

BHARATI VIDYAPEETH UNIVERSITY COLLEGE OF ENGINEERING
PUNE 411043

TOTAL RESEARCH PAPERS OF ALL DEPARTMENTS

Sr. no	Department	No of research papers	Updated up to	Page no.
1	Chemical Engineering	12	February 2007 to January 2007	01
2	Civil Engineering	06	November 2005 to April 2007	13
3	Computer Engineering	07	2007 to 2008	19
4	Electrical Engineering	33	24 th April 2004 to 24 th may 2009	26
5	Electronics Engineering	23	2005 to 2009	59
6	Engineering science	--	--	--
7	Information technology	09	2008 to 2008	82
8	Mechanical Engineering	13	1997 to 2007	91
9	Production engineering	17	2004 to 2007	104
	Total papers	120		

RESEARCH PAPERS of Dept. of Chemical Engineering
Total –12 papers updated from February 2005 up to January 2007
Dept. of Chemical Engg.

1.	Title	Papain and its Manufacturing Process
2.	Author	Prof. Gadekar S.V.
3.	Co Author	Prof. Abhijit Rathi
4.	Journal/ Conference	Chemical Engineering World
6.	Year of Publication/ Presentation	June 2007
7.	Abstract	<p>Biotechnology has spread its wings in the 21st century and its allied products are playing major role in chemical industry. As biotechnology has application in almost every known chemical industry. The enzymes catalyze many reactions and make complex procedures simple. With the enzymes taking over harmful chemicals they help to save environment. the enzyme "Papain" has it wide rule in many applications. Isolation of Papain is done from ample amount of natural fruit papaya. The current paper introduces the presumed plant parameters to produce refined Papain with explaining process to manufacture IP (Indian Pharmacoea) and concentrate grade Papain as well as the activity measurement procedure of Papain with some of its applications. Even though Papain has wide application in many industries still there are very few industries which are producing Papain so this paper helps to understand the complex procedure of refined Papain production in simplest possible way. With the high quality refined Papain production right from initial plant setup.</p>

Dept. of Chemical Engg.

1.	Title	Optimization of fixed bed defluoridation process using neural network
2.	Author	Prof. S. J. Attar, Dr. A. K. Dey, Prof. S. B. Ghogare
3.	Co Author	Prof. S. B. Ghogare
4.	Journal/ Conference	Chemical Engineering World, Vol. 42, No.9, P-68 to 76
6.	Year of Publication/ Presentation	2007
7.	Abstract	The study of defluoridation of water using Alumina was done by experimentation on continuous fixed bed column at various flow rates and pH values % F removal as a function of flow rate and pH was related for the given feed ion conc. using break through curve. This data was fed to the artificial neural network. The network was trained and used to find the optimum operating condition for the process the result indicate that the maximum % F removal occurs at pH 7.3 and increases with flow rate.

RESEARCH PAPERS

Dept. of Chemical Engg.

1.	Title	Thermodynamic evaluation of Si-H-cl system for production of polycrystalline Lilicon
2.	Author	Prof. S. J. Raut
3.	Co Author	Dr. Sadhana Mohan, BARC
4.	Journal/ Conference	Chemical Products finder
6.	Year of Publication/ Presentation	May 2007 Vol. 25 No.12
7.	Abstract	Many processes have been used to manufacture polycrystalline lilicon. The performance of these processes can be evaluated effectively by the approach of reaction system to thermodynamic equilibrium. Evaluation of Si-H-Cl system becomes important because four different components belonging to this system are used as a feedstock for the production of polysiticon. These include trichlorosilane (SiHCl_3), Silane (SiH_4) silicon tetrachloride (SiCl_4), and Dichlorosilane (SiH_2Cl_2).

RESEARCH PAPERS

Dept. of Chemical Engg.

1.	Title	Removal of Carbon Monoxides by Application of nano-gold particles
2.	Author	Prof. Mrs. Kavita Kulkarni
3.	Co Author	Prof. Himanshu Tyagi
4.	Journal/ Conference	All India Seminar on Catalyzing vision 2020-NIT Rourkela
6.	Year of Publication/ Presentation	6-7th January 2007
7.	Abstract	Catalysis by gold that are active at room temperature and below that it have considerable industrial aspect. Gold ultra fine particles with diameters smaller than 5nm if deposited on selected metal oxides, it exhibits surprisingly high activity and selectivity in the combustion of co and saturated hydrocarbons. The forthcoming work explains an experimental comparison of catalytic activity of Au and Pt for Co oxidation in ppm and also in percentage basis. Here the conversion of co to co ₂ is being supported Au and Pt Catalyst and will be compared.

RESEARCH PAPERS

Dept. of Chemical Engg.

1.	Title	Application of Residue Curve Map for Epichlorohydrin system
2.	Author	Prof. Mrs. Kavita Kulkarni
3.	Co Author	Prof. Mrudula Joshi, Prof. R. V. Naik
4.	Journal/ Conference	Chemical Engineering World
6.	Year of Publication/ Presentation	February 2005
7.	Abstract	<p>In a novel catalytic process for epichlorohydrin, a highly non ideal, four component mixtures consisting of allyl chloride, methanol, epichlorohydrin and water is encountered. The system consists of three binary azeotropes, two of them being heterogeneous. It's very difficult to separate this mixture.</p> <p>Residue curve map (RCM) helps in identifying feasible solutions and thereby circumventing barriers and unstable process conditions. Knowledge of topological structures of VLE diagrams is crucial for process design and analysis of distillation systems. Experimental VLE data for ternary system is developed. RCM is generated with the help of VLE and LLE data of the system. For the first time RCM is generated to system other than esters and ethers and to an industrially important system is reported.</p>

RESEARCH PAPERS

Dept. of Chemical Engg.

1.	Title	Catalyst Material for high temperature combustion
2.	Author	Prof. Mrs. Kavita Kulkarni
3.	Co Author	Prof. Varun Bhalla, Prof. Saikiran
4.	Journal/ Conference	Chemical Engineering World
6.	Year of Publication/ Presentation	June 2007
7.	Abstract	Introduction of a catalytically active surface where the fuel and air reacts lowers the adiabatic flame temperature, below threshold temperature for most of the pollutants. Noble metal palladium stabilized by platinum is the preferred catalyst for it is abundant, less volatile and highly active. For longer lifetime high temperature stable materials such as spinels, hex aluminates and garnets are used.

RESEARCH PAPERS

Dept. of Chemical Engg.

1.	Title	Phase Equilibria Studies for Multi-component Systems
2.	Author	Prof. Mrs. Veena A. Shinde
3.	Co Author	
4.	Journal/ Conference	"Chemical Product Finder" Vol. 25 No. 12 May 2007
6.	Year of Publication/ Presentation	May 2007
7.	Abstract	<p>Separation processes in process industries depend mainly on the vapour liquid equilibrium data for the components present. Whereas binary and ternary systems are studied analyzed and reported extensively in technical literature. Data for multi-components exceeding four components are hardly reported. However, industrially relevant systems contains large no. of components often exceeding four. There is large no. of examples in industry wherein, a right split of feed of multi-components into distillate and heavies or distribution of minor components in light and heavy phases or selective separation of product is essential for the process feasibility. Lack of correct knowledge about VLE of multi-components can make the process non viable. In this study an analysis of industrially important multi-components VLE is presented using simple and known principles '.</p>

RESEARCH PAPERS

Dept. of Chemical Engg.

1.	Title	Vapor-Liquid Equilibrium Study for Multi-Component System
2.	Author	Prof. Amitab K., Gaurav, Navi
3.	Co Author	Prof. Amitab K, Gaurav, Navin
4.	Journal/ Conference	"Chemical Engineering world" Vol. 42, No.6, June 2007
6.	Year of Publication/ Presentation	June 2007
7.	Abstract	<p>In today's industrial world, where many chemical industries are facing the problem of separating various phases of multi-component system, vapour-liquid equilibria is proving to be an ideal practical approach to overcome this tedious work. The actual industrial work requires separation of more than three or four components. /for separation of components the system needs to attain equilibrium and this is the most challenging task that is being faced during analysis. Some extent of equilibrium can be achieved when components have similar chemical properties. Pairing of component and then analyzing is the easiest solution for multi-component system. The fabrication of vapor-liquid equilibrium equipment requires extensive thermodynamics property measurement tools and composition analysis tools. For composition analysis, we can use gas chromatography, mass spectroscopy method and abbes refract meter etc. Calculation of vapor-liquid equilibria problems requires knowledge of phase equilibria, UNIQUAC, flash vaporization, dew point, bubble-point, raoult's law, Henry's law and azeotropic mixture etc.</p>

RESEARCH PAPERS

Dept. of Chemical Engg.

1.	Title	Experimental Methods for High Pressure VLE measurement
2.	Author	Prof. Veena A.Shinde
3.	Co Author	Prof. Sai Kiran, Varun Bhalla
4.	Journal/ Conference	Chemical Engineering World
6.	Year of Publication/ Presentation	-----
7.	Abstract	Accurate measurement of high-pressure vapour liquid equilibria is a most demanding task. The number and variety of approaches adopted atleast to the exacting nature of the task of finding the most reliable, accurate and cost effective approach. But there exists no firm opinion as to which type of equipment is superior. Each type has its own advantages and drawbacks. The purpose of this study is to summarize in some detail the equipments and procedures used to measure high pressure VLE. We discuss some of the dynamic and static methods developed for high pressure VLE measurement.

RESEARCH PAPERS

Dept. of Chemical Engg.

1.	Title	Batch Distillation Parameters For Heterogeneous Azeotropic Systems: Acetic Acid-Water-Toluene System
2.	Author	Prof. R. V. Naik, Dr. J. D. Bapat
3.	Co Author	
4.	Journal/ Conference	Chemical Engineering World
6.	Year of Publication/ Presentation	Special Issue Feb. 2007
7.	Abstract	<p>The Non ideal systems are the major barrier for separation processes. Use of an entrainer for separation of heteroazeotropic and close boiling mixtures is normally recommended. When the third component causes heterogeneity resulting in phase split, the numbers of process alternatives to achieve the desired task appear to be numerous and complex. In one industrial application toluene has been recommended as an entrainer to take out water, a product of reaction so as to ensure completion of reaction. This system namely acetic acid – Water – Toluene is studied for batch distillation process where toluene is an entrainer. There was a higher loss of Acetic acid in aqueous phase and the reaction time required was also more. The separation scheme is accurately studied with the help of Residue curve map (RCM) and vapor liquid equilibrium data. The dynamics of Batch distillation column opens up many issues like slopes of the tie line, entrainer selection, inventory of the decanter and the best region to operate.</p>

RESEARCH PAPERS

Dept. of Chemical Engg.

1.	Title	RESIDUE CURVE MAP FOR NON IDEAL SYSTEMS
2.	Author	Prof. Gadekar S.V., Prof. K. S. Kulkarni
3.	Co Author	
4.	Journal/ Conference	All India Seminar on Catalyzing Vision 2020 – NIT Rourkela
6.	Year of Publication/ Presentation	6-7th Jan. 2007
7.	Abstract	<p>Separation of azeotropic mixtures is a topic of great practical and industrial interest. Oxygenated organic compounds like alcohols, ketones, ethers and organic acids unlike hydrocarbons, petroleum fractions make the distillative separation complex due to the non ideal behaviour particularly formation of azeotropes. These complexities in the column can be solved various computational techniques, but still the efforts are proved to be in vain in some of the non ideal systems. Such complex systems are visualized by the ternary topology called as Residue Curve Map (RCM) RCM helps in system visualization, find system barrier, do column sequencing, finds feasible ternary composition there by meeting separation objectives. This is providing for non-ideal ternary Acetic acid-Water-Toluene system and non ideal quaternary Epichlorohydrin-Ally chloride-Water-Methanol.</p>

RESEARCH PAPERS

Dept. of Chemical Engg.

1.	Title	APPLICATION OF RESIDUE CURVE MAP FOR NON IDEAL SYSTEMS
2.	Author	Prof. Gadekar S. V., Prof. K. S. Kulkarni
3.	Co Author	
4.	Journal/ Conference	International Conference Indo-Italian Brain Storming Workshop
6.	Year of Publication/ Presentation	Dec. 2005
7.	Abstract	Separation of non ideal mixtures is complex due to non ideal behaviour. The azeotrope formation in the system causes the non ideality which results in the complexes in the system, leading to poor purity products. These types of systems are studied and analyzed with the help of new geometrical tool called as Residue curve map (RCM). RCM analysis was used for studying batch as well as continuous distillation systems. Heterogeneous distillation of Acetic acid-Water-Toluene and Epichlorohydrin-Water-Methanol are quite sensitive to process conditions. Batch distillation parameters for Acetic acid-Water-Toluene and distillation based separation scheme and flow sheet development of Epichlorohydrin-Water-Methanol system are reported using the residue curve map technique, thereby circumventing barriers and unstable process conditions.

RESEARCH PAPERS of Dept. of Civil Engg.
Total –06 papers updated from Nov 2005 up to April 2007

Dept. of Civil Engg.

1.	Title	Moringa Oleifera – A multipurpose tree and a natural coagulant
2.	Author	Prof. M. R. Gidde
3.	Co Author	
4.	Journal/ Conference	Bharati Vidyapeeth University Research Journal Vol. 5(1)
6.	Year of Publication/ Presentation	April 2007
7.	Abstract	A few traditional plant flocculants such as those found in Moringa seeds have been observed to act as coagulants and have been recommended for domestic water treatment in rural areas of Africa and Asia where people can not afford conventional coagulants. Crushed seeds of Moringa oleifera Lam are viable replacement for proprietary chemical such as aluminum sulphate (alum) in developing countries. The tree is a multiprovider that grows pan tropically and its uses are discussed here.

