Received: 01-11-2018  
Accepted: 05-12-2018

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## Comparative estimation of antimicrobial and antioxidant activity of leaves and stems tissues of medicinal plant-*Tinospora cordifolia*

**Priti and Sulekha Rani**

### Abstract

*Tinospora cordifolia* (Menispermaceae) is a divine herb due to its therapeutic efficacy. The main objective of the present study was to make a comparative evaluation of leaf and stem tissues of this medicinal plant for the presence of phytoconstituents and antibacterial & antioxidant activities. Different solvents (methanol, ethyl acetate, diethyl ether, aqueous and chloroform) extracts were analyzed for presence of phytochemicals and studied further for antimicrobial and antioxidant activities. The antibacterial and antioxidant activity was evaluated by Agar well diffusion & DPPH scavenging method. Methanol proved to be best solvent when equated with other solvents (ethyl acetate, diethyl ether, chloroform and water) due to better solubility of metabolites in it. The stem tissue extracts showed the presence of more phytoconstituents and better antibacterial & antioxidant activities as compared to leaves. For the antibacterial activity, among the different solvent extract, the chloroform extract of stem tissue showed complete inhibition of all tested bacterial strains with maximum zone of inhibition. For antioxidant activity, the TAA % value of leaf tissue in methanol, ethyl acetate, chloroform, diethyl ether and aqueous extracts was 44%, 32%, 26%, 25%, and 14% and respectively of stem tissue was 70.70%, 67.00%, 62.00%, 59.10% and 69.70%. The Ascorbic acid was used as control. The TAA % value of ascorbic acid was 72%. The DPPH scavenging method showed that the antioxidant activity of stem extract in all solvents was superior as compared to leaf extract.

This investigation reveals that the stem part of *T. cordifolia* contains higher quantity of phytochemicals, due to which it showed better antibacterial and antioxidant activity than leaf tissue and thus has higher prospective applications in food, agriculture and pharmaceutical industry.

**Keywords:** *Tinospora cordifolia*, solvent extracts, phytochemicals, anti-bacterial and anti-oxidant



## Effect of Potassium and Sulphur Application on Growth Parameters of Indian Mustard (*Brassica juncea* L.) Genotypes at Vegetative Stage under Water Deficit Conditions

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Received: 7.09.2019 | Revised: 12.10.2019 | Accepted: 19.10.2019

### ABSTRACT

The experiment was conducted with two genotypes of Indian mustard (*Brassica juncea* L.) viz RH 725 and RH 749 to study the effect of potassium and sulphur at vegetative stages under water deficit conditions in randomized block design during rabi season of 2018- 2019 at nursery of Kurukshetra University, Kurukshetra (Haryana). The main plots were treated with potassium and sulphur at different concentrations of potassium (control)  $K_1=10$  kg/acre,  $K_2=20$  kg/acre,  $K_3=30$  kg/acre and  $K_2S=(20+60)$  kg/acre to study various growth parameters including Leaf area index (LAI), Leaf area duration (LAD), crop growth rate (CGR), relative growth rate (RGR), and net assimilation rate (NAR). Growth and development parameters were computed and experimental results showed that combine treatment of potassium and sulphur were pragmatic in improving Brassica performance. Maximum LAI (0.37), LAD (5.62 days) CGR ( $0.86 \text{ g m}^{-2} \text{ d}^{-1}$ ), RGR ( $0.05 \text{ mg g}^{-1} \text{ day}^{-1}$ ) and NAR ( $0.319 \text{ g m}^{-2} \text{ d}^{-1}$ ) noted in plots where sulphur was applied along with increased level potassium while least LAI (0.14), LAD (2.15 days), CGR ( $0.024 \text{ g m}^{-2} \text{ d}^{-1}$ ), RGR ( $0.03 \text{ mg g}^{-1} \text{ day}^{-1}$ ) and NAR ( $0.003 \text{ g m}^{-2} \text{ d}^{-1}$ ) was in control treatment. Overall performance of genotype RH-749 was comparatively higher in all fertilizer treatment as compared to RH-725 genotype.

**Keywords:** Mustard, Growth, Vegetative stage, LAI, Drought



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Asian Journal of Plant Science and Research, 2019, 9(2):30-37



## Impact of Lignification on Secondary Cell Wall Development: A Review

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### ABSTRACT

*Plants are comprised of different particular cell types that contrast in their cell wall arrangement and structure. The cell walls of specific tissues like xylem sclerenchyma are portrayed by the occurrence of cellulose and the heterogeneous lignin polymer all of which assumes a noteworthy role in the physiology plant growth and for the sustainable economic purposes like bioethanol production. By far most of plant biomass comprises of various cell wall polymers created by living plant cells. The greater part of these polymers are vitality rich connected sugars that shape the major auxiliary system in plant cell walls, especially in the thick secondary cell wall describing certain tissues. Notwithstanding cell wall polysaccharides, another critical cell wall biopolymer is lignin restricting the access to cell wall sugars. Because of its huge financial effect and pivotal job in vascular plant advancement; lignification is an imperative topic in plant biochemistry. So it is really important to understand the intricate network of secondary cell wall components and their biosynthesis which will be the major highlights for discussion in this review.*

**Keywords:** *Arabidopsis thaliana, Lignin, Cellulose, Matrix polysaccharides, Secondary cell wall, Saccharification, Transcription factors, Biofuel production*

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# Fractional and Self-Adaptive Autoregressive Dragonfly Optimization for Privacy Preserved Data Publishing in Mobile Cloud Computing

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**Abstract:** The advancement in Mobile Cloud Computing (MCC) has gained immense knowledge in computing concept for upcoming generation. The wireless communications enable the integration of cloud computing and mobile to generate MCC. Privacy and security are the major issues faced by MCC while publishing data. This work introduces a technique, named Self-Adaptive Autoregressive Dragonfly Optimization (S-ADO), for addressing the issues by determining the secret key optimally using retrievable data perturbation technique for privacy preserved data publishing in MCC. The retrievable data perturbation is performed using fractional theory and matrix product based model with proposed S-ADO. The proposed S-ADO is developed by modifying ADO by making it self-adaptive. Initially, a fitness function is computed using privacy & utility parameters for determining the optimal differential derivative coefficients. The optimal coefficients are used to generate the secret key by using fractional theory. Then the matrix product based model is adapted to convert original data into privacy preserved data. The secret key derived using utility and privacy functions, is also used to recover the original data. The performance of the proposed S-ADO algorithm shows superior performance with privacy and utility values as 0.7855, and 0.7088 respectively.

**Keywords:** Data perturbation, Fractional theory, MCC, Self-Adaptive, Utility.

## I. INTRODUCTION

Mobile Cloud Computing (MCC) is the incorporation of cloud computing in a wireless network that improves the performance of mobile devices like smartphones, and Personal Digital Assistant (PDA). The intrinsic defects of mobile devices such as inadequate storage space, usage of battery energy,

insufficient sensing capacities, and low CPU speed in mobile applications are tackled with respect to multiple challenges, such as Quality of Service (QoS), mobility management, energy management, and issues related to security. The MCC addresses these issues, and it offloads component to be implemented on prevailing nodes on the cloud and has several advantages with respect to the traditional mobile services [1]. MCC promotes user's experience by enriching the mobile applications to be implemented in mobiles and local infrastructures. The mobile devices, like PDA, smartphones, sensors, and tablets exchange the information with local infrastructure using the mobile networks. This type of execution can increase the usage of mobile devices and enrich the client experience that includes advanced games, educational applications, or medical applications [2]. Various techniques related to data publishing in the MCC model consider multiple objectives, such as energy, cost, and execution time, for addressing the optimization problem [3].

A large amount of data requires a publishing system for publishing it and thus, to seek the best technique for making effective decisions, the data is made accessible for all the users. The detailed data in its original form consists of sensitive data about the individual user and publishing these data without any protection smashes the privacy of the individual [4]. The massive data is explored focusing on two parameters that are privacy and privacy protection. The privacy is more likely to be disclosed if data is stored for specific purpose, but used for different purpose [5]. Here, the privacy is desecrated due to three types of attacks, which involve background knowledge attack, linking attack, and homogeneity attack [6]. Thus, it is an important limitation, which must be considered for secondary data using privacy preservation and data mining methods [7]. In spite of the several advantages, there exist certain limitations over data privacy while adapting services related to cloud storage. The data collected before encryption from distant cloud storage server is susceptible to external and internal attacks initialized by unreliable service providers. Various data anonymization methods [9] [10] [11] as well as privacy



## Analysing Collective Effect of Metrics on MANET Routing Protocols

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DOI: <https://doi.org/10.26438/ijcse/v7i3.490494> | Available online at: [www.ijceonline.org](http://www.ijceonline.org)

Accepted: 08/Mar/2019, Published: 31/Mar/2019

**Abstract**— Analysis of Protocol is of prime importance in order to optimize its performance. Performance metrics are useful parameters for analyzing the performance of any routing protocol in Mobile Ad hoc Networks (MANETs). It is generally observed during the simulation of protocols in MANETs that one protocol may perform better with respect to one performance metric as compared to another protocol but its performance may weaken with respect to another performance metric when compared with same protocol. Hence there is a need to evaluate a protocol using a cumulative performance value. This cumulative value for a protocol can be calculated by providing due weightage to different factors based on its performance in various metrics. In this paper a cumulative metric has been proposed. Based on the value of this metric, the overall performance of a protocol can be analyzed and can also be compared to the other protocols.

**Keywords**— Protocol, MANET, Metric, Uni-path, Multipath, Simulation.

### I. INTRODUCTION

In MANETs [1] routing of packets from a source to destination node may require various mobile nodes for onward transmission. Based on the kind of requirements, various protocols exist in MANETs. There are on demand protocols [2] like Ad-Hoc On demand Distance Vector Routing protocol (AODV) [3] and proactive routing protocols like Destination Sequenced Distance Vector (DSDV) [4]. There also exist protocols which support multipath routing, for example Ad-Hoc On demand Multipath Distance Vector Routing protocol (AOMDV) [5] [6]. All of these protocols have some special significance. In order to analyze the performance of any protocol, various metrics are also available. The examples of such metrics include Energy Consumed, End to End Delay, Packet Delivery Ratio, Throughput etc. A protocol according to the requirements may perform well in one metric but may not perform as well with another metric. In order to judge the overall performance of a protocol a cumulative metric is needed, which may analyze a protocol considering its different aspects. Sometimes certain tradeoffs are also involved amongst the metrics, and to deal with these tradeoff we need a metric which may provide due weightage to the protocol which is best suited to the requirements. This paper presents a cumulative metric that can be used for analyzing and comparing different protocols. The paper is divided into five sections. Section II presents the analysis of few works related to the performance comparison of different protocols.

