

**Achievements of Faculty Members:**

S.No	Academic Year	No.of Research papers published in journals	No.of patents granted	No.of papers published in National conference	No.of papers published in international conferences	No.of Books Authored	No.of externally funded Research Projects received	Fund received during this academic year	No.of Book chapters Authored
1	2019-20	11	-	-	-	-	-	-	-

**Research papers published :**

s.no	Title of paper	Name of the author/s	Name of journal	Calendar Year of publication	ISSN number	Link to website of the Journal	Link to article / paper / abstract of the article	Is it listed in UGC Care list
1	An Experimental Research On Friction And Wear Behaviour Of Compact Graphite Iron At Elevated Temperatures	S. Venugopal Rao, M. Venkata Ramana, A.C.S Kumar	International Journal of Recent Technology and Engineering (IJRTE)	2019-20	2277-3878	<a href="https://www.ijrte.org/wp-content/uploads/papers/v8i2S11/B13190982S1119.pdf">https://www.ijrte.org/wp-content/uploads/papers/v8i2S11/B13190982S1119.pdf</a>	<a href="https://www.ijrte.org/wp-content/uploads/papers/v8i2S11/B13190982S1119.pdf">https://www.ijrte.org/wp-content/uploads/papers/v8i2S11/B13190982S1119.pdf</a>	Yes

2	An Experimental Research On Friction And Wear Behaviour Of Compact Graphite	S. Venugopal Rao, M. Venkata Ramana, A.C.S Kumar	ijrte	2019-20	2277-3878	<a href="https://www.ijrte.org/wp-content/uploads/papers/v8i2S11/B13190982S1119.pdf">https://www.ijrte.org/wp-content/uploads/papers/v8i2S11/B13190982S1119.pdf</a>	<a href="https://www.ijrte.org/wp-content/uploads/papers/v8i2S11/B13190982S1119.pdf">https://www.ijrte.org/wp-content/uploads/papers/v8i2S11/B13190982S1119.pdf</a>	Yes
3	A STUDY ON INVENTORY MANAGEMENT	1B. ARCHANA, 2K.DIVYA	jespublica tion	2019-20	0377-9254	<a href="https://jespublica tion.com/upload/2019-V10-10-10.pdf">https://jespublica tion.com/upload/2019-V10-10-10.pdf</a>	<a href="https://jespublica tion.com/upload/2019-V10-10-10.pdf">https://jespublica tion.com/upload/2019-V10-10-10.pdf</a>	Yes
4	A Study On Fixed Assets Management In Ultratech Cement	Shaik Toufiq Hussain <sup>1</sup> , A. Renuka <sup>2</sup>	jespublica tion	2019-20	0377-9254	<a href="https://jespublica tion.com/upload/2022-V13I958.pdf">https://jespublica tion.com/upload/2022-V13I958.pdf</a>	<a href="https://jespublica tion.com/upload/2022-V13I958.pdf">https://jespublica tion.com/upload/2022-V13I958.pdf</a>	Yes
5	A PROJECT REPORT ON GLOBAL RECESSION IMPACT ON SHARIAH INVESTMENT	RAMYA KASARLA, K. DIVYA	jespublica tion	2019-20	0377-9254	<a href="https://jespublica tion.com/upload/2019-V10-110-05.pdf">https://jespublica tion.com/upload/2019-V10-110-05.pdf</a>	<a href="https://jespublica tion.com/upload/2019-V10-110-05.pdf">https://jespublica tion.com/upload/2019-V10-110-05.pdf</a>	Yes
6	A PROJECT REPORT ON GLOBAL RECESSION IMPACT ON SHARIAH INVESTMENT	RAMYA KASARLA, K. DIVYA	jespublica tion	2019-20	0377-9254	<a href="https://jespublica tion.com/upload/2019-V10-110-05.pdf">https://jespublica tion.com/upload/2019-V10-110-05.pdf</a>	<a href="https://jespublica tion.com/upload/2019-V10-110-05.pdf">https://jespublica tion.com/upload/2019-V10-110-05.pdf</a>	Yes

7	A STUDY ON PERFORMANCE OF PRIMARY MARKET WITH REFERENCE TO FOLLOW	METHRE GANAPATHI, 2 Smt. B SHILPA	jespublication	2019-20	0377-9254	<a href="https://jespublication.com/upload/2019-V10-10-02.pdf">https://jespublication.com/upload/2019-V10-10-02.pdf</a>	<a href="https://jespublication.com/upload/2019-V10-10-02.pdf">https://jespublication.com/upload/2019-V10-10-02.pdf</a>	Yes
8	A STUDY ON EMPLOYEE WELFARE AND EMPLOYEE	IVAKKAN THULA ANUSHA, 2Mrs. CH. HIMA BINDU	jespublication	2019-20	0377-9254	<a href="https://jespublication.com/upload/2019-V10-19-85.pdf">https://jespublication.com/upload/2019-V10-19-85.pdf</a>	<a href="https://jespublication.com/upload/2019-V10-19-85.pdf">https://jespublication.com/upload/2019-V10-19-85.pdf</a>	Yes
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10	A STUDY ON PROFITABILITY ANALYSIS AT HERITAGE FOODS (INDIA) LIMITED	1Mr. P. Naresh 2Mrs. Dr. A. Latha	The International journal of analytical and experimental modal analysis	2019-20	0886-9367	128-IJAEMA-AUGUST-2021.pdf - Google Drive	128-IJAEMA-AUGUST-2021.pdf - Google Drive	Yes
11	A PROJECT REPORT ON PRODUCT LIFE CYCLE	Deepika Kothari <sup>1</sup> , Kondaparthi Harika <sup>2</sup> , Dr.K.Venkata subhaiah <sup>3</sup>	Journal of Engineering Sciences	2019-20	0377-9254	<a href="https://jespublication.com/uploads/2023-V1418069.pdf">https://jespublication.com/uploads/2023-V1418069.pdf</a>	<a href="https://jespublication.com/uploads/2023-V1418069.pdf">https://jespublication.com/uploads/2023-V1418069.pdf</a>	Yes

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# A PROJECT REPORT ON PRODUCT LIFE CYCLE AT KESORAM LTD

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## I. INTRODUCTION

Product/Service lifecycle management (PLM) is the process of managing the entire lifecycle of a product/Service from its conception, through design and manufacture, to service and disposal. PLM integrates people, data, processes and business systems and provides a product/Service information backbone for companies and their extended enterprise.