1.	Title	Waste to Wealth – Potential of rice husk in India
2.	Author	Prof. M.R. Gidde
3.	Co Author	
4.	Journal/ Conference	International Conference on Cleaner Technologies and Environmental Management, held at Pondcherry Engineering College, Pondecherry
6.	Year of Publication/ Presentation	4th January 2007
7.	Abstract	<p>Every year approximately 120 million tones of paddy is produced in India. This gives around 24 million tones of ice husk and 4.4 million tones of rice husk ash are in steel. Cement and refractory bricks industry.</p> <p>In this paper we have discussed a preliminary analysis of the numerous reported uses of rice husk. The use of rice husk for electricity generation in efficient manner is likely to transform this agricultural by product or waste into a valuable fuel for industries and thus might help in boosting the farm economy and rural development. India being the second largest rice producer in the world, systematic approach to this material can give birth to a new industrial sector of rice husk in India.</p>

1.	Title	State of art report on interlinking of rivers in India
2.	Author	Prof. U. S. Patil
3.	Co Author	Prof. D. S. Patil
4.	Journal/ Conference	A national conference on Hydraulic Structures and water resources with special emphasis on Interlinking of rivers-hydro-2006
6.	Year of Publication/ Presentation	December 2006
7.	Abstract	<p>The interlinking of rivers involving inter basin water transfer has caught the imagination of common people and the political parties in India. The concept of river linking through canals tunnels or water lifts for water to flow from one river basin to another and making use of excess water. Although the techno economic feasibility of the Genetic project is questioned by many it is felt that if India can execute the man moth project such as golden quadrilateral High way project this project can be implemented in a phased manner, from the river linking project can be implemented in a phased manner. From the river linking project the food grain capacity will increase to 450 MT to present 250 MT. This is likely to produce an additional 34,000 MW of Electricity.</p>

1.	Title	Integrated water, Waste water and solid waste management at Maher Vadhu, Pune
2.	Author	Prof. Dr. M. T. Datar
3.	Co Author	Prof. A. B. More
4.	Journal/ Conference	All India Seminar on Integrated water waste water management for sustainable urban development-modern trends organized by Institute of engineers, Pune local center
6.	Year of Publication/ Presentation	10th March 2006
7.	Abstract	<p>Maher one of the NGO's is devoted to rehabilitation and welfare of destitutes and their children and also orphans. The organization has established residential rehabilitation centres. One of the center is located at village Vadhuaroud 45 km from Pune, on Pune-Nagar road and is referred as MAHER, which rehabilitate and train 300 inmates. Maher has its own water supply system using under ground water through tube well and pump. Main wastes generated at Maher are excreta, sullagee from various water consuming utilities and garbage from kitchen Maher has used many low cost waste treatment methods at this Pune center for treatment of waste generated at residential and rehabilitation center. These wastage then are recirculated, beneficially used, energy recovery is tried and disposed them in its own area in environmental-friendly ways. Due to proper management of these wastes-excreta, sullage and solid waste-pollution on environment is prevented/ avoided to maximum extent. Data collected indicate that water supplied per inmate (capita) is around 40 Ipd. With such minimum water supply the Maher campus was observed to be very clean with pleasant environment. Excreta is separately collected in aqua privies, where in gas is produced through anaerobic digestion and used in kitchen. Sullage is collected separately and after primary treatment is disposed off on land through irrigation in the premises. Solid waste (garbage, sweepings refuse, leaves, etc.) is collected and organic component is converted separately in biofertilizer through vermicomposting process and used in irrigation vegetables and plants. This paper describes various low cost waste treatments cum deposal methods used at Maher, presents the data collected regarding these methods and reports performance appraisal of these waste management systems, analysed through engineering parameters.</p>

1.	Title	Vermicomposting – A technological option to land filling for organic solid waste management
2.	Author	Dr. M. T. Datar
3.	Co Author	Prof. A. B. More
4.	Journal/ Conference	All India Seminar on solid waste management in urban areas organized by CIDCO Ltd., Navi Mumbai and Institute of Engineers, Mumbai
6.	Year of Publication/ Presentation	10th February 2006
7.	Abstract	<p>Majority of Municipal (Urban) Solid Waste (MSW) is disposed of in landfills (anaerobic composting) as per MSW rules under the Environmental Protection Act 1986. However western countries particularly USA is experiencing hazardous environmental impacts due to disposal into landfills. New policy is initiated to protect the environment from such impacts by discouraging the practice of disposal of organic solid wastes is vermicomposting. Commercial vermicomposting is reported to be practicable for treatment and disposal of many organic solids and byproducts in agricultural production and processing industries. However this alternative has not been tried for MSW on larger scale. Decentralization of solid waste collection might lead to economically viable and probably profitable vermicomposting of MSW. Private and public participation in the proposed treatment and disposal system might lead to successful implementation of the suggested technological option. The paper discusses the application of vermicomposting for treatment of organic solid waste (20 MT/ day), generated at vegetable, fruit and flower market at Pune. vermicomposting was tried on this segregated solid waste using exotic species of earthworm-Eudrilus Eugeniae-commonly called African night crawler bench scale reactor studies were performed on organic solid waste under controlled optimum environmental conditions (temperature : 25C TO 30C, moisture content: 48-52 percent), with variable vermin-loading (4.5-10.5kg/m³). Characteristics of solid waste were monitored through conventional parameters and additional environmental parameters like BOD5 and COD. The results of investigative studies are encouraging and indicate that organic solid waste can be treated in a reasonable period of 20 days through vermicomposting with 75 percent reduction in the volume.</p>

1.	Title	Feasibility studies for application of roof top rain water harvesting system at VSI, Pune
2.	Author	Prof. Dr. M. T. Datar
3.	Co Author	Prof. A. B. More
4.	Journal/ Conference	All India Seminar on Challenging problems in water resources management and rural development, organized By institute of engineers, Nagpur local center and Indian water resources society, Nagpur
6.	Year of Publication/ Presentation	12th Nov. 2005
7.	Abstract	A feasibility study is undertaken to explore the application of RTRWHS at Vasantdada Sugar Institute (VSI), Manjari, Pune. The Institute has 19098.62 sq.mtrs terrace area and average annual rainfall of 400 mm. yielding quantity of available water of 51 lakh liters in one year. The study indicates that the quantity is around 25 to 30% of water demand. The quantity of water is found to be reasonable good after preliminary treatment. Existing water distribution can be utilized to supply this rainwater. This paper presents the details of the feasibility studies.

RESEARCH PAPERS of Dept. of computer engineering
Total –07 papers updated from 2007 up to 2008

Computer Department

1	Title	ARTIFICIAL INTELLIGENCE: A PIONEER TO COMPUTER INDUSTRY
2	Author	Mr. Sajal A.Jain
3	Co author	Akhil Khare
4	Journal	
5	Conference	Analysis of human gait by an Artificial Neural Network Model
6	Year of Publication / Presentation	ICEVD-2008
7	Abstract	<p><i>Artificial Intelligence is the study of how computer systems can simulate intelligent processes like reasoning, learning and understanding symbolic information in context. The ultimate aim is to make computer programs that can solve problems and achieve goals as well as humans i.e. to design a system which can reason for and by it. For example, consider programs for solving a Sudoku and recognizing a chair. For a computer, former is easier because possibilities, object states and rules are limited and well defined, but for a chair, there are endless possibilities (three or four legged, cushioned or non-cushioned, with or without armrest). AI's role is to enable the computer to carry out such task with ease and preciseness.</i></p> <p><i>Computers are perfect machine to implement AI. Platform and hardware changes do not matter much if only we know how to program them precisely. Computer programs have plenty of memory and speed, but their abilities correspond to the level of intellectual mechanism of the program. AI has well come out of age. From small interactive programs, AI today founds its application in Robotics, Speech Recognition, Computer Vision, expert system, heuristic classification and others AI has always been on the pioneering end of computer science. The advancements in AI therefore have and will continue to affect our lives.</i></p>

Computer Department

1	Title	Bluetooth : A Popular Wireless Technology
2	Author	Suhas Patil
3	Co author	R.P.Labade, B.L.Gunjal
4	Journal	
5	Conference	Emerging trends in signal processing and communication
6	Year of Publication / Presentation	December 27-29, 2007
7	Abstract	<p>Blue tooth is wireless technology for short range data and voice communication. The communication range is 10 meters, with a 100-meter version planned. It provides a way to connect and exchange information between devices like PDAs, mobile phones, laptops, PC's and digital cameras via a secure, low-cost, globally available short range radio frequency. The need for Bluetooth came from the desire to connect peripherals and devices without cable. Using Bluetooth we can get rid from complex wired networks. They provide easy connectivity, increase the efficiency replace wire interconnections and widely used for E-commerce applications. Operating range and power consumption is depending on Bluetooth product classes from class1 to class 3. Bluetooth (IEEE 802.15) is automatically or wireless personal area network. Piconet automatically establishes connections with other devices in range. Within a piconet, a Bluetooth unit can play either of two roles: Master or Slave. The PAN may be scattered based PAN. Bluetooth protocol stack include different layers like physical radio layer, base band layer, link manager protocol (LMP), Host Controller interface (HCI) logical link control application protocol (L2CAP). Service Discovery Protocol (SDP), radio frequency communication (RFCOMM), other logical link control (LLC) and applications/ profiles. This paper includes Bluetooth system architecture, Bluetooth packet structure and Bluetooth communication security. There are three modes for security implementation for Bluetooth access between two devices. Security mode 1.Non-secure, security mode 2. Service level enforced security. Pairing, authentication and encryption are most widely used methods for Bluetooth communication. The paper also focuses on Bluetooth in future and research work in Bluetooth.</p>

Research Papers

1	Title	Information security using encrypted Steganography
2	Author	Sunita Bawaskar
3	Co author	Anil Gurjar, Prof S. D. Joshi
4	Journal	
5	Conference	NAACCN
6	Year of Publication / Presentation	2007
7	Abstract	Since the rise of Internet one of the most important factors of information technology and communication has been the security of information. Steganography is the art of hiding the fact that communication is taking place, by hiding information in other information. Many different carrier file formats can be used, but digital images are the most popular because of their frequency on the Internet. Image steganography and cryptography algorithms are very effective means of protecting e-mail and sensitive documents.

Computer Department

1	Title	Steganography using LSB insertion
2	Author	Sunita Bawaskar
3	Co author	Dr. Ms. M.M. Puri
4	Journal	
5	Conference	National Conference on Emerging Trends in Electronics and Telecommunication
6	Year of Publication / Presentation	NCET- 2007
7	Abstract	Securing information is becoming more vital as any form of Internet transmission is subject to unauthorized snooping. Image steganography and cryptography algorithms are very effective means of securing information and sensitive documents. In this paper we aim to present a secure mechanism for hiding message within an image. The goal is to hide secret message in another image file in such a way that avoids drawing suspicion to the presence and transmission of a hidden image. The security of information has become a fundamental issue. Two techniques are available to achieve this goal: Encryption and Steganography. Using Encryption, the data is transformed into some other gibberish form and then the encrypted data are transmitted. In Steganography, the data is embedded in an image file and the image file is transmitted. This paper proposes a technique that combines the effect of these two methods to enhance the security of the data.

Research Papers **Computer Department**

1	Title	Semantic Web meta-data for e-learning
2	Author	Vandana Mahadik
3	Co author	Prof. S.H.Patil , Netra Patil
4	Journal	
5	Conference	nceccube
6	Year of Publication / Presentation	IICT 2007
7	Abstract	<p>This Paper presents an approach for implementing the e-learning scenario using semantic Web Technologies. Meta-data is fundamental building block of the Semantic web this paper analyzes important uses of meta-data. We propose a semantic driven knowledge life cycle that characterizes the key phases in managing semantic & knowledge & show this can be applied to learning domain. Semantic Web represents a promising technology for realizing e-learning requirement.</p>

Research Papers **Computer Department**

1	Title	Embedded Configurable Operating System
2	Author	Vandana Mahadik
3	Co author	Prof. S.H.Patil , <i>Gauri Rao</i>
4	Journal	
5	Conference	NCECCUBE
6	Year of Publication / Presentation	IICT 2007
7	Abstract	This paper focuses on efficient implementation of eCOS (embedded configurable operating system) in real time operating system and embedded hardware systems. eCOS is an open source real time embedded operating system ported to variety of architectures including embedded applications. The highly configurable nature of eCOS allows the operating system to be customized to precise application requirements delivering the best possible run time performance. eCOS uses redboot for bootstrapping. Redboot is a complete boot strap environment for embedded systems based on the eCOS HAL (hardware abstraction layer). eCOS kernel does not need to run on the target board in order to execute the application. One of its goal is efficiency from memory point of view. That is why it tries to solve the trade between package, granularity and package cost with multiple configuration option.

1	Title	Server Configuration Manager
2	Author	Vandana Mahadik
3	Co author	Prof. S.H.Patil , <i>Gauri Rao</i>
4	Journal	
5	Conference	ICEVD 2008
6	Year of Publication / Presentation	2008
7	Abstract	<i>This Paper described server configuration manager system. Currently system server is configured using configuration information maintained in files but in this system server will read the configuration information from data base instead of files It is client server system. In this system each time the starts it reads various configuration parameters from configuration files residing at the server currently server can not be configured from remote site our system provides facility to the user to configure the server from remote site</i>

RESEARCH PAPERS of Dept. of Electrical Engineering
Total –33 papers updated from 24th April 2004 up to 24th May 2009

DEPARTMENT OF ELECTRICAL ENGINEERING.

1.	Title	Use Of Eco-Friendly Bio-Diesel Accomplished From Jatropha In Automobiles To Cater The Problem Of Fuel Crisis
2.	Author	Prof. Datta S. Chavan Ph D (Registered), ME (Electrical), BE (Electrical), DEE MIEEE(USA), AMIE(INDIA), MIETE (INDIA), LMISTE (INDIA), MISLE(INDIA), MERG (IE), MWRG (IE) MUSG (IE), MISHRAE (IE) Assistant Professor & Co-ordinator (R&D cell) BHARATI VIDYAPEETH UNIVERSITY COLLEGE OF ENGINEERING PUNE 411043
3.	Co Author	---
4.	Journal/ Conference	All India seminar on recent Trends in automobile Industry
6.	Year of Publication/ Presentation	23 & 24 May 2009
7.	Abstract	<p>Energy sources are the main driver of economic growth and social development of a country. Oil and gas still provide more than half of the total global energy demands. There is a widening gap between the supply and demand of fossil fuels owing to rapid industrialization and urban development. In India, the interest in biodiesel has grown vividly during the last few years. The chief rationale for biodiesel in India is energy security, fuel independence and rural employment.</p> <p>Better environmental performance, greening of wastelands and creation of new business opportunities - are seen as some of the other advantages of biodiesel</p> <p>Jatropha is a genus of approximately 175 succulent plants, shrubs and trees (some are deciduous, like <i>Jatropha curcas</i> L.), from the family Euphorbiaceae. The name is derived from (Greek <i>iatros</i> = physician and <i>trophe</i> = nutrition), hence the common name physic nut.</p> <p><i>Jatropha</i> is native to Central America and has become naturalized in many tropical and subtropical areas, including India, Africa, and North America. Originating in the Caribbean, <i>Jatropha</i> was spread as a valuable hedge plant to Africa and Asia by Portuguese traders.</p> <p>This paper covers historical background of use of fuel from jatropha in vehicles. , cultivation of jatropha, different biodiesel production methods Advantages & disadvantages of jatropha fuel in vehicles, applications & environmental effects</p>

DEPARTMENT OF ELECTRICAL ENGINEERING.

1.	Title	4 quadrant dc drive for a brushless dc shunt motor used in electric hybrid vehicle
2.	Author	Prof. Datta S. Chavan Ph D (Registered), ME (Electrical), BE (Electrical), DEE MIEEE(USA), AMIE(INDIA), MIETE (INDIA), LMISTE (INDIA), MISLE(INDIA), MERG (IE), MWRG (IE) MUSG (IE), MISHRAE (IE) Assistant Professor & Co-ordinator (R&D cell) BHARATI VIDYAPEETH UNIVERSITY COLLEGE OF ENGINEERING PUNE 411043
3.	Co Author	---
4.	Journal/ Conference	All India seminar on recent Trends in automobile Industry
6.	Year of Publication/ Presentation	23 & 24 May 2009
7.	Abstract	<p>The ever increasing cost of oil and serious problems of environmental pollution have accelerated the development of non-polluting electric and hybrid electric vehicles during last two decades. The electric car, EV, or simply electric vehicle is a battery electric vehicle (BEV) that utilizes chemical energy stored in rechargeable battery packs. Electric vehicles use electric motors and motor controllers instead of internal combustion engines (ICEs).</p> <p>The inherent limitations of battery operated electric vehicles have lead to the development of IC Engine assisted and/or multi-fueled hybrid electric vehicles. The new technology is likely to be a viable alternative to conventional IC Engine automobile technology soon. Vehicles using both electric motors and ICEs are examples of hybrid vehicles, and are not considered pure BEVs because they operate in a charge-sustaining mode. Hybrid vehicles with batteries that can be charged externally to displace some or all of their ICE power and gasoline fuel are called plug-in hybrid electric vehicles (PHEV), and are pure BEVs during their charge-depleting mode. BEVs are usually automobiles, light trucks, neighborhood electric vehicles, motorcycles, motorized bicycles, electric scooters, golf carts, milk floats, forklifts and similar vehicles. This paper covers 4 quadrant dc drive for a brush less dc shunt motor used in electric hybrid vehicle. Its features, basic circuit, protection, speed control advantages and disadvantages</p>

DEPARTMENT OF ELECTRICAL ENGINEERING.