Section III provides various existing metrics along with the comparison of protocols namely DSDV, AODV and AOMDV. NS2 simulator has been used for the purpose. This section also illustrates the limitation of existing system of metrics. Section IV provides the designed cumulative metric along with its significance. Last section concludes the findings of work presented in the paper.

### II. RELATED WORK

Based on the kind of routing strategy, MANETs protocols can be broadly divided into two categories i.e. proactive and reactive routing Protocols. Further we may also use uni-path or multipath routing. The DSDV and AODV are example of Proactive and Reactive routing protocols respectively. Both DSDV and AODV are Uni Path Routing Protocol. The AOMDV represents the Multipath Routing protocol [6] i.e. it allows the selection of disjoint paths.

A lot of works have been done in the past, where performances of different routing protocols have been compared. As an example, C. Perkin et al. [7] compared the two on demand protocols namely Dynamic source routing (DSR) [8] and AODV. The results for delay and throughput show that DSR performs better than AODV in low load conditions. But, in high load conditions AODV outperforms DSR. However the DSR generates less routing load as compared to AODV.





# Modified Energy Proficient ACO based LEACH Protocol in Wireless Sensor Network

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**Abstract:** The key issue in a wireless sensor network is how to save energy for sensor nodes so that they can actively work for a long time. Many clustering protocols have been designed to overcome the issues related to power. One among them is the leach protocol. In this paper, we have proposed the energy resourceful protocol named as modified ACO leach protocol (MALP) compared with the traditional leach protocol. The proposed algorithm uses the term number of nodes, residual energy, and pheromone value in cluster head selection probability formula. The comparisons run on Matlab and simulation results conclude that MALP saves the energy of sensor nodes and its execution time and hence increasing the lifetime of the sensor network.

**Keywords:** Leach Protocol; Wireless Sensor Network (WSN); Modified ACO leach protocol (MALP); Cluster Head;

## I. INTRODUCTION

Wireless Sensor Network is a network that contains a base station and thousands of sensor nodes to analyze the environmental conditions like temperature, pressure, motion and so on. The sensor nodes are communicated with each other through the help of a base station and the wireless radios. The object that does the work of sensing is named as sensor. These sensors have the capability of converting material things into signals which can easily be analyzed and calculated. The size, physical security, power, memory space, unreliable communications, low costs, energy efficient, are the characteristics of wireless sensor network. Beyond that there are many issues regarding deployment of nodes, power consumption, heterogeneity of network, a topology of the network, reliability and scalability, medium of transmission etc that have been faced by the wireless sensor network. Among these challenges, the power management issue is also the main concern. The wireless sensor network requires the power stability throughout the network. Batteries are used for power in the nodes. But, the discharge of power in batteries is more which degrades the network lifetime. Frequently usage of battery power degrades the life span of the whole network. The classification of routing protocols in WSN is based on style of functioning of nodes; the way of nodes participated in the network; and the network structure. So, the routing protocol is divided into hierarchical, data centric, and location based on the basis of the network structure. The hierarchical routing protocols have energy efficient routing. Many algorithms come under this category [12]. The Researchers have been developed so many power-efficient algorithms like LEACH, PEGASIS, TEEN, APTEEN, HPAR etc to recover from the power issue; LEACH (Low Energy Adaptive Clustering Hierarchy) is one among them.

### A. Leach Protocol

Leach protocol uses a hierarchical topology comes under the category of the hierarchical network. Heinzelman et al. [16] has proposed that a cluster contains more than two nodes and size of cluster varies according to the size of the network. To manage the power in the network one cluster head is selected randomly based on round robin policy from all the nodes. Every node gets the chance to become a cluster head. Leach is a self-organizing network which is considered as a protocol that uses the random distribution of energy between the nodes. The dense network made by thousand of nodes has been divided into the cluster with the same size. The nodes of the cluster head have been categorized as coordinate nodes, cluster member, normal nodes. By using the TDMA schedule, the related data is composed of the sensor node. If any node becomes the cluster head (CH) continuously, its energy starts to exhaust. To avoid such situation, other nodes also get the chance to become the cluster head after each particular round or after some specific time. The entire sensor node in a cluster, forward their data to the cluster head and the CH collect the data from its entire member nodes. Finally, cluster head combines the data and forward this data to the base station for further process [1]. The operation of Leach is split into two phases: 1. Setup Phase; 2. Steady State.

1) *Setup Phase:* During the setup phase, all the sensor nodes are distributed into different clusters and in each cluster one cluster head is selected randomly. A sensor node chooses a random number between 0 and 1. A range is put from 0 to 1 which is then compared with the threshold value  $T(n)$ , as mentioned in equation 1. If the chosen value is less than the threshold {choose value  $< T(n)$ } value, then that node is selected as a cluster head otherwise that node remains as a cluster member. A message is advertised by the cluster head once a node is selected as a cluster head.



## Impact of Climate Change on the Production of Major Food and Commercial Crops in India: A Five Decadal Study

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### *Authors' contributions*

*This work was carried out in collaboration among all authors. Author PA designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Authors RD and SC managed the analyses of the study. Author SC managed the literature searches. All authors read and approved the final manuscript.*

### *Article Information*

DOI: 10.9734/IJECC/2019V9I930133

#### *Editor(s):*

(1) Dr. Vincent Nduka Ojeh, Lecturer, Department of Geography, Faculty of Social & Management Sciences, Taraba State University, Nigeria.

#### *Reviewers:*

(1) Olutosin A. Otekunrin, Federal University of Agriculture, Nigeria.

(2) P. R. Reddy, CSIR-NGRI, India.

(3) Atilla Akbaba, İzmir Katip Celebi University, Turkey.

Complete Peer review History: <http://www.sdiarticle3.com/review-history/51251>

*Received 22 June 2019*

*Accepted 28 August 2019*

*Published 04 September 2019*

*Original Research Article*

### **ABSTRACT**

Climate change is posing a great threat to agriculture and food security, especially in the agriculture oriented and developing countries like India. The present study was carried out to critically study the impact of climate change on productivity of major cereal and commercial crops by statistically analyzing the time series data. The analysis inferred that crop production of both food and commercial crops in India has increased since 1960-61. It was observed that major food crops (rice & wheat) were adversely affected by increase in maximum temperature and decrease in rainfall. The alternative measures such as area under cultivation, irrigation, fertilizer and pesticide consumption were observed to be nullifying that negative impact of climate change by enhancing the overall production. However, the commercial crops were observed to be positively affected by the increasing temperature. The study suggested that although the agriculture sector is able to withstand the adverse impact of climate change till now, but in near future this situation can

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# The Journal of Phytopharmacology

(Pharmacognosy and phytomedicine Research)

## Research Article

ISSN 2320-480X  
JPHYTO 2019; 8(6): 306-311  
November - December  
Received: 25-10-2019  
Accepted: 07-12-2019  
© 2019, All rights reserved  
doi: 10.31254/phyto.2019.8608

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## Biodiversity of arbuscular mycorrhizal fungi associated with selected medicinal plants of Hamirpur district of Himachal Pradesh, India

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### ABSTRACT

The present investigation was focused on exploration of biodiversity of Arbuscular mycorrhizal fungi (AMF) associated with different medicinal plants. Twenty-two medicinal plants belonging to 14 families were analyzed for AMF colonization. The plant roots and their respective rhizospheric soil samples were collected from different localities of hamirpur district, himachal pardesh for AMF analysis and spore assessment per 50gm of soil sample of soil. The results revealed that number of AM spores in the rhizosphere of plant was not related to percent of AM root colonization. Highest per cent of root colonization was reported in *Ricinus communis* (86.5±4.68 %) and *Achyranthes aspera* lacks colonization. Highest number of AM spore was found in rhizospheric soil sample of *Mimosa pudica* (177.4±4.306) and least number of spores in *Datura stramonium* (47.53±2.76). Fourty three AM species belonging to five genera i.e. *Glomus*, *Acaulospora*, *Gigaspora*, *Entrophospora* and *Sclerocystis* were isolated during investigation. Maximum AM spore diversity was observed in *Mentha viridis* followed by *Catharanthus roseus* and least diversity related to *Datura stramonium*. The study confirmed that diversity of AM fungi varies with plant to plant.

**Keywords:** AMF spore, root colonization, medicinal plant.

# ARBUSCULAR MYCORRHIZAL INOCULANTS INCREASES NUTRIENT UPTAKE AND YIELD OF CAPSICUM FRUTESCENS L. AND AFFECTS THE NATIVE FUNGAL FLORA IN THE FIELD

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## Abstract

The benefits of mycorrhizal treatment on growth, yield and nutrition of plants are very well known and documented. However mycorrhiza use in *Capsicum* spp. is still rarely exploited as compared to other economically important crops. In the present work, an attempt has been made to evaluate the effect of two mycorrhizal fungi (*Glomus mosseae* and *Acaulospora laevis*) alone or in combination on growth, yield and phosphorus uptake under field conditions. The experiment was conducted in a randomized design with inoculation of two AM fungi i.e. *Glomus mosseae*, *Acaulospora laevis* and *G. mosseae*+ *A. laevis*. Plants were harvested after four months from the date of planting and plant growth, Phosphorus uptake and yield were recorded. The inoculation of AM fungi showed significantly more shoot and root fresh and dry weight and yield. The phosphorus content in roots showed mixed response resulting into significantly more phosphorus in dual treatment comparison to control as well plants inoculated with *Glomus mosseae* and *Acaulospora laevis*. Percent root colonization and AM spore number by all AM fungi treatment increased significantly. Plant height, number of new branches and fruit yield has increased significantly by AM inoculation as compared to control.

## Some Expansion Formulae For The Aleph $(\aleph)$ -Function

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**Abstract:** In the present paper, the author has established two expansion formula of Aleph  $\aleph$ -Function.