Product/Service lifecycle management (PLM) is more to do with managing descriptions and properties of a product/Service through its development and useful life, mainly from a business/engineering point of view; whereas product/Service life cycle management (PLCM) is to do with the life of a product/Service in the market with respect to business/commercial costs and sales measures.

Product/Service lifecycle management is one of the four cornerstones of a corporation's information technology structure. All companies need to manage communications and information with their customers (CRM-Customer Relationship Management), their suppliers (SCM-Supply Chain Management), their resources within the enterprise (ERP-Enterprise Resource Planning) and their planning (SDLC-Systems Development Life Cycle). In addition, manufacturing engineering companies must also develop, describe, manage and communicate information about their product/Services.

A form of PLM called people-centric PLM. While traditional PLM tools have been deployed only on release or during the release phase, people-centric PLM targets the design phase.

Recent (as of 2009) ICT development (EU funded PROMISE project 2004-2008) has allowed PLM to extend beyond traditional PLM and integrate sensor data and real time 'lifecycle event data' into PLM, as well as allowing this information to be made available to different players in the total lifecycle of an individual product/Service (closing the information loop). This has resulted in the extension of PLM into Closed Loop Lifecycle Management (CL<sub>2</sub>M).



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# Applications Of Meromorphic Functions With Positive Coefficients Associated With Rafid Operator

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## Abstract

The target of this paper, we introduce and study new class  $\mathfrak{N}_n(\rho, h, \mu, \theta)$  of meromorphic univalent functions defined in  $U^* = \{z : z \in C \text{ and } 0 < |z| < 1\} = U \setminus \{0\}$ . We obtain coefficients inequalities, distortion theorems, extreme points, closure theorems, radius of convexity estimates and modified Hadamard products.

Keywords and Phrases: Meromorphic functions, Distortion, Hadamard product.

## 1 INTRODUCTION

Let  $\Sigma^*$  denote the class of meromorphic function of the form

$$f(z) = \frac{1}{z} + \sum_{n=1}^{\infty} a_n z^n, \quad (a_n \geq 0) \quad (1.1)$$

which are analytic in the punctured unit disc  $U^* = \{z : z \in C \text{ and } 0 < |z| < 1\} = U \setminus \{0\}$ . Let  $g(z) \in \Sigma^*$  be given by

$$g(z) = \frac{1}{z} + \sum_{n=1}^{\infty} b_n z^n \quad (1.2)$$

then the Hadamard product (or convolution) of  $f(z)$  and  $g(z)$  is given by

$$(f * g)(z) = \frac{1}{z} + \sum_{n=1}^{\infty} a_n b_n z^n = (g * f)(z) \quad (1.3)$$

# Estimated Data Set for Partially Observed System Approximate Planning and Reinforcement Learning

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Mrs.B.SARITHA<sup>4</sup>

## Abstract

Reinforcement learning methods may take use of asymmetry, which occurs during offline training in partly viewable virtual environments, to their advantage. If handled correctly, such private data may significantly improve the optimum convergence qualities. Nevertheless, the majority of the present research in asymmetric reinforcement learning relies on empirical assessment and is mostly heuristic, without theoretical guarantees or linkages to underlying theory. This paper first establishes the theory of Asymmetric Policy Iteration, a model-based dynamic programming solution technique; then, it applies relaxations that lead to Asymmetric DQN, a deep reinforcement learning process that does not rely on models. Experimental results corroborate and supplement our theoretical results, which were tested in settings with high levels of partial observability and demanding of information collection techniques and memorizing.

## 1 INTRODUCTION

One new paradigm in reinforcement learning (RL) is known as offline training and online execution (OTOE). This approach requires learning agents to undergo training in a simulated environment before they can be used in the "real" world. Our approach focuses on the many benefits of OTOE, which include safety guarantees, rapid training, flexibility, and access to sensitive information. In fact, OTOE has become the preferred paradigm in some research

cliques due to all these reasons; for example, in multi-agent RL, it is often referred to as CTDE. Offline training provides access to privileged information that is inaccessible during regular online training and/or execution. Depending on the kind of control issue, this may manifest in many ways; for example, in multi-agent RL, it can take the shape of other agents' observations and actions; in partly observable RL, it can take the shape of the system's state; and so on.

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# An Experimental Research On Friction And Wear Behaviour Of Compact Graphite Iron At Elevated Temperatures

S. Venugopal Rao, M. Venkata Ramana, A.C.S Kumar

**Abstract:** Compact Graphite iron (CGI) is mainly used in automobile engine cylinder blocks and disc brakes. CGI has interconnected by vermicular shape graphite. Melting of steel and treatment of CGI is useful for getting sound castings. In automobiles the components manufactured by CGI are exposed to friction including wear, abrasion, thermal stresses and fatigue. Friction and wear characteristics at elevated temperatures are studied in the present study. Friction tests on CGI are conducted with pin on disc wear testing machine between CGI and hard steel disc. The deviations in frictional forces and wear behaviour are observed from the experimental results. The results shows that the wear rate and frictional forces of CGI at 400°C and 500°C temperatures was strongly influenced by the variation in induced temperatures. Scanning Electron Microscopy (SEM) is used to examine CGI pins surfaces. Temperature variations during experiments are influenced the CGI coefficient of friction.

**Keywords:** Compact Graphite Iron, Friction, Sliding wear, High Temperature, SEM Analysis.

## I. INTRODUCTION

Wear and friction behaviour studies of CGI cast iron will be useful in making of blow moulding mould materials and in automobile applications. Pin on disc wear testing tribometer was used to conduct wear tests. CGI samples for wear testing were taken from the prepared material and abraded against a hardened steel disc (EN 31). Sliding velocity, frictional force and contact time were taken as test variables. Weight loss of the tested samples was measured after conducting the wear tests at 400°C and 500°C. [1] CGI produced with addition of alloys in the melt to charge. Carbon content is adjusted by adding graphite and after reaching required level of carbon the melt is heated up to 1530°C and treated with magnesium. Holding time at maximum temperature will be reduced to minimize silicon loss, melt oxidation and carbon burn will be minimized by keeping melt holding time as minimum. Modularisation with magnesium treatment and Ferro silicon inoculation have been done with a special care. Production of CGI is includes pig iron as base iron, steel scrap, graphite and Ferro silicon alloy. This CGI material is used in engine piston rings, bearings, brakes, and seals. Y.Lyu [2] studied observations which shown wear behaviour CGI overcome

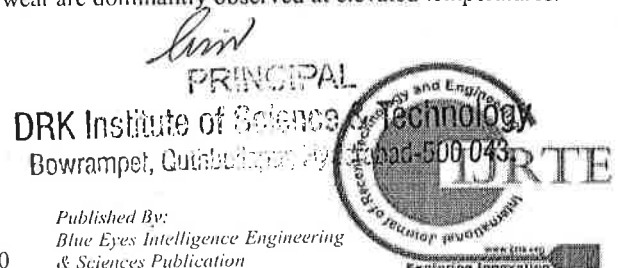
other cast iron materials. Heat treatment processes like induction hardening will increase the wear behaviour of CGI. [3] Grey cast iron is the material which has been used in the applications where wear is considered primly. Dark graphite and bright pearlite matrix structure ferrite is observed. The distribution of graphite contains perlite and ferrite. Mo content is one of the important for the varying pearlite fraction. [4] Production rates and costs are depends on mould materials and its surfaces. [5] Nano crystalline oxide layers called glaze layers are response to low wear rates. Glaze layers are developed between pin and disc metal in pin on disc test. The CGI metal properties like wear resistance, corrosion resistance, machinability and temperature resistance can be improved by addition of copper, molybdenum, chromium, nickel and zirconium in the melt. From the wear spheroidal graphite iron experiment D. Gowda.[6] given that coefficient of friction and wear rates were measured and made conclusions that at initial time coefficient of friction varies and later converge to certain values due to the wear debris. The wear debris generated between pins and disc surface. Spheroidal graphite iron (SGI) shown high wear rates in dry and wet experimental conditions and graphite acts as lubricant. Sugwon Kim (10) studied wear behaviour of compacted graphite cast iron at elevated temperatures and results indicated that CGI can use in high temperature applications. High temperature abrasive wear properties of CGI and SGI cast irons have been studied by E. Faculty [7] and concluded that SGI shown high wear losses than CGI, in abrasive conditions SGI is more useful. Strain ageing of subsurface layer during wear experiment at 150°C is the reason for increase in wear resistance CGI and SGI. Critical thickness of CGI casting, magnesium content in CGI and oxygen activity are influence the control of crystallization of graphite [8] G. Cui.[9] studied tribological properties of materials and concluded that hardness and solid lubricants like Ag, molybdates, chromates will influence the tribological properties of materials. M.S Skoinski[10] Conducted experiments at 290°C, 340°C and 390°C and concludes that CGI wear resistance is increased by decrease in abrasive as austempering temperature increased. [11] Interactions between metal particles are observed particularly due to the abrasive components of the friction material, like hard oxide particles, MgO. Plastic deformation and oxidative wear are dominantly observed at elevated temperatures.

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## A STUDY ON INVENTORY MANAGEMENT

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### ABSTRACT

Inventory Management System is important to ensure quality control in businesses that handle transactions revolving around consumer goods. Without proper inventory control, a large retail store may run out of stock on an important item. A good Inventory Management System will alert the retailer when it is time to reorder. Inventory Management System is also an important means of automatically tracking large shipments. For example, if a business orders ten pairs of socks for retail resale, but only receives nine pairs, this will be obvious upon inspecting the contents of the package, and error is not likely. On the other hand, say a wholesaler orders 100,000 pairs of socks and 10,000 are missing. Manually counting each pair of socks is likely to result in error. An automated Inventory Management System helps to minimize the risk of error. In retail stores, an Inventory Management System also helps track theft of retail merchandise, providing valuable information about store profits and the need for theft-prevention systems. Automated Inventory Management System work by scanning a barcode either on the item. A barcode scanner is used to read the barcode, and the information encoded by the barcode is read by the machine. This information is then tracked by a central computer system. For example, a purchase order may contain a list of items to be pulled for packing and shipping. The Inventory Management System can serve a variety of functions in this case. It can help a worker locate the items on the order list in the warehouse, it can encode shipping information like tracking numbers and delivery addresses, and it can remove these purchased items from the inventory tally to keep an accurate count of in-stock items. All of this data works in tandem to provide businesses with real-time inventory tracking information. Inventory Management System make it simple to locate and analyze inventory information in real-time with a simple database search.

### I. INTRODUCTION

Inventory control is vitally important to almost every type of business, whether product or service oriented. Inventory control touches almost every facets if operations. A proper balance must be struck to maintain proper inventory with the minimum financial impact on the customer. Inventory control is the activities that maintain stock keeping items at desired levels. In manufacturing since the focus is on physical product, inventory control focus on material control.

"Inventory" means physical stock of goods, which is kept in hands for smooth and efficient running of future affairs of an organization at the minimum cost of funds blocked in inventories.

The fundamental reason for carrying inventory is that it is physically impossible and economically impractical for each stock item to arrive exactly where it is needed, exactly when it is needed.

Inventory management is the integrated functioning of an organization dealing with supply of materials and allied activities in order to achieve the maximum co-ordination and optimum expenditure on materials. Inventory control is the most important function of inventory management and it forms the nerve center in any inventory management organization. An Inventory Management System is an essential element in an organization. It is comprised of a series of processes, which provide an assessment of the organization's inventory.



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## A Study On Fixed Assets Management In Ultratech Cement

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### ABSTRACT

*Fixed Assets are the assets held with the intention of being used on continuous basis for the purpose of producing or providing goods or services and are not held for resale in the normal course of business.*

*E.g.: Land and Buildings, Plant and Machinery, Motor Vehicles, Furniture and Fixtures.*

*Valuation of fixed assets is important to have fair measure of profit or loss and financial position of the concern. Fixed assets are meant for use for many years. The value of these assets decreases with their use or with time or many other reasons. A portion of fixed assets are reduced by usage are converted into cash through charging depreciation. For correct measurement of income, proper measurement of depreciation is essential, as depreciation constitutes a Part of total cost of production.*

### I. INTRODUCTION

Financial transactions are recorded in the books, keeping in view the going concern aspect of the business unit. In going concern aspect it is assumed that the business unit has reasonable expectation of continuing the business for a profit for an indefinite period of time. This assumption provides much of the justification for recording fixed assets at original cost and depreciating them in a systematic manner without reference to their current realizable value

It is useless to record the fixed assets in the balance sheet at their estimated realizable values if there is no immediate expectation of selling them. So, they are shown at their book value (i.e., Cost – Depreciation) and not at current realizable value. The market value of the fixed assets may change with the passage of time, but for accounting purpose it continues to be shown in the books in historical cost.

The cost concept of accounting states that depreciation calculated on the basis of historical cost of old assets is usually lower than the amount calculated at current value/ replacement value. These results in more profits, which if distributed in full will lead to reduction in capital.

  
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## A STUDY ON PERFORMANCE OF PRIMARY MARKET WITH REFERENCE TO FOLLOW ON PUBLIC OFFERING

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### ABSTRACT:

The present study has been emphasized on the performance follow on public offering in Indian primary market examined with the help of secondary data from the period of 2008 – 09 to 2017-18. The review of literature in this area indicated limited research have been done. The Modigliani risk adjusted method has been applied in before and after period from the offering data and found that the majority of the FPOs returns performance got deteriorated in post listing period. The ordinary least square method has been applied and the result stated that the in pre and post listing period stocks are having the significant impact on the index performance. The ARCH model has been applied and the result reveals that the stocks volatility influenced the primary market bench mark volatility. This paper is useful to the equity investors, HNI, QIB, Regulators and academicians.

**Key words:** FPO, Primary Market, Investors, MM Approach and Secondary Market

### i. INTRODUCTION

Primary demand is a demand because new issues yet monetary claims hence such is also referred to as so new trouble market. Primary market deals including lucre as are issued to the masses because of the advance period .in the primary market borrowers change current financial wherewithal because long term funds for this reason primary demand essential because metropolis formation. There are ternary ways within modern issue demand in conformity with develop their capital he are people issues, correct troubles and non-public placement.

In masses issues we bear joining kinds he are IPO (initial community offering), and FPO (further community offering).IPO yet FPO are no longer comparable at that place is quite difference within them. These twins kinds over people choices are tooled according to develop headquarters funds. IPO's (Initial commons offerings) are made with the aid of the agencies who the unlisted employer execute flourish theirs metropolis via presenting shares according to the public. Whereas the FPO's(follow of masses offerings)which a enterprise uses FPO then such has long past thru the manner over IPO yet decides in conformity with fulfil greater about its shares on hand in conformity with commons (or) to make bigger enterprise (or) in imitation of offshoot debt's.

The instruction is focused of follow over masses offerings(FPO) that is also referred to as further people choices which is an meanwhile listed corporation vivid according to flourish their funds by issuing shares after the public because bettering the enterprise and according to yielding debt's. The FPO's are labelled in according to couple sort's dilutive then non dilutive offerings. In the case concerning dilutive offering the corporation plank over administrators choice come after collect or the will decides after raise the share go with the flow because the purpose concerning selling greater fairness of the company. The new inflow about cash is would possibly keep old because enlargement of the enterprise or after yielding debt's

In the case regarding non dilutive offerings is so in private finished shares are presented via enterprise directors or mean insiders for sale. Right here ignoble insiders such as danger capitalists anybody can also

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# An Opinion on AI with a Human Intermediary

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## Abstract

Computers still struggle or fail miserably at many things that people can do effortlessly. An unparalleled amount of human-based computing power may be harnessed using crowdsourcing platforms such as Amazon Mechanical Turk. But as a general-purpose computing platform, they aren't very useful. It is challenging to coordinate complicated or interconnected processes due to the absence of full automation. Adding human workers to the schedule in order to decrease latency is an expensive endeavor, and works need to be tracked and rescheduled when workers don't finish their assignments. The amount of time and money needed to complete a project is also not always easy to foresee. Lastly, human-based calculations may not always provide trustworthy results due to the fact that human abilities and accuracy differ greatly and employees have a financial motive to limit their effort. In this article, we present AUTOMAN, the pioneering technology for completely autonomous crowdprogramming. Human-based calculations are seamlessly integrated into a regular programming language with AUTOMAN as conventional function calls. These functions may be freely combined with traditional ones. Programmers using AUTOMAN are able to concentrate on the logic of their code thanks to this abstraction. A budget and degree of confidence in the total calculation may be defined in an AUTO-MAN software. The AUTOMAN runtime system takes care of scheduling, pricing, and quality control in an open and transparent manner. AUTOMAN keeps human workers on time, checks their progress, reprices their labor, and restarts them as needed to get the appropriate degree of confidence. It also optimizes parallelism among human workers while keeping costs down.

**Keywords** Crowdsourcing, Programming Languages, Quality Control


## 1. Introduction

There are a lot of things that computers still can't do well that humans can. When it comes to vision, motion planning, and interpreting natural language, for instance, humans absolutely crush computers [22, 26].

The majority of academics believe that computers will continue to struggle with these "AI-complete" activities for some time to come [27].

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### A Study On "Working Capital Management" Submitted By Tata Motors

B. Renuka, Dr A. Latha

#### Abstract

Administration of **Alive Basic** is one of the a lot of basic functions of accumulated management. Every alignment whether accessible or private, accumulation aggressive or not, behind hand of its admeasurements and attributes of business, needs acceptable bulk of **alive capital**. The accomplished **alive basic administration** is a lot of analytical agency in **advancement existence**, liquidity, solvency and ability of the **any business organization**. A aggregation needs acceptable accounts to **backpack out** acquirement of raw materials, transaction of anticipated operational **costs and funds** to accommodate these costs are calm accepted as **alive capital**. Keeping in appearance the accent of alive basic administration as ablah breadth of accumulated accounts function, an accomplishment has been fabricated to appraise the alive basic styles and practices aspect in **PENNACEMENTS** .

#### Full Text:



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# An Experimental Research On Friction And Wear Behaviour Of Compact Graphite Iron At Elevated Temperatures

S. Venugopal Rao, M. Venkata Ramana, A.C.S Kumar

**Abstract:** Compact Graphite iron (CGI) is mainly used in automobile engine cylinder blocks and disc brakes. CGI has interconnected by vermicular shape graphite. Melting of steel and treatment of CGI is useful for getting sound castings. In automobiles the components manufactured by CGI are exposed to friction including wear, abrasion, thermal stresses and fatigue. Friction and wear characteristics at elevated temperatures are studied in the present study. Friction tests on CGI are conducted with pin on disc wear testing machine between CGI and hard steel disc. The deviations in frictional forces and wear behaviour are observed from the experimental results. The results shows that the wear rate and frictional forces of CGI at 400°C and 500°C temperatures was strongly influenced by the variation in induced temperatures. Scanning Electron Microscopy (SEM) is used to examine CGI pins surfaces. Temperature variations during experiments are influenced the CGI coefficient of friction.

**Keywords:** Compact Graphite Iron, Friction, Sliding wear, High Temperature, SEM Analysis.

## I. INTRODUCTION

Wear and friction behaviour studies of CGI cast iron will be useful in making of blow moulding mould materials and in automobile applications. Pin on disc wear testing tribometer was used to conduct wear tests. CGI samples for wear testing were taken from the prepared material and abraded against a hardened steel disc (EN 31). Sliding velocity, frictional force and contact time were taken as test variables. Weight loss of the tested samples was measured after conducting the wear tests at 400°C and 500°C. [1] CGI produced with addition of alloys in the melt to charge. Carbon content is adjusted by adding graphite and after reaching required level of carbon the melt is heated up to 1530°C and treated with magnesium. Holding time at maximum temperature will be reduced to minimize silicon loss, melt oxidation and carbon burn will be minimized by keeping melt holding time as minimum. Modularisation with magnesium treatment and Ferro silicon inoculation have been done with a special care. Production of CGI is includes pig iron as base iron, steel scrap, graphite and Ferro silicon alloy. This CGI material is used in engine piston rings, bearings, brakes, and seals. Y.Lyu [2] studied observations which shown wear behaviour CGI overcome

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other cast iron materials. Heat treatment processes like induction hardening will increase the wear behaviour of CGI. [3] Grey cast iron is the material which has been used in the applications where wear is considered primly. Dark graphite and bright pearlite matrix structure ferrite is observed. The distribution of graphite contains perlite and ferrite. Mo content is one of the important for the varying pearlite fraction. [4] Production rates and costs are depends on mould materials and its surfaces. [5] Nano crystalline oxide layers called glaze layers are response to low wear rates. Glaze layers are developed between pin and disc metal in pin on disc test. The CGI metal properties like wear resistance, corrosion resistance, machinability and temperature resistance can be improved by addition of copper, molybdenum, chromium, nickel and zirconium in the melt. From the wear spheroidal graphite iron experiment D. Gowda.[6] given that coefficient of friction and wear rates were measured and made conclusions that at initial time coefficient of friction varies and later converge to certain values due to the wear debris. The wear debris generated between pins and disc surface. Spheroidal graphite iron (SGI) shown high wear rates in dry and wet experimental conditions and graphite acts as lubricant. Sugwon Kim (10) studied wear behaviour of compacted graphite cast iron at elevated temperatures and results indicated that CGI can use in high temperature applications. High temperature abrasive wear properties of CGI and SGI cast irons have been studied by E. Faculty [7] and concluded that SGI shown high wear losses than CGI, in abrasive conditions SGI is more useful. Strain ageing of subsurface layer during wear experiment at 150°C is the reason for increase in wear resistance CGI and SGI. Critical thickness of CGI casting, magnesium content in CGI and oxygen activity are influence the control of crystallization of graphite [8] G. Cui.[9] studied tribological properties of materials and concluded that hardness and solid lubricants like Ag, molybdates, chromates will influence the tribological properties of materials. M.S Skoinski [10] Conducted experiments at 290°C, 340°C and 390°C and concludes that CGI wear resistance is increased by decrease in abrasive as austempering temperature increased. [11] Interactions between metal particles are observed particularly due to the abrasive components of the friction material, like hard oxide particles, MgO. Plastic deformation and oxidative wear are dominantly observed at elevated temperatures.

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## A STUDY ON EMPLOYEE WELFARE AND EMPLOYEE SATISFACTION

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### ABSTRACT

Welfare of employee and his family members is an effective advertising and also a method of buying the gratitude and loyalty of employees. Employee welfare is a comprehensive term including various services, benefits and facilities offered by the employer.

The basic purpose of labour welfare is to enrich the life of employees and keep them happy and contented. Welfare facilities enable workers to have a richer and more satisfying life. It raises the standard of living of workers by indirectly reducing the burden on their pocket.

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Organization is made up of people there for if people do not change then the organization cannot change for obtaining the full co-operation & enthusiastic support of the members in achieving the organizational objectives, the organization must satisfy their needs and insurer their feelings.

Every organization is different and less a unique feelings and character beyond its structures characters these each org, deals with its members in a distinct way through its policies on allocation of resources, commune action pattern reward and

penalty leader ship and decision making style etc. the org policy and connection with regard to all these and a cluster of other related activities influence the feelings attitudes and behavior of its members and results in the creation of a unique organizational

This paper challenges the view of CEE labor as a uniformly weak actor. It argues that CEE unions' ability to shape the bargaining agenda and social policies depends largely on the degree of privatization, which overlaps with sectorial divisions. We find that unions in exposed sectors are unable to oppose greater flexibility even when there are no considerable wage gains, whereas workers in protected sectors manage to maintain their status and at times even enhance their welfare, both in terms of higher wages and better working conditions.

### I. INTRODUCTION

Welfare includes anything that is done for the comfort and improvement of employees and is provided over and above the wages. Welfare helps in keeping the morale and motivation of the employees high so as to retain the employees for longer duration. The welfare measures need not be in monetary terms only but in any kind/forms. Employee welfare includes monitoring of working conditions, creation of industrial harmony through infrastructure for health, industrial relations and insurance against disease, accident and unemployment for the workers and their families.

Labor welfare entails all those activities of employer which are directed towards providing the employees with certain facilities and services in addition to wages or salaries.

Labor welfare has the following objectives:



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Page No:462

**A PROJECT REPORT ON PRODUCT LIFE CYCLE AT KESORAM LTD****Deepika Kothari<sup>1</sup>, Kondaparthi Harika<sup>2</sup>, Dr.K.Venkata subbaiah<sup>3</sup>****Student<sup>1</sup>, Guide<sup>2</sup>, HOD<sup>3</sup>****DRK Institute Of Science And Technology****HYDERABAD****I. INTRODUCTION**

Product/Service lifecycle management (PLM) is the process of managing the entire lifecycle of a product/Service from its conception, through design and manufacture, to service and disposal. PLM integrates people, data, processes and business systems and provides a product/Service information backbone for companies and their extended enterprise.

Product/Service lifecycle management (PLM) is more to do with managing descriptions and properties of a product/Service through its development and useful life, mainly from a business/engineering point of view; whereas product/Service life cycle management (PLCM) is to do with the life of a product/Service in the market with respect to business/commercial costs and sales measures.

Product/Service lifecycle management is one of the four cornerstones of a corporation's information technology structure. All companies need to manage communications and information with their customers (CRM-Customer Relationship Management), their suppliers (SCM-Supply Chain Management), their resources within the enterprise (ERP-Enterprise Resource Planning) and their planning (SDLC-Systems Development Life Cycle). In addition, manufacturing engineering companies must also develop, describe, manage and communicate information about their product/Services.

A form of PLM called people-centric PLM. While traditional PLM tools have been deployed only on release or during the release phase, people-centric PLM targets the design phase.

Recent (as of 2009) ICT development (EU funded PROMISE project 2004-2008) has allowed PLM to extend beyond traditional PLM and integrate sensor data and real time 'lifecycle event data' into PLM, as well as allowing this information to be made available to different players in the total lifecycle of an individual product/Service (closing the information loop). This has resulted in the extension of PLM into Closed Loop Lifecycle Management (CL<sub>2</sub>M).

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# Some Applications of Analytic Functions Associated with Erdély-Kober Integral Operator by using Jack's Lemma

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## Abstract

In this paper we study some properties of Erdély-Kober integral operator  $\mathcal{J}_\rho^{a,c}v(z)$  belonging to some class by applying Jack's lemma.

**Keywords and phrases:** analytic, starlike, Integral Operator, convolution, jacks lemma .

**AMS Subject Classification:** 30C45; 30C50.

## 1 Introduction

The theory of analytic function undermines a field that is still actively investigated today despite being an old subject. Many studies on the privileged subject of inequalities in complex analysis have been conducted using the classes of analytical functions. The interaction of geometry and analysis in complex function theory is its most attractive characteristic. These connections between geometric behaviour and analytical structure have been the key area of attention for rapid development. The current work, which developed a new subclass of analytical functions related to the Erdély-Kober


Some Applications of Analytic Functions Associated with Erdély-Kober Integral Operator by using Jack's Lemma

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#### Abstract

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## DESIGN AND ANALYSIS OF CAR RIM

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*Abstract: Archaeologies and historians of today see the introduction of the wheel as the real genesis of any old civilisation. The wheel is perhaps the most significant discovery of old times. The wheel has developed from nothing more than an oversized bearing to a fully integral part of any modern transportation vehicle. The modern vehicle is also seen today a fashion item to complement people's individual requirements. Motor vehicles are produced according to very strict rules to ensure the safety of the passengers. Every component is therefore designed according to the criticality of the component. Wheels are classified as a safety critical component and international codes and criteria are used or design a wheel.*

*The purpose of the car wheel rim provides a firm base on which to fit the tire. Its dimensions, shape should be suitable to adequately accommodate the particular tire required for the vehicle. In this study a tire of car wheel rim belonging to the disc wheel category is considered. Design is an important industrial activity which influences the quality of the product.*

*3D modelling of the Volkswagen wheel which is different shape of rim (y-shape, u-shape and triangle shape) done in parametric software CATIA. Static, fatigue and modal analysis is done ANSYS. In static analysis calculates the stress and displacement by using two different materials namely aluminium alloy and forged steel. In modal analysis, to determine the deflections and frequencies.*

**Key words:** Car wheel rim, load analysis, CATIA software

## I. INTRODUCTION

Automotive wheels have evolved over the decades from early spoke designs of wood and steel, carryovers from wagon and

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bicycle technology, to flat steel discs and

finally to the stamped metal configurations and modern cast and forged aluminium alloys rims of today's modern vehicles.

# On a certain subclass of analytic functions involving Pascal distribution series

*Bolineni Venkateswarlu*<sup>1 2</sup>, *P. Thirupathi Reddy*<sup>3</sup>,  
*G. Sujatha*<sup>4</sup>, *S. Sridevi*<sup>5</sup>

CompAMa Vol.10, No.1, pp.145-165, 2022 - Received September 30, 2021 - Accepted April 3, 2022

## Abstract

The main purpose of this paper, is to introduce a new subclass of analytic functions involving Pascal distribution series and obtained coefficient inequalities, distortion theorem, convex linear combination, partial sums, convolution and neighborhood result for this class.

**Keywords:** analytic function; coefficient estimates; distortion; partial sums.

## Resumen

El objetivo principal de este artículo es introducir una nueva subclase de funciones analíticas que involucran series de distribución de Pascal y desigualdades de

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## CERTAIN SUBCLASS OF ANALYTIC FUNCTIONS INVOLVING HURWITZ-LERCH ZETA FUNCTION

Kishor C. Deshmukh, Rajkumar N. Ingle, Pimminti Thirupathi Reddy

*Communicated by N. Nikolov*

**ABSTRACT.** Making use of Integral operator involving the Hurwitz-Lerch zeta function, we introduce a new subclass of analytic functions defined in the open unit disk and investigate its various characteristics. Further we obtain some usual properties of the geometric function theory such as coefficient bounds, extreme points radius of starlikeness and convexity, partial sums and neighbourhood results belonging to the class.

1. Introduction. Let  $A$  denote the class of all functions  $u(z)$  of the form

$$(1.1) \quad u(z) = z + \sum_{n=2}^{\infty} a_n z^n,$$

in the open unit disc  $U = \{z \in \mathbb{C} : |z| < 1\}$ . Let  $S$  be the subclass of  $A$  consisting of univalent functions and satisfy the following usual normalization condition

2020 *Mathematics Subject Classification:* 30C45

*Key words:* analytic, starlike, convexity, partial sums, neighborhood



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# On A Certain Subclass Of Meromorphic Kummer Function Connected To Hurwitz- Lerch Zeta Function

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## ABSTRACT

In this paper, we introduce and study a new subclass of meromorphic Kummer function defined by a Hurwitz-Lerch Zeta function operator and obtain coefficient estimates, growth and distortion theorem, radius of convexity, integral transforms, convex linear combinations, convolution properties and  $\delta$ -neighborhoods for the class  $\Sigma_p(\alpha)$ .

**Keywords and phrases:** uniformly convex, uniformly starlike, meromorphic, coefficient estimates.

**AMS Subject Classification:** 30C45; 30C50.

## 1 INTRODUCTION

Let  $A$  denote the class of all functions  $f(z)$  of the form

$$f(z) = z + \sum_{n=2}^{\infty} a_n z^n \quad (1.1)$$

in the open unit disc  $E = \{z \in \mathbb{C} : |z| < 1\}$ . Let  $S$  be the subclass of  $A$  consisting of univalent functions and satisfy the following usual normalization condition  $f(0) = f'(0) - 1 = 0$ . We denote by  $S$  the subclass of  $A$  consisting of functions  $f(z)$  which are all univalent in  $E$ . A function  $f \in A$  is a starlike function by the order  $\alpha$ ,  $0 \leq \alpha < 1$ , if it satisfy

$$\Re \left\{ \frac{z f'(z)}{f(z)} \right\} > \alpha \quad (z \in E). \quad (1.2)$$

We denote this class with  $S^*(\alpha)$ .

A function  $f \in A$  is a convex function by the order  $\alpha$ ,  $0 \leq \alpha < 1$ , if it satisfy

$$\Re \left\{ 1 + \frac{z f''(z)}{f'(z)} \right\} > \alpha \quad (z \in E) \quad (1.3)$$

We denote this class with  $K(\alpha)$ .

Let  $T$  denote the class of functions analytic in  $E$  that are of the form

$$f(z) = z - \sum_{n=2}^{\infty} a_n z^n \quad (a_n \geq 0, z \in E) \quad (1.4)$$

and let  $T^*(\alpha) = T \cap S^*(\alpha)$ ,  $C(\alpha) = T \cap K(\alpha)$ . The class  $T^*(\alpha)$  and allied classes possess some interesting properties and have been extensively studied by Silverman [16] and others.

A function  $f \in A$  is said to be in the class of uniformly convex functions of order  $\gamma$  and type  $\beta$ , denoted by  $UCV(\beta, \gamma)$ , if

$$\Re \left\{ 1 + \frac{z f''(z)}{f'(z)} - \gamma \right\} > \beta \left| \frac{z f''(z)}{f'(z)} \right| \quad (1.5)$$

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## ON SUBCLASS OF ANALYTIC FUNCTIONS ASSOCIATED WITH TOUCHARD POLYNOMIALS

Sujatha<sup>1\*</sup>, B. Venkateswarlu<sup>2</sup>, P. Thirupathi Reddy<sup>3</sup>

**Abstract:**

This paper focuses on the establishment of a new subfamily of analytic functions including Touchard polynomials. Afterwards, we attempt to obtain geometric properties such as coefficient inequalities, distortion properties, extreme points, radii of starlikeness and convexity, Hadmard product and convolution and integral operators for the class.

**AMS Subject Classification:** 30C45; 30C50; 30C80.

**Keywords and phrases:** analytic function, coefficient estimate, starlike, convexity, Touchard polynomial.

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A handwritten signature in black ink, appearing to be 'Sujatha'.

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**1.Introduction**

The application of special function on Geometric function Theory is a current and interesting topic of research. It is often used in areas such as physics, engineering, and mathematics. As a result of De Branges', the classic Bieberbach problem is successfully solved by applying a generalized hypergeometric function. Several types of special functions, including generalized hypergeometric Gaussian functions (see [1,2,3]), and Gegenbauer polynomials (see[30] ), have been studied extensively.

$$e^{e^t-1} = \sum_{k=0}^{\infty} B_k \frac{t^k}{k!} = 1 + t + t^2 + \frac{5}{6}t^3 + \frac{5}{8}t^4 + \frac{13}{30}t^5 + \frac{203}{720}t^6 + \dots$$

and the first ten Bell numbers  $B_k$  for  $0 \leq k \leq 9$  are

$$B_0 = 1, B_1 = 1, B_2 = 2, B_3 = 5, B_4 = 15, B_5 = 52, \\ B_6 = 203, B_7 = 877, B_8 = 4140, B_9 = 21147.$$

In [15], it was pointed out that there have been studies on interesting applications of the Bell polynomials  $B_k(x)$  in soliton theory, including links with bilinear and trilinear forms of nonlinear differential equations which possess soliton solutions. See, for example, [9,10,11]. Therefore, applications of the Bell polynomials  $B_k(x)$  to integrable nonlinear equations are greatly expected and any amendment on multilinear forms of soliton equations, even on exact solutions, would be beneficial to interested audiences in the research community. For more information about the Bell polynomials  $B_k(x)$ , please refer to and closely related references therein.

The Touchard polynomials, studied by Jacques Touchard (1939), also called the exponential polynomials comprise a polynomial sequence of binomial type. It is a new algorithm for solving linear and nonlinear integral equations. Touchard in his work on the cycles of permutations generalized the Bell polynomials in order to study some problems of enumeration of the permutations when the cycles possess certain properties. And he introduced and study a class of related polynomials. An exponential generating function, recurrence relations and connections with other well-known polynomials are obtained. In special cases, relations with Stifling number of the first and second kind, as well as with other numbers recently studied are derived. Finally, a combinatorial interpretation is discussed.

$$\mathfrak{J}(q, \hbar) = e^q \sum_{\ell=0}^{\infty} \frac{q^\ell \ell^\hbar}{\ell!} w^\ell, \quad w \in U.$$

The result of the second force is presented using the coefficients of Touchard polynomials as follows:

$$\phi_q^\hbar(w) = w + \sum_{\ell=2}^{\infty} \frac{(\ell-1)^\hbar q^{\ell-1}}{(\ell-1)!} e^{-q} w^\ell, \quad w \in U,$$

In combinatorics, the Bell numbers, usually denoted by  $B_k$  for  $k \in \{0\} \cup \mathbb{N}$ , where  $\mathbb{N}$  denotes the set of all positive integers, count the number of ways a set with  $k$  elements can be partitioned into disjoint and nonempty subsets. These numbers have been studied by mathematicians since the 19th century, and their roots go back to medieval Japan, but they are named after Eric Temple Bell, who wrote about them in the 1930. The Bell numbers  $B_k$  for  $k \geq 0$  can be generated by

In general, the integral equations are difficult to be solved analytically, therefore in many equations we need to get the approximate solutions, and for this case the "Touchard Polynomials method" for the solution linear "Volterra integro-differential equation" is implemented. The Touchard polynomials method has been applied in for solving linear and nonlinear Volterra (Fredholm) integral equations.

There has been research on interesting applications of the Touchard polynomials  $T_n(x)$  in nonlinear Fredholm-Volterra integral equations [12] and soliton theory in [9,10,11], including connections with bilinear and trilinear forms of nonlinear differential equations which possess soliton solutions. Therefore, applications of the Touchard polynomials  $T_n(x)$  to integrable nonlinear equations are greatly expected and any amendment on multi-linear forms of soliton equations, even on exact solutions, would be beneficial to interested audiences in the community. For more information about the Touchard polynomials  $T_n(x)$ , see [15]. A Touchard polynomial is also known as an exponential generating polynomial created by Jacques Touchard [26]. (see [15]) or Polynomial sequences of Bell type (see [3]) are polynomial sequences of binomial type that represent a random variable  $X$  with a Poisson distribution with an expected value  $\hbar$  then its  $n^{th}$  moment is  $E(X_q) = \mathfrak{J}(q, \hbar)$ , resulting in the type:

$$(1.1)$$

## A NEW SUBCLASS OF MEROMORPHIC KUMMER FUNCTION RELATED TO HURWITZ- LERCH ZETA FUNCTION

B. VENKATESWARLU, P. THIRUPATHI REDDY<sup>†</sup>, A. SHASHIKALA, AND SUJATHA

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**Abstract.** In this paper, we introduce and study a new subclass of meromorphic Kummer function defined by a Hurwitz-Lerch Zeta function operator and obtain coefficient estimates, growth and distortion theorem, radius of convexity, integral transforms, convex linear combinations, convolution properties and  $\delta$ -neighborhoods for the class  $\Sigma_p(\alpha, \beta)$ .

### 1. Introduction

Let  $A$  denote the class of all functions  $f(z)$  of the form

$$f(z) = z + \sum_{n=2}^{\infty} a_n z^n \quad (1.1)$$

in the open unit disc  $E = \{z \in \mathbb{C} : |z| < 1\}$ . Let  $S$  be the subclass of  $A$  consisting of univalent functions and satisfy the following usual normalization condition  $f(0) = f'(0) - 1 = 0$ . We denote by  $S$  the subclass of  $A$  consisting of functions  $f(z)$  which are all univalent in  $E$ . A function  $f \in A$  is a starlike function by the order  $\alpha$ ,  $0 \leq \alpha < 1$ , if it satisfy

$$\Re \left\{ \frac{z f'(z)}{f(z)} \right\} > \alpha \quad (z \in E). \quad (1.2)$$

We denote this class with  $S^*(\alpha)$ .

A function  $f \in A$  is a convex function by the order  $\alpha$ ,  $0 \leq \alpha < 1$ , if it satisfy

$$\Re \left\{ 1 + \frac{z f''(z)}{f'(z)} \right\} > \alpha \quad (z \in E). \quad (1.3)$$

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