1.	Title	PROMINENT STRATEGIES IN ACCOMPLISHING & SURVIVING A PATENT
2.	Author	Prof. Datta S. Chavan Ph D (Registered), ME (Electrical), BE (Electrical), DEE MIEEE(USA), AMIE(INDIA), MIETE (INDIA), LMISTE (INDIA), MISLE(INDIA), MERG (IE), MWRG (IE) MUSG (IE), MISHRAE (IE) Assistant Professor & Co-ordinator (R&D cell) BHARATI VIDYAPEETH UNIVERSITY COLLEGE OF ENGINEERING PUNE 411043
3.	Co Author	ATUL S PATIL BE Electrical , MBA (appeared) ELECTRICAL ENGINEER MSEDCL,PUNE
4.	Journal/ Conference	International Conference On - Global Meltdown – Opportunities And Challenges University Of Pune Department Of Management Sciences (Pumba) , Csr Ipr Chair Pune 411007, India Subtheme:- Innovation And Intellectual Property Rights Management
6.	Year of Publication/ Presentation	20& 21 MARCH 2009
7.	Abstract	This paper presents history of indian patent system, patent, protection of patent, international application for patent what can be patented? Who can apply for a patent? How can you apply for a patent? Filing patent electronically by online system, patent specification does the patent office keep information of the invention secret?. When an application for patent is published?. provision in the law for early publication? Is patent application once filed is examined automatically? Early examination? What happens to a patent application once it is examined? Stages in grant of patent? Time limit for filing the representation for pre-grant opposition? Invention already patented , term of patent obligations of the patentee after the grant of patent? Renewal fee restoration after its cessation ?patent agent ,eligibility for patent agent ,patents inventions not patentable. Persons entitled to apply for patents, undertaking regarding foreign applications. Examination of applications search for anticipation by previous publication, report of examiner by controller. Power of controller refusal of patent without opposition. , date of patent, effect of patent. Rights of patentees rights of co-owners of patents. . Surrender of patents, wrongful use of words "patent office

DEPARTMENT OF ELECTRICAL ENGINEERING.

1.	Title	INNOVATIVE APPROACH IN BRAND CULTIVATION
2.	Author	Prof. Datta S. Chavan Ph D (Registered), ME (Electrical), BE (Electrical), DEE MIEEE(USA), AMIE(INDIA), MIETE (INDIA), LMISTE (INDIA), MISLE(INDIA), MERG (IE), MWRG (IE) MUSG (IE), MISHRAE (IE) Assistant Professor & Co-ordinator (R&D cell) BHARATI VIDYAPEETH UNIVERSITY COLLEGE OF ENGINEERING PUNE 411043
3.	Co Author	ATUL S PATIL BE Electrical , MBA (appeared) <i>ELECTRICAL ENGINEER</i> MSEDCL,PUNE
4.	Journal/ Conference	International Conference On -Global Meltdown – Opportunities And Challenges University Of Pune Department Of Management Sciences (Pumba) , Csir Ipr Chair Pune 411007, India Subtheme:-Strategies In Brand Building In New Era
6.	Year of Publication/ Presentation	20& 21 MARCH 2009
7.	Abstract	The paper presents brand, brand experience, Brand image,brand management,brand name, brand identity, branding approaches, individual branding,attitude branding,no-brand branding, derived brands, brand extension,multi-brands,own brands,aspirational brand,individual branding,personal branding,brand architecture,monolithic brand,endorsed brands product brand, brand implementation,brand community,brand engagement,brand loyalty,brand management,Family branding,individual branding,brand orientation,employer branding,generic brand,green brands,brand ambassador, brand implementation,own brands,national brand,local brands, brand strength, branded entertainment,celebrity branding,chief brand officer,alliancesbrand,brand aversion, brand awareness, brand recognition,brand recall, brand blunder,brand, equity brand extension, co-branding or “brand franchise extension,Brand equity,brand licensing brand piracy,,self brand,status brand,,store brand,superbrands,co-operative brand,umbrella brand,five ideas for building the brand,significance of branding,The importance of branding, when should you brand? primary brands,secondary brands, tertiary brands,building brand personality,Online brand, corporate branding, law of leadership, The law of the mind, law of profits,The law of line extension,., Law of divergence.

DEPARTMENT OF ELECTRICAL ENGINEERING.

1.	Title	ENERGY EFFICIENT & ECO-FRIENDLY ILLUMINATION SYSTEM & WATER PURIFICATION SYSTEM BY UV TECHNIQUE FOR HIGH RISE BUILDINGS.
2.	Author	Prof. Datta S. Chavan Ph D (Registered), ME (Electrical), BE (Electrical), DEE MIEEE(USA), AMIE(INDIA), MIETE (INDIA), LMISTE (INDIA), MISLE(INDIA), MERG (IE), MWRG (IE) MUSG (IE), MISHRAE (IE) Assistant Professor & Co-ordinator (R&D cell) BHARATI VIDYAPEETH UNIVERSITY COLLEGE OF ENGINEERING PUNE 411043
3.	Co Author	---
4.	Journal/ Conference	Twenty Forth National Convention Of Architectural Engineers And National Seminar On Recent Trends In High Rise Buildings & Environmental Sustainability The Institution Of Engineers (India) Pune Local Centre
6.	Year of Publication/ Presentation	14 & 15 NOVEMBER 2008
7.	Abstract	<p>Although day lighting is the most energy-efficient and preferred method of illuminating a building, it is not always adequate or available. Electric lighting should be designed to supplement daylight and provide appropriate light levels for particular spaces. Residential, commercial, industrial, and retail facilities each use several different electric light sources. The purpose of this section is to provide a brief overview of some basic lighting fundamentals related to design, technology, and terminology, with special emphasis given to energy-efficient systems</p> <p>It gives comparative analysis of various light sources such as incandescent lamps, CFL, fluorescent lamps, LED, i.e light emitting diodes for illumination, fibre optic lighting solutions LED underwater lighting solutions for residential, architectural and applications, lighting controls etc.</p> <p>This paper also put some light on the pollution due to lamps, lighting hazards & their remedy. Light pollution, also known as photopollution or luminous pollution, is excess or obtrusive light created mainly by humans. Among other effects, and like any other form of pollution, it disrupts ecosystems, can cause adverse health effects, obscures the stars for city dwellers, and interferes with astronomical observatories. Light pollution can be construed to fall into two main branches: annoying light that intrudes on an otherwise natural or low light setting and excessive light, generally indoors, that leads to worker discomfort and adverse health effects. Since the early 1980s, a global dark-sky movement has emerged, with concerned people campaigning to reduce the amount of light pollution. It also put some focus on use of UV lamp for purification of water</p>

DEPARTMENT OF ELECTRICAL ENGINEERING.

1.	Title	COLOURED COLLECTOR FACADES FOR SOLAR HEATING SYSTEMS & INSULATION OF HIGH RISE BUILDINGS
2.	Author	Prof. Datta S. Chavan Ph D (Registered), ME (Electrical), BE (Electrical), DEE MIEEE(USA), AMIE(INDIA), MIETE (INDIA), LMISTE (INDIA), MISLE(INDIA), MERG (IE), MWRG (IE) MUSG (IE), MISHRAE (IE) Assistant Professor & Co-ordinator (R&D cell) BHARATI VIDYAPEETH UNIVERSITY COLLEGE OF ENGINEERING PUNE 411043
3.	Co Author	---
4.	Journal/ Conference	National Seminar On Recent Trends In High Rise Buildings & Environmental Sustainability The Institution Of Engineers (India) Pune Local Centre
6.	Year of Publication/ Presentation	14 & 15 November 2008
7.	Abstract	<p>The combination of photovoltaic modules in the upper region of the facade and colored insulation glass elements with screen-printing for the lower region resulted more useful & energy efficient.</p> <p>The screen-printing design combines solar protection characteristics and attractive light and shadow effects inside the building. Windows in the facade allow for natural ventilation using the chimney effect</p> <p>Aesthetically colored, thickness-insensitive, spectrally selective solar absorber paints based on environmentally friendly binder and pigment systems suited for glazed solar facade collectors. The promotion of the increased use of solar thermal energy by solar facades applied to combined domestic hot water and space-heating systems. The recyclability of the materials used and resource efficiency play a central role when it comes to the development of constructional solutions.</p> <p>Solar facades function as a thermal flat collector, gives improvement in heat insulation of the building, protect against atmospheric conditions. The new facade reduce the total energy required to heat and cool the building by 8 % and resolve previous problems with overheating during the summer. Electricity is produced and fed into the power grid.</p>

DEPARTMENT OF ELECTRICAL ENGINEERING.

1.	Title	Green Energy – A Revolution in Balancing and Reconditioning of ecosystem for clean environment
2.	Author	Prof. Datta S. Chavan Ph D (Registered), ME (Electrical), BE (Electrical), DEE MIEEE(USA), AMIE(INDIA), MIETE (INDIA), LMISTE (INDIA), MISLE(INDIA), MERG (IE), MWRG (IE) MUSG (IE), MISHRAE (IE) Assistant Professor & Co-ordinator (R&D cell) BHARATI VIDYAPEETH UNIVERSITY COLLEGE OF ENGINEERING PUNE 411043
3.	Co Author	----
4.	Journal/ Conference	INDO – ITALIAN CONFERENCE ON GREEN AND CLEAN ENVIRONMENT (GEC. 2008) at MAEER'S MIT COE, Pune Maharashtra pollution control board, The embassy of Italy, New Delhi
6.	Year of Publication/ Presentation	20-21 March 2008
7.	Abstract	This paper elaborates gives present scenario of the global environment, elaborates role of green design, green technology, green environmental biotechnology, and green architecture. It also panchamahabhootas earth, sky, water, wind, sunlight, green architecture, renewable energy sources, global warming, green vehicles, role Nano-technology in green revolution, etc.

DEPARTMENT OF ELECTRICAL ENGINEERING.

1.	Title	Refashioning Energy conservation and Management – A balanced approach for Green building
2.	Author	Prof. Datta S. Chavan Ph D (Registered), ME (Electrical), BE (Electrical), DEE MIEEE(USA), AMIE(INDIA), MIETE (INDIA), LMISTE (INDIA), MISLE(INDIA), MERG (IE), MWRG (IE) MUSG (IE), MISHRAE (IE) Assistant Professor & Co-ordinator (R&D cell) BHARATI VIDYAPEETH UNIVERSITY COLLEGE OF ENGINEERING PUNE 411043
3.	Co Author	Prof. Atul S. Patil
4.	Journal/ Conference	Institution of Engineers, Pune emerging Trends in Green Buildings
6.	Year of Publication/ Presentation	1 st & 2 nd March 2008
7.	Abstract	<p>Energy is a fundamental and strategic tool to attain a minimum quality of life. As a developing country our needs continue to evolve and expand. The growth of energy sector is important in any development strategy as it can serve as a means to attain sustainable human development at the same time the large scale and pervasive nature of the energy related activities the world over have made the greatest impact on the environment. So green building is the need of today which can lead to reduced consumption, reduction in the local pollution and lower CO2 levels.</p> <p>If the current pattern of energy production, distribution and consumption continue, the resources could be exhausted much faster, environmental degradation would be accelerated and the progress in the number of countries could slow down dramatically. There we need to reconsider the way in which we use energy and refashion our way of life. Energy security based on efficiency is one of the major concerns of the developing countries.</p> <p>A sound energy management strategy is the need of the hour. The fundamental goal of energy management and conservation is to produce good and provide service at the maximum energy efficiency, least cost and least adverse environmental effect.</p>

DEPARTMENT OF ELECTRICAL ENGINEERING.

1.	Title	A fully automatic small wind-solar hybrid power plant – A new approach for management of Energy for Green building
2.	Author	Prof. Datta S. Chavan Ph D (Registered), ME (Electrical), BE (Electrical), DEE MIEEE(USA), AMIE(INDIA), MIETE (INDIA), LMISTE (INDIA), MISLE(INDIA), MERG (IE), MWRG (IE) MUSG (IE), MISHRAE (IE) Assistant Professor & Co-ordinator (R&D cell) BHARATI VIDYAPEETH UNIVERSITY COLLEGE OF ENGINEERING PUNE 411043
3.	Co Author	Prof. N. S. Parandkar HOD CWIT Pune 411001
4.	Journal/ Conference	Institution of Engineers, Pune Emerging Trends in Green Buildings
6.	Year of Publication/ Presentation	1 st & 2 nd March 2008
7.	Abstract	A green building is one, which creates less pollution and thereby less harm to the environment. Conventional grid power supply although not creating harm to the environment at the place of use i.e. at building but create at the source of generation due to high level of pollution. Environmental pollution occurs due to the factors like acid rain, fly ash etc. by using stand-alone wind solar hybrid plant, this environmental harm can be reduced, while utilizing the energies in the building. Using modern electronic control, the efficient energy management is possible in generation and utilization of electrical energy. This paper presents a scheme for management of various systems of a building by a fully automatic small wind generator-solar hybrid power plant. It includes a small wind generator, rectifier, battery storage system, inverter etc. and solar system. When wind speed is less solar cells charge the batteries to feed the major load during daytime. In the evening wind turbine charge the batteries to feed major load. Battery charging is a continuous process.

DEPARTMENT OF ELECTRICAL ENGINEERING.

1.	Title	Protection, Control and Monitoring of Wind generator using SCADA
2.	Author	Prof. Datta S. Chavan Ph D (Registered), ME (Electrical), BE (Electrical), DEE MIEEE(USA), AMIE(INDIA), MIETE (INDIA), LMISTE (INDIA), MISLE(INDIA), MERG (IE), MWRG (IE) MUSG (IE), MISHRAE (IE) Assistant Professor & Co-ordinator (R&D cell) BHARATI VIDYAPEETH UNIVERSITY COLLEGE OF ENGINEERING PUNE 411043
3.	Co Author	-----
4.	Journal/ Conference	Institution of Engineer, Pune Recent Trends in LT and HT protection system
6.	Year of Publication/ Presentation	16th & 17th Feb 2008
7.	Abstract	<p>This paper presents a scheme for protection, control and monitoring of wind generator using SCADA. This can also be used for distributed generation grid system. It gives protection against phase, neutral over current, negative sequence over current, high speed over voltage, neutral over voltage, voltage unbalance, over frequency, under frequency etc. it provides monitoring and metering scheme.</p> <p>Scheme uses user interfaces like character display of parameters, RS 232, rear wire LAN connection, Rear wire CAN Bus port, LED indicators. Communication protocols used are modulus serial RTU, modulus TCP/IP, open CAN. The scheme can be used for single wind turbine generator as well as for wind farm.</p>

Dept. of Electrical Engg.