**Keywords:**  $\aleph$ -Function, Expansion Formula, Gamma Function

(2010 Mathematical Subject Classification: 33C99)

Date of Submission: 11-03-2019

Date of acceptance: 28-03-2019

### I. INTRODUCTION

The  $\aleph$ -function introduced by Suland et.al. [3] defined and represented in the following form:

$$\begin{aligned} \aleph[z] &= \aleph_{p_i, q_i, \tau_i, r}^{m, n}[z] = \aleph_{p_i, q_i, \tau_i, r}^{m, n} \left[ z \mid \begin{matrix} (a_j, \alpha_j)_{1, n}, [\tau_i(a_{ji}, \alpha_{ji})]_{n+1, p_i} \\ (b_j, \beta_j)_{1, m}, [\tau_i(b_{ji}, \beta_{ji})]_{m+1, q_i} \end{matrix} \right] \\ &= \frac{1}{2\pi w} \int_{\tilde{L}} \theta(s) z^s ds \end{aligned} \quad (1.1)$$

Where  $w = \sqrt{-1}$ ;

$$\theta(s) = \frac{\prod_{j=1}^m \Gamma(b_j - \beta_j s) \prod_{j=1}^n \Gamma(1 - a_j + \alpha_j s)}{\sum_{i=1}^r \tau_i \left\{ \prod_{j=m+1}^{q_i} \Gamma(1 - b_{ji} + \beta_{ji} s) \prod_{j=n+1}^{p_i} \Gamma(a_{ji} - \alpha_{ji} s) \right\}} \quad (1.2)$$

We shall use the following notations:

$$A^* = (a_j, \alpha_j)_{1, n}, [\tau_i(a_{ji}, \alpha_{ji})]_{n+1, p_i}; B^* = (b_j, \beta_j)_{1, m}, [\tau_i(b_{ji}, \beta_{ji})]_{m+1, q_i}$$

### II. EXPANSION FORMULA

#### First Formula

$$\aleph_{p_i, q_i, \tau_i, r}^{m, n} \left[ \eta \omega \mid_{B^*}^{A^*} \right] = \eta^{\frac{b_1}{\beta_1}} \sum_{r=0}^{\infty} \frac{\left[ 1 - \eta^{\frac{1}{\beta_1}} \right]^r}{r!} \aleph_{p_i, q_i, \tau_i, r}^{m, n} \left[ \omega \mid_{(r+b_1, \beta_1), (b_j, \beta_j)_{2, m}, [\tau_i(b_{ji}, \beta_{ji})]_{m+1, q_i}}^{A^*} \right] \quad (2.1)$$

Where  $\eta$  is written for  $m = 1$  and for

$$m > 1, \left| \eta^{\frac{1}{\beta}} - 1 \right| < 1; \arg(\eta \omega) = \beta_1 \arg(\eta^{\frac{1}{\beta_1}}) + \arg \omega \text{ and } \left| \arg(\eta^{\frac{1}{\beta_1}}) \right| < \frac{\pi}{2}.$$

$$\text{Proof: R.H.S.} = \eta^{\frac{b_1}{\beta_1}} \sum_{r=0}^{\infty} \frac{\left[ 1 - \eta^{\frac{1}{\beta_1}} \right]^r}{r!} \aleph_{p_i, q_i, \tau_i, r}^{m, n} \left[ \omega \mid_{(r+b_1, \beta_1), (b_j, \beta_j)_{2, m}, [\tau_i(b_{ji}, \beta_{ji})]_{m+1, q_i}}^{A^*} \right]$$



# FRACTIONAL INTEGRAL OPERATORS INVOLVING A CERTAIN CLASS OF POLYNOMIALS

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## ABSTRACT

In the present paper a number of new and useful results for the fractional integral operations involving a certain class of polynomials are obtained. The operators defined here are quite general in nature and a large number of new or known results can be obtained by suitably specializing the parameters of the various functions involved. Also, fractional integral operators involving Legendre, Tchebycheff and Gegenbauer polynomials are obtained as a particular case.

Keywords: Fractional integral operators, a class of polynomials, hypergeometric functions.

## INTRODUCTION

Various definitions of operators of fractional integration involving a class of polynomials introduced by Srivastava[2] have been given from time to time by many authors [3], [4], [6] due to their usefulness in applied mathematics. Here we consider a class of polynomials equipped with an extra parameter

Let  $\{S_{n,m}^\sigma(x); m = 2, 3, \dots; m \neq \infty\}$  denotes a new class of polynomials given by Sinha[5].

$$S_{n,m}^\sigma[x] = \sum_{k=0}^n \frac{(m\sigma)_{n+m-1-k} (x-1)^k}{m^{(m-1)k} k!(n-k)! \prod_{p=2}^m \left(\sigma + \frac{p-1}{m}\right)_k} \quad (1)$$

where,  $m = 2, 3, \dots; m \neq \infty$  and  $\sigma$  is arbitrary

The aim of this paper is to study the following fractional integral operators associated with the product of hypergeometric function and a new class of polynomials:

$$\begin{aligned} R[f(x)] &= R[\alpha, \beta, \nu; m, \sigma, \gamma, \rho; f(x)] \\ &= \frac{x^{\gamma-1}}{\Gamma(1-\alpha)} \int_0^x t^{\nu} {}_2F_1\left(\alpha, \beta, \nu; \beta; \frac{t}{x}\right) \\ &= S_{n,m}^\sigma \left[ 1 + z \left(\frac{t}{x}\right)^\rho \right] f(t) dt \end{aligned} \quad (2)$$

and

$$\begin{aligned} K[f(x)] &= K[\alpha, \beta, \nu; m, \sigma, \eta, \rho; f(x)] \\ &= \frac{x^\eta}{\Gamma(1-\alpha)} \int_0^\infty t^{\nu-1} {}_2F_1\left(\alpha, \beta+\nu; \beta; \frac{x}{t}\right) \end{aligned}$$

## Convolution Integral Equation Involving Generalized Hypergeometric Function and $H$ -function of Two Variables

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(Received on: April 15, 2019)

### ABSTRACT

In the present paper, the authors have established a solution regarding convolution integral equation whose kernel is a generalized hypergeometric function  ${}_pF_q[.]$  and the  $H$ -function of two variables. Some interesting special cases of main result have also been discussed.

2010 Mathematical subject classification: 33C99.

Keywords: Convolution Integral Equation, Laplace Transform, Convolution Theorem,  $H$ -function of Two Variables, Generalized Hypergeometric Function.

### 1. INTRODUCTION

If  $f(t)$  and  $g(t)$  are piecewise continuous function on  $[0, \infty)$ , then the convolution integral of  $f(t)$  and  $g(t)$  is,

$$(f * g)(t) = \int_0^t f(t - \tau)g(\tau)d\tau$$

A nice property of convolution integrals is,

$$(f * g)(t) = (g * f)(t)$$

Or

$$\int_0^t f(t - \tau)g(\tau)d\tau = \int_0^t g(t - \tau)f(\tau)d\tau$$

## On Some Derivatives of the Aleph ( $\aleph$ )-Function

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**ABSTRACT:** In the present paper, the authors have established some differential formulae for the Aleph  $\aleph$ -function. Some special cases of our main results are also given.

**Key words:** Aleph ( $\aleph$ )-function, Mellin-Barnes contour integral.

(2000 Mathematics Subject Classification: 33C99)

Date of Submission: 25-04-2019

Date of acceptance: 05-05-2019

### I. INTRODUCTION

The  $\aleph$ -function introduced by Suland et al. [4] defined and represented in the following form:

$$\begin{aligned} \aleph[z] &= \aleph_{p, q; \tau; r}^{m, n}[z] = \aleph_{p, q; \tau; r}^{m, n} \left[ z \mid \begin{matrix} (\alpha_j, \alpha_j)_{1, n}, [\tau_i(\alpha_{ji}, \alpha_{ji})]_{n+1, p_i} \\ (b_j, \beta_j)_{1, m}, [\tau_i(b_{ji}, \beta_{ji})]_{m+1, q_i} \end{matrix} \right] \\ &= \frac{1}{2\pi w} \int_L \theta(s) z^s ds \end{aligned} \quad (1.1)$$

Where  $w = \sqrt{-1}$ ;

$$\theta(s) = \frac{\prod_{j=1}^m \Gamma(b_j - \beta_j s) \prod_{j=1}^n \Gamma(1 - \alpha_j + \alpha_j s)}{\sum_{i=1}^r \tau_i \left\{ \prod_{j=m+1}^{q_i} \Gamma(1 - b_{ji} + \beta_{ji} s) \prod_{j=n+1}^{p_i} \Gamma(\alpha_{ji} - \alpha_{ji} s) \right\}} \quad (1.2)$$

We shall use the following notation:

$$A^* = (\alpha_j, \alpha_j)_{1, n}, [\tau_i(\alpha_{ji}, \alpha_{ji})]_{n+1, p_i}, B^* = (b_j, \beta_j)_{1, m}, [\tau_i(b_{ji}, \beta_{ji})]_{m+1, q_i}$$

### II. NOTATIONS AND RESULTS USED

In this paper  $\frac{d}{dx}$  is denoted by  $D_x$ . Thus

$$D_x^r f(x) = \frac{d^r}{dx^r} f(x) \quad (2.1)$$

$$(xD_x)^r f(x) = \left( x \frac{d}{dx} \right)^r f(x) \quad (2.2)$$

$$(D_x x)^r f(x) = \left( \frac{d}{dx} x \right)^r f(x) \quad (2.3)$$





Asian J. Adv. Basic Sci.: 2018, 6(1), 01-06

ISSN (Print): 2454 – 7492

ISSN (Online): 2347 – 4114

[www.ajabs.org](http://www.ajabs.org)

## Isolation and Characterization of Microorganisms for Insect Biocontrol by Chitin Deacetylase

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(Received 17 Dec, 2017; Accepted 02 Jan, 2018; Published 10 Jan, 2018)

**ABSTRACT:** Extensive use of synthetic chemical insecticides has led to many environmental, agricultural and health hazards. To overcome these problems and also to protect the crops from insect pest which are responsible for huge loss of crop yield, enzymatic biocontrol may be opted. As Chitin is an important component of the insect cuticle it can be used as a target to control insect pests. So enzyme chitin deacetylase (CDA), which alters chitin, is used in the present study. Chitin deacetylase producing microorganisms were isolated and screened. Out of 142 microbial isolates, 91 were found to be CDA positive using PN strip and PN agar method. After enzyme assay only 2 isolates, one fungal and one bacterial, were selected. Their morphological and cultural characteristics were studied and identified as *Aspergillus flavus* and *Bacillus thuringiensis*. Cuticle of insect pupa has been tested for CDA action in its crude form. In conclusion, these two microbial isolates may be considered as potent CDA producing sources.

**Keywords:** Chitin; Chitosan; *Aspergillus flavus*; *Bacillus thuringiensis*.

The Pharma Innovation Journal 2018; 7(10): 194-200

[www.ThePharmaJournal.com](http://www.ThePharmaJournal.com)

# The Pharma Innovation



ISSN (E): 2277- 7695

ISSN (P): 2349-8242

NAAS Rating: 5.03

TPI 2018; 7(10): 194-200

© 2018 TPI

[www.thepharmajournal.com](http://www.thepharmajournal.com)

Received: 24-08-2018

Accepted: 25-09-2018

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## Berberine: A pioneer remedy for various Ailments

Surender Verma and Deepika Sharma

### Abstract

Herbal drug have always been the centre of attraction for the treatment and prevention of various diseases and for the maintenance of healthy lifestyle. Bioactive compounds derived from natural products have been used for the treatment of ailments for thousands of years. Berberine is one such drug which is obtained from various plant sources which has gained massive attention as a therapeutic agent against numerous diseases like hyperlipidemia, diabetes, obesity, fatty liver diseases, and coronary artery disease. But it feels very hard to reach these drugs to the commercial level due to the low solubility and bioavailability problems. Interestingly, herbal drugs offer several advantages over the allopathic system due to the avoidance of severe side effects and toxicity. Recently, advanced techniques have been investigated to enhance the bioavailability of such drugs. In this review, we have summarized the facts about berberine along with the problems associated with its bioavailability and approaches to overcome these problems.

**Keywords:** Berberine, bioavailability, allopathic, side effects

# **Admired phytoconstituents gifted by Mother Nature for diabetes mellitus: pioneer remedies for modern era**

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**Abstract-** Herbal medicine, Botanical medicine, phytomedicine all are synonyms, have used for medical purposes. Herbal medicine have used in the treatment and prevention of disease including diabetes has a long background as compared to conventional medicine. Mother Nature has medicinal and botanical plants to mankind; there is technical data which justify wide range in Ayurveda. There are lots of plants, herbs, fruits, roots, rhizomes, bark which posses pharmacology alterations on human being , plants like stevia rebaudiana, Momordica charientia, Syzygium cumini, Azadirachta indica, Allium cepa, allium sativum, Psidium guajava, Tinospora cordifolia, Lawsonia inermis, Panax ginseng, aloe barbadensis, Zingiber officinale, Ocimum sanctum, Plantago ispaghula, Mangifera indica, etc which are most popular remedy shows antidiabetic activity. People apparently faith on them due to lesser side effect, imposes no synergistic and antagonistic action.

**Keywords -** God gifted phytochemicals, benefits over synthetic drugs, technicalities behind hypoglycemic effect, all aspects like- mechanism of action, dose, formulations





ISSN: 2456-4419  
Impact Factor: (RJIF): 5.18  
Yoga 2019; 4(1): 1352-1355  
© 2019 Yoga  
www.theyogicjournal.com  
Received: 27-11-2018  
Accepted: 23-12-2018

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## Analyses the percentage of force medial foot between the rural and urban primary school students of Haryana

Ajay Kumar and Dr. Arvind Malik

### Abstract

Foot structure has a long established connection to foot function within the research field. For this study random sampling technique has been used for the collection of data. The researcher has selected total 1500 individuals as subjects (750 rural students and 750 urban students measured the Static Planter Foot Pressure (PFP) and Body Mass Index (BMI) The subjects were asked to stand on BTS P – Walk modular system (Pressure plate) and the data was recorded for 5 seconds. The F value was found to be 1.268, which is not found to be significant even at ( $P<0.05$ ) level. Rural and Urban students were bearing equal Percentage of Force Medial Foot of their left foot. The F value was 1.300 which is not found significant even at ( $P<0.05$ ) level. Rural and Urban students were bearing equal Percentage of Force Medial Foot of their right foot.

**Keywords:** Average pressure (AP), underweight (UW), normal weight (NW), overweight (OW) and obese



# Analyses the Average Pressure on Left Foot and Right Foot among the Rural and Urban Primary School Students of Haryana

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**Abstract** – Foot structure has a long established connection to foot function within the research field. For this study random sampling technique has been used for the collection of data. The researcher has selected total 1500 individuals as subjects (750 rural students and 750 urban students measured the Static Planter Foot Pressure (PFP) and Body Mass Index (BMI) The subjects were asked to stand on BTS P – Walk modular system (Pressure plate) and the data was recorded for 5 seconds. The F value was found to be 0.798, which is not found significant even at (P<0.05) level. Rural and Urban students were bearing almost equal Average pressure on their left foot. The F value was found to be 10.844, which is more than the table value at (P<0.01) level. The t value was 6.32 for Rural and Urban underweight (BMI <18.5) is significant at (P<0.01) level. Mean value 32.68 of rural underweight students is more than the mean value 27.59 of Urban underweight. The results of the study reveal that no statistical differences were found between rural and urban primary school students of Haryana.



## ORIGINAL RESEARCH PAPER

Physical Education

### BONE MINERAL DENSITY: AN ANALYSIS OF WEIGHT BEARING, RESISTANCE AND IMPACT PHYSICAL ACTIVITIES

**KEY WORDS:** Bone Mineral Density, Static Resistance Weight-bearing, High-impact Weight-bearing And No Impact No Weight-bearing.

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**ABSTRACT**

Studies have confirmed that resistance training can have a beneficial effect on bone mineral contents. But, it is not well established that which type of sporting activity is more beneficial for increased bone mineral density (BMD). The objective of the study was to find out the difference in the BMD between various sporting activities. As a part of study, bone mineral density of elite sportsmen belonging to various type of sports in respect to weight bearing, resistance and impact were compared. Research design for present study was a cross-sectional design. A total of 120 elite sportsmen (mean age=22.14 years, mean BMI=24.89 kg/m<sup>2</sup>), who have won first/second/third position at least at national/ inter-university levels in the discipline of Weight lifting (N - 22), Volleyball (N - 24), Basketball (N - 24), Athletics (Long distance, Middle distance and Cross-Country runners) (N - 25) and Cycling (N - 24) participated in the study. Bone mineral density was measured by using Osteopro-ultrasound bone mineral density system. The ANOVA results revealed statistically significant difference between different groups for right and left leg Calcaneal Bone Mineral Density (g/cm<sup>2</sup>) with F value of 9.14 (p<0.01) and 8.38 (p<0.01) respectively, indicating that there exists a significant difference in the BMD between various groups. Further, when BMD was compared between sportsmen of various categories with weightlifters for right leg Calcaneal Bone Mineral Density, the t value was significant (Volleyball, Basketball, Athletics and Cycling the t-value was 18.20, 20.29, 14.06 and 21.76 respectively). Similarly, t value was significant (Volleyball - 15.92, Basketball - 20.44, Athletics - 10.09 and Cycling - 21.64) when left leg Calcaneal Bone Mineral of weight lifters were compared with other categories. It is concluded that bone mineral density is higher in sportsmen who participate in higher static resistance weight-bearing in comparison to high-impact weight-bearing and no-impact no weight-bearing.

**Theme of Independence and Self-Discovery in the novel of  
Anita Nair's *The Better Man***

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**Abstract**

The present paper explains the theme of Independence and Self - Discovery of the characters in the novel *The Better Man* (2000). In Indian patriarchal system, women have to live a life of embracement in the role of a daughter, wife and mother. Men continue playing the role of domination over the life of women in the name of traditions and convictions. It is also find that woman is living such life for the sake of her family. The present novel *The Better Man* not only presents the conventional role of a woman but also examines the concept of New Woman in Indian society in which a woman gives preference to self-discovery and independency. The main focus of the novel is to examine the psyche of its characters. As a feminist writer, Anita Nair deeply explores the insight of women through her protagonists.

**Key-Words :** Self- Discovery, Independence and New Woman.

Women are an integral part of human civilization. No society can ever develop without an active participation of women in its overall development. The society has assigned the gender role in patriarchal system in which man is associated with domination, boldness, strong and active. But on the other hand, woman is associated with submissiveness, humbleness, weak and passive. This difference of gender discrimination creates the feeling of dependency among the women. Such dependency attracts many writers and social workers towards it. So the absence of independency and its unsympathetic effects must be discussed in literature.

Anita Nair effectively highlights the pathetic conditions of women in the male dominated patriarchal society. In her novels like *The Better Man*, *Ladies Coupe* (2001), *Mistress* (2005) and *Lessons in Forgetting* (2010), she always tries to find out the concept of self discovery and independence. The debut novel of Anita Nair's *The Better Man* is set in a fictional place Kaikurussi in the north part of Kerala. It is also known as Malabar in old days and surrounded by the hills. The whole story of the novel revolves around its central character called Mukundan, a retired government employee and an elderly bachelor with the age of about fifty years. The other main characters of the novel are Bhasi (a painter by profession and also practicing of medicinal), Meenakshi (Mukundan's childhood friend), Anjana and Valsala.

After his retirement, Mukundan came back to his village Kaikurussi to live a peaceful and respectful life. But the memories of his past create troubles for him. At his home, he



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**Self Realization of woman in Anita Nair's *Ladies Coupe*.**

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Research Scholar  
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**Abstract**

The present paper explains the theme of Self Realization of woman in Anita Nair's renowned novel *Ladies Coupe* (2001). The novel portrays the experience and struggle of women from all strata of life very skillfully. The women who are trapped in traditional roles and boundaries of the society are raising questions for their independence and space in the male dominated world. The novel does not deal with a single story, but it contains the lives and experiences of six women from the different section of the society. The central character of the novel is Akhila or Akhilandeswari, who gets a learning experience from the life of other women. The novel presents the lives and psyche of women from South Indian family in their traditional roles of a daughter, wife and mother. It raises many questions which challenges the patriarchal norms of the society: Can a woman stay single and be happy or does a woman need a man to feel complete? These questions raise voice against the validity of the customs of conventional value system which defines the way woman should lead their life. It advocates the value of individual freedom and self realization for a woman in a family and society. Thus this paper shows how woman are suppressed by patriarchal society and their struggle to get their self realization.

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**Key-Words: Self Realization, Self Identity, Independence and New Woman.**

Anita Nair is a monumental figure of Indian writing in English. She is a remarkable and versatile writer because of her contemporariness, similarity in sensibility and new concept of self realization for women. She explores the human psyche in her novels by examines the emotional ecology of her protagonists. She discusses the issues which are related to emotional and psychological imbalances of women in a male dominate society. She finds that male dominated society and its anti woman ideology is the main cause of women's suffering and victimization.

Anita Nair's *Ladies Coupe* is mainly concerned with the search of a woman for identity and self realization. It raises many questions which challenges the patriarchal norms of the society: Can a woman live by herself and can a woman do whatever she wants to do without bothering about social approval? These questions raise voice against the validity of the customs of conventional value system which defines the way women should lead their life. According to Clara Nubile, "It is a novel in which fiction merge into reality and where female voices are authentic. Indeed, it is gendered novel which gives hope and courage to all women." (74)



ISSN : 2347-4041

UGC Approved No. 41232  
Impact Factor 3.245

**संस्कार चेतना**

अन्तरराष्ट्रीय मूल्यांकित शोध पत्रिका

वर्ष 8, अंक 6(ii), फरवरी 2019

**Corruption, Poverty and Crime: A study of Aravind Adiga's  
*The White Tiger***

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**Abstract**

No society can be said free from social evils completely. Different kinds of socio-economic and political situations give rise to different kind of social problems. In post-independence era, India witnessed a gradual development of industry along with an unprecedented population growth. This mismatch between resource development and rapidly rising population was made more complicated by lopsided urbanisation and lack of quality education. The present study deals with the novel *The White Tiger* by Aravind Adiga. The paper focuses on the divide between the rich and the poor and highlights how this imbalance leads to crime in the society. Balram, the protagonist of the novel was a simpleton who moves from his village and ends up committing crimes of serious nature while trying to find an identity and a respectable place in high society.

**Key-Words :** Corruption, Violence, Poverty, Society, Discrimination, Inequality.

**Introduction**

No society can be said free from social evils completely. Different kinds of socio-economic and political situations give rise to different kind of social problems. In post-independence era,

**Breaking the Stereotype: A Study of Female Characters in Vikas  
Swarup's *The Accidental Apprentice* and *Q&A***

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**Abstract**

The present paper is a study of female characters in Vikas Swarup's novels *The Accidental Apprentice* and *Q&A*. His depiction is both realistic and inspiring at the same time. Through his portrayal, he definitely brings our attention towards the crime against women and gender discrimination in Indian society. However, at the same time, he presents to readers various women who refuse to be victims. These women brave the difficult times with dignity and help their family members fight the corrupt and biased socio-economic system. Women in his novel are contrary to the stereotypes prevalent in most of Indian societies. They are not mere victims in Indian patriarchal society. They fight the unjust treatment. They do not limit themselves to their homes and challenge the prevalent notions about the role of women in society.

**Key-Words :** *The Accidental Apprentice, CEO.*

**Introduction**

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**Lies as Props: A Study of Mendacity in Tennessee  
Williams' *Cat on a Hot Tin Roof***

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(Haryana)

---

**Abstract**

Tennessee Williams would seem to believe with T.S. Eliot who has the opinion that "humankind cannot bear very much reality" (qtd in Cafagna 119). So, Williams seeks solace through writing to escape the world he lives in as many memories keep torturing him. Writing was a kind of cleansing for him, and his characters also find themselves struggling against the desires that drive them to behave in such manners that contradict acceptable behavior and against those in society who seek to enforce a code of behavior upon them. It is this tension between individual desire and social expectation which generates the dilemma that the major characters encounter, and mendacity finds a central place in his plays, notably, in *Cat on a Hot Tin Roof* (1957). Mendacity diverts the attention of the characters from some horrible truth or some reality that seems too menacing, and leads to deception. In this play, such lies and mendacity permeate the characters, and we can see clearly how a lie forces a person to split. Its main plot revolves around lies to spread and secrets to hide – mainly about Big Daddy's health and Brick's life. Even, the institutionalized mendacity of marriage, the church, medicines, the law, are also reiterated. In the end, the play culminates in Maggie's lie.

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**Key-Words : Mendacity, Lie, Dilemma, Deception, Characters, Plot.**

*We clearly want to be happy, even when we don't live in such a way to make that possible. What is more of a lie than such a desire? The lie, then is what is done for our good but results in what is bad for us; or it is that which is done to make things better for us but, in fact, makes them worse (Griffiths 87).*

It seems that Tennessee Williams is indeed a moralist, concerned, as Esther Jackson comments, with "the ethical function of theatre" (129). This "erotomaniac" (Time, 49) of the "sick imagination" (Falk, 148) is himself revolted by our transgressions, by a world in which "the true beast... the beast of mendacity in us, the beast that tells mean lies" (Williams, *The Mattress* 159) is the adversary for whom we, like free-loving Olga in "The Mattress by the Tomato Patch" ought to reserve our fury. Williams makes a distinction between the 'mean lies' which sustain a conventional bourgeois existence which he clearly despises and the 'necessary lies' or illusions which human beings manufacture to adorn the bare ugliness of their lives. St. Augustine's two



**Life on Stage: An Autobiographical Study of Tennessee Williams's  
Play *the Glass Menagerie*****Harwinder Kaur**  
Research Scholar  
Department of English  
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Kurukshetra (Haryana)**Abstract:**

Thomas Lanier Williams, famously known as Tennessee Williams, was the most autobiographical of American playwrights. He used his writing to explore the issues from his own life. The facts of his own life reveal the origins of the material that crafted into his best works. Writing was a kind of cleansing for him. There was a certain kind of barrenness in his life – a spectacular deprivation. Most of his plays are a simulacrum of his own battle to shake off the constrictions of his repressed upbringing and to redefine himself both as a man as an artist. *The Glass Menagerie* (1944), his first major success, is written at the very beginning of his career. This paper is an attempt to show the signs of Williams' own real life in his play entitled *The Glass Menagerie*. The characters and story mimic Williams' own life more closely than any of his other works. It is a very poignant and moving play that tells the story of Tom Wingfield and his attempt to escape his family. It has a full cast of characters extremely similar to his own family and a plot directly related to his life. It is considered to be his most transparently autobiographical work as it appears to mirror many aspects of his early adult life featuring characters based upon his mother, sister, and himself.

**Key-Words :** Autobiography, Simulacrum, Plot, Characters.

"Oh my God, yes. In my early plays I created from my family – my sister, mother, and my father's sister."

– Tennessee Williams in an interview with *The New York Times* in 1975.

Early in his career, Tennessee Williams often looked to his family and his own life experience for writing inspiration. Indeed, Williams' first major success, *The Glass Menagerie* (1944) is written at the very beginning of his career. It is considered to be his most transparently autobiographical work as it appears to mirror many aspects of his early adult life featuring characters based upon his mother, sister, and himself. The characters and story mimic Williams' own life more closely than any of his other works. It is a very poignant and moving play that tells the story of Tom Wingfield and his attempt to escape his family. Williams' descriptions of the Wingfield family are strikingly similar to his descriptions of his own family and therefore, the play can be interpreted as an autobiography. Born Thomas Lanier Williams, Tennessee had a difficult childhood, suffering from diphtheria which made it impossible for him to walk for the next two years. Throughout his illness, his mother, Edwina Dakin Williams was his devoted nurse, and his sister, Rose was his constant playmate. His father, Cornelius Coffin Williams, worked for the



International Refereed

UGC List No.41243  
Impact Factor : 4.012

'चिन्तन' अन्तरराष्ट्रीय रिसर्च जर्नल (ISSN : 2229-7227)

वर्ष 8, अंक 33 (पृ.सं. 171-176)

विक्रमी सम्बत् : 2076 (जनवरी-मार्च 2019)

## Failure and Frustration : A Study of Anita Desai's "In Custody"

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### Abstract

According to the noted British novelist, E.M. Forster, novel usually has at least three components – plot (story-telling), people (characters) and pattern (design). Other things like setting and conversation are only secondary. Forster also makes a subtle distinction between 'plot' and 'story', and observes that "The king died and then the queen died", is a story, whereas "The king died, and then the Queen died of grief", is a plot. Viewed in the light of Forster's essential components, *In Custody* fails to convince us as a novel.

### Key-Words : Childhood Fancy, Nature-Gifted Poetess.

Anita Desai, the most 'poetic novelist' of all in the contemporary era, seems to have written her latest novel, *In Custody* (1984), in a mood of gloom and disenchantment over human frailty and predicament. The Times Literary Supplement of London has remarked that her protagonist's "extreme sensitivity never alienates the reader" and that she handles her plot with "narrative suspense", but one wonders whether these remarks are applicable to this novel. Frankly speaking, we have neither the protagonist's 'extreme sensitivity' nor the 'narrative suspense' herein. The protagonist of the novel, Deven, is confronted with failure and frustration at every step, and is clearly sad, bitter and sardonic up to the last. Several obstructions come in his way, and he does not know how to handle them. He is the only character the reader has some sort of sympathy with, but he is befooled and cheated everywhere. The blurb page informs us that "*In Custody* is a sad, bitter, funny novel full of insight into human frailty and with some truly memorable scenes of comic catastrophe". From this statement we may infer that it is a none-too-happy novel, that it is 'funny' and is about 'human frailty', and that only some of its scenes are 'truly memorable', and not all.

According to the noted British novelist, E.M. Forster, novel usually has at least three components – plot (story-telling), people (characters) and pattern (design). Other things like setting and conversation are only secondary. Forster also makes a subtle distinction between 'plot' and 'story', and observes that "The king died and then the queen died", is a story, whereas "The king died, and then the Queen died of grief", is a plot. Viewed in the light of Forster's essential components, *In Custody* fails to convince us as a novel.

Consisting of eleven chapters and 204 pages and dedicated to Alicia Yerburgh, *In Custody* has a fragile thread to hold it together. A poor young college lecturer in Hindi called Deven comes from Delhi and settles down at Mirpore, a small town, along with his sullen and disappointed wife Sarla and a small son, Manu. He leads an unhappy domestic life. The place





International Refereed  
Impact Factor 4.012

चिन्तन अंतरराष्ट्रीय विचार्य पत्रिका (ISSN : 2229-7227)  
अंक 8, अंक 30 (पृ. सं. 824-827)  
जुलै-सप्टेंबर 2020 (ऑनलाइन पुर 2018)

### Quest for self-identity in Manju Kapur's Novel : A Married woman

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#### Abstract

Manju Kapur occupies a very distinguished place among the second generation of Indian English women novelists. Her fiction primarily deals with the urban middle class women focusing upon their plight emanating from various factors particularly in the context of educated women. An important theme of her novels is the dynamics of human relationships and the female quest for an identity, which constitute her concerns in *A Married Woman*, a postcolonial work with a feminist orientation. The novel traces the physical and emotional growth of Astha from being a young girl to her becoming a middle-aged woman and the maturity that comes about in her rich and varied experiences in the course of her life. Marriage; gender-discrimination, lesbian relationship and religious fanaticism are the various strands that interweave the complex plot of the novel. The novel portrays man-woman relationship in general and woman-woman relationship in particular.

**Key-Word:** Plight, Quest, Lesbian, Fanaticism, Gender-Discrimination.

*A married woman* is a telling commentary on husband-wife relationship with emphasis on a woman's space in married life. It also focus upon the contentious issue of lesbianism, providing us an insight into the psyche of the women involved. It also explores Astha's quest for self while portraying her trials and tribulations, troubles and travails and other harrowing experiences as a daughter, a wife, a daughter-in-law, a mother, a teacher, a social worker and as a lesbian.

Manju Kapur portrays the stark realities of married life in dealing with the married life of Astha and Hemant. Prior to her marriage with Hemant, Astha did experience the amorous feelings range in the heart of an adolescent. She goes so far as to indulge in flirtatious behavior through correspondence for one year. She is smitten by heart-wrenching love for Bunty and pines for him with so implacable cravings that her condition becomes very pathetic which is described as below:

Day and night the thought of him kept her insides churning. She was unable to sleep, or study. Away from him her eyes felt dry and empty. Her ears only registered the



**Search for wholeness in the fiction of Doris Lessing****Parshant Kumar**

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Doris Lessing is often labeled a feminist, or a writer about the racial question or an ex-communist political enthusiast, or more recently as an inner space cultist with apocalyptic visions. Rather than fitting any one of these labels, Lessing absorbs them all under the unifying theme of the search of self for the whole because through knowledge of the self- one also discovers one's relation to the world and one's role in the society. Lessing's fiction and Non-fiction demand a reformation of some of our most taken for granted assumptions about the contemporary world and how we relate to that world. In the wake of Lessing winning the 2007 Nobel Prize for literature, a flurry of discussion began questioning her relevance to the twenty first century.

The most important single unifying thing that runs through the work of Lessing is her insistence on the importance of self-knowledge for the whole and not in categories because her dialectical positioning of the subject reveals a restless struggle towards a consideration between self and others. This search for the whole shapes nearly all her novels as she writes in the preface of *The Golden Notebook (1962)*, that "the essence of the book, the organization of it, everything . . . says implicitly and explicitly, that we must not divide things off, must not compartmentalize" (*Preface xii*).

By "self" we commonly mean the particular being any person is, what it is about each of us that distinguishes you or me from others, draws the parts of our existence together, persists through changes, or opens the way to becoming who we might or should be. From knowledge of what the self truly is people have hoped to gain greater happiness, deeper fulfillment, liberation from fetters or restraints, better relations with other people, or ways to achieve power over them. Selfhood thus matters to us both as individuals and as social creatures, shaping our personal existence and our relations with those whose lives we somehow share. But what is this self whose understanding seems to promise so much? Many practically minded people hardly think the question worth posing, knowing well enough who they are for their purposes, while those who offer answers to it often do so for expedient or self-interested reasons: to support a political program, validate a religious belief or practice, foster or oppose some social policy, justify failings or pretensions, or establish a claim to therapeutic power. The nature and meaning of the self are subject to constant redefinition, as it is ever-again taken up on behalf of some partisan aim or project. And yet the question does not lose its force from being appropriated in these ways. Faced with outdated, self-interested, malign, or inadequate answers to it, people have over and over responded with a desire for better ones, if only to counter the effects of those that will not do. Hence the nature and meaning of selfhood have been recurring questions, implicitly or explicitly, in practically every known human time and place. Nowhere has the debate been more full-blown or more intense than in the modern



**The Growth of Martha's Self in *Martha Quest*****Parshant Kumar**

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**Abstract**

This paper studies the growth of Martha's self in Doris Lessing's novel *Martha Quest*. The description of the growth of the self makes the novel a type of bildungsroman, but not of traditional type. Resenting the environment in which she is located, Martha goes through the agony of adolescent misery by frequently withdrawing into herself. Often during these moments of loneliness and melancholy, she would experience a strange feeling of integration. This is an unselfconscious moment of revelation or illumination. This cannot be had from the asking nor can it be analysed or reasoned out. These moments come and go. Why and you? she does not know. But this experience becomes a point of reference, a recurrent dream which has a tendency to surprise her in later life also. It is her version of the golden age' her critics' notion of fulfilment and freedom.

**Key-Words :** Self, Freedom, Consciousness, bildungsroman.

*Martha Quest*, the First novel in the series called "The Children of Violence", deals with the eponymous heroine's trials and tribulations during the period of adolescence. The basic form within which the making of *Martha Quest* is embodied is that of the novel of education known as bildungsroman. We are introduced to a restless and growing Martha on the farm in the beginning of the novel. Doris Lessing offers a kind of summary assessment of Martha's mental make-up quite early in the novel:

"She was adolescent, and therefore bound to the unhappy; British, and therefore uneasy and defensive; in the fourth decade of the twentieth century, and therefore inescapably beset with problems of race and class; female, and obliged to repudiate the shackled woman of the past."<sup>1</sup>

It is against this backdrop of conflict and confrontation that we see the unfolding pattern of Martha's voyage of self-delusion and self-discovery, trial and error. The entire series constitute a kind of quest – a quest for self-definition and identity, fulfilment, and freedom.

First of all, we have the protagonist, her 'individual conscience' in relation to the 'collective'. One could see within the psyche of Martha, another self, the other Martha, potentially there, always ready to sift and analyse experience. Right from the beginning, we find in Martha an impulse to be 'free' and another to be 'freed'; more a hope than an impulse, perhaps, to be freed by some legendary hero or benefactor. She is detached enough to observe herself thinking and acting. She is critical enough to observe others and assess their attitudes. "... common denominator in Lessing's fictional world is the mind: the mind discovering, interpreting and



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**Play of Binaries in *the Fire and the Rain* of Girish Karnad**

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**Abstract**

This paper aims to explore into the infinite play of binaries with regard to Girish Karnad's mythical play *The Fire and the Rain* (1994). It peeps into Derrida's notion of centrality, binary opposite theory, play of infinite substitutions, the ambiguity and the inconsistency that occur in the text. The myth has "self-reflexive" and the self-contradictory framework that explores into the alternative ways of each side which it depicts. At one moment, the play seems to be an epitome of the centre that limits the 'play' of the structure, at another it has binaries at display which help in loosening the stability of the rigid structure that allows 'free-play' which delimits the authority of the centre. The play is the 'play' of infinite negations and continual displacements of centre.

**Keywords:** centre, binary, play, lack, supplement, double bind

*The Fire and the Rain*, as the title itself suggests, focuses on the two very essential but contradictory elements, that symbolizes the complicity of human relationships and psychology. Ranjana Channa in her essay on this play remarks that: "In this play we discover man against God, freedom against bondage, rituals against sacrifices, hate against love, attraction against repulsion, illusion against reality, passion against the fact, knowledge against the ignorance, falsehood against truth, arrogance against generosity, and *vijay* against *parajaya*" (91). At the centre of the play is the traditional vedic fire ritual, a *Yajna* ongoing for the tenure of seven years performed by the chief-priest Parvasu, to propitiate Indra, the god of rain, on a draught ridden land. The play centralizes the human aspirations whether "good or evil, moral and immoral" (Mishra 240). This anxiety of duality of life has been exhibited through the characters like Yavakri, Raibhya, Parvasu and Vishakha in whose oppositions stand Arvasu and Nittilai. Nittilai, a fourteen year old tribal girl, is Karnad's own invention to run the parallel story of Arvasu and Nittilai.

The original tale of Yavakri occurs in Vana Parva of *Mahabharata* that the playwright "had first read in C. Rajagopalachari's abridged edition" of *Mahabharata* (Voice 46). The story is narrated by sage Lomasha to the Pandavas, to warn against the misuse of knowledge, at the bank of the same river in which Indra had bathed to cleanse himself of the sin of killing Vritra, a Brahmin demon from the Rakshasa clan. He is brother to Vishwarupa whom Indra had killed treacherously. Jacques Derrida believed in the instability and unreliability of language that causes the ambiguity within the meaning of a text. The whole text of *The Fire and the Rain* is like a field of 'play' for this binary game that the characters play with/against each other. In the original myth the story starts from two equally learned and brilliant friends sage Bhardwaja and



## An Aporetic Journey in the Chaotic World of Girish Karnad's *Tughlaq*

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### Abstract

Unlike all the earlier interpretations of Girish Karnad's world-wide popular historical play *Tughlaq* (1964), the present paper underscores to foreground the traits of deconstructive 'aporia' of Jacques Derrida in the "split" self of Muhammad bin Tughlaq, an Indian Mughal emperor of 14th century. He starts his journey of a 'utopian' world at the point of sword and surrounds himself with blood, violence, chaos and gory. He suffers the most due to his deconstructive nature of his binarical 'double bind' and 'double think' attitude which limits the 'free-play' of his tormented soul. The realization of his treading on an "impassable path" comes too late to him when this negatively structured 'aporetic' self makes him a nihilistic and throws him into the dark well of madness. The paper under study focuses to deal with the negative effects of deconstructive 'aporia' when it is dealt without any self awareness and with negative cognizance and how the character of Tughlaq is deconstructive in himself.

**Key-Words :** Deconstructive Aporia, Double Bind, Binary, Lack, Supplement, Impasse, Chaos, Undecidability, Game, Play, Decentralization, Anxiety, Tension, Rupture.

Girish Karnad's *Tughlaq* (1964) marks a positive shift in his career as a playwright and establishes him as a renowned dramatist who writes in Kannada and English both. It is his second play after the mythical drama of *Yayati* (1961) and the first as a historic one. The play has been "received as an allegory about the mistakes of well-meaning Nehruvian socialism. Karnad says he wrote the play because Kannada critic Kirtinath Kurtakoti said there were no historical plays being written" (Dutt 4). But the play is more political than historical and more fictional than real, but that only makes the play more appealing as opined by P. Bayapa Reddy in his essay on *Tughlaq*. The play has been extensively studied to explore into the alienated and existentialist self of the protagonist. It also portrays the political chaos and the blunders that parallel with the some understanding of political-social conditions for different generations, as mentioned by the playwright himself in one of his interviews. The play does not merely "[act] out the polarity between politics as the selfless extension of individual spirituality (Mahatama Gandhi) and vision (Jawaharlal Nehru), and politics as the self-serving, sometimes demonic expression of individual fantasies of power (evidenced in Indira Gandhi, Sanjay Gandhi, and, more recently, in Sikh, Muslim, and Hindu fundamentalist leaders)", but also prophetically comments on the "ideology of secularism and the forces that subvert that ideology" (Dharwadker xx-xxi). The persona of Tughlaq comes in juxtaposition with Macbeth and Hamlet as his two selves just like Vizier Muhammad Nazib and the historian zia-ud-din Barani unravels his practical



## Diasporic Experience in Chitra Banerjee Divakaruni's *The Vine of Desire*: Some Evidence

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### ARTICLE DETAILS

#### Article History

Published Online: 25 May 2019

#### Keywords

Nostalgia, Homeland, Identity Crisis, Loneliness, Homelessness, Alien.

### ABSTRACT

The present research paper discusses about the issues of diasporic experience in Chitra Banerjee Divakaruni's *The Vine of Desire*. The novel under scrutiny, being a sequel to her earlier novel *Sister of My Heart* and written against the backdrop of California, portrays the trauma experienced by the immigrants due to dislocation, a sense of disquiet longing for home and homeland, nostalgia and memory and thereby struggle for identity. The focus point of the paper is to see how the two women, Anju and Sudha, get doubly displaced from their home as well as homeland; how their diasporic experiences are lime lighted in California; how this displacement helps these women become liberated; how does this lead to their breakdown? Being a story of transformation of Anju and Sudha and their quest for autonomy and identity in the host land, the novel is a fictitious representation of both positive and negative effects of diaspora on immigrants signifying their desperation for home and home land.

Since last few decades, the writers of Indian diaspora have been holding the centre-stage in the annals of Indian Writing in English due to the theoretical formulations being thrown up by their write-ups. The Greek word, 'Diaspora' meaning, 'a dispersion', may be defined as dispersion of people, language or culture that was formerly concentrated in one place. Either voluntary or compulsory, as Nayar evinces, "[s]uch movements were common during colonialism" (187). Diasporic people carry with them a profound sense of attachment with their former place of residence. Bill Ashcroft and others define diaspora: "Diaspora, the voluntary or forcible movement of peoples from their homelands into new regions, is a central historical fact of colonization" (69). Migration of the people from one country to other is easy in transportation but hard to adjust in alien culture, far from one's homeland. The home and identity are very important for everyone. The people who live in alien culture are very connected to their root and to their respective native countries. They have a separate room for their home country in their heart. The diasporic writers are usually obsessed with the issues of nostalgia when they want to locate themselves in different cultures. Such writers carry within their minds and writings the culture of their motherland and simultaneously they try their best to embrace and negotiate that of the host land. Nonetheless, viewing the literature of diaspora in a larger perspective, it is observed that this type of literature helps understand and appreciate various cultures, pulling down the walls of different nations, making the global as glocal, and permeating universal peace, tout court. The diasporic writings, primarily and predominantly, concentrate on the following elements such as the search for identity, uprooting and re-rooting, insider and outsider syndrome, nostalgia, nagging sense of guilt, etc. The writers like V.S. Naipaul, Salman Rushdie, Rohinton Mistry, Bharti Mukherjee, etc. look back towards their home land for different reasons. They turn to India to quest the roots, to mythologize India's history, to revitalize and to re-energize traumatic and aching soul, and to feel childhood experience respectively.

As an award winning diasporic author, Chitra Banerjee Divakaruni (b.1956), whose oeuvre is hugely set against the backdrop of India and the United States, concentrates on the lives of Indian women struggling with cultural shackles to carve out an identity of their own. Here the focus is on the existence of Anju and Sudha and their diasporic experiences in California, where they, after their migration, get doubly displaced from their home as well as homeland. This displacement sometimes helps women to become liberated but this can also lead to their breakdown. In *The Vine of Desire* (2002), which says the odyssey of the transformation of Anju and Sudha and their quest for autonomy and identity in the hostland, Anju's distressing marital relationship with Sunil in California and both the sisters' immigrant experiences play a significant role in their identity formation and re-formation. In this connection, Beena Agarwal points out that, "On one hand the phenomena of migration has helped to break the barriers of traditions; it has also made the life of Indian woman more complex. Indian woman with her traditional moorings, consciousness and limited professional skills finds herself more isolated and insecure" (10).

Sudha walks out of her marriage. She refuses to have an abortion when the fetus was declared to be a girl. Anju invites her to America so that she could find a job for herself and lead a comfortable life. She decides "I want to bring Sudha to America" (18). On her sister's invitation Sudha goes to America. Her flight to America is a slow but steady immersion into the mainstream American culture. The immigrants who lived away from their homes are away from their cultures, and are grafted on to the other culture. However, they wish to keep their memories alive and preserve their heritage. The multiple selves are painstakingly constructed and maintained to make sense of the new world. The characters are caught drifting between the two worlds, two cultures, two identities, hoping that the twin would meet. Divakaruni highlights a series of strategies that make successful Americanization possible.



# Analysis of Built-up Area Expansion of Panipat city and Outgrowth

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## **ABSTRACT:**

*Urban expansion defines the extent of urbanization, a global phenomenon arising mainly from population growth and large scale migration in nature, urban expansion talks about natural resources in a troubling way. The present research work discusses Panipat's Built-up area expansion over the period of 1991 to 2017, collecting knowledge about urban built-up growth and its temporal variability. Remotely sensed satellite images collected from Google earth explorer for the statistical analysis approaches and obtained accurate results. Panipat is one of the India's fast growing cities; the city has seen implausible growth in the construction sector. The total built-up area was only 34.45sq.km. in 1991, the built-up area reached 44.93sq.km. in 2017. Many roads and few railway lines connect the city with its surrounding area. Research may be used to estimate the possible expansion of built-up area. It will be useful for urban planning institutions in developing countries where data is not regularly available.*

## **INTRODUCTION**

Built-up area describes an area which has constructed space in the form of man-made structures. The term built-up area is used for the development of real estate, construction industries and urban centers. Basically it is a part of major established activities like:

## **Quality of Work life and Turnover Intentions in Indian IT Sector: A Synthesis of Research and Implications**

*Ajay Solkhe, and Shikha Bhatia,*

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The objective of this paper is to review the existing Literature on Quality of Work Life and Turnover Intention. The available literature on the Relationship of Various components of Quality of Work Life i.e Health & Well Being, Job security, Job satisfaction, Competency Development & Career Growth, Work Life Balance, Job Demands, Control and Social Support with Turnover Intention is also reviewed systematically. Through this paper we are able to compare findings from different studies carried out in different geographies and different industries on the same subject. The review provides underlying patterns of relationships between six extensively researched indicators of QWL and Turnover Intention. The insights into the previous studies considered for this paper are discussed and suggestions for future research are provided which paves the way of further empirical analysis of the insights thus brought to surface by this paper.

**Keywords:** *IT Industry, QWL, Turnover Intention, Job satisfaction, Job Insecurity, Work Life Balance, Job demands, Social Support, Competency development.*

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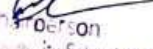
  
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## Role of Scholarship Schemes in Educational Development of S.C. Students: Evidence from Haryana

Dr. Ajay Solkhe<sup>1</sup>

The Scheduled Castes constitute an important social segment with sizable population spread across the state of Haryana. They are historically characterised with illiteracy which in turn causes backwardness with low level of income, landlessness and poor economic condition. Due to widespread social evil of untouchability and location of their dwellings in remote areas, this notable portion of society have faced isolation from mainstream population for a long period of time which ultimately led to their heightened educational exclusion. Recognising the grim situation, Government at the Centre and in State started several programmes/schemes with a view to promote inclusiveness and ensure development of these socially deprived people. There are many types of scholarships schemes from primary to higher education, technical, vocational education for SC Students. The role of scholarship is quintessential not only for educational development but also for economic and social progressions. But everything is not achieved just by institutionalising scholarships schemes but much depends on its effective administrative implementation by bureaucratic structure. To understand the dynamics present study found its ground well as it attempts to analyse various financial assistance schemes specifically for higher education provided by Central as well as State Government of Haryana for SC students. This study has also pointed out that despite so many schemes why it does not result in educational development of SC students in higher education. The researcher highlights the key problems, major hindrances, pertinent issues and prominent challenges to this ecosystem in achieving multipronged objectives such as inclusiveness, empowerment and educational development of SC Students.

**Keywords:** Social Inclusiveness, Scholarship Schemes, Financial Assistance Schemes

  
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## Quality of Work life in Indian IT Sector

Shikha Bhatia <sup>1</sup>  
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*The Purpose of this paper is to study the employee perceptions regarding Quality of work life and six components "Competency Development & Career Growth, Health & Wellbeing, Job Security, Job Satisfaction, Work-life Balance, Job Demands, Control & Social Support" in the Indian IT sector. It also aimed to compare the level of QWL between employees of Indian IT companies and MNC's IT companies. The paper explored the dynamics of relationship between Demographics variables (age, experience, gender) and Quality of Work Life & its Components. A sample of 370 IT professionals working in four IT companies in NCR area was undertaken for this study. Mean, Standard Deviation, Percentages, Pearson Product Moment Correlation, Analysis of Variance (ANOVA) techniques were used for analysing the data collected. The hypotheses had been tested and results were tabulated. The results of the study revealed that there exists a significant difference statistically in between the selected IT companies on Competency Development & Career Growth, Health & well-being, Work Life Balance and Job security components of QWL, whereas no significant differences observed statistically in between the selected IT companies on Job demands, Control & Social Support & Job satisfaction components of QWL. It is also revealed that employees' perceptions towards Overall QWL prevailing in the selected MNCs and IT companies differ significantly in MNCs and Indian IT companies with specific reference to the dimensions i.e., Competency development & Career Growth and Job security.*

*Keywords: IT Industry, QWL, Job satisfaction, Job Insecurity, Work Life Balance, Job demands, Social Support, Competency development & career growth*

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# Teacher's Perception towards Human Resource Development Climate

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**Abstract** – Teachers are the most important asset for the success of any university. There is a need to provide congenial HRD environment for the effectiveness of their performance. Perception of optimum level of Human Resource Development Climate is extremely important for facilitating HRD. So, the present study is based on perception of teachers towards General Climate, HRD Mechanisms and OCTAPACE Culture of HRD Climate in respect to gender classification. For this purpose, data has been collected from 117 teachers (63 females and 54 males) of private universities from two states i.e. Punjab and Haryana using "38-item HRD Climate questionnaire developed by Rao and Abraham, 1985." The findings indicated that teachers perceive moderately good HRD Climate in the selected private universities. The perception of teachers does not differ significantly towards HRD Climate according to their gender. Hence, present study suggests that efforts should be made by management to increase the perception of teachers to above average.

**Keywords:** Human Resource Development Climate (HRDC), Perception, Gender and Private universities.

## INTRODUCTION

An organizational success is sum of talent and motivation of the employees and other physical factors within which employees are working. The proactive behavior of people make growth oriented and versatile organizations. It is important for an organization to select its employees strategically, nurture their talent and other skills and provide them good working environment. An organization should continuously adapt to the changes in the environment and also make their employees prepare to benefit from the opportunities and challenges in the environment.

"H.R" – Human Resource – Employees of the organization

"D" – Development – Growth towards positive change.

"C" – Climate – The work environment where workers work.

So, HRD Climate is the overall process of acquiring expertise by the employees through effective ways provided by the organization. In 1990, T. V. Rao, states that, "HRD Climate is the process by which organizations help their employees in a continuous and planned ways in order to:

- Acquire or sharpen the abilities required to perform various functions associated with their present or expected future roles;
- Develop their general skills as individuals, discover and utilize their inner potential for their own and / or organizational development purposes;
- Develop and organizational culture in which supervisor - subordinate relationships, teamwork and collaboration among sub-units are strong and contribute to the professional well being, motivation and pride of employees."

HRD Climate creates a linkage between the employee's individual committed goals with the organization and the society. It strengthens the potential in performance of an employee that is reflected itself in the future success of an employee, status of an organization and overall prosperity of the society.

There are three elements of HRD Climate:

1. General Climate
2. OCTAPACE (HRD Culture)

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976

## Early Childhood Education through the lens of behavioural pedagogic perspective

Dr. Taruna. C. Dhall\*

Dr. Mamta Chawla\*\*

### **Abstract**

'Child is the father of a Nation'. A long held belief over the years has dominated the educational thoughts of one and all. An understanding has evolved that learning begins at birth and early interventions prepare the ground for later learning, academic success and productivity. Such an understanding stands validated as Sustainable Development Goals (SDGs) recognize that children are agents of change when they channel their infinite potential to create a better world. We as a society have witnessed an upward trend in the number of enrolment in schools over the last decades though not necessarily translating in acquisition of basic skills. Various learning assessment reports across the nation present a scenario that seeks synergized attention of umbrella of stakeholders to aim for the target 4.2 towards ensuring 'access to quality early childhood education' by 2030. Shortage of trained teachers and lack of infrastructure are often cited as the stumbling blocks. This paper attempts to revisit our educational endeavours so far, highlight the potential influence of Home-School collaboration in ECE and suggest strategies to develop a skilled pool of Human Resource that includes: informed educators entering the system with affirmative career choices; caring parents who understand the importance of enabling and stimulating home environment and concerned citizen ready to invest in creating educational resources. A Human-Resource that not just treads the path of 'knowing' but also 'doing' in order to create spaces where children not only 'survive' but 'thrive' too.

**Key words:** affirmative career choice, skilled human resource, home-school collaboration

### **Introduction**

'Child is the father of a Nation'. A long held belief over the years has no doubt dominated the educational thoughts of one and all. Developmental psychologist recognize early childhood as a period of critical importance that lays the foundation of future learning as an adult. Research in neuro-science inform about critical periods of brain development up to the age of 6 years. Cognitive, linguistic, social and psychomotor competencies developed during this period are known to shape the learning and growth later in life. An understanding has evolved that learning begins at birth and early interventions prepare the ground for later learning, academic success and productivity. Such an understanding stands validated as Sustainable Development Goals (SDGs) recognize that children are agents of change when they channel their infinite potential to create a better world. Towards this end, United Nation Secretary-General states that early childhood development can potentially help such a transformation over the next 15 years so as to 'ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.' (Goal 4). Education system in India has made many provisions that have largely been influenced by

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# Improving Industrial Systems Reliability — An Application in Sugar Industry

Ramesh Kumar and M. S. Kadyan

<https://doi.org/10.1177/19500111950011>

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## Abstract

To improve the reliability of the industrial systems, the main requirement is to identify the most expected failures and to minimize the effects of such failures. This can be



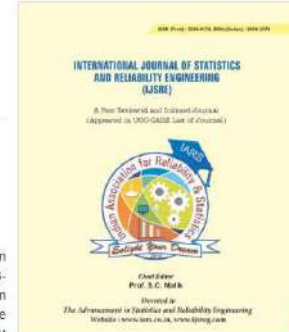
VOL 6, NO 1

openaccess

Stochastic Analysis of a 3-out-of-3 Redundant System with One Cold Standby Unit  
Jitender Kumar, M. S. Kadyan

### Abstract

Here, two reliability models of a redundant system of four identical units have been analyzed stochastically in which three units work in parallel and one unit is kept as spare in cold standby. The system is considered in up-state if any three units are operative and so called a 3-out-of-3 Redundant System. There is a single repairman who visits the system immediately to do repair activities. In model-I, the repairman inspects the failed unit to see the feasibility of its repair or replacement. The time to failure and repair of the unit are taken as general. The results for some measures of system effectiveness are obtained in steady state by adopting semi-Markov process and regenerative point



## JUDICIAL CONUNDRUM OF TIMELINE FOR FILING WRITTEN STATEMENT: TOWARDS SETTling THE UNSETTLED

By : Dr. Shallu, B.A. (Hons.) (Medalist), LL.M., Ph.D., Assistant Professor, Institute of Law, Kurukshetra University, Kurukshetra

The high pendency of cases in the civil justice system is a major problem in many judicial systems. Indian legal system is also "marked by long delays".<sup>1</sup> The law's interminable delays undermine public faith in the judicial system. The problem has the "potential of making the system itself irrelevant".<sup>2</sup> It has been common practice for the defendants to

take long adjournments at the stage of filing written statements. The inordinate delays in filing the written statement constituted a substantial part of the overall delay in cases, since matters stood frozen at the initial stage of completion of the pleadings preventing the start of a trial. Consequently, the issue of time frame for filing written statement arises frequently before the courts all over the country as the sole question posed at the beginning of many judgments and is of significance affecting a large number of cases.

1. His Excellency Hon'ble President of India Sh. Ram Nath Kovind, "Culture of adjournments' reason for delays in cases", *The Times of India, Chandigarh*, September 2, 2018, p.14.
2. Hon'ble Chief Justice of India Mr. Justice Ranjan Gogoi, "Making justice accessible

to poor priority: Ranjan Gogoi", *The Times of India, Chandigarh*, September 30, 2018, p.7.

# *Zingiber officinale*: Clinical aspects for treatment of *Candida* infections

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DOI: 10.29322/IJSRP.9.03.2019.p8868

<http://dx.doi.org/10.29322/IJSRP.9.03.2019.p8868>

**Abstract- Background:** In present study, we aim to assess the anticandidal activity of crude extracts and screening of bioactive compounds and their identification by NMR, IR and GC-MS.

**Results:** A total of 192 isolates were isolated from patients having oral and vaginal candidiasis and a total of 134 isolates showed positive results with Gram staining. The selected isolates APKU-2, APKU-3 and APKU-4 were identified as *C.albicans*, *C.lusitaniae* and *C.krusei* by studying its morphological, biochemical, and molecular characteristics. Chemical characterization of the extracted compounds was done by <sup>1</sup>H NMR, Fourier transform infrared spectroscopy (FTIR), Gas chromatography–mass spectrometry (GC-MS) analysis to determine the structure, melting point, and molecular mass of the purified compounds.

**Conclusions:** The crude extracts and purified compounds from the sandalwood holds potential as medications for various antifungal therapeutics. However, further research on their potential incorporation into different preparations, safety and cost-effectiveness remains to be done.

**Index Terms-** Anticandidal activity, Saunth, Dry ginger, *Candida* sp.

of drug resistance has raised interest in substances of natural origin as a therapeutic alternative (Boklari, 2009; Al-Juraifani, 2011). Majority of the clinically used antifungals suffer from various drawbacks in terms of toxicity, drug-drug interactions, and lack of fungicidal efficacy, high cost and emergence of resistant strains resulting from frequent usage. The phenomenon of drug resistance has raised interest in substances of natural origin as a therapeutic alternative (Al-Juraifani, 2011).

The known success of traditional medicine has guided the search for new chemotherapeutic alternatives to eliminate the infections caused by drug-resistant microbes and to reduce the harm caused by antibiotics. Medicinal plants and corresponding preparations have been used for a wide range of purposes and for many centuries people have been trying to treat diseases as well as alleviate symptoms by using different plant extracts and formulations (Aneja and Mehrotra 2011). Medicinal plants are rich in a wide variety of secondary metabolites such as tannins, terpenoids, alkaloids, flavonoids and phenols, which have been used worldwide in traditional medicine to treat several diseases and infection. Among the plants investigated to date, one showing enormous potential is the **Family: Zingiberaceae**. It is cultivated throughout South-eastern Asia, China, Japan, Austria, Latin America, Jamaica and Africa. 61



**ANALYSIS OF SOCIO-EDUCATIONAL BACKGROUND AND PREFERENCE FOR WATTA SATTAMARRIAGE IN KAMBOJ COMMUNITY OF MALEWALA VILLAGE IN SIRSA (HARYANA)****Dr. Sunil Kumar<sup>1</sup> and Naveen Malik<sup>2</sup>**Supervisor, Assistant Professor, Department of Sociology, Kurukshetra University,  
Kurukshetra (Haryana)M.A. (Sociology), JRF Research Scholar, Department of Sociology,  
Kurukshetra University, Kurukshetra (Haryana)**ABSTRACT**

Not only in India, but around the world people led by social, political, cultural and economic reasons to marry their children in *Watta-Satta* marriages. These marriages are based on an alliance between two families and need an investigation to explore the socio-economic background, main reasons of this custom as well as functional aspect of this very custom. This paper provides an insight into understanding the possibility of bride exchange among two families in *Watta-Satta* marriage custom prevailing in Indian society, and its associated mutual threat of vengeance. This sample of the present study comprises 60 married male and female Kamboj respondents from 30 households. SPSS techniques have been applied to gauge direct relationship between variables.

**KEYWORDS:** *Watta-Satta* marriage, custom, Kamboj, Exchange**INTRODUCTION**

*Watta-Satta* is a traditional form of marriage in which two families exchange their daughters and become brides/daughters in laws for their sons. There is a vision behind these marriages is that if four persons can be married off simultaneously, it will reduce the financial expenditure cost as well as build strong relationships for both of the families. Often it is found that if a person malfeasant with his wife then such behaviour will be done by his brother in law against his sister. Double *Rishta* is the beauty of *Watta-Satta* marriage, whichever provides security for both families and on the other hand it is a double-edged sword, which destroys both the two families. An Exchange marriage has been practiced in all over India, China, all over Middle East, Africa, and America, subarctic and Australian aboriginals. Exchange marriage is known as *Rokh* in Turkey, *Badal* in Jordan and Palestine and *Watta-Satta* in India and Pakistan.

*Watta-Satta* is a marriage alliance of a woman and man from one household which are married to a woman and man from another household. *Watta-Satta* comprises the mutual exchange of possessions and remained successful in discouraging dowry system as both parties are in a position of equality. There is a vision behind *Watta-Satta* marriages are to marry four persons at the same time that will reduce the financial expenditure cost for both of the families. If any couple have only one daughter and no one of their son can be born from the first wife, the later provides the other woman (as a second wife) to her husband in the exchange of her daughter, since it is pre-requisite for a family.



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