



# Journal of Advanced Research in Dynamical and Control Systems

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## Enhanced EDF Scheduling Model for Resource Allocation in Cloud Computing

\*sukumar Babu B, neelima Priyanka N

### Abstract:

Now a days the information technology is drastically moving towards the cloud computing. Cloud Computing is a new technology in which all the resources are permanently stored on the server and are utilized by the clients through internet. Generally a cloud, consist of set of resources called virtual machines, which can handle both computational and storage. As the cloud utility is increasing day by day, scheduling of resources becomes the challenging task. Scheduling defines the process of work flow to fulfill a task by the system. A good scheduler dynamically fits its scheduling policy based on its changing situation and its task. In this paper we presented an Enhanced Scheduling model for resource allocation based on deadline and processing time while allocating resources to the required jobs. The performance metrics Average Turnaround Time, Average Waiting Time and Average Deadline Violation are reduced reasonably when compare to traditional scheduling models like FCFS, SJF and Simple EDF Scheduling Models.

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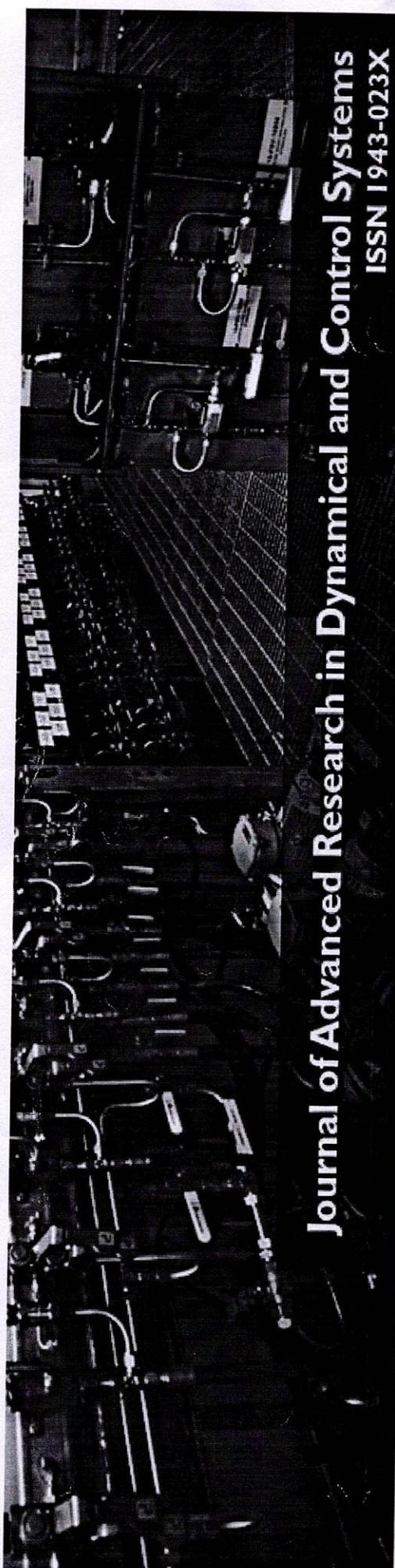
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## Unauthorized Access Tracker

\*Dr B. Sukumar Babu, **Dr. N. Neelima Priyanka**, B. Sunil Kumar Babu

### Abstract:

The World Wide Web, distributed databases and networking plays a vital role in this present globalised world. As every information is passed through networks there are several security algorithms that provide security measures and mostly can restrict hacking. But there might be some loop holes that the hacker can crack the security measures. The main purpose of this application **Unauthorized Access Tracker** is to track the intruder's activities even when the security measures fails. It provide the necessary information to identify the hacker/ intruder by snapshotting the events done by him and storing them at the server for later analysis.

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## A CATCHESTIC APPROACH TO BOMB DETECTION

<sup>1</sup>Narala Sudhakar Reddy, <sup>2</sup>G.Appa Rao, <sup>3</sup>Merugu Naresh Babu, <sup>4</sup>M.Rithvik, <sup>5</sup>D.Sowjanya, <sup>6</sup>K.Divya

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### Abstract

Technological Interventions plays a major role especially in the field of Computer Science and Engineering and Information Technology. In this regard attaining solutions to the problems based on major domains are also become easier due to rapid interventions of technology. In this connection terrorism is the major problem of every nation. In recent news Syria is going to face a lot of issues due to terrorist attacks. So where there is a problem there is a solution. This resembles a solution to the problem of terrorist attacks with the help of a technological intervention to make public aware of terrorist activities.

The advent of technology and technological interventions major problems are going to be resolved now a days. In this regard the most dangerous problem that is threatened to all nations is terrorism and it is resolved by the use of new advent of technologies. In this regard these project ensembles with mobile system to resolve the issue of terrorism. The mobile user either with his smart phone or without smart phone can get a message of the location of the bomb with the help of metal sensor and with a conjoin approach of Arduino program embedded in it. The user can easily get track the location of a bomb as soon as the metal Sensor senses the heavy metallic component especially bomb.

Keywords—Intervention,Catechistic,detection,exploration

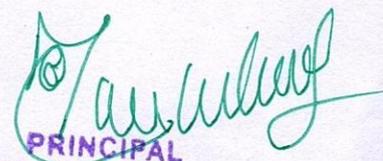
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Terrorism is the major threat for the development of many countries as of now killing many people in the name of terrorism is not at all good policy because the life of a person is more valuable than any other weapons to kill that particular person.

Life of a person is more valuable than any other thing we expect from the real world because our life is obtained by couple of struggles and sufferings.

Taking life as a minor part and killing the persons leads many of the families on roads. This has become a major threat leading to the large violence and damages the Country's income as well as the resources.

Coming to this paper this paper represents a way to find out the terrorist attacks that are going to be happened in a particular place .This Paper is a bold representation of those attacks and putting an end to those attacks[8].



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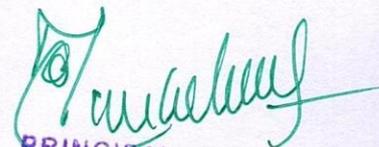
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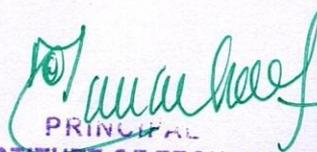
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# Implementation of Low Power Wallace Tree Multiplier using Carry Select Adder with BEC

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**Abstract:** Multipliers are major blocks in the most of the digital and high performance systems such as Microprocessors, Signal processing Circuits, FIR filters etc. In the present scenario, Fast multipliers with less power consumption are leading with their performance. Wallace tree multiplier with carry select adder (CSLA) is one of the fastest multiplier but utilizes more area. To improve the performance of the multiplier, CSLA is replaced by binary excess-1 counter (BEC) which not only reduces the area at gate level but also reduces power consumption. Wallace tree multiplier using CSLA with BEC is occupying less area, memory consuming less power when compared to Wallace tree multiplier using CSLA and Wallace tree multiplier. Area and power calculations for the Wallace tree multiplier using CSLA with BEC are giving good results compared to regular Wallace tree multiplier.

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Our main concept is to reduce these complications with this unit, so we use fusion techniques to have optimized design and many more optimized circuits with circuit minimization techniques are used have an optimized Sparse Parallel Prefix Adders operator design.

## II. DESIGN OF PROPOSED ARCHITECTURE

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2. Consider the first three rows of the multiplied products and reduce them into two rows by using full adders and half adders as per the requirements. Repeat this process until two rows of multiplied products are obtained.
3. Normally in the case of four bit additions of two integers a sum of four bits and carry one bit is formed. So, in the last step of layer we first have two rows of products half adder to add last two bits and the carry of the half adder is connected to the next layer. By following the same procedure add all the bits of two rows. At last the sum of four bits can be obtained Coming to the solution of 4\*4 Wallace tree multiplier; In first stage we obtain four rows of the multiplied products as shown in the Fig. 2.1.

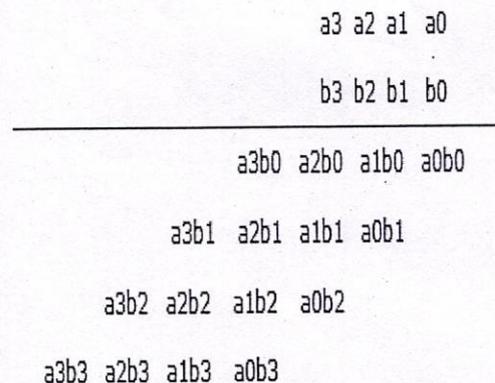


Fig: 2.1.Partial Products Generation

Now in the second stage choose the first three rows and reduce them into two rows by using half adders and full adders. As per the requirement it is needed two half adders and two full adders, sum and carry are generated as  $a0b0$ ,  $s(0)c(0)$ ,  $s(1)c(1)$ ,  $s(2)c(2)$ ,  $s(3)c(3)$ ,  $a3b2$  as in the Fig.2.2.

  
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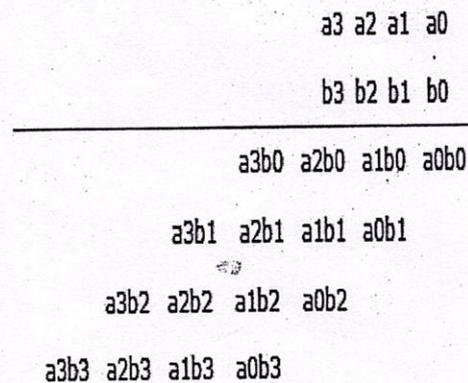
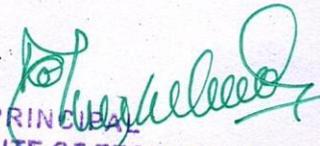


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$$\begin{array}{r}
 a_3 \ a_2 \ a_1 \ a_0 \\
 b_3 \ b_2 \ b_1 \ b_0 \\
 \hline
 a_3b_0 \ a_2b_0 \ a_1b_0 \ a_0b_0 \\
 a_3b_1 \ a_2b_1 \ a_1b_1 \ a_0b_1 \\
 a_3b_2 \ a_2b_2 \ a_1b_2 \ a_0b_2 \\
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3. Normally in the case of four bit additions of two integers a sum of four bits and carry one bit is formed. So, in the last step of layer we first have two rows of products half adder to add last two bits and the carry of the half adder is connected to the next layer. By following the same procedure add all the bits of two rows. At last the sum of four bits can be obtained Coming to the solution of 4\*4 Wallace tree multiplier; In first stage we obtain four rows of the multiplied products as shown in the Fig. 2.1.

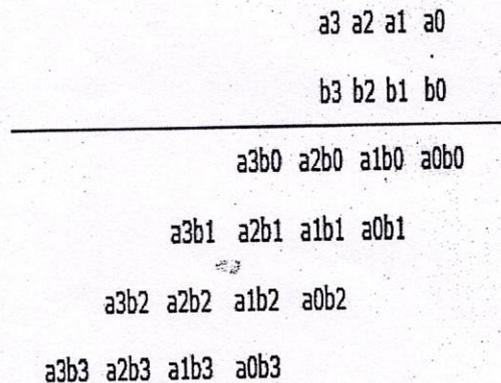


Fig: 2.1. Partial Products Generation

Now in the second stage choose the first three rows and reduce them into two rows by using half adders and full adders. As per the requirement it is needed two half adders and two full adders, sum and carry are generated as a0b0, s(0)c(0), s(1)c(1), s(2)c(2), s(3)c(3), a3b2 as in the Fig.2.2.

  
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## Implementation of Logistic Management System Using IOT and Open Source Hardware

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### Abstract:

Managing of Logistics is a significant aspect in Real time applications. Some of the aspects like delay in delivery of goods, real time identification of cargo vehicle, overload of goods in vehicle, misplacement of goods are some of the issues that are facing by the logistics management. The Global positioning system is used to track the location of the cargo based on its latitude and longitude positions. The GSM/GPRS module facilitates the location to the administrator. The RFID system facilitates the tracking and correct placement of goods in the cargo. The Open source hardware facilitates the processing and orderly management of goods details in the webserver. If more goods are placed in the cargo, then the cargo may not move or reach at expected time due to overload of the goods in the cargo. So by the employment of weight sensor the overload of goods in the cargo is eliminated. This system also serves the security purpose as periodically updating of location on the web server the real time data of cargo are updated with the aid of Open source hardware. Integration of IoT, RFID, GPS, GSM/GPRS and open source hardware yields in good results and can perform its activities in real time. This system yields in dynamic updating of data from the cargo and delays in the delivery of goods are also eliminated, positioning of cargo vehicle is provided, overload of goods is also eliminated.

**Keywords** — Logistics, GSM, GPS, Radio Frequency identification, Open source hardware, IoT.

### I. INTRODUCTION

The logistics are playing a significant aspect in present scenarios. A logistic system performs the operation of goods flow. As the oil price are hiking day by day, there must be an approach to maintain effective transportation which reduces the unnecessary usage of oil. The Vehicle tracking system is primarily implemented on ships, but due to changes in the technology pace, there have been several applications in the tracking scheme. The vehicle tracking system helps to track the vehicle and update the information in real time. The cargo tracking mechanism is one of the approaches to track the vehicle's position. The cargo tracking scheme is employed by the GPS system so as to position the vehicle. The GPS and RFID technology, both seem to be the best approach and promising in Real time localization systems [1]. The intelligent transportation system is integrated with the tracking system.

The Global positioning system comprises of a network of satellites. The Global positioning system primary application is in military. The Global Positioning system works on the basis of satellite signals. The communication between the satellites and the GPS system is mainly based on the radio waves. The Global Positioning system is basically comprised of three segments. The satellite constellation, ground networks, the user system is the three segments used in the GPS. The satellite constellation subsists a set of satellite functions on providing data signals to the user equipment. The ground network maintains the space segment. The user system acquires the signals from the space segment and upon further computation the navigation is provided. The radio waves are emitted by the satellite system and are received by the GPS system. The triangulation scheme is employed to calculate the latitude and longitude position in a 2-D approach. Based on the latitude and longitude position the location of the system is computed. The

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# COMPRESSED SENSING MRI RECONSTRUCTION USING MASKED 2D DWT

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**Abstract** - A newly developed mathematical framework of signal sampling and recovery, compressed sensing (CS) allows signal acquisition using fewer samples than what is specified by Nyquist-Shannon sampling theorem whenever the signal is sparse. As a result, CS has great potential in reducing data acquisition time in MRI. In traditional compressed sensing MRI methods, an image is reconstructed by enforcing its sparse representation with respect to a basis, usually wavelet transform or total variation. In this paper, we propose an improved compressed sensing-based reconstruction method using the 2D discrete wavelet transform. TwIST is commonly used algorithm for 2D signals reconstruction using Compressive Sensing principle. It is based on the Total Variation minimization. Standard version of the TwIST uses masked 2D Discrete Wavelet Transform coefficients as Compressive Sensing measurements. Our experiments demonstrate that this method can reduce aliasing artifacts and achieve higher peak signal-to-noise ratio (PSNR) using wavelet compression.

**Keywords:** Compressed Sensing (CS), Magnetic Resonance Imaging (MRI), 2D DWT.

## 1. INTRODUCTION

Compressed sensing (also known as compressive sensing, compressive sampling, or sparse sampling) is a signal processing technique for efficiently acquiring and reconstructing a signal, by finding

solutions to underdetermined linear systems. This is based on the principle that, through optimization, the sparsity of a signal can be exploited to recover it from far fewer samples than required by the Shannon-Nyquist sampling theorem. There are two conditions under which recovery is possible. The first one is sparsity which requires the signal to be sparse in some domain. The second one is incoherence which is applied through the isometric property which is sufficient for sparse signals.

Recently, compressed sensing based MRI (CS-MRI) allows high quality reconstruction from under sampled data by enforcing the pseudo-sparsity of images in a predefined basis or dictionary, such as the traditional two-dimensional (2D) separable wavelet transform or total variation. However, these basis sets may not provide sufficient sparse representation. The Discrete Cosine Transform (DCT) is used for transformation in JPEG standard. DCT performs efficiently at medium bit rates. Disadvantage with DCT is that only spatial correlation of the pixels inside the single 2-D block is considered and the correlation from the pixels of the neighboring blocks is neglected. Blocks cannot be decorrelated at their boundaries using DCT. One disadvantage of the DFT

## A secure Bluetooth-ZigBee gateway for IoT

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### Abstract:

The inescapability of savvy remote gadgets is quickly developing independent to the innovation and applications. All these shrewd gadgets are associated with web for checking, breaking down and controlling. There are such a large number of remote conventions, for example, Zigbee, Bluetooth, Wi-Fi, Wi-max and ultra wide band. Each convention has its preferences and inconveniences in light of information rate, control, cost, measure. In the current time there is quick advancement of Zigbee in keen applications. In this paper we are building up a model plan of an ease remote checking and controlling framework utilizing Bluetooth, Zigbee by taking a shrewd home application. All the sensor hubs are arranged with Zigbee (TICC1101) convention and the passage comprises of Zigbee module and Bluetooth module. The passage is fit for changing over Bluetooth and Zigbee conventions the other way around. The got information at the passage is pushed into web through advanced cell. The paper depicts the plan and usage procedure of passage equipment what's more, programming. This paper comprehends the container neck caused by two convention transmission rates and presents a bi-bearing information change strategy.

*Keywords* — Bluetooth, Gateway, IoT, Protocol converter, Zigbee.

### I. INTRODUCTION

The gathering of remote sensor systems can convey extensive variety of uses. It assumes fundamental part with regards to checking and investigating. Utilizing remote sensor systems is a major factor in applications, i.e for example, home services robotization, medicinal based services, condition checking, understanding observing and mechanical computerization. Bluetooth and Zigbee are two noteworthy remote system conventions that are utilized as a part of the majority of the applications. As they have numerous key factors that can bolster the vast majority of the applications. These two are short scope of utilizations where Bluetooth is balanced correspondence and Zigbee is one too much. Both are low power gadgets. Utilizing remote sensor organizes the gadgets can interface or contact over the web. Utilizing the web server the gadgets can publicize and work whenever and from anyplace. Web of things (IoT) is a framework that can possibly exchange the information over the system without human exertion. It gathers the information from sensor hubs and sends to web

utilizing remote sensor systems. It assumes premier part in robotizations. By utilizing IoT one can control the gadgets from anyplace independent to the separation and time. The IoT framework is perfect with various sorts of correspondence conventions, for example, Zigbee, Bluetooth, WI-Fi, WI-Max and so on. It obeys multi-convention handset idea. A significant number of the IoT frameworks convey through Bluetooth. There are numerous unreservedly accessible IoT web servers which can be associated through PDA by a basic Bluetooth gadget. Web of things (IoT) gives free servers through one can screen and control the applications. Thingspeak is the of-the uninhibitedly accessible server. The utilizations of the IoT framework are appeared in Figure 1. The encoding ability is one of the primary points of interest of IoT framework. Both Zigbee and Bluetooth perform at low recurrence i.e. 2.4GHz. Furthermore, they work for short separation applications. Both Zigbee portal and Bluetooth passage are composed and executed progressively. Together consolidating these two doors one can accomplish more noteworthy outcomes with low power and low information

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# PATIENT HEALTH MONITORING SYSTEM USING OPEN SOURCE TECHNOLOGY

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<sup>1,2,3,4</sup>Assistant Professor

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**Abstract:** IoT is an emerging technology, which permits devices and people correlated in an organized manner. In the medical area the applications like real time monitoring, patient information management and healthcare management are presently receiving a good scope in the market. Many patients are dying because of the unavailability of the doctor in correct time. Internet of things serves as a catalyst for the healthcare and plays prominent role in wide range of healthcare applications. In this project the Arduino Mega 2560 is used as a gateway to communicate to the various sensors such as temperature sensor, heartbeat, fault detection sensor and Blood Pressure module. The Arduino Mega 2560 picks up the sensor data and sends it to the network through Wi-Fi module ESP8266 and hence provides real time monitoring of the health care parameters for doctors. The controller is also connected with buzzer to alert the care taker about variation in sensor output. But the major issue in remote patient monitoring system is that the data as to be securely transmitted to the destination end and provision is made to allow only authorized user to access the data. At the time of extremity situation alert message is sent to the doctor through the developed Android application. Hence quick provisional medication can be easily done by this system. This system is efficient with low power consumption capability, easy setup, high performance and time to time response.

**IndexTerms:** IoT, Open Source Technology, Patient Health Monitoring System, Wi-Fi, Sensors.

## I. INTRODUCTION (HEADING 1)

The urge for the patient's health care management system is it can eliminate two dominant obstructions. First obstruction is that the doctor has to be on the site of the hospital for a long time. Second obstruction is that the patients are remained admitted in the hospitals for small health problems and may feel uncomfortable to stay in the hospital. Thus the implementation of this system more no of patients can be supervised and better services can be contributed. The wearable tiny sensors are easily integrated with the human body in the patient health monitoring system and so that it can sense the physical parameters of the patient's body[1]. The temperature sensor, BP sensor, Heartbeat sensor is low cost and are having predominant circumstances in the patient health care management system. The BP, heartbeat, the temperature sensor is familiar and frequently used because every patient's health will primarily depend on these parameters. In general, every doctor is confined to support only one patient in real time, but by this system one doctor can monitor real time details of many people. In comparison with the traditional approach to health care, the modern patient health management system will offer better health services 24x7 in any efficient manner[2]. In this developed patient health care management system, frequent visit of doctor by the patient's is completely eliminated[3].

Enhancements are ongoing for the implementations of the patient's health care management system. The data privacy is the considered to be the dominant aspect. The data of the patient must be secured and must enable them from outside network attacks. Data integrity is another issue because the patient's parameters are continuously transmitted to the central server there may be chances where data may be lost due to poor communication. With the employment of IoT in health care systems, the devices are connected to patient, collect real time data by a central The patient's health care management system has many challenging goals in the area of security. Many server and perform analytics on the data and provide the data to the real world in a user friendly manner.

Traditional remote health care system operates in the low speed processor and they are not efficient and cannot provide computations. As it operates on low memory, sufficient amount of data cannot be held by the IoT device [4].

In any system the power saving is the utmost challenge because the wearable sensors must not consume more power. A Certain power saving option must be enabled so as to reduce the power consumption. Employment of variable wired and wireless communication technologies like ZigBee, GSM, Wi-Fi, Ethernet, and Bluetooth can be integrated into the Patient health care management system. The Wearable sensors are limited by number because of the unavailability of interfacing ports in the central server Raspberry Pi 3. Appropriate technology is chosen for the efficient utilization of the patient's health care management system. In real world applications the Wearable sensors are mobile and must be easily integrated with the services provided by the IoT.

## II. LITERATURE SURVEY

In the 21<sup>st</sup> century, IoT has become the most persuasive technology. In the modern world every device became part of the internet due to their computation and communication capabilities with the advancements made in IoT. In the era of IoT, more devices can be accessed and they get connected anytime based upon the network and will extend their services to real time applications. In future, IoT can uniquely create a trend on the devices which are having computation abilities. The generated data from the IoT devices is further analyzed and decisions are made. Many advancements and new methodologies go up day by day on the basis of Internet of Things. IoT has numerous enhancements in the domains like healthcare, Smart environment, Smart Home, Smart industries [5].

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**Abstract:** IoT is an emerging technology, which permits devices and people correlated in an organized manner. In the medical area the applications like real time monitoring, patient information management and healthcare management are presently receiving a good scope in the market. Many patients are dying because of the unavailability of the doctor in correct time. Internet of things serves as a catalyst for the healthcare and plays prominent role in wide range of healthcare applications. In this project the Arduino Mega 2560 is used as a gateway to communicate to the various sensors such as temperature sensor, heartbeat, fault detection sensor and Blood Pressure module. The Arduino Mega 2560 picks up the sensor data and sends it to the network through Wi-Fi module ESP8266 and hence provides real time monitoring of the health care parameters for doctors. The controller is also connected with buzzer to alert the care taker about variation in sensor output. But the major issue in remote patient monitoring system is that the data as to be securely transmitted to the destination end and provision is made to allow only authorized user to access the data. At the time of extremity situation alert message is sent to the doctor through the developed Android application. Hence quick provisional medication can be easily done by this system. This system is efficient with low power consumption capability, easy setup, high performance and time to time response.

**IndexTerms:** IoT, Open Source Technology, Patient Health Monitoring System, Wi-Fi, Sensors.

## I. INTRODUCTION (HEADING 1)

The urge for the patient's health care management system is it can eliminate two dominant obstructions. First obstruction is that the doctor has to be on the site of the hospital for a long time. Second obstruction is that the patients are remained admitted in the hospitals for small health problems and may feel uncomfortable to stay in the hospital. Thus the implementation of this system more no of patients can be supervised and better services can be contributed. The wearable tiny sensors are easily integrated with the human body in the patient health monitoring system and so that it can sense the physical parameters of the patient's body[1]. The temperature sensor, BP sensor, Heartbeat sensor is low cost and are having predominant circumstances in the patient health care management system. The BP, heartbeat, the temperature sensor is familiar and frequently used because every patient's health will primarily depend on these parameters. In general, every doctor is confined to support only one patient in real time, but by this system one doctor can monitor real time details of many people. In comparison with the traditional approach to health care, the modern patient health management system will offer better health services 24x7 in any efficient manner[2]. In this developed patient health care management system, frequent visit of doctor by the patient's is completely eliminated[3].

Enhancements are ongoing for the implementations of the patient's health care management system. The data privacy is the considered to be the dominant aspect. The data of the patient must be secured and must enable them from outside network attacks. Data integrity is another issue because the patient's parameters are continuously transmitted to the central server there may be chances where data may be lost due to poor communication. With the employment of IoT in health care systems, the devices are connected to patient, collect real time data by a central The patient's health care management system has many challenging goals in the area of security. Many server and perform analytics on the data and provide the data to the real world in a user friendly manner.

Traditional remote health care system operates in the low speed processor and they are not efficient and cannot provide computations. As it operates on low memory, sufficient amount of data cannot be held by the IoT device [4].

In any system the power saving is the utmost challenge because the wearable sensors must not consume more power. A Certain power saving option must be enabled so as to reduce the power consumption. Employment of variable wired and wireless communication technologies like ZigBee, GSM, Wi-Fi, Ethernet, and Bluetooth can be integrated into the Patient health care management system. The Wearable sensors are limited by number because of the unavailability of interfacing ports in the central server Raspberry Pi 3. Appropriate technology is chosen for the efficient utilization of the patient's health care management system. In real world applications the Wearable sensors are mobile and must be easily integrated with the services provided by the IoT.

## II. LITERATURE SURVEY

In the 21<sup>st</sup> century, IoT has become the most persuasive technology. In the modern world every device became part of the internet due to their computation and communication capabilities with the advancements made in IoT. In the era of IoT, more devices can be accessed and they get connected anytime based upon the network and will extend their services to real time applications. In future, IoT can uniquely create a trend on the devices which are having computation abilities. The generated data from the IoT devices is further analyzed and decisions are made. Many advancements and new methodologies go up day by day on the basis of Internet of Things. IoT has numerous enhancements in the domains like healthcare, Smart environment, Smart Home, Smart industries [5].

# Fuzzy Based Dynamic Voltage Restorer for Sag Mitigation to Improve Electric Power Quality

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**Abstract**—This paper presents a fuzzy logic based Dynamic Voltage Restorer (DVR) which operates in voltage sag and swell conditions of the electrical power system. As now-a-days the all consumers of electrical energy are facing efficiency problems in the power system with the magnitude fluctuations in the voltage. In this paper we use fuzzy logic to operate the DVR in voltage sag and swell periods of the system, in order to improve the quality of electric power by reducing the harmonics, distortions and voltage ripples in the time of DVR on and off states.

**Keywords**— Fuzzy Logic, DVR, Electric Power Quality

## I. INTRODUCTION

Power quality in the present-day distributed systems are addressed in the literature [1]-[6] due to increased use of sensitive and critical equipment pieces such as communication network, process industries and precise manufacturing processes. Power quality problems such as transients, sags, swells and other distortions to the sinusoidal waveform of the supply voltage affect the performance of these equipment pieces. Voltage sags can occur at any instant of time, with amplitudes ranging from 10 - 90% and a duration lasting for half a cycle to one minute. Further, they could be either balanced or unbalanced, depending on the type of fault and they could have unpredictable magnitudes, depending on factors such as distance from the fault and the transformer connections. Voltage sag can cause sensitive equipment (such as found in semiconductor or chemical plants) to fail, or shutdown, as well as create a large current unbalance that could blow fuses or trip breakers. These effects can be very expensive for the customer, ranging from minor quality variations to production downtime and equipment damage [3]. There are many different methods to mitigate voltage sags, but the use of a DVR is considered to be the most cost efficient method [3].

The most common choice for the control of the DVR is the so called PI controller since it has a simple structure and it can offer relatively a satisfactory performance over a wide range of operation.

## II. DYNAMIC VOLTAGE RESTORER(DVR)

Dynamic Voltage Restorer (DVR) is a series connected device capable of regulating the load side voltage in a distribution network. The DVR provides a three phase independently controlled voltage source utilizing power electronic components, whose voltage vector (magnitude and angle) is added to the source voltage to restore the load voltage to a prescribed level [7]. The main function of DVR is the protection of sensitive loads from voltage sags/swells arising

from the distribution network. Thus it is generally installed in a distribution system between the supply and the sensitive load feeders [8]. In addition to voltage sags and swells compensation, DVR can also be used for line voltage harmonics compensation, voltage transients reductions and fault current limitations. Various circuit topologies and control schemes are available that can be used to implement a DVR.

## III. CONFIGURATION OF DVR

The general configuration of the DVR consists of an Injection transformer, a Harmonic filter, a Voltage Source Converter (VSC), Energy Storage Unit and a Control and Protection unit. Energy Storage Unit in DVR can be external batteries or capacitors charged from the supply line feeder through a rectifier. Generally the energy storage unit of a DVR can be divided into two parts (i.e. Storage devices and DC Charging Circuit). The purpose of energy storage devices is to supply the necessary energy to the VSC via a dc link for the generation of injected voltages. Supply DC Link Load Energy Storage Unit Voltage Source Inverter Control Unit Fig 3: Schematic Diagram of DVR Configuration The different kinds of energy storage devices are superconductive magnetic energy storage (SMES) [9], batteries, and capacitors [10, 11]. In fact, the capacity of the stored energy directly determines the duration of the sag which can be mitigating by the DVR. Batteries are the common choice and can be highly effective if a high voltage battery configuration is used [12]. However, batteries in general have a short lifetime and often require some type of battery management system, which can be quite costly [13]. An interesting alternative to batteries is the use of super capacitors, which have a wider voltage range than batteries and can be directly paralleled across the input bus. Super capacitors have a specific energy density less than that of a battery, but a specific power greater than a battery, making them ideal for short (up to several seconds) pulses of power. Certain super capacitors can hold charge over extended periods of time, so as to act like a battery. However, unlike batteries, these super capacitors have a short charging time and much longer lifetime [10, 11]. The purpose of the DC Charging Circuit is to charge the energy storage devices after the compensation of a voltage sag/swell event as well as maintain a nominal dc link voltage. The charging circuit can be an external power supply or a rectifier fed from the supply mains of the distribution network. A Voltage Source Converter is a power electronic system capable of generating a sinusoidal voltage at any required frequency, magnitude, and phase angle. DVR configurations use the VSC to generate the

# Fuzzy Based Dynamic Voltage Restorer for Sag Mitigation to Improve Electric Power Quality

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# A Prioritized approach for WAN traffic in SDN using OpenFlow and Mininet

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## ABSTRACT

Current networks are based on the routing algorithms that use distance as a metric such as Dijkstra's Shortest Path. Factors such as number of hops, delay, and bandwidth are taken into consideration[2]. Hence route has to be continuously updated whenever there is a change in the parameters, which in turn results to uneven distribution of traffic leading to congestion. Software-Defined Networks (SDNs) has been a latest technology in networks to cope up with these problems. Priority can be a new metric to solve this problem. This paper proposes a new algorithm for routing using priority parameters. The results are examined using Mininet emulator. The results show that the throughput significantly improved than traditional algorithms.

**Key words:** Software Defined Networks, Mininet emulator.

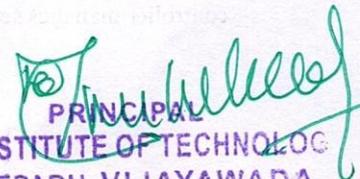
## 1. INTRODUCTION

New technologies like Machine-to-Machine (M2M) communications and the Internet-of-Things (IoT) have tremendous growth to Internet applications and exponential increase in the usage of bandwidth by internet users[3]. This symmetrically provides a challenge in Quality of Service (QoS). Adding more sophisticated equipment and resources to the network may reduce congestion, but in long-term this also does not solve the problem unless there is an accurate system employed. Traditionally in IP networks have used Traffic Flow parameter to define the kind of data transferred by applications based on reliability, jitter & delay. This could be leverage particularly as the number of applications that require specific performance guarantees, such VoIP, or on-demand services. The concept of priority routing has been introduced to provide more efficiency to users on network. These algorithms decisions by considering load of each path link. Even then this mechanism is still not implemented in the Internet for several reasons given below:

- Examining the flow and applying priority for the flow on a link in one part of the network may in turn negatively affect traffic in a completely different part of the network.
- Another problem refers to routing while the routing protocol converges. Thus, the possibility to differentiate between traffic flows more granularly (not only based on destination IP address), dynamic routing cannot significantly contribute to load balancing.

Multi Protocol Label Switching network is one of the solutions to the above problems. However, this approach is slow adaptive to changes in network and cannot be used in large and real-time networks. New solutions such as Software-Defined Networks (SDNs)[1] have emerged to deal with such problems. In SDN, the concept of centralization of routing decisions is performed. The control plane is separated from the data plane at the routers; hence the controller acts as a decision maker. The routing logic is decoupled from the routers, and the flow distribution mechanism does not risk the network stability. When the load on the link is assumed to be high, the SDN controller migrate existing flows in the network, to new routes. The main objective of the paper is to present an algorithm that uses priority in designing the solution at the controller to handle multiple flows and improving the QoS through effective load balancing, and not using any resource reservation mechanisms that limit the network scalability and performance. The implementation of the above solution is shown in this paper. The emulation results obtained are recorded and analysis is shown by considering several parameters.

## 2. SOFTWARE DEFINED NETWORKING

  
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## A STUDY ON NON PERFORMING ASSETS IN SELECTED PUBLIC AND PRIVATE SECTOR BANKS IN INDIA

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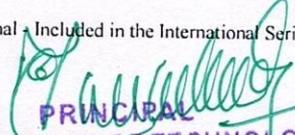
### ABSTRACT

*The Indian banking system has endure significant transformation following Financial sector reforms .The Indian banking system adopting international practices with an aim to strengthen the banking sector in India .Several provident and provisioning norms have been implemented and these are pressurizing banks to improve efficiency and cut down Non-Performing Assets to improve the financial health in the banking system. In the background of these developments, this study is carried out to examine the state of affairs of the NPA's of the public and private sector banks in India and allocation of advances to priority sector and non priority sector, for the period of five years i.e., from 2012-2016.The study is based on secondary data collected from various reports of RBI and commercial banks. Statistical tool like percentage method is used for analysis of the data.*

**Key words:** Non- performing assets, advances, Priority sector, Non priority sector, Asset quality.

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# Issues and Prospects of Indian Urban Co-operative banks

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## Abstract

The New Economic Policy began to reach up to the grass root level since 1991. Agricultural economy is playing the major role and responsibility of providing finance to agriculture and farmers were mostly entrusted to co-operative sector. Obviously, The Urban Co-operative Banks were playing, the most significant role in availing funds from NABARD and State Co-operative Banks and disbursing it to farmers through Primary Agricultural Co-operative Societies. As such, the study of urban co-operative banks, as one of the representative banks, has its special significance. The present paper aims to study the current status of the urban co-operative banks (UCBs) industry in India and Developments that are needed to boost the performance of these co-operative banks to have better economic growth.

**Keywords:** Co-operative Banks, Commercial Banks, NABARD, Nationalised Banks.

## Introduction

Cooperative banks are small-sized units organized in the co-operative sector which operate both in urban and non-urban regions. These banks are traditionally centered on communities, localities and work place groups and they essentially lend to small borrowers and businesses. The term Urban Co-operative Banks (UCBs), though not formally defined, refers to primary cooperative banks located in urban and semi-urban areas.

These banks, until 1996, could only lend for non-agricultural purposes. As at end-March 2011, there were 1,645 UCBs operating in the country, of which majority were non-scheduled UCBs. Moreover, while majority of the UCBs were operating within a single State, there were 42 UCBs having operations in more than one State. However, today this limitation is no longer prevalent.

While the co-operative banks in rural areas mainly finance agricultural based activities including farming, cattle, milk, hatchery, personal finance, etc. along with some small scale industries and self-employment driven activities, the co-operative banks in urban areas mainly finance various categories of people for self-employment, industries, small scale units and home finance.

These banks provide most services such as savings and current accounts, safe deposit lockers, loan or mortgages to private and business customers. For middle class users, for whom a bank is where they can save their money, facilities like Internet banking or phone banking is not very important. Although they are not better than private banks in terms of facilities provided, their interest rates are definitely competitive. However, unlike private banks, the documentation process is lengthy if not stringent and getting a loan approved quickly is rather difficult. The criteria for getting a loan from a UCB are less stringent than for a loan from a commercial bank.

## Commercial and Co-operative Banks

Commercial banks are by far the most widespread banking institutions in India. They provide major products and services in India. A commercial bank is run on commercial lines, for profits of the organization.

A co-operative bank on the other hand is run for the benefit of a group of members of the co-operative body. A co-operative bank distributes only a very small portion of its profit as dividend, retaining a major portion of it in business.

All the nationalized banks in India and almost all the private sector banks are commercial scheduled banks. There are a large number of private sector co-operative banks and most of them are non-scheduled banks. In the public sector also, within a state, starting from the State capital, there are State Co-operative Banks and District Central Co-operative Banks at the District level. Under the District Central Co-operative Bank, there are Co-operative Societies.

At present, In India, the banks can be bifurcated into following categories.

**Public Sector Banks or Nationalized Banks, which are commercial and scheduled Examples:** State Bank of India, Bank of India etc.

**Public Sector Banks, which are co-operative and non-scheduled-**These, are state owned banks like the Maharashtra State Co-operative Bank, Junnar Co-operative Society etc.

**Private Sector Banks, which are commercial and scheduled-**These could be foreign banks, as well as Indian Banks. Examples: Foreign Banks- CITI Bank, Standard Chartered Bank etc. Indian Banks: Bank of Rajasthan Limited, VYSYA Bank Limited etc.

**Private Sector Banks, which are co-operative and scheduled -**These are large co-operative sector banks but which are scheduled banks. Examples: Saraswat Co-operative Bank Limited, Cosmos Co-operative Bank Limited etc.

**Private Sector Banks, which are co-operative and non-scheduled -**These are small co-operative banks but which are non-scheduled. Examples: Local co-operative banks which operate within a town or a city. Example: Mahesh Sahakari Bank Limited.

**Regional Rural Banks.** These are state owned. These banks have been established with a view to developing the rural economy by providing, for the purpose of development of agriculture, trade, commerce, industry and other productive activities in the rural areas, credit and other facilities, particularly to the small and marginal farmers, agricultural labourers and artisans and small entrepreneurs

**Gramin Banks,** that are also state owned. They operate at still

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# EMPOWERING WOMEN THROUGH LAW

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**Abstract:** Women are a vital human resource contributing actively for the development of an organization and society at large. A social development strategy in the recent past includes advancement, development and empowerment of women as the central issue. Women are seen as active change agents, breaking “the glass ceiling” or the “glass cage” and proving to be in equal footing with men. Women have proved their competence and worth in every field- be it justice or diplomacy, technology or politics, administration or astronauts. Empowerment of any section of a society is a myth until they are conferred equality before law. The foundation of freedom, justice and fraternity is based on the recognition of the inherent dignity and of equal and inalienable rights to all the members of the society. The Universal Declaration of Human Rights adopted and proclaimed by the General Assembly of the United Nations on 10th December 1948, envisaged in Article 2 that “everyone is entitled to all the rights and freedoms set forth in this declaration without distinction of any kind”. Further, it also recognized that “the family is the natural and fundamental group unit of the society and is entitled to protection by society and the State”. This paper examines the various Constitutional provisions regarding women and the legislative measures which were designed to reinforce the provisions enshrined in the Constitution. Also, an attempt has been made to focus on aspects relating to women’s empowerment including women’s empowerment process in India and causes for its setback, status of Indian women and their contribution to the economy. The key issues pertaining to economic empowerment, political empowerment, women and industry, entrepreneurship and women and a special focus on women’s rights have been observed.

**Key Words:** Women Empowerment, Legislative Measures, Political Empowerment, Women’s Rights.

## Introduction:

“You can tell the Condition of a nation by looking at the status of its women” -Jawaharlal Nehru

According to UN Development Fund for Women (UNIFEM), “gaining the ability to generate choices and exercise bargaining power”, “developing a sense of self-worth, a belief in one’s ability to secure desired changes, and the right to control one’s life” are important elements of women’s empowerment. Empowerment is about change, choice and power. It is a process of change by which individuals or groups with little or no power gain power and the ability to make choices that affect their lives. “Empowerment of Women and gender equality are prerequisites for achieving political, social, economic, cultural and environmental security among all peoples”. This statement from the Fourth United Nations World Conference on Women shows that Women’s empowerment is a critical part of sustainable development. The 1990’s have seen increasing recognition of the centrality of women’s empowerment to the success of development programmes. The empowerment of women was essential to the declarations and platforms for action of the 1990 World Conference on Education for All, the 1992 United Nations International Conference on Population and Development, the 1995 World Summit for Social Development, and the Regional Preparatory Conferences for the 1995 Fourth World Conference on Women.

## Empowerment of Women

Women’s empowerment has five Components: women’s sense of self-worth; their right to have and to determine choices; their right to have access to opportunities and resources; their right to have the power to control their own lives, both within and outside the home; and their ability to influence the direction of social change to create a more just social and economic order, nationally and internationally. Empowerment of any section of a society is a myth they are conferred

## Different Approaches of Corporate Restructuring

**Dr. M. Veerabhadra Rao<sup>1</sup>, B.V.S.S. SUBBARAO<sup>2</sup>**

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*Abstract: The 1980's bore witness to a decade of aggressive mergers, acquisitions and takeovers. The mergers and acquisitions scenario is hotting up in India. The corporate are being concerned at cocktail parties by people who are eager to explain their system for making creamy profits by investing in common stock. Fortunately, these bores go into temporary hibernation whenever the market goes down. Corporate restructuring, out of all emerging concepts of findings ways to serve shareholders better, has been a very successful concept abroad and its been followed all the more in high context cultures like India. This paper majorly focuses on various approaches are available for corporate restructuring in the context of Indian business environment.*

*Keywords: Globalisation, Liberalisation, Restructuring, Mergers.*

### Introduction :

There are a number of factors depicting the significance of this study. All innovations and inventions in terms of corporate and principles happen abroad, and then are being carried to Indian environment. Corporate restructuring, out of all emerging concepts of findings ways to serve shareholders better, has been a very successful concept abroad and its been followed all the more in high context cultures like India. The rapidity with corporate finance due to external factors like increased price volatility, a general globalisation of the markets, tax asymmetric, development in technology, regulatory change, liberalisation, increased competition and reduction in information and transaction costs and also intrafirm factors like liquidity needs of business, capital costs and growth perspective have lead to practice of corporate restructuring as a strategic move to maximise the shareholder's value. The "Corporate restructuring" is an umbrella term that includes mergers and consolidations, divestitures and liquidations and various types of battles for corporate control. The essence of corporate restructuring lies in achieving the

long run goal of wealth maximisation. This study is an attempt to highlight the impact of corporate restructuring on the shareholders value in the Indian context. Thus, it helps us to know, if restructuring generates value gains for shareholders (both those who own the firm before the restructuring and those who own the firm after the restructuring), how these value gains have be created and achieved or failed. Further, it will also focus on issues involving ownership and controls. This leads logically to the subject of leveraged buyouts. It was during 1980s that many of the new tools which made leveraged buyouts possible, including high yield or junk bonds, found favour. Last year, M&A activities were largely restricted to IT and telecom sectors. They have now spread across the economy. As Business world recently reported, this is the fourth wave of corporate deal-making in India. The first happened in the 1980s, led by corporate raiders such as Swaraj Paul, Manu Chhabria and R P Goenka, in the very early days of reforms. In view of the license raj prevailing then, buying a company was one of the best ways to generate growth, for ambitious corporates. In the early 1990s, in the liberalised economy, Indian business houses began to feel the heat of competition. Conglomerates that had lost focus were forced to sell non-core businesses that could not withstand competitive pressures. The Tatas, for instance, sold TOMCO to Hindustan Lever. Corporate restructuring, largely drove this second wave of M&As. The third wave started about five years ago, driven by consolidation in key sectors like cement and telecommunications. Companies like Bharti Tele-Ventures and Hutch bought smaller competitors to establish a national presence. What makes the most recent wave of M&As different from the three previous ones is the involvement of global players. Foreign private equity is coming into Indian companies, like Newbridge's recent investment in Shriram Holdings. Multinational corporations are also entering India. Swiss cement major Holcim's investment in ACC and Oracle's

# Different Approaches of Corporate Restructuring

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*Abstract: The 1980's bore witness to a decade of aggressive mergers, acquisitions and takeovers. The mergers and acquisitions scenario is hotting up in India. The corporate are being concerned at cocktail parties by people who are eager to explain their system for making creamy profits by investing in common stock. Fortunately, these bores go into temporary hibernation whenever the market goes down. Corporate restructuring, out of all emerging concepts of findings ways to serve shareholders better, has been a very successful concept abroad and its been followed all the more in high context cultures like India. This paper majorly focuses on various approaches are available for corporate restructuring in the context of Indian business environment.*

*Keywords: Globalisation, Liberalisation, Restructuring, Mergers.*

## Introduction :

There are a number of factors depicting the significance of this study. All innovations and inventions in terms of corporate and principles happen abroad, and then are being carried to Indian environment. Corporate restructuring, out of all emerging concepts of findings ways to serve shareholders better, has been a very successful concept abroad and its been followed all the more in high context cultures like India. The rapidity with corporate finance due to external factors like increased price volatility, a general globalisation of the markets, tax asymmetric, development in technology, regulatory change, liberalisation, increased competition and reduction in information and transaction costs and also intrafirm factors like liquidity needs of business, capital costs and growth perspective have lead to practice of corporate restructuring as a strategic move to maximise the shareholder's value. The "Corporate restructuring" is an umbrella term that includes mergers and consolidations, divestitures and liquidations and various types of battles for corporate control. The essence of corporate restructuring lies in achieving the

long run goal of wealth maximisation. This study is an attempt to highlight the impact of corporate restructuring on the shareholders value in the Indian context. Thus, it helps us to know, if restructuring generates value gains for shareholders (both those who own the firm before the restructuring and those who own the firm after the restructuring), how these value gains have be created and achieved or failed. Further, it will also focus on issues involving ownership and controls. This leads logically to the subject of leveraged buyouts. It was during 1980s that many of the new tools which made leveraged buyouts possible, including high yield or junk bonds, found favour. Last year, M&A activities were largely restricted to IT and telecom sectors. They have now spread across the economy. As Business world recently reported, this is the fourth wave of corporate deal-making in India. The first happened in the 1980s, led by corporate raiders such as Swaraj Paul, Manu Chhabria and R P Goenka, in the very early days of reforms. In view of the license raj prevailing then, buying a company was one of the best ways to generate growth, for ambitious corporates. In the early 1990s, in the liberalised economy, Indian business houses began to feel the heat of competition. Conglomerates that had lost focus were forced to sell non-core businesses that could not withstand competitive pressures. The Tatas, for instance, sold TOMCO to Hindustan Lever. Corporate restructuring, largely drove this second wave of M&As. The third wave started about five years ago, driven by consolidation in key sectors like cement and telecommunications. Companies like Bharti Tele-Ventures and Hutch bought smaller competitors to establish a national presence. What makes the most recent wave of M&As different from the three previous ones is the involvement of global players. Foreign private equity is coming into Indian companies, like Newbridge's recent investment in Shriram Holdings. Multinational corporations are also entering India. Swiss cement major Holcim's investment in ACC and Oracle's

## A New Stare at Old Problem of Attrition & Retention

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**Abstract**— Employee retention has become a major concern for organizations of any nature. Employee attrition is a costly dilemma for all organizations. In one of the survey it was found that 90% of those firms surveyed said it was more difficult to retain talented individuals than it was several years before. Therefore, it is imperative that organizations and managers recognize that retention must be a continuing HR emphasis and a significant responsibility for all supervisors and managers. That is the reason which calls for investigation and research in the field. This article explores the challenges of retaining employees, the reasons and prime factors for employee attrition and some retention strategies. As companies usually think that giving a hike in salary to retain employees will solve a problem but this however is no longer helpful in solving the problem. The main objective of this paper was to find the reasons of employee turnover in the professional institution and another objective of the research was to study the strategies to be employed, which should be adopted by the professional institutions to retain their employees. Through this article we wish to bring out other reasons that makes employee quit an organization and focus on the pragmatic, innovative and effective attrition management strategies in order to retain talent in the organization.

**Key words:** Attrition, Retention, Organization, Employee, Recruitment

### I. INTRODUCTION

Retention is a big and a constant challenge for every organization today whether to talk of any corporate sector or any educational institution. It is a Herculean task for most organizations in the modern era of globalization and competitive business. HR professionals all over the world are breaking their heads to formulate Retention Strategies but nothing is working-out in their favour.

The need to increase recruiting and retention effectiveness is a flaming issue worldwide. The business benefits of these approaches are reaching into the developing world—an encouraging sign that the learning's of human capital management can help raise global workforce standards. Some employers have placed such a high priority on employee retention that they have designated an individual as the retention officer for the firm.

### II. DEFINITIONS & MEANING

An effective Employee Retention Program is a systematic effort to create and foster an environment that encourages employees to remain employed by having policies and practices in place that address their diverse needs. Retention-rich organization culture is required today that attracts, engages and builds lasting loyalty among today's most skilled and talented employees.

The growth of attrition rate has been a major concern for the last couple of decades. The words 'attrition' and 'retention' are profoundly significant in the context of corporate and professional institutions. Attrition is the separation of employees from an organization, due to resignation, retirement etc. It may be defined as the loss of workforce due to unavoidable circumstances. It is growing every day and creating havoc.

A study was conducted by William A. Brown, Carlton F. Yoshioka, Department of Recreation Management and Tourism, Center for Nonprofit Leadership and Management, College of Public Programs, Arizona State University on "Mission attachment and satisfaction as factors in employee retention". That article also focuses on retention of employees as major concern.

### III. THE PROBLEM/THE CHALLENGE TODAY

Acquiring or recruiting is a big challenge but motivating and retaining potential employees is equally vital function for HR managers. Selecting and retaining top-notch staff is a key for business success and effectiveness. It is very frustrating for an organization to go through the entire process of hiring and training, only to find employees leaving after two months or sometimes even quitting after the training period is over. On the one hand, with increasing work opportunities, organizations which provide challenging and competitive work environments are seeking talent. On the other hand, retaining these key employees has become a vital task for the long-term success of any organization. Employee turnover is increasing day by day, that means lost productivity, lost expertise, lower quality and lost business opportunities, higher recruitment cost for the employer.

According to a study by IPSOS-Reid, 30% of employees plan to change jobs in the next two years. Most leaving employees seek opportunities that allow them to use and develop their skills. Leaving employees want more meaning in their work meaning challenging the challenges. They often indicate that they want to use their qualities and skills in challenging teamwork led by capable leaders.

Employees stay or leave their jobs and organizations for various different reasons. Those terminated leave the organizations because management wants but those who leave organizations voluntarily is the matter of great concern. One survey done by McKinsey & Company, it is a large international consulting firm, emphasized the importance of retention by concluding that employers face "a war for talent." The McKinsey studies done several years apart found that that most critical factors affecting the attraction and retention of managers and executives can be classified into three areas. The areas, key items, and percentage responses are listed below:

- 1) Great Company
  - Value and Culture (58%)
  - Well managed (50%)

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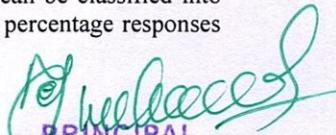
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# EMPOWERING EMPLOYEE THROUGH TRAINING A PREREQUISITE FOR ORGANIZATIONAL ACCOMPLISHMENT

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## Abstract

Training and development is an important field in HRM aimed to improve the performance of the employees in order to get more productivity and better profitability for the organization. It has been known by several names, including employee development, human resource development, and learning and development.

However the present study is an attempt, to present the significance of training and development empirically for the welfare of the organizations with special reference to Reliance Life Insurance, Krishna District.

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Will PVR Cinemas retain its no.1 position or get replacement? The battle begins.

February 2019

Conference: Changing perspectives in Commerce, Management, Economics and Technology · At: Pragati College of Arts and Commerce, Dombivili

Authors:

**Sudheer Kumar J S**  
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**A. Sathish Babu**

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Abstract

It's time for battle in Indian movie multiplex industry. Since its inception in 1997, PVR Cinemas has redefined the cinema industry and paved a new way for people watch movies in the country. After a strong journey for about 20 plus years in India, PVR Cinemas continuing to be the no.1 in Indian multiplex industry with its rich and dynamic movie viewing experiences. Serving about 80 million customers annually with a wide range of 748 screens in 161 properties, 64 cities PVR Cinemas offers a grand collection of cinema formats with latest technology not only stood as no.1 but also honoured with many awards. As competition

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# Changing Dimensions of Consumers towards Multiplexes in Vijayawada

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## Abstract

Film is one of the important forms of entertainment in India. With the emergence of multiplexes, consumers have multiple options to shop, eat, play and watch movies at a single place. Watching movie at a particular place in a particular time with certain factors influencing consumers in selecting a place for watching movies is a new dimension these days. This study helps to identify certain factors that influence consumers in decision making process of multiplex selection.

**Key words:** Movie, Multiplex, consumer, changing dimensions.

## Introduction

One of the most important forms of entertainment in India is films. Film industry in India is the largest in the world in terms of number of films produced in different languages.

Twenty three million Indians watch a movie every day. With the emergence of multiplexes, venue could be an influencing factor in the market demand for movies these days.

Several researchers has analysed about various concerns on how consumer follow different decision making processes in selecting which movie to watch, in which theatre, at what time, how attributes such as air quality, lightening, layout, carpeting, aisle width and placement could reflect and influence consumer on selection of movie multiplexes.

## Objectives of the Study

- To understand the changing dimensions of consumers in watching movies at multiplexes.
- To analyse about various attributes that influence consumers in decision making process towards movie multiplexes selection.
- To notify the changes that are made in consumer selection of multiplexes in watching movies and understand the highly prioritized attributes by consumers in providing better services by multiplexes.

## Review of Literature:

Movies are described as experience goods by several researchers. In the year 1982 Hisrichman and Holbrook mentioned entertainment goods could be classified as experience goods. Consumers follow different type of decision making processes in selecting which movie to watch in which theatre and at what time.

In the year 2005, Eliashberg, Anita and Mark identified two such different behavioural processes

- i. Movie first, Theatre second
- ii. Theatre first, movie second

These types of factors particularly specify and demonstrate high degree of loyalty.

In the year 1992, Bitner added a notion of the service with the

term servicescape in place of atmosphere for analysing loyalty. Blackwell, Miniard and Engel in the year 1995 added six dimensions such as air quality, lightening, layout, carpeting and aisle width, placement for selection of a store and retail outlet.

An empirical study was made to understand how the consumers changed their dimensions in selection of a movie multiplex and other factors.

The first step of the study was made through newspapers and magazines articles that are describing the reasons behind the growth of the multiplexes.

## Observations made during the study:

- ◆ Selection of a multiplex is made by the availability of tickets in comfortable rows.
- ◆ A change has recorded as a customer seat selection is made upon the comfort ability, proximity to other seats leg space between seats.
- ◆ Availability and hygienic maintenance of washrooms and ambience plays an important role in decision making process.
- ◆ Creative display in the sales area, technology enabled service provision is other important factor in selection of a movie multiplex.
- ◆ Ambience factors such as aisle width, lightening, screen size, fragrance, quality dimensions play an important role in selecting screen to watch a movie.
- ◆ There are certain impelling features that are to be considered in choosing a specific multiplex among the available choice. Some of them include:
  - ◆ Wide variety of movies
  - ◆ Ticket booking options
  - ◆ Mode of Payment and offers
  - ◆ Internal layout and interiors affecting customer's perception.
  - ◆ Availing food/snacks availability at seat is other important factor that is influencing consumer in choosing a multiplex to watch a movie.
  - ◆ Membership cards, discount coupons for booking movie tickets are adding an additional attraction to customers in multiplex selection.
  - ◆ Seeking information required and availability of information through smart network also enables a customer in choosing multiplex.

v. Also, there are certain differentiating factors that helps multiplex

## Genesis for Increase of Npas in Indian Banks – An Empirical Analysis

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### ABSTRACT

A strong banking sector is essential for a flourishing economy. A major hindrance faced by most banks today is the problem of non-performing assets (NPA's). A high level of NPA's suggests a high degree of credit defaults which, in turn affects the profitability of banks. Decreased profitability implies an unfavourable financial statement which in turn discourages investors from investing in the banks under consideration. Thus, the banks lose out on investments in the long run. Non-Performing Assets are a burning topic of concern for the public sector banks, as managing and controlling NPA is very important. This paper discusses the causes for increase of NPAs and they are ranked with the help of Garrett Ranking Technique. Therefore banks need to effectively control their NPAs in order to increase their profitability and efficiency.

**Keywords:** Efficiency, Garrett Ranking, NPAs, Profitability.

### INTRODUCTION

The banking system is the heart of the financial system. The major function of the financial system is the mobilisation of the public savings and its allocation in different sectors of the economy as an investment. All over the world, the banking industry acts as a catalyst for the country's economy and growth. Banks provide financial assistance to a wide range of sectors such as iron and steel, automobiles, infrastructure, health care etc. In developing economies, banks play an important role not only in the economic development but overall development of the economy which is linked to the upliftment of the weaker sections of the society by providing loans to priority sectors like agriculture, rural housing etc. In the starting when the financial reforms were undertaken by the Government of India based on the Narasimham Committee report I and II, Reserve Bank of India introduced some prudential norms to address the credit monitoring policy, which were being pursued by the banks and other NBFCs. Thus, banking fulfills the social agenda of the government also. However, granting loans indiscriminately without taking into consideration the credibility of the borrower has harsh consequences for the banks in terms of generation of NPAs.

In the past decade or so, the problem of nonperforming assets has been faced by economies around the world. A high level of NPA's can adversely affect the economy in various ways, one of them being the utilization of banking resources towards resolving the loss due to NPA's. This makes the banks more vigilant and strict in providing new loans, particularly to small and medium sized companies which maybe reliable companies but have nothing to show for their credibility. This, in turn hampers the development of the country especially developing countries whose growth depends upon the development of these industries. Thus, large scale NPAs, if left unattended can cause financial and economic degradation of the country.

But statistics shows NPA level is ever increasing day by day, and the said act, which was introduced by the Government of India, is not serving the purpose, they were actually formed. The reason behind it can be the bank's approach and attitude towards financing and recovery of loans especially from the small and medium enterprises and also the lack of knowledge about the law and its practice in banking and also violations of the RBI directives/circulars, which are essential to follow by every bank and financial institutions.

## CONSOLIDATION OF NANO-OXIDE DISPERSION STRENGTHENED AUSTENITIC STAINLESS STEELS FOR HIGH TEMPERATURE APPLICATIONS – A REVIEW

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**Abstract:** Austenitic stainless steels play vital role in high temperature applications. The components used in fission reactors should have better tensile properties at high temperature. To overcome the issues raised by conventional steels, a new group of steels known as oxide dispersion strengthened (ODS) steels are created. Nowadays, two groups of ODS steels such as the ferritic and austenitic ODS steels are being used. The present work mainly focusses on the processing of ODS austenitic steels. The consolidation processes adopted for ODS austenitic steels are discussed in detail. The microstructural features and precipitation of nano-oxides during compaction are also reported. In addition to this, the mechanical properties such as tensile strength and elongation values obtained by various manufacturing processes are also discussed.

**Key words:** Oxide Dispersion Strengthened, Austenitic Steel, Consolidation, Nano-oxides, Tensile Strength and Elongation.

### 1. INTRODUCTION

Behavior of metals at high temperature is of essential importance to many industries such as aerospace, petrochemical and nuclear power plants. The ability to operate at elevated temperature is a decisive factor for the materials used as a structural component in these industries. Swelling resistance and high operating temperature are the common objectives of nuclear reactors, calling for advanced high strength materials with superior corrosion resistance [1]. The stainless steels that are used in high temperature applications are as follows.

#### 1.1 Ferritic/Martensitic Stainless Steels

Ferritic and martensitic steels were first developed (in 1970s) for high temperature applications for nuclear and petrochemical industries due to their higher chromium content (10-12 Wt. %) caused by superior thermal properties. These steels are well balanced materials with better functional properties and field

experience [2]. Even though the ferritic/martensitic grades have been used in the power generation industry when relating them to nuclear (GEN IV) plants, many additional concerns are necessary. The important point is operation temperature. The operating temperature range of nuclear power plants will be 500 °C to 550 °C. This difference causes significant changes in the properties of ferritic and martensitic steels. The property such as creep strength is the most important while operating temperature is above 500 °C. In addition to this, the structural materials will experience many of the challenges as follows: (1) high corrosive environments, (2) high operating temperatures and (3) neutron radiation [3].

The materials used in high temperature applications require some of the characteristics such as better high temperature mechanical properties, irradiation resistance, and close dimensional tolerance against the void swelling. Ferritic and martensitic steels are structured by a balanced microstructure of ferrite stabilizing

**MHD FREE CONVECTIVE FLOW PAST AN IMPULSIVELY STARTED ISOTHERMAL VERTICAL PLATE UNDER THE INFLUENCE OF RADIATION AND MASS TRANSFER**

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**ABSTRACT**

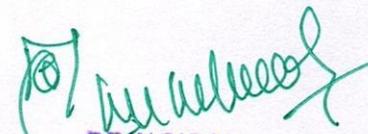
*The effect of the frequency of excitation on the concentration profiles for different values of  $Sc$  have been obtained. In each of these illustrations, it is noticed that, as the frequency of excitation increases the concentration of the fluid decreases. In both these illustrations it is observed that as the Schmidt number increases the concentration decreases. When the Schmidt number  $Sc$  is held constant and as frequency of excitation  $\omega$  is increased the velocity increases. The velocity profiles are found to be more parabolic for smaller values of  $Sc$ . As Schmidt number  $Sc$  increases the parabolic nature diminishes. The velocity profiles are more dispersed as Solutal Grashof number  $Gm$  increases. Further, it is seen that as Schmidt number  $Sc$  increases the velocity increases. It is also noted that for smaller values of Solutal Grashof number  $Gm$ , the velocity profiles are perfectly linear, while the situation is not so far higher values of Solutal Grashof number  $Gm$ . It is observed that as Solutal Grashof number  $Gm$  increases the velocity decreases. As the frequency of excitation increases the nature of velocity profiles is changed. Also as the magnetic intensity increases the velocity increases. It is noticed that as Solutal Grashof number  $Gm$  increases the velocity decreases. Further the profiles are parabolic in nature. It is seen that as the magnetic intensity increases the velocity decreases. Further it is seen that increases in the magnetic field suppresses the velocity profiles. In both the cases it is notice that the profiles are parabolic in nature. It is seen that as Solutal Grashof number increases the skin friction also increases. It is observed that as Solutal Grashof number increases the skin friction is found to be increasing. Further, as frequency of excitation increases the skin friction is noted to be decreasing. It is seen that, as Schmidt number increases the skin friction reduces drastically. Further it is also noticed that for a constant value of Schmidt number as frequency of excitation increases the skin friction decreases. In general, it is seen that as Solutal Grashof number increases the skin friction on the bounding surface also increases. Further for a constant value of Schmidt number and as magnetic intensity increases, the skin friction decreases. Initially, it is seen that as Schmidt number increases the skin friction increases up to 20% of the boundary layer and there after a reverse trend is noted. Subsequently it is seen that as Schmidt number increases, the skin friction decreases. It is seen that as frequency of excitation increases the skin friction reduces gradually. Further, as we move away from the boundary the skin friction appears to be very minimal.*

**Key words:** MHD flow, velocity profiles, skin friction, Solutal Grashof number, Schmidt number.

**NOMENCLATURE**

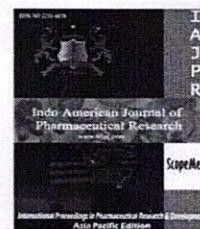
$u$	:	velocity component in $x$ – directions,
$v$	:	velocity component in $y$ – directions,
$u_0$	:	constant velocity
$t'$	:	time
$C'$	:	concentration
$g$	:	acceleration due to gravity
$\beta$	:	volumetric coefficient of thermal expansion
$\beta^*$	:	volumetric coefficient of expansion with concentration
$T'$	:	temperature of the fluid in the boundary layer

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### DEVELOPMENT AND VALIDATION FOR THE SIMULTANEOUS ESTIMATION OF LAMIVUDINE AND DOLUTEGRAVIR IN DRUG PRODUCT BY RP-HPLC

**B.Sowjanya<sup>1\*</sup>, Dr.K.Rambabu<sup>2</sup>**

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<p><b>Article history</b> Received 29/12/2017 Available online 31/01/2018</p> <p><b>Keywords</b> Lamivudine and Dolutegravir, Isocratic, HPLC, Eclipse XDB-Phenyl, Trifluoro Acetic Acid, Acetonitrile, Methanol and Validation.</p>	<p><b>ABSTRACT</b> New Analytical method was developed for the estimation of Lamivudine and Dolutegravir in drug product by liquid chromatography. The chromatographic separation was achieved on C18 column (Eclipse XDB-Phenyl 250*4.6mm) at ambient temperature. The separation achieved employing a mobile phase consists of 0.1%v/v Trifluoro acetic acid in water: Methanol (300:700). The flow rate was 1.0ml/ minute and ultra violet detector at 260m. The average retention time for Lamivudine and Dolutegravir found to be 2.412 min and 3.263 min. the proposed method was validated for selectivity, precision, linearity and accuracy. All validation parameters were within the acceptable range. The assay methods were found to be linear from 300.0 – 900.0µg/ml for Lamivudine and 50.0 -150.0µg/ml of Dolutegravir.</p>

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# TIDAL HYDROPOWER GENERATION AND ITS EFFICIENT UTILIZATION

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## ABSTRACT

*Tidal energy is one of the oldest forms of energy generation. It is a renewable form of energy that converts the natural rise and fall of the tides into electricity. Tidal vitality, otherwise called tidal power is a sustainable type of hydropower where the active or potential vitality of the tides are utilized for the age of power. A tide is made by the gravitational impact of the sun and the moon on earth, subsequently causing repeating development of the oceans, prompting the tides. Since the world's tides are at last because of the gravitational powers between the sun, the moon and the earth, tidal vitality is for all intents and purposes boundless; along these lines getting arranged under sustainable power source. Tidal power is the main innovation that attracts vitality inborn the orbital attributes of the Earth-moon framework, and to a lesser degree in the Earth-sun framework. Tides are caused by the combined effects of gravitational forces exerted by the Moon, the Sun, and the rotation of the Earth. Tidal energy presents an evolving technology with tremendous potential. However, it can only be installed along coastlines. Coastlines often experience too high tides and two low tides on a daily basis. The difference in water levels must be at least 5 meters high to produce electricity. Our proposed system deals with production of power based on vertical plates which produces more power in less tide states.*

**Keywords:** Tidal Power, Earth-moon framework, hydropower

## 1. INTRODUCTION

Tidal Energy or Tidal Power as it is likewise called, is another type of hydro control that uses a lot of vitality inside the seas tides to create power. Tidal Energy is an "elective vitality" that can likewise be classed as a "sustainable power source", as the Earth utilizes the gravitational powers of both the moon and the sun regular to move immense amounts of water around the seas and oceans delivering tides. As the Earth, its Moon and the Sun turn around one another in space, the gravitational development of the moon and the sun regarding the earth, makes a large number of gallons of water stream around the Earth's seas making occasional moves in these moving waterways. These vertical movements of water are designated "tides".

### 1.1 Tidal Effects of the Sun and Moon

At the point when the earth and the moons gravity lines up with one another, the impacts of these two gravitational powers turns out to be extremely solid and makes a great many gallons of water move or stream towards the shore making a "high tide" condition. Moreover when the earth and the moons gravity are at 90o to one another, the

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## DEVELOPMENT AND VALIDATION FOR THE SIMULTANEOUS ESTIMATION OF LAMIVUDINE AND DOLUTEGRAVIR IN DRUG PRODUCT BY RP-HPLC

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Methanol and Validation.

### ABSTRACT

New Analytical method was developed for the estimation of Lamivudine and Dolutegravir in drug product by liquid chromatography. The chromatographic separation was achieved on C18 column (Eclipse XDB-Phenyl 250\*4.6mm) at ambient temperature. The separation achieved employing a mobile phase consists of 0.1%v/v Trifluoro acetic acid in water: Methanol (300:700). The flow rate was 1.0ml/ minute and ultra violet detector at 260m. The average retention time for Lamivudine and Dolutegravir found to be 2.412 min and 3.263 min. the proposed method was validated for selectivity, precision, linearity and accuracy. All validation parameters were within the acceptable range. The assay methods were found to be linear from 300.0 – 900.0µg/ml for Lamivudine and 50.0 -150.0µg/ml of Dolutegravir.

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