1.	Title	Intranet Based Protection of control of Substation
2.	Author	Dr. D. G. Bharadwaj and Mr. P. V. Chopade
3.	Co Author	
4.	Journal/ Conference	IEEMA SWICON 2004 International Conference on Switchgear and Automation, Mumbai during 19th and 20th Nov. 2004 IEEMA International journal November 2004 conference Processing, Section III-A, Protection and Communication, Pages 10 to 16.
6.	Year of Publication/ Presentation	2004
7.	Abstract	<p>The evolutionary growth in the use and application of microprocessors has brought the industry to the point of considering integrated substation Control, Protection and Monitoring Systems. An integrated System holds the promise of greatly reducing the design, documentation and implementation cost for the sub-station protection, control and monitoring systems. Over the last 10 years, it has seen a steady increase in the use of digital protection and control devices in the substation environmental. In order to meet the present and future demand for efficient utilization and operation of substation equipment, it is anticipated that the trend for increased automation will continue. A new protection and control system architecture that will meet these needs is proposed. One important feature of this system is the application of Intranet Technology at the device level. Each device has the capability of connected to a network as autonomous server and has the ability to process real-time power system information. Protection relays and control equipments in substations will function as intelligent objects that distribute power system information.</p>

Dept. of Electrical Engg.

1.	Title	FACTS : Static Compensator (STATCON) – Simulation and Performance Evaluation to increase asset utilization of Power System
2.	Author	Dr. D. G. Bharadwaj and Mr. P. V. Chopade
3.	Co Author	
4.	Journal/ Conference	13th National Power System Conference at Indian Institute of Technology Chennai (IIT Chennai), 27-30th December 2004, NPSC 2004, Proceedings, Vol. – I, Page No.193-197.
6.	Year of Publication/ Presentation	2004
7.	Abstract	<p>The role of the Transmission network in the Power System is to transmit the power generated in the power plants to the load centers and the interconnected power systems. The transmission of electric power has to take place in the most efficient way in addition to providing flexibility in the process. Flexible A.C. Transmission System (FACTS) promotes the use of static controllers to enhance the controllability and increase the power transfer capability. The availability of high power Gate-Turn-Off (GTO) thyristors has led to the development of controllable reactive power sources using electronic switching converters for power transmission systems. The implementation of GTO – also called as Static Condenser (STATCON) gives steady state characteristics for the output which is very similar to the rotating synchronous condenser. This being a Static Reactive compensation device is also called as STATCOM. The work presented here emphasizes on the STATCOM Simulation and its performance under transient and fault conditions.</p>

Dept. of Electrical Engg.

1.	Title	Addressing various issues to Biometric Matching Complexities
2.	Author	Dr. D. G. Bharadwaj and Mr. P. V. Chopade
3.	Co Author	
4.	Journal/ Conference	BIOCON 2005 National conference on Biomedical Engineering With theme "Emerging Trends in Biomedical Engineering" Held at Bharati Vidyapeeth University College of Engineering, Pune 15 – 16th Sept. 2005, BIOCON 2005, Proceedings, Section-III, Paper No.6.
6.	Year of Publication/ Presentation	2005
7.	Abstract	<p>Distinctiveness of the human fingerprint is considered to be one of the most consistent characteristics for personal identification. However, the matching of a single fingerprint with the millions that have been catalogued proves to be a difficult task, Minutaie is some special points in the fingerprint, in general, they are ridge endings and ridge bifurcation.</p> <p>This minutaie is then characterized and stored as an individuals fingerprint template. Several obstacle sexist that make the matching of fingerprints a complicated mission. The paper highlights on some of the practical problems in fingerprint processing like real-time searching of the fingerprint templates in the storage medium arises and storing the minutaie points using the traditional file system. Fingerprint image uses Medium filtering, which itself not sufficient to remove noise. The major obstacles are rotation, displacement, missing areas, and image defects. The false minutaie points are also one of the key causes increasing the searching time.</p>

Dept. of Electrical Engg.

1.	Title	Information Technology Solution for Power Distribution System Automation
2.	Author	Dr. D. G. Bharadwaj and Mr. P. V. Chopade
3.	Co Author	
4.	Journal/ Conference	AUPEC 2005 Australasian Universities International Power Engineering Conference Hobart, Australia, 25 to 28th Sept. 2005, Conference Proceedings AUPEC 2005, Vol. 1 Pages 195-2000
6.	Year of Publication/ Presentation	2005
7.	Abstract	<p>The power Industry is in the midst of a transformation process-from being Energy suppliers to becoming energy service companies. Everyday the distribution utilities face new challenges and have to improve productivity and reduce operating costs and maintenance costs whilst providing customers with a reliable power supply and a board range of services. To achieve rapid success the effective use of Information Technology is essential. The demand-supply gap in power in any country is expected to grow by at least twenty per cent every year. The trend is expected to continue in the near future, with no significant generating capacity coming up in the country, may give rise to a power crisis. It is thus imperative that power utilities look at increasing efficiencies in distribution networks, which have among the highest transmission and distribution losses in the world at close to and upwards of 30 per cent. In addition, the social pricing for rural and other sectors puts an increasing pressure on utilities to improve productivity as also reduce operating and maintenance costs to remain financially viable.</p> <p>Our present paper gives the IT solution which will enable the business operation at the transaction level and improve the overall quality in Decision Support System. Information Technology (IT) would thus become the foundation for sustainable reforms.</p>

Dept. of Electrical Engg.

1.	Title	FACTS : Unified Power Flow Controller (UPFC) – Mathematical Modelling and Performance Evaluation
2.	Author	Dr. D. G. Bharadwaj and Mr. P. V. Chopade
3.	Co Author	
4.	Journal/ Conference	AUPEC 2005 Australasian Universities International Power Engineering Conference Hobart, Australia, 25 to 28th Sept. 2005 Conference Proceedings AUPEC 2005, vol. II, Pages 408-413.
6.	Year of Publication/ Presentation	2005
7.	Abstract	With the growing demand of electricity, at times, it is not possible to erect new lines to face the situation. Flexible AC Transmission System (FACTS) makes use of the thyristor controlled devices and optimally utilizes the existing transmission network. Number of controlling devices and have been propounded which pertain either to the group of series connected controllers or shunt controllers to provide power flow or voltage control respectively. One of such device is Unified Power Flow Controller *UPFC) n which the emphasis is given in the present work.

Dept. of Electrical Engg.

1.	Title	Intelligent Control Of Power System With Grid Stat
2.	Author	Dr. D. G. Bharadwaj and Mr. P. V. Chopade
3.	Co Author	
4.	Journal/ Conference	AUPEC 2005 Australasian Universities International Power Engineering Conference Hobart, Australia, 25 to 28th Sept. 2005, Conference Proceedings AUPEC 2005, Vol. ii Pages 476-481.
6.	Year of Publication/ Presentation	2005
7.	Abstract	This present paper introduces grid stat which is a new communication architecture for the power grid based on Internet technologies. Off-the-shelf Internet technology alone cannot meet the QoS (Quality of Service) requirements for the grid's status communication. But, the Gridstat middleware framework, which sits above a low-level IP or ATM network layer, provides essential QoS management, along with services specialized to the status dissemination for the critical infrastructures, such as gas and transportation, which requires widely distributed situations awareness for efficient and secure operation. Use of Gridstat technology in other words foster cross infrastructure awareness both for normal operations and to detect and mitigate malicious threats.

Dept. of Electrical Engg.

1.	Title	FACTS – simulating the Performance of Static VAR compensator (SVC)
2.	Author	Dr. D. G. Bharadwaj and Mr. P. V. Chopade
3.	Co Author	
4.	Journal/ Conference	CERA 2005 (International Conference on Computer Applications in Electrical Engineering-Recent Advances) I.I.T. Roorkee, Sept. 28 Oct. 1, 2005 Conference Proceedings CERA – 2005, Vol. 1, Pages 224 to 231.
6.	Year of Publication/ Presentation	2005
7.	Abstract	The role of the Transmission network in the Power System is to transmit the power generated in the power plants to the load centers and the interconnected power systems. The transmission of electric power has to take place in the most efficient way in addition to providing flexibility in the process. Flexible A.C. Transmission System (FACTS) promotes the use of static controllers to enhance the controllability and increase the power transfer capability. Providing reactive shunt compensation with shunt connected capacitors and reactor is a well established technique to get a better voltage profile in a power system. Shunt capacitors are inexpensive but lack dynamic capabilities, thus some form of dynamically controlled reactive power compensation becomes essential. This feature is provided by Static VAR Compensator (SVC).The work presented here emphasizes on the comparison of SVC with fix capacitor compensation and superiority of SVC is established using computer simulation and its performance for reactive power management and better voltage control.

Dept. of Electrical Engg.

1.	Title	Advances in Reactive Power Management through Information Technology (IT)
2.	Author	Dr. D. G. Bharadwaj and Mr. P. V. Chopade
3.	Co Author	
4.	Journal/ Conference	CAPACIT 2005 (Sixth International Seminar on Capacitors) Organized by IEEMA at Hotel Le Meridien New Delhi, Nov. 17-18, 2005 Seminar Proceeding CAPCIT – 2005, Pages: 1-1 to 1-6
6.	Year of Publication/ Presentation	2005
7.	Abstract	<p>One cannot project the future of reactive power management by itself, in isolation. The entire electric power system must be referred to in order to get a correct perspective. With increasingly greater consumption of electric power per head, the demand has gone up, requiring higher amounts of power generation. Higher generation and higher transmission also led to economics due to higher scales of production and transmission. The emphasis till today has been towards solving (reactive) power problems on account of this scenario. Growing advances in Information Technology (IT) field are the key solutions for bringing out advances in reactive power management. Reactive Power Management aims at developing better methods for effective reactive power management for efficient use of reactive power sources/ sinks and voltage control from generation and transmission facilities in order to improve power system operation reliability, security, and the functioning of electricity markets.</p> <p>Our present paper is an effort to bring out advances in reactive power management through use of Information Technology.</p>

Dept. of Electrical Engg.

1.	Title	FACTS Devices- Comparison between Static VAR Compensator (SVC) and STATCOM for reactive power control in transmission system.
2.	Author	Dr. D. G. Bharadwaj and Mr. P. V. Chopade
3.	Co Author	
4.	Journal/ Conference	CAPACIT 2005 (Sixth International Seminar on Capacitors) Organized by IEEMA at Hotel Le Meridian, New Delhi. Nov. 17-18 2005, Seminar Proceedings CAPCIT-2005, Topic-III, Pages : III-1 to III-6.
6.	Year of Publication/ Presentation	2005
7.	Abstract	<p>The role of the Transmission network in the Power System is to transmit the power generated in the power plants to the load centers and the interconnected power systems. The transmission of electric power has to take place in the most efficient way in addition to providing flexibility in the process. Flexible A.C. Transmission system (FACTS) promotes the use of static controllers to enhance the controllability and increase the power transfer capability. Providing reactive shunt compensation with shunt connected capacitors and reactors is a well established technique to get a better voltage profile in a power system. Shunt capacitors are in expansive but lack dynamic capabilities, thus some form of dynamically controlled reactive power compensation becomes essential. This feature is provided by Static VAR Compensator (SVC). The availability of high power Gate-turn-Off (GTO) thyristors has led to the development of controllable reactive power sources using electronic switching converters for power transmission systems. The implementation of GTO also called as Static condenser (STATCON) gives steady state characteristics for the output which is very similar to the rotating synchronous condenser. This being a Static Reactive Compensation device is also called as STATCOM.,</p> <p>The work presented here emphasizes on the comparison of SVC with STATCOM and superiority of STATCOM is established using computer Simulation and its performance for reactive power management and better voltage control.</p>

1.	Title	Embedded Trends – Smart Embedded devices a Real driving force for Industries in the future
2.	Author	Dr. D. G. Bharadwaj and Mr. P. V. Chopade
3.	Co Author	
4.	Journal/ Conference	Industry 2, Jusubhai Digital Media Technology Journal Feb. 2006, Vol. 5, Issue – 7, Page No.69-71
6.	Year of Publication/ Presentation	2006
7.	Abstract	<p>Approximately 3 billion embedded CPUs are sold each year, with smaller (4, 8- and 16-bit) CPUs dominating by quantity and aggregate dollar amount. Yet, most research and tool development seems to be focused on the needs of high-end desktop and military/ aerospace embedded computing with smart embedded devices. The article seeks to expand the area of discussion to encompass a wide range of upcoming smart embedded devices which will be real driving force for Industry. The extreme diversity of embedded applications makes generalizations difficult. Nonetheless, there is emerging interest in the entire range of embedded systems. There are significant areas in which embedded computer design differs from more traditional desktop computer design. They also present "design challenges" encountered in the course of designing several real time systems. These challenges are both opportunities to improve methodology and tool support as well as impediments to deploying such support to embedded system design teams. In some cases research and development has already begun in these areas and in other cases it has not. The observations were made from the experience with commercial as well as military applications, development methodologies, and life-cycle support. All characterizations are implicitly qualified to indicate a typical, representative, or perhaps simply an anecdotal case rather than a definitive statement about all embedded systems.</p>

Dept. of Electrical Engg.

1.	Title	Ensuring Power Quality and Reliability – A step towards securing energy for the future
2.	Author	Dr. D. G. Bharadwaj and Mr. P. V. Chopade
3.	Co Author	
4.	Journal/ Conference	NPSC – 2006 (National Power System Conference) at I.I.T. Roorkee Dec. 29, 2006 Conference Proceedings NPSC – 2006, Page No.17.
6.	Year of Publication/ Presentation	2006
7.	Abstract	<p>With many business increasingly dependent on sensitive electronic equipment and concerned about potential losses resulting from downtime, power quality and reliability are emerged as critical issues for today's energy managers. When power quality is good, equipment operates reliably, without loss of data of interrupted production. When power quality and reliability are poor, businesses suffer consequences and serious losses due to employee downtime, missed deadlines and wasted raw materials. Poor power quality can cause significant damage to equipment. In our research paper we are giving very useful Power Quality and Reliability development plans. To avoid costly downtime, facility owners and managers can develop a power quality and reliability plan. The plan should start with a facility audit to identify critical loads, calculate the level of protection required, and incorporate future needs such as planned growth and expansion. Using state-of-the-art technologies, energy experts can assess power problems throughout a facility and recommend solutions for improved power quality and reliability.</p>

Dept. of Electrical Engg.

1.	Title	Implementation of Digital AVAR for Real-Time Power System Operation and Control
2.	Author	Dr. D. G. Bharadwaj and Mr. P. V. Chopade
3.	Co Author	
4.	Journal/ Conference	Bharati Vidyapeeth University Scientific and Research Journal Volume v, No. 1, April 2007-04-26, Page No. 67-73.
6.	Year of Publication/ Presentation	2007
7.	Abstract	Indian Power System network is extremely complex because of long distance transmission lines, wide area operations and unplanned distribution network. the use of electronics devices, computers, air conditioners and many such devices help deteriorating the supply quality by introducing harmonics. The variation in load in uncertain manner brings instability in maintaining constant voltage, constant frequency source. Many methods have been propounded to obtain stable operations of the system under adverse conditions. The work presented here is based on the exciter control method making use of compact Digital Automatic Voltage Regulator (CD-AVR), Power System Stabilizer (PSS) and Power System Voltage Regulator (PSVR).

Dept. of Electrical Engg.

1.	Title	Power Electronics-Based Controllers for HVDC and FACTS Power Systems Networks
2.	Author	Dr. D. G. Bharadwaj and Mr. P. V. Chopade (For Research Papers No.1 to No.13)
3.	Co Author	
4.	Journal/ Conference	Journal of Multi Disciplinary Engineering Technologies, Bharati Vidyapeeth College of engineering, New Delhi, Sept. 207 Issue.
6.	Year of Publication/ Presentation	2007
7.	Abstract	<p>Around the middle of the 20th center, transmission systems were designed for simple power transactions within limited services territories. Deregulation in the 21st century is bringing far more complex transactions over vast distances, demanding a different approach to managing transfers and power flows. Anticipating this need, EPRI pioneered development and demonstration of power electronics-based transmission controllers, known as FACTS controllers, bringing them from infancy to commercial readiness in several forms. This family of controllers, built on solid state silicon switches, offers control of the power grid with the speed and precision of a microprocessor, but at a power level of 500 million times higher. Power electronic-based controllers (PEBCs) allow utilities to direct power along specific corridors, aligning the physical flow of power with commercial transactions. With an increasing demand on energy and the construction of large generation units, typically built at remote locations from the load centers, the technology changed from DC to AC. Power to be transmitted, voltage levels and transmission distances increased. DC transmission and FACTS (Flexible AC Transmission Systems) have developed to a viable technique with high power ratings since the 60. As a multi terminal system, HVDC can also be connected at several points with the surrounding three-phase network. The paper throws light ton some of the major aspects in Power System network leading following areas :</p> <ul style="list-style-type: none"> • Planning, modeling, and economics of power electronics-based controllers. • Technology development and field demonstration of power electronics-based controllers, innovative concepts, and new power semiconductor switching devices. • Diagnostics and operation and maintenance of power electronics-based controllers..

1.	Title	Successful Energy Conservation and Efficient Energy Management in Modern Hospital, A case Study
2.	Author	Prof. R. M. Holmukhe, Prof. Satish S. Kasbe, Prof. R. J. Chavan
3.	Co Author	
4.	Journal/ Conference	BICON-2005, Bharati Vidyapeeth College of Engineering, Pune-43
6.	Year of Publication/ Presentation	2005
7.	Abstract	Electrical Energy is a huge and vital part of any Hospital Operational heads. Wastage of energy resources can severally undermine the performance of not just the hospital sector but also of the country as a whole. According to estimate about 20 to 25% energy can be saved if conservation of energy becomes a national concern at all levels. Energy audit of hospitals covers modules that can help hospitals take measures necessary to optimize energy consumption. In this paper focus is maintained on how energy is conserved and benefits achieved from it.

Dept. of Electrical Engg.

1.	Title	Optimization Technique to Find Reactive Power Margin From Voltage Collapse
2.	Author	Dr. D. G. Bharadwaj, Prof. S. N. Patil.
3.	Co Author	
4.	Journal/ Conference	International Conference on "Computer, Control and Communication" held at Sri Sai Ram Engg. College, Chennai on 20-22 August 2004.
6.	Year of Publication/ Presentation	2004
7.	Abstract	<p>Reactive power planning requires the computation of reactive power margin from the point of voltage collapse in the steady in order to quantify the adequacy of the level of installed reactive power point. The reactive margin is the difference between the maximum reactive load distributed across selected nodes and reactive load at planned system operating point. This method computes reactive power margin. The difference between the maximum reactive load and corresponding base case value at the given set of load buses of load buses of a power plant. This margin is aimed at assessing the system robustness with respect to voltage collapse inequality constraints. The formulation of electrical decoupling yields a only voltage problem. The latter is solved using Newton approach. This steady is applied to study voltage collapse problem. The method of optimization of reactive power is used to investigate the stability of power system.</p> <p>Keywords : Power System security, voltage collapse, Reactive power Margin, Generator modeling, Optimization method, Reactive power compensation.</p>

Dept. of Electrical Engg.

1.	Title	"Energy Conservation By ariable Frequency Drive"
2.	Author	Prof. S. N. Patil
3.	Co Author	
4.	Journal/ Conference	national Workshop on "Environment Pollution Management for Sustainable development" Lakshmi Narayan College of Engineering and Technology at Bhopal on 24th April 2004.
6.	Year of Publication/ Presentation	2004
7.	Abstract	<p>In today's power scenario, we are facing a major power crush. Day by day gap between demand and supply of electric energy is widening at the rate 3% birding this gap from the supply side is not only very difficult but it is very expansive too. Thus the only viable way in handling these crises, is the effective use of available energy, which is possible by using energy efficient devices.</p> <p>Electric motors are industries basic need. Industries consume about 50% of power generated in the country and electric motors consume about 70% of total electricity used in electric sector.</p> <p>In today's slack market due to staggering cost of energy, every one from all of us is forced to think how to run industrial plant and equipment in energy efficient manner. The running cost of electrical energy in production process plays important role in determining the actual production cost of any product. Thus maintaining and reducing the cost of production of any product without affecting quality is a new challenge to all industries. Energy conservation and use of energy devices give on of the best ways to reduce the production cost of any product.</p> <p>In this an attempt has been made to discuss the case study and saving of energy is done.</p>

Dept. of Electrical Engg.

1.	Title	A case Study of Energy Audit of A Small Scale Industry Using Simple
2.	Author	Prof. S. N. Patil
3.	Co Author	
4.	Journal/ Conference	National Seminar on "Energy Solutions" Lakshmi Narayan College of Engineering and Technology at Bhopal, on 15th – 16th May 2004.
6.	Year of Publication/ Presentation	2004
7.	Abstract	<p>Energy conservation plays an important role in present energy scenario of the country. It is well known that the cost of energy conservation is much lower than the cost of energy generation and so to meet the present demand of energy conservation plays important role.</p> <p>Energy audit is an important process to locate the areas having possibilities of energy conservation. The energy audit process require recording of energy consumption pattern by energy consuming equipment and data is analyzed.</p> <p>Out of total industrial sector about 50% industries are small-scale industries. To take energy audit of these industries tough sophisticated instruments is costlier and therefore energy audit is done though simple instruments. In this paper an attempt is presented, in which the energy audit of a small-scale industry having energy consumption of about 125-unit/ day is done using simple instruments. Payback periods are calculated and means of energy conservation are proposed.</p>

Dept. of Electrical Engg.

1.	Title	Optimization of Reactive Power and Reactive Contingency Simulation
2.	Author	Prof. S. N. Patil, Prof. J. V. Satre
3.	Co Author	
4.	Journal/ Conference	International conference "Soft Computing" held at Bharati Institute of Higher Education and Research Deemed University. Chennai on 28 – 29 May 2004
6.	Year of Publication/ Presentation	2004
7.	Abstract	<p>In this paper a tool for prevention of reactive power and voltage problem is given. It is suitable to both real time and operational planning but additional application also to allocate the optimal reactive power source.</p> <p>This optimization method to compute the maximal reactive load which is consumed at a given set of buses, subject to a set of operating constraints, involving for instance generation reactive production and bus voltage limits. This problem can be solved considering reactive load as objective function, equality constraints as a voltage and inequality constraints as generator reactive power limit. This optimization is solved by Newton's approach. From this optimization reactive power margin is calculated.</p> <p>This method is applied to various system and MATLAB simulations carried out on IEEE standard bus systems.</p> <p>Keywords : Voltage a stability, reactive power margin, optimization of operating constraints, voltage collapse point, power system security.</p>

Dept. of Electrical Engg.

1.	Title	CPM As a Project Management Technique – Electrical Engineering Field
2.	Author	Prof. S. N. Patil, Prof. J. V. Satre
3.	Co Author	
4.	Journal/ Conference	International conference "Soft Computing" held at Bharati Institute of Higher Education and Research Deemed University. Chennai on 28 – 29th May 2004
6.	Year of Publication/ Presentation	2004
7.	Abstract	<p>In this paper Critical Path Method (CPM) is given which is useful in planning, scheduling and controlling any engineering project. In this method various operations are performed by forming a graph which is called as Network. The project can be defined as any task which has definable beginning and end which consist of several activities or jobs. Each of activities requires the expenditure of one or more resources like money, men and time. Project execution adopts following steps that are planning, scheduling and controlling.</p> <p>Critical Path Methods follows formation of network or project path, time of completion of each activity and total time for completion of whole project which is not simply addition of time required for each activity as some operations can be done simultaneously. In this paper critical path method is applied for manufacturing of large transformers.</p> <p>Keyword : Critical Path Method, Project Planning, Scheduling and Controlling, Electrical application.</p>

Dept. of Electrical Engg.

1.	Title	Daily Unit Commitment Optimal Control for Power System Planning
2.	Author	Prof. S. N. Patil, Prof. J. V. Satre
3.	Co Author	
4.	Journal/ Conference	International Conference "Soft Computing" held at Bharati Institute of Higher Education and Research Deemed University, Chennai on 28 – 29th May 2004
6.	Year of Publication/ Presentation	2004
7.	Abstract	<p>This paper contains optimal control method applied for daily unit commitment for large power system planning and operation. Electricity is essential for public security, economic activity and domestic comfort. The object of power system is to meet the demand for electricity at lowest cost and highest reliability. Number of actions such as expansion planning, operational planning and real time control are necessary. Expansion planning consists of designing the future system five to twenty years in advance. Operational planning consists of scheduling operation of those existing facilities one day to one year in advance, optimizing maintenance and preparing real time control. In real time control continuously balancing generation is there at the same time keeping close to optimized scheduled operation. Daily unit commitment is one of the optimal control application used to power system optimization problem. In this paper detail analysis of daily unit commitment by using optimal control is illustrated.</p> <p>Keyword : Optimal Control, Expansion Planning, Real time Control, Unit commitment, Power system stability.</p>

Dept. of Electrical Engg.

1.	Title	Vertical Axis Wind Turbines on road Dividers
2.	Author	Prof. S. N. Patil, Prof. J. V. Satre
3.	Co Author	
4.	Journal/ Conference	all India Seminar on "Energy Conservation in Mechanical and Electrical Utilities" held at The Institution of Engineering (India) Pune Local Centre on 13 – 14th January 2007.
6.	Year of Publication/ Presentation	2007
7.	Abstract	Power shortage is the major problem being faced in the India today. On top of this the coal and oil deposits are gating depleted fast. The obvious way out is shifts our focus to renewable energy sources. To harness the wind energy normally horizontal axis wind turbines are installed. Here wind energy is harnessed from the vehicles by installing the vertical axis wind turbines at the road dividers. The voltage produced in the generator is stored in the batteries and can later be used to power the streetlight.

Dept. of Electrical Engg.

1.	Title	Energy Conservation in Hospitals
2.	Author	Prof. S. S. More and Prof. D. V. Shinde
3.	Co Author	Dr. D. G. Bharadwaj
4.	Journal/ Conference	23rd National Convention of Electrical Engineers Org – by the Institution of Engineers India) 23-24, Nov. 2007, Pune
6.	Year of Publication/ Presentation	2007-08
7.	Abstract	The paper throws light on the infrastructure and instruments used in the hospital and emphasizes on the corrective measures to be taken in regards of, operational practices and equipment efficiency, to reduce the energy bills substantially.

Dept. of Electrical Engg.

1.	Title	Time of Day Tariff Structure (TOD)
2.	Author	Prof. Mrs. S. S. More and Prof. Omkar Pawaskar
3.	Co Author	
4.	Journal/ Conference	23rd National Convention of Electrical Engineers Organized by the Institution of Engineers (India) 23-24 Nov. 2007, Pune
6.	Year of Publication/ Presentation	2007-08
7.	Abstract	The paper covers – 1) Detail study of TOD tariff structure applied to industrial consumers I its effect in Maharashtra. 2) Study of disorient incentives/ dis-incentives given to there consumers 3) Approach of regulatory commission in Maharashtra as well as national level towards this tariff structure.

RESEARCH PAPERS of Dept. of Electronics Engineering
Total –23 papers updated from 2005 up to 2009

Dept. of Electronics Engg.

1.	Title	A Protocol for Wireless sensor Networks based Routing Cost
2.	Author	Shrikant K. Bodhe
3.	Co Author	Alpana P. Adsul
4.	Journal/ Conference	SPIT-IEEE Colloquium and International Conference, Mumbai, India
6.	Year of Publication/ Presentation	2008-09
7.	Abstract	As Wireless sensor networks continue to attract more attention new ideas for applications are continually being developed many of which involve consistent coverage of a given surveillance area. Recently, several protocols and architectures have been proposed to maintain network connectivity and adequate coverage quality while minimizing the drain on the scarce energy resources BF the sensor node. Here A CBR is implemented using MATLAB and present simulation results showing the effectiveness of the protocol in extending network lifetime.

RESEARCH PAPERS

Dept. of Electronics Engg.

1.	Title	Classification and boundary detection of Brain tumor of MR imager
2.	Author	Mrs. Minal S. Deshmukh
3.	Co Author	
4.	Journal/ Conference	IEEE Conference on AI Tools
6.	Year of Publication/ Presentation	2008
7.	Abstract	This paper presents a study which involves two major modules one that investigates the potential of ANN for classification and segmentation of magnetic resonance images of the human brain and the other one that detects brain tumor boundaries in medical images using hop field neural network LVQ ANN is used for the multispectral supervised classification of MR images.

Dept. of Electronics Engg.

1.	Title	Performance Evaluation of Fixed Channel Allocation strategy with Hand off Reservation policy for velocity Depend Dynamic Hand off Threshold
2.	Author	S. K. Bodhe
3.	Co Author	Vikram S. Patil
4.	Journal/ Conference	SPIT-IEEE Colloquium and International conference, Mumbai, India
6.	Year of Publication/ Presentation	2007-08
7.	Abstract	IN Wireless Cellular Communication systems, channels are inadequate. Here should be utilized efficiently. Hence fixed channels Allocation (FCA) strategy for channel Allocation in 81-cell. System having uniform traffic square change cells and cluster size of nine has been considered for the model using GSM 1800 specifications. A comp between HCDP with fixed threshold boundary for hand off and HCDP with velocity dependent dynamic threshold boundary for hand off has been attempted. The paper uses velocity depended dynamic handoff threshading mechai.

Dept. of Electronics Engg.

1.	Title	Analytical Model for Location Management for 3G Cellular Networks
2.	Author	Prof. S. K. Bodhe
3.	Co Author	Prof. S. D. Markande
4.	Journal/ Conference	SPIT-IEEE Colloquium and International Conference, Mumbai, India
6.	Year of Publication/ Presentation	2007-08
7.	Abstract	Location Management is very important issue in personal communication service networks to ensure that mobile terminals to continuously receive services when moving from one place to other in this paper, study of dynamic movement – based location management scheme (Dynamic 3G) for 3 G cellular networks has been presented. The simulated results show that as the call inter-arrival time increases the total cost of location updates and paging also increases.

Dept. of Electronics Engg.

1.	Title	Performance Analysis using call Threshold CAC scheme for MANET in Wireless MAN
2.	Author	Shrikant Bodhe
3.	Co Author	Uttam D. Kolekar, Deepak C. Karia
4.	Journal/ Conference	SPIT-IEEE Colloquium and International Conference, Mumbai, India
6.	Year of Publication/ Presentation	2007-06
7.	Abstract	Mobile Ad Hoc (network CMANET) is a collection of Wireless nodes that can dynamically be set up anywhere and anytime w/o using any pre-existing networking infrastructure. Call Admission control (CAC) is a key element in the provision of guaranteed quality of service (Qos) in MANET. Analytical results for some performance metrics such as new request blocking probability and band off request blocking probability are obtained under some specific assumptions. Simulation results are obtained using MATLAB 7.0.

1.	Title	Study of propagation Model at 60 GHz
2.	Author	Dr. S. K. Bodhe
3.	Co Author	Deshmukh Achala
4.	Journal/ Conference	
6.	Year of Publication/ Presentation	
7.	Abstract	<p>There has been a lot of interest lately in using millimeter (mm) – Waves for high speed indoor Wireless Communications. Signals generated by mm-wave systems encounter various obstacles and get attenuated due to reflection absorption and diffraction, thereby resulting in shadowing and fluctuations.</p> <p>The 60 GHz band is of much interest since this is the band in which a massive amount of spectral space (5 GHz) has been allocated worldwide for dense wireless local communications. The article gives an overview of 60 GHz channel characteristics.</p> <p>A propagation model for indoor wireless communication at 60 GHz is developed using electromagnetic theory. At large ranges and in dense multi-path environments, the signal strength is expected to drop off more rapidly due to high penetration loss. An exponential increase in loss with distance in an area populated densely with obstacles has been observed at the lower frequency bands.</p>

Dept. of Electronics Engg.

1.	Title	Measurement of blood parameter using FO sensor
2.	Author	Prof. Mrs. A. A. Shinde
3.	Co Author	Hanisha Agnani
4.	Journal/ Conference	13th National Seminar on Physical and Technology and Sensors
6.	Year of Publication/ Presentation	March 2007
7.	Abstract	The fiber optic sensor in their present work consists of fiber probe, analyt under test as medium and mirror as reflector. The FO sensor measures amount of glucose content in the blood sample. The light beam from source is launched into fiber and guided to sensor which interacts with sensing layer. The optical properties are changed due to interaction leading to modulation. The modulated signed with chemical information 5 guided to detector. This detected signal is then processed further for measurement.

Dept. of Electronics Engg.

1.	Title	1) SPEG resign and NCES06 2006 verification 2) Mobile Phone Processor Architecture NCES06 2006 3) Text To Speech NCACCNO7 2007 Synthesis Implementation in FPGA.
2.	Author	1) Prof. R. Y. Mali 2) Prof. J. S. Chitode 3) Prof. P. B. Mane
3.	Co Author	Prof. M. S. Bewoor, Prof. Pradeep B. Mane
4.	Journal/ Conference	Online Global Business Management System
6.	Year of Publication/ Presentation	2007
7.	Abstract	The globalization has lead to the spreading of business throughout the world. n present era customer plays a vital role in any business before or after sales. To manage business, multinational companies, banks, private and public sectors etc. are using different means of communication like Telephone, Mobile, e-mail, chatting etc. to communicate with customers and employee. In this paper, we have presented a online Global Business Management System for communication that is done between customer and employee through chatting in a secured network. The developed system takes care of monitoring chat session between the employee and the customer. It also saves the data of the chat session between the employee and the customer relationship and performance evaluation of the employee. This system provides online text based discussion; file upload/download, system administration and monitoring.

Dept. of Electronics Engg.

1.	Title	1) Inter-Segment and Intra Segment Silence Detection, Database Compression and its use in TTS, Souvenir, 2006 2) TTS Bharati Research Journal 2007 3) OFDM implementation in UMB – International Conference ICCAOS, 2007
2.	Author	1) Prof. J. S. Chitode 2) Prof. N. Srivastava
3.	Co Author	Ms. Alka Surendra Barhatte
4.	Journal/ Conference	International conference ICCAOS
6.	Year of Publication/ Presentation	2007
7.	Abstract	<p>This application is based on the inter-segment and intra-segment silence detection and adjustment for Marathi Text. The time domain parameters of speech signal i.e. energy and zero crossing detection (ZCD) in used for silence detection. Inter-segment and intra-segment silence is detected by defining some threshold value for Energy and ZCD. Once silence is detected it is extracted. Extracting the intersegment and intrasgement silence helps in reducing the size of file. While concatenation of sound file silence has to be reinserted. For words concatenation the same silence is veinserted whereas silence is modified or adjusted for syllable concatenation. Silence can be adjusted by defining rules for silence insertion. The text to speech synthesis is one of the rapidly developing fields and lot of research is going on his field. There is a great demand for text to speech synthesis for India languages.</p>

Dept. of Electronics Engg.

1.	Title	Air conditioning system for medical applications
2.	Author	Prof. A. A. Shinde
3.	Co Author	Prof. Rajesh D. Komati
4.	Journal/ Conference	BIOCON 2005
6.	Year of Publication/ Presentation	2005
7.	Abstract	<p>The air conditioning system in hospital is necessary for prevention and treatment of diseases. The air conditioning systems used in hospitals consumes lot f energy. In order to save the power consumed and to increase the life of the air conditioning system, the control system is implemented using VLSI. The paper aims at implementing a control system which adds new features in the old air conditioning systems. The paper also discusses additional features in the older air conditioning systems which are found in new air conditioning systems. This air conditioning control system can be implemented by using micro controller VLSI. This paper talks about the control system in VLSI because in VLSI has hardware required for the control system is less and power consumption is very low as compared to micro controller based control system. This leads to a reliable and low cost effective air conditioning control system.</p>

1.	Title	An Optimized Soft Cutting Approach to Derive Syllable from Words in Text to Speech Synthesizer
2.	Author	Prof. J. S. Chitode
3.	Co Author	
4.	Journal/ Conference	BIOCON, 2005
6.	Year of Publication/ Presentation	2005
7.	Abstract	<p>The text to speech synthesis is one of the rapidly developing fields. A Text – To – Speech (TTS) synthesizer must be capable of automatically producing speech by storing small segments of speech and splicing and resplicing them when required. Two basic methods of speech synthesis are, (1) Rule based synthesis: Rule based speech synthesis uses rules of particular language to generate the synthetic speech. (2) Dictionary based synthesis: Dictionary based speech synthesis uses most commonly used words in the audio database. Syllable based speech synthesizer generates more number of words based on very small database. Different syllables can form new words. Hence original database is not large. Soft cutting of syllables gives the 'from' and 'to' location of sample numbers of syllables and then these locations can be used in the database. In this way the database becomes more efficient and hence can generate more number of words through concatenation of newly formed syllables. Syllable based speech synthesizer is proposed in this paper. The other objective is to achieve the compression of audio database. The Discrete Cosine Transform (DCT) and Inverse Discrete Cosine Transform (IDCT) algorithm along with mask encoding is used to achieve the compression which gives 50% compression of an audio database. Further compression can be achieved by extracting the inter-segment and intransigent silences.</p>

RESEARCH PAPERS

Dept. of Electronics Engg.

1.	Title	Identification of Vowels in Devnagari Script Using Energy Calculation
2.	Author	Prof. J. S. Chitode
3.	Co Author	
4.	Journal/ Conference	BIOCON, 2005
6.	Year of Publication/ Presentation	2005
7.	Abstract	<p>The technique used for syllable based speech synthesizer is proposed in this paper. A Text to Speech (TTS) synthesizer must be capable of automatically producing speech by storing small segments of speech and splicing and replacing them when required. While storing small segments syllable cutting becomes essential part in concatenative type speech synthesis. Syllabic based speech synthesis is a type of dictionary-based synthesis. It generates more number of words based on very small database. Different syllables can form new words hence original database is not large. Soft cutting of syllables gives the 'from' and 'to' location of sample numbers of syllables and then these locations can be used in the database. For properly cutting of syllables location of vowels plays an important role. Vowel detection can be done by calculating energy of sound file. Vowels have more energy as compare to consonants and hence syllables can be cut very easily by making use of this property.</p>

RESEARCH PAPERS

Dept. of Electronics Engg.

1.	Title	Arithmetic Compression of Images
2.	Author	Prof. S. L. Lahudkar
3.	Co Author	
4.	Journal/ Conference	BIOCON, 2005
6.	Year of Publication/ Presentation	2005
7.	Abstract	<p>The aim of image compression is to reduce the amount of data need to accurately represent an image, such that this image can be economically transmitted and received. Currently standards like JPEG, MPEG etc. are being employed for compression of images. One of the recent techniques being studied and developed is the Arithmetic Compression of images. In comparison to well-known Huffman coding algorithm, which is used by most of the existing standards, Arithmetic Compression overcomes the constraint that the symbol to be encoded has to be encoded by a whole number of bits. Also, the compression ratio is better than that of Huffman. Huffman coding has another disadvantage that it requires the probabilities of the symbols in powers of 2. In this paper we have mentioned the various problems one can come across while implementing this algorithm as well as given solutions for those. We have implemented the above algorithm to monochrome images. The results have been shown for a few standard monochrome images. This technique can be efficiently be applied to gray images and it can be extended to color images also.</p> <p>Keywords : Compression ratio, Lossless, Lossy, Arithmetic, symbol, Encoder, Decoder, Entropy, Scaling.</p>

RESEARCH PAPERS

Dept. of Electronics Engg.

1.	Title	Embedded system application in automobile control system
2.	Author	Prof. R. Y. Mali
3.	Co Author	
4.	Journal/ Conference	NCES'06' On Embedded system
6.	Year of Publication/ Presentation	2005
7.	Abstract	<p>Over past decade digital electronics has shown its presence in automatic industry as control and computing unit, as it provides cost effective and reliable alternative for mechanical systems.</p> <p>In this application presentation report, we have discussed some of the major components of automobile systems such as antilock braking system, ignition control, collusion control and power steering when are presently controlled by digital circuits.</p> <p>Index Term : Actuators, Antilock braking, Automobile, Controller area network, Cross correlation, Doppler, DSP, Electroheological fluids, Embedded, FFT, Power Steering, Speedometer.</p>

RESEARCH PAPERS

Dept. of Electronics Engg.

1.	Title	Remote patient monitoring system
2.	Author	Prof. M. V. Patil
3.	Co Author	
4.	Journal/ Conference	BIOCON, 2005
6.	Year of Publication/ Presentation	2005
7.	Abstract	<p>In this paper we are proposing Very Large Scale Integration (VLSI) technique along with global System for mobile (GSM) for Remote Patient monitoring system (PSM). The major reason for the development of the said system was to reduce the product size, power consumption and cost of the system. An application of this method in Biomedical includes better accuracy, design security, productivity, speed and flexibility. We have implemented the PMS for monitoring and controlling the temperature variable using XILINX Web pack 6.2 and CPLD 95108. The remote monitoring and control is done by interfacing GSM mobile unit.</p> <p>Index Term : Patient monitoring system, VLSI, CPLD, etc.</p>

RESEARCH PAPERS

Dept. of Electronics Engg.

1.	Title	Remote Human Health Monitoring System
2.	Author	Prof. S. P. Gaikwad
3.	Co Author	
4.	Journal/ Conference	BIOCON, 2005
6.	Year of Publication/ Presentation	2005
7.	Abstract	<p>The system is intended for monitoring of organism state of diseased individuals, persons which are located in dangerous environment (firemen, rescuers), sportsmen during aining and automobile/ train drivers. The portable small autonomous system is proposed, which can be used for on-line and off-line human organism state monitoring. The following sensor types are supported by the developed system: the electrocardiogram sensors, the two way light pulsometer sensor and accelerometer. The used sensor combination allows analyzing of human heart state, respiratory activity, blood oxygen saturation level and individual movement activity. The sensor data can be used for prediction of various dangerous states, for example, detection of human conscioussneses losing, heart infarct. The VLSI-GSM unit allows organizing a centralized monitoring center. This allows sending commands or other information in form of SMS to consumer via GSM. Besides of real-time health state monitoring, the proposed system can be used for collection of sensor data in internal nonvolatile data memory and its transmission to Remote System. This operation mode is intended for diagnose of some kinds of cardiac diseases or collection of data during sportsmen training.</p> <p>Index Terms : VLSI, GSM, Health Monitoring.</p>

RESEARCH PAPERS

Dept. of Electronics Engg.

1.	Title	A novel low power architecture
2.	Author	Prof. A. N. Adapanwar
3.	Co Author	
4.	Journal/ Conference	NCES'06' ON Embedded system
6.	Year of Publication/ Presentation	2006
7.	Abstract	<p>This work presents a novel microprocessor architecture that was especially designed to reduce the power dissipation of modern systems-on-chip. The applications we aim at with this architecture are ultra-low power embedded systems like intelligent medical implants or sensorized micro-transponders. We introduce new types of data storage files and hardware supported constant elimination to utilize the mostly local scope of common arithmetic operations for reducing energy. A multi-level instruction-cache scheme together with a cache controller supporting sophisticated opcode preprocessing operations like Huffman decoding decreases the amount of external memory accesses and size. Additionally the width of pointers is significantly reduced by a table-gray-code address counter minimizes the transitions on external buses. All these concepts microprocessors architecture, which is designed to reduce transitions per operation as much as possible.</p> <p>Index Terms : Systems on chip, ultra-low power embedded systems, cache controller.</p>

RESEARCH PAPERS

Dept. of Electronics Engg.

1.	Title	Finger print recognition using MATLAB
2.	Author	Prof. A. N. Adapanwar
3.	Co Author	R. Y. Mali
4.	Journal/ Conference	BICON, 2005
6.	Year of Publication/ Presentation	2005
7.	Abstract	<p>This report concerns the design and implementation of a fingerprint verification/ identification System for a small-scale organization particularly for research and development department, which requires high security with the limited number of users. The purpose of the project was to implement the system with the use of an Image processing with programming tool Matlab. Different methods were evaluated and efforts were put into finding the best suitable for that special environment. Main issues encountered are image enhancement, feature extraction, template generation and verification/ identification. To make good use of the advantages of the image processing most of the processing was made in the spatial domain. A number of simulations were performed and evaluated. Overall results were considered sufficiently well, and met the predefined specifications.</p>

RESEARCH PAPERS

Dept. of Electronics Engg.

1.	Title	Mobile phone processor architecture
2.	Author	Prof. R. Y. Mali
3.	Co Author	
4.	Journal/ Conference	NCES'06' ON Embedded system
6.	Year of Publication/ Presentation	2006
7.	Abstract	Digital Signal Processing is a key technology for an expansion of mobile communication since more and more functions in mobile unit and base stations are performed digitally. Because of limitation of general purpose Digital Signal Processing in wireless communication, we need domain specific D.S.P. with improved performance. The article discusses architecture of mobile unit, T.I.'s wireless chip set, a signal processing application for new generation mobile hand set with software layers.

RESEARCH PAPERS

Dept. of Electronics Engg.

1.	Title	Remote patient monitoring system
2.	Author	Prof. P. B. Mane
3.	Co Author	
4.	Journal/ Conference	BIOCON 2005
6.	Year of Publication/ Presentation	2005
7.	Abstract	<p>In this paper we are proposing Very Large Scale Integration (VLSI) technique along with Global System for mobile (GSM) for Remote Patient Monitoring System (PMS). The major reason for the development of the said system was to reduce the product size, power consumption and cost of the system. An application of this method in Biomedical includes better accuracy, design security, productivity, speed and flexibility. We have implemented the PMS for monitoring and controlling the temperature variable using XILINX Web pack 6.2 and CPLD 95108. The remote monitoring and control is done by interfacing GSM mobile unit.</p> <p>Index Terms : Patient monitoring system, VLSI, CPLD, etc.</p>

RESEARCH PAPERS

Dept. of Electronics Engg.

1.	Title	DCT Domain digital W. M.
2.	Author	Prof. S. R. Todmal
3.	Co Author	
4.	Journal/ Conference	Manipal CISCON 05
6.	Year of Publication/ Presentation	2005
7.	Abstract	<p>In this paper an image authentication technique by embedding digital watermarks into image is proposed. Watermarking is a technique for labeling digital pictures by hiding secret information into images. A spread spectrum like discrete cosine transform domain (DCT domain) watermarking technique for copyright protection of still digital images is analyzed. The DCT is applied in blocks of 8*8 pixels. The watermark can encode information to track illegal misuses. Two tests are involved in the ownership verification stage: watermark decoding in which the message carried by the watermark detection, which decides whether, a given image contains a watermark generated with the certain key. Sophisticated watermark embedding is a potential method to discourage unauthorized copying or attest the origin of the images.</p> <p>Index Terms : Digital watermark, discrete cosine transform, sequence generator, signal detection, copyright protection.</p>

RESEARCH PAPERS**Dept. of Electronics Engg.**

1.	Title	Text to speech synthesis implementation in FPGA
2.	Author	Prof. J. S. Chitode
3.	Co Author	
4.	Journal/ Conference	National Conference on Advanced Computing and Computer Networks NCACCN, 2007
6.	Year of Publication/ Presentation	2007
7.	Abstract	A single chip solution for speech synthesis is presented in this paper. The proposed system is the hardware solution for synthesizing vocabulary speech in real time for Indian language. It would enable access to the digital content in voice mode and also provide access to the digital content for illiterate and blind people. The integrated circuit converts incoming letter in text format to speech by using clues from the textual context. The system has a language dependent database, which contain pre-recorded human speech samples. This is implemented in FPGA using Very High Speed Integrated Circuit Hardware Description Language (VHDL).

RESEARCH PAPERS

Dept. of Electronics Engg.

1.	Title	Identification of Vowels in Devnagari Script Using Energy Calculations
2.	Author	Prof. J. S. Chitode
3.	Co Author	
4.	Journal/ Conference	NC-2006 Goa.
6.	Year of Publication/ Presentation	2006
7.	Abstract	<p>The technique used for syllable based speech synthesizer is proposed in this paper. A Text to Speech (TTS) synthesizer must be capable of automatically producing speech by storing small segments of speech and splicing and resplicing them when required. While storing small segments syllable cutting becomes essential part in concatenative type speech synthesis. Syllabic based speech synthesis is a type of dictionary-based synthesis. It generates more number of words based on very small database. Different syllables can form new words hence original database is not large. Soft cutting of syllables gives the 'from' and 'to' location of sample numbers of syllables and then these locations can be used in the database. For properly cutting of syllables location of vowels plays an important role. Vowel detection can be done by calculating energy of sound file. Vowels have more energy as compare to consonants and hence syllables can be cut very easily by making use of this property.</p>

RESEARCH PAPERS of Dept. of Information technology
Total –09 papers updated from 2008 up to 2008

IT Department

1	Title	Analysis of Human Gait by an Artificial Neural Network Model
2	Author	Priyank Joshi
3	Co author	Akhil Khare
4	Journal	
5	Conference	Analysis of human gait by an Artificial Neural Network Model
6	Year of Publication / Presentation	ICEVD-2008
7	Abstract	<i>In this paper artificial neural Network is used for mapping between EMG Pattern, joint angles and joint moment. The model can be used to understand mechanism of human locomotion. This is useful for clinicians for diagnosis of disorder. Here we have taken EMG signals from four lower limb muscles. We have correlated the four EMG signals to joint angles, joint moments and ground reaction forces. The four raw EMG signals are processed to make an EMG profile then after it were used as input to ANN to train it.</i>

IT Department

1	Title	IP Multimedia Subsystem
2	Author	Ashish Jain
3	Co author	Akhil Khare
4	Journal	
5	Conference	Analysis of human gait by an Artificial Neural Network Model
6	Year of Publication / Presentation	ICEVD- 2008
7	Abstract	<p><i>IMS –IP Multimedia Subsystem- is an international, recognized standard; it specifies interoperability and roaming; and it provides bearer control, charging and security. What is more, it is well integrated with existing voice and data networks, while adopting many of the key characteristics of the IT domain. This makes IMS a key enabler for fixed-mobile convergence and value-based charging.</i></p> <p><i>This paper outlines how IMS enables a secure service-driven approach to moving all traffic to the packet switched domain and Session Initiation Protocol (SIP) logic – making the best use of circuit- and packet-switched technologies along the way. It describes how fixed and mobile operators can begin rolling out IMS-standard services that generate revenue while making use of existing investments.</i></p>

Research Papers IT Department

1	Title	Electroencephalograph Signal Analysis During Pranayama
2	Author	Prof. S.T.Patil
3	Co author	Dr. D.S.Bormane
4	Journal	
5	Conference	SPIE Publication Italy
6	Year of Publication / Presentation	Nov 2008
7	Abstract	<p>Electroencephalography (EEG) is the process of obtaining neurophysiologic measurements in the form of electrical waveform; These records can be obtained by placing electrodes on the scalp in the cerebral cortex, which can be stored in computer. EEG gets altered during consciousness under different physical and mental states of environments. The main objective of the present work is to establish a versatile “noninvasive Psycho-Physiological NP² model” to understand the changes that are undergone in the human body under different states of activities like, before examination, normal resting state and during ujjai.</p> <p>The pranayamaplays a vital role in stabilizing the human body under different tense conditions. The research work includes the results of experimentation performed on more than 207 subjects, categorizing them in to before examination, normal resting state and pranayama state. The task of analyzing the results has been dealt with by designing multistage multirate filter, wavelet transformation along with fuzzy c-means (FCM) are applied in the automatic interpretation algorithm and deterministic chaos. The theory needs to define and use the parameters of digital signal processing in conjunction with wavelet transformation. Software has been developed to facilitate the analysis. This model and software is used to keep track on the improvement of the persons mind, flexibility, balance, strength and power.</p> <p><i>Key words:</i> EEG, Multiresolution Wavelet, Fuzzy C-means, Before examination, pranayama.</p>

Research Papers IT Department

1	Title	High Non Stationary Electroencephalograph Signal Analysis
2	Author	Prof. S.T.Patil
3	Co author	Dr. D.S.Bormane
4	Journal	
5	Conference	ICA International conference chikhali Buldhana
6	Year of Publication / Presentation	Feb 2008
7	Abstract	<p>ElectroEncephaloGraphy (EEG) is the process of obtaining neurophysiologic measurements in the form of electrical waveform, These records can be obtained by placing electrodes on the scalp in the cerebral cortex, which can be stored in computer. EEG gets altered during consciousness under different physical and mental states of environments. The main objective of the present work is to establish a versatile “noninvasive Psycho-Physiological NP² model” to understand the changes that are undergone in the human body under different states of activities like, before examination, normal resting state and during ujjai.</p> <p>The meditation plays a vital role in stabilizing the human body under different tense conditions. The research work includes the results of experimentation performed on more than 207 subjects, categorizing them in to before examination, normal resting state and pranayama state. The task of analyzing the results has been dealt with by designing multistage multirate filter, wavelet transformation along with fuzzy c-means (FCM) are applied in the automatic interpretation algorithm and deterministic chaos. The theory needs to define and use the parameters of digital signal processing in conjunction with wavelet transformation. A software has been developed to facilitate the analysis. This model and software is used to keep track on the improvement of the persons mind, flexibility, balance, strength and power.</p>

IT Department

1	Title	High Performance Electroencephalograph Signal Analysis for Brain Interface
2	Author	Prof. S.T.Patil
3	Co author	Dr. D.S.Bormane , Dr. A. N. Gaikwad ,Mr. S. P. Narote
4	Journal	
5	Conference	Biomed conference singapor
6	Year of Publication / Presentation	August 2008
7	Abstract	<p>A successful brain interface (BI) system enables individuals with severe motor disabilities to control objects in their environment (such as a light switch, neural prosthesis or computer) by using only their brain signals. Such a system measures specific features of a person's brain signal that relate to his or her intent to affect control, then translates them into control signals that are used to control a device. Recently, successful applications of the discrete wavelet transform have been reported in brain interface (BI) systems with one or two EEG channels. For a multi-channel BI system, however, the high dimensionality of the generated wavelet features space poses a challenging problem. In this paper, a feature selection method that effectively reduces the dimensionality of the feature space of a multi-channel, self-paced BI system is proposed. The proposed method uses a two-stage feature selection scheme to select the most suitable movement-related potential features from the feature space. The first stage employs mutual information to filter out the least discriminant features, resulting in a reduced feature space. Then a genetic algorithm is applied to the reduced feature space to further reduce its dimensionality and select the best set of features. An offline analysis of the EEG signals (18 bipolar EEG channels) of four able-bodied subjects showed that the proposed method acquires low false positive rates at a reasonably high true positive rate. The results also show that features selected from different channels varied considerably from one subject to another. The proposed hybrid method effectively reduces the high dimensionality of the feature space. The variability in features among subjects indicates that a user-customized BI system needs to be developed for individual users.</p>

IT Department

1	Title	Electroencephalograph Signal Analysis
2	Author	Prof. S.T.Patil
3	Co author	Dr. D.S.Bormane , Dr. A. N. Gaikwad ,Mr. S. P. Narote
4	Journal	
5	Conference	Biomed Int con Singapore selected
6	Year of Publication / Presentation	April 2008
7	Abstract	<p>Electroencephalography (EEG) is the process of obtaining neurophysiologic measurements in the form of electrical waveform, These records can be obtained by placing electrodes on the scalp in the cerebral cortex. Diagnosis of Alzheimer's disease (AD) is becoming an increasingly important healthcare concern. Prior approaches analyzing event related potentials (ERPs) had varying degrees of success, primarily due to smaller study cohorts, and the inherent difficulty of the problem. A new effort using multi-resolution analysis of ERPs is described. Distinctions of this study include analyzing a larger cohort; comparing different wavelets and different frequency bands; using ensemble based decisions; and most importantly, aiming the earliest possible diagnosis of the disease. Surprising yet promising outcomes indicate that ERPs in response to novel sounds of oddball paradigm is more reliable as a biomarker than commonly used responses to target sounds. We compared four different types of wavelets, including the Daubechies wavelets with 4 (Db4) and 8 (Db8) vanishing moments, symlets with 5 vanishing moments (Sym5), and the quadratic B-spline wavelets (Qbs). While the algorithm did well on all diagnostic performance figures, such as sensitivity, specificity and positive predictive value, its performance on specificity was particularly promising. Considering the most challenging nature of diagnosing AD at its earliest stages, the results of this study justify the feasibility of this technique as a novel system for the society, a low cost, objective, noninvasive approach that can be easily made available to the community clinics in developing countries.</p>

IT Department

1	Title	Electroencephalograph Signal Analysis During Bramari
2	Author	Prof. S.T.Patil
3	Co author	Dr. D.S.Bormane
4	Journal	
5	Conference	ICIT
6	Year of Publication / Presentation	Dec. 2006
7	Abstract	<p>Bramari is one part of the Pranayama, as traditionally conceived, involves much more than merely breathing for relaxation. Bramari is a term with a wide range of meanings. "The regulation of the incoming and outgoing flow of breath with retention". Bramari also denotes cosmic power, or the power of the entire universe which manifests itself as conscious living being in us through the phenomenon of breathing. Because of this connection between breath and consciousness. Pranayama has devised Bramari to stabilize energy and consciousness. A wavelet transformation is applied to electroencephalograph (EEG) records from persons under Bramari. Correlation dimension, Largest lyapunov exponent, Approximate entropy and coherence values are analyzed. This model along with software is used to keep track on the improvement of the persons mind, aging, balance, flexibility, personnel values, mental values, social values, love, sex, knowledge, weight reduction and body fitness.</p>

IT Department

1	Title	Electroencephalograph Signal Analysis During Basarika
2	Author	Prof. S.T.Patil
3	Co author	Dr. D.S.Bormane
4	Journal	
5	Conference	ADCOM
6	Year of Publication / Presentation	Dec. 2006
7	Abstract	<p>Basarika is one part of the Pranayama, as traditionally conceived, involves much more than merely breathing for relaxation. Basarika is a term with a wide range of meanings. "The regulation of the incoming and outgoing flow of breath with retention.". Basarika also denotes cosmic power. Because of this connection between breath and consciousness. Pranayama has devised basarika to stabilize energy and consciousness. A wavelet transformation is applied to electroencephalograph (EEG) records from persons under basarika. Correlation dimension, largest lyapunov exponent, approximate entropy and coherence values are analyzed. This model & software is used to keep track on the improvement of the persons mind, aging, balance, flexibility, personnel values, mental values, social values, love, sex, knowledge, weight reduction and body fitness.</p>

IT Deptment

1	Title	EX-Cog expression code generator A generative Programming Approach
2	Author	Sonali R. Idate
3	Co author	Prof. Suhas. H. Patil , Mr. Dipak Mali
4	Journal	
5	Conference	
6	Year of Publication / Presentation	
7	Abstract	Ex-Cog (Expression-Code Generator) is a flexible, generic code generator for java and other programming languages. A Ex-Cog user can define the mathematical functions by formulating them using the inbuilt functions of Ex-Cog. Alternatively, the user can use the defined formulas in the form of images. Thus Ex-Cog will use the formula, generate the code in the required language, and validates the same for user inputs. User can use this code as plug-in or as a snippet as per the requirement. Technology such as JAVACC, Java Swing, and XML is used to develop the system.
1	Title	Analysis of Human Gait by an Artificial Neural Network Model
2	Author	Priyank Joshi
3	Co author	Akhil Khare
4	Journal	
5	Conference	Analysis of human gait by an Artificial Neural Network Model
6	Year of Publication / Presentation	ICEVD-2008
7	Abstract	<i>In this paper artificial neural Network is used for mapping between EMG Pattern, joint angles and joint moment. The model can be used to understand mechanism of human locomotion. This is useful for clinicians for diagnosis of disorder. Here we have taken EMG signals from four lower limb muscles. We have correlated the four EMG signals to joint angles, joint moments and ground reaction forces. The four raw EMG signals are processed to make an EMG profile then after it were used as input to ANN to train it.</i>

RESEARCH PAPERS of Dept. of Mechanical Engineering
Total –13 papers updated from 1997 up to 2007

Dept. of Mechanical Engg.

1.	Title	CAD TOOL FOR TORSIONAL VIBRATION
2.	Author	Prof. A. R. Patil, Prof. S. B. Wadkar
3.	Co Author	
4.	Journal/ Conference	International Conference on Vibration Problems, ICOVP-2007, Bengal Engineering and Science University, Kolkata
6.	Year of Publication/ Presentation	2005
7.	Abstract	<p>This paper proposes a user-friendly transfer matrix method capable of performing the torsional characteristics of common machinery systems. The method is devised by preparing a computer program "Tor", written in VB 6.0. Tori allows the user to model the behaviour of such system characteristics as uniformly distributed loads, pendulum absorbers, shafts with continuously distributed mass, foundations with uniformly distributed flexibility and gear meshes with constant gear tooth stiffness. The given method provides the user with the ability to perform forced-response and re-vibration analyses of multi-rotor systems with ease. The free-vibration analysis module is capable of automatically determining the undamped natural frequencies and mode shapes using a bisection-method and damped natural frequencies using Muller method root-research routine. The forced-response analysis module provides the capability to determine the steady-state response of undamped system to a harmonic excitation. Static analysis of a torsional system can be performed with the forced-response module by specifying excitation frequency of zero.</p> <p>KEYWORDS : Transfer matrix method, free and force Torsional vibration.</p>

RESEARCH PAPERS

Dept. of Mechanical Engg.

1.	Title	A STUDY AND EXPERIMENTATION ON PERFORMANCE CHARACTERISTICS OF SINGLE CYLINDER C.I. ENGINE USING BIODIESEL
2.	Author	Prof. M. A. Kadam, Prof. S. T. Chavan
3.	Co Author	
4.	Journal/ Conference	National conference on Recent Trends in Energy conservation at T.K.I.E.T. Warananagar
6.	Year of Publication/ Presentation	--
7.	Abstract	<p>Energy is the main concern in any sector for any productive activity. Hence for any Nation to increase its productivity, it is necessary that all the energy requirements should be fulfilled efficiently and economically.</p> <p>We are heavily dependent on crude oil imports from Middle East Asia for our oil requirements. However, there are two basic problems with these imports. Firstly, the resource of these petroleum fuels is not renewable and second is the unstable market of crude oil which is definably harmful for any economy.</p> <p>Hence we need to find some alternatives for these petroleum fuels. The most consumed fuel in India is Diesel. Hence we must find suitable alternative fuel for petroleum Diesel.</p> <p>We found many alternatives for petroleum diesel such as, Pour Plant Oil, Vegetable Oil and Biodiesel. Since Biodiesel is more suitable from production and distribution point of view in India. We have selected this fuel to check in order to replace petroleum Diesel.</p> <p>In this project, I have performed different tests on Diesel Engine by using Biodiesel and its blending with petroleum Diesel as a fuel. This is done specifically to check the effects of new fuels on different parameters of Diesel Engine in order to check its suitability. Different parameters considered for the test are Break Power, Break Specific fuel Consumption Break Mean Effective Pressure, A/F Ratio, Mechanical Efficiency, Thermal Efficiency and Mass Flow Rate.</p>

RESEARCH PAPERS

Dept. of Mechanical Engg.

1.	Title	Optimization of film thickness and depth of slot for Aerostatic Conical Air Bearing with fed slots
2.	Author	Prof. Sandip T. Chavan, Dr. B. B. Ahuja
3.	Co Author	
4.	Journal/ Conference	International Conference on Advances in Machine Design and Industry Automation College of Engineering, Pune-411 005
6.	Year of Publication/ Presentation	-----
7.	Abstract	<p>Air bearings are being increasingly applied in precision machining and measuring applications. Most of the air bearing so far studied for orifice feeding of air. A problem which arises principally with orifice controlled recessed bearing is that of 'pneumatic hammer instability'. Feed slot bearing are suitable for quantity manufacture and superior load capacity compared to similar configurations with orifice feed. Further, the slot entry type enables designers to obtain the optimum characteristics of a bearing even with a very small bearing clearance, and thereby achieve generally high stiffness. A further advantage is that such bearings behave predictably, thus permitting reliable analysis.</p> <p>Analysis of an externally pressurized conical bearing with a feed slot is presented in this paper. A simple model for feed slot aerostatic conical air bearing is developed. Mathematical equations are fitted to obtain generalized relationship between eccentricity ratios, supply pressure, radial and axial load, radial and axial stiffness and flow rate. To obtain characteristics behaviour between various parameters, performance curves are plotted. The resulting curves can be used to optimize a given bearing. The conditions of optimum design are discussed for the bearing geometry and pressure ratio. The optimum film thickness relationship with depth of the slot is developed for typical bearing design.</p>

RESEARCH PAPERS

Dept. of Mechanical Engg.

1.	Title	Computer Simulation and effect of Supply Pressure on characteristics of Feed Slot Aerostatic Conical Bearing
2.	Author	Prof. S. T. Chavan, Dr. B. B. Ahuja
3.	Co Author	
4.	Journal/ Conference	14th ISME International Conference on Mechanical Engineering in Knowledge Age, Delhi College of Engineering, Delhi-110 042
6.	Year of Publication/ Presentation	12-14, December 2005
7.	Abstract	Aerostatic conical aerostatic bearing have been studied so far for orifice feeding of air, which causes dispersion losses resulting in reduced load carrying capacity. Designing journal bearing with slot feeding permits some degree of control over factors, which reduce load carrying capacity and stiffness. A simple theory is been developed to derive expressions for pressure distribution along length of bearing, radial load carrying capacity of the bearing. The variations of various parameters are shown in a set of analytically derived curves for a typical design and effect of supply pressure on characteristics of feed slot aerostatic conical bearing is also shown. Since the expressions obtained are amenable to closed solutions, numerical techniques have been adopted.

RESEARCH PAPERS

Dept. of Mechanical Engg.

1.	Title	Theoretical and Experimental Analysis of Lateral Vibrations of Multi-Leaf Springs
2.	Author	Prof. S. B. Wadkar, Dr. S. G. Joshi
3.	Co Author	
4.	Journal/ Conference	Proceedings of National Seminar on Emerging Trends in Design Engineering
6.	Year of Publication/ Presentation	1997
7.	Abstract	In this paper, the natural frequencies of vibration of multi leaf springs have been determined experimentally. The results of experimental analysis have been compared with natural frequencies of lateral vibration of the multi-spring obtained from two different approximate methods viz. the approach of Nigro and Bhatia and Timoshenko's numerical method. In this case multi-leaf spring is transformed into an equivalent stepped beam using the method of kobabyashi. A direct type shaker is designed and developed to excite the multi-leaf springs, with appropriate end conditions, to obtain the end conditions.

RESEARCH PAPERS

Dept. of Mechanical Engg.

1.	Title	Theoretical Evaluation of Effect of Gear Parameters on Mesh Stiffness Variations
2.	Author	Prof. S. B. Wadkar, Dr. S. R. Kajale
3.	Co Author	
4.	Journal/ Conference	ISME International conference on Mechanical Engineering in Knowledge Age, Delhi College of Engineering
6.	Year of Publication/ Presentation	2005
7.	Abstract	<p>In most of literature on dynamics of geared systems. This gear mesh stiffness varies periodically over a mesh cycle and has a strong effect on the overall dynamics of the system^{1,2}. The two factors causing elastic variation in mesh stiffness are the change in the number of pairs of teeth in contact and the change in the point of contact of a pair of teeth. However in literature, there is considerable uncertainty as regards the magnitude and mode of its variation. In some analysis^{1,2}, the stiffness is assumed to be constant (order of e+08 N/m), while in others³, it is assumed to be an approximate rectangular wave. Therefore, there is a need to evaluate a more realistic variation of gear mesh stiffness, and its dependence on the important gear parameters (for example the tooth profile, contact ratio etc.) which has been attempted in the present paper through a systematic approach. The gear tooth profile is generated using AUTOCAD. The gear pair is modeled and analyzed using ANSYS finite element code. Contact elements are used to model the gear mesh pair. Knowing the applied force and the deformation of the teeth, the mesh stiffness is calculated. A predefined rotation is given to the gear and the above process is repeated for the gear pair in a new position. When two pairs of teeth come in contact, stiffness of each pair is suitably combined to obtain the overall mesh stiffness. The effect of various gear parameters on variation of gear mesh stiffness is studied in detail.</p>

RESEARCH PAPERS

Dept. of Mechanical Engg.

1.	Title	Experimental Investigation of Vibrations in a Geared System
2.	Author	S. B. Wadkar
3.	Co Author	P. Gupta, H. Gupta, A. Khulhar
4.	Journal/ Conference	Proceedings of International Conference on Resource utilization and intelligent systems, Kongu Engineering College, Perundurai, Frode, T.N. India
6.	Year of Publication/ Presentation	2006
7.	Abstract	<p>A test set up has been fabricated. It consists of two parallel shafts carrying a pair of gears driven by a quarter HP motor. Two pairs of gears are mounted on the shafts. One pair has normal healthy gears. In the other pair a defect, in the form of chipped teeth, has been introduced. Effect of lubrication in gears on measured vibration signals is also studied. Vibrations have been measured for both the healthy and defective pair of gears. Time domain waveform analysis, spectral and cestrums analyses are performed on both the velocity and acceleration signals. The RMS value, crest factor and Kurtosis parameter are evaluated from the time domain analysis, which along with the Fourier spectra and cepstra are correlated with the condition of gears.</p>

RESEARCH PAPERS

Dept. of Mechanical Engg.

1.	Title	Effect of Gear Mesh Stiffness on Natural Frequencies and Mode Shapes of a Gear System
2.	Author	Prof. P. Gupta, Prof. H. Gupta, Prof. S. B. Wadkar
3.	Co Author	
4.	Journal/ Conference	AIME-2006, National conference, Jamia Millia Islamia, New Delhi
6.	Year of Publication/ Presentation	2006
7.	Abstract	<p>Recent studies have shown that the gear pair in mesh has some flexibility and therefore can be represented by stiffness along the line of contact. The primary reasons for this flexibility are the bending of gear teeth and local deformations at the point of contact due to Hertzian effect. The actual phenomenon is even more complex.</p> <p>After a pair of teeth come in contact, the condition of mesh keeps changing continuously till the pair goes out of contact. Therefore the gear mesh stiffness varies continuously in one cycle of meshing pair. In the present analysis, the effect of gear mesh stiffness on the natural frequencies and mode shapes of a gear set up are evaluated. Gear mesh stiffness is varied in a wide range. Modeling and FEM analysis are performed using IDEAS software. The natural frequencies of the gear set up are also obtained experimentally from a rap test. A reasonably good correlation is observed between the theoretical and experimental natural frequencies.</p>

RESEARCH PAPERS

Dept. of Mechanical Engg.

1.	Title	Evaluation of Gear Mesh Stiffness Variation over a Mesh Cycle
2.	Author	Prof. S. B. Wadkar, prof. S. R. Kajale, Prof. K. Gupta, Prof. G. M. Desai
3.	Co Author	
4.	Journal/ Conference	ICAMDIA, Pune
6.	Year of Publication/ Presentation	2007
7.	Abstract	<p>Change of mesh stiffness during a mesh cycle is one of the major causes of vibration, noise and instability of a geared system. The gear mesh stiffness varies periodically over a mesh cycle and has strong effect on the overall dynamics of geared system [1, 2]. The factors causing elastic variation in mesh stiffness are the number of pairs of teeth in contact and the point of contact of the pair of teeth. As regards the magnitude and mode of mesh stiffness variation there is an uncertainty in literature. In some of the analytical studies, stiffness is assumed to be constant (of the order $e + 8$ N/m) and of rectangular wave. Thus there is a need to have a more realistic evaluation of gear mesh stiffness and its dependency on the important gear parameters such as number of gear teeth pair in contact. In this paper a systematic attempt has been made to evaluate the mesh stiffness over a mesh cycle. Experimental setup is designed to evaluate the mesh stiffness (static) over a mesh cycle. A static torque is applied to a gear pair. The resulting teeth deflection is measured by an autocollimator. The mesh stiffness over a mesh cycle is evaluated by changing the point of contact each time. The gears are then modeled; the 3-D model is then imported in ANSYS software for further analysis. The mesh stiffness for different meshing positions is evaluated by applying a static torque and subsequently the angular deflections of different nodes are found. The theoretical and experimental results obtained are in reasonable agreement with each other.</p>

RESEARCH PAPERS

Dept. of Mechanical Engg.

1.	Title	Design and Evaluation of Cutter Assembly of Sugarcane Harvester Using FEM
2.	Author	Prof. S. S. Pawar, Prof. V. S. Pawar, Prof. S. T. Chavan
3.	Co Author	
4.	Journal/ Conference	National Conference at Jayachamrajendra College of Engineering, Mysore
6.	Year of Publication/ Presentation	
7.	Abstract	<p>During the harvesting of sugarcane, the various operations like base cutting, topping, cleaning, binding of canes, loading of canes are done manually in India as there is no complete harvester present here according to India field conditions. We have designed semi-mechanized harvester for India field conditions, which can do the gripping, base cutting and topping. Machine is front side mounting type where power is taken from tractor backside shaft, contrary to self-propelled machines used in other countries. For the cutting system, cutting energy for different portions of cane is calculated experimentally. 3D modeling and the dynamic mechanism of cutter assembly is done in Pro-E wildfire. Meshing is done in HYPERMESH and by applying various calculated forces; stress analysis is done in ANSYS, to check the design feasibility as it is the most important part in the assembly. The analysis results prove the design feasibility of cutter assembly for the Indian field conditions.</p> <p>Keywords : Sugarcane harvesting, Semi mechanized harvester, base cutting, topping, cutting energy, stress analysis in ANSYS.</p>

RESEARCH PAPERS

Dept. of Mechanical Engg.

1.	Title	Application Service Provider for CAM Designing
2.	Author	Prof. V. K. Kurkute an Prof. Brijesh S. Patil
3.	Co Author	
4.	Journal/ Conference	Sou. Venutai Chavan Polytechnic, Pune
6.	Year of Publication/ Presentation	-----
7.	Abstract	<p>A cam is a mechanical device for transmitting mechanical work to another component (the follower) according to a prescribed motion function. In general, a cam mechanism consists of three elements: a cam, a follower, and a frame. Because of widespread applications of automatic machines and instruments, different types of cams are fabricated and used in industries. Example of commonly used cams are shown in Fig. Typically cams are used as a component of textile machines, printing presses, food-processing machines, internal combustion engines and countless other automatic machines, control systems and devices.</p> <p>The design and manufacturing of plate cams is a very delicate job. The shape of cam is determined by its designated by its designed function. In fact, in order to create a cam drawing one has to specify a (displacement versus time of stroke) diagrams from which the cam profile is completed using freehand drawing. The process of doing this is time – consuming and error – prone. A good solution to this problem is the use of computers to create a cam drawing according to a pre-specified function.</p>

RESEARCH PAPERS

Dept. of Mechanical Engg.

1.	Title	Tightening Torque Optimization Using Response Surface Methodology (RSM)
2.	Author	Prof. S. S. Kadam, Dr. S. G. Joshi
3.	Co Author	
4.	Journal/ Conference	International Conference on Vibration Problems, ICOVP-2007, Bengal Engineering and Science University, Kolkata
6.	Year of Publication/ Presentation	2007
7.	Abstract	<p>Although many methods exist to join two or more parts together, the ease of assembly and disassembly provided by threaded fasteners make them the ideal choice for many applications. The purpose of a threaded faster is to clamp parts together with a tension greater than the vibratory forces tending to separate them. The bolt then remains under constant stress keeping it free from fatigue. However, under the condition of low initial tension, the vibratory loads act on the bolt causing early failure. If the initial tension is too high, the tightening process may cause bolt failure. Reliability of the bolted joints therefore depends upon correct initial tension. This paper signifies the importance of tightening torque with its correct magnitude in the application with vary loading environments. To find out the acceptable value of torque to generate the desired amount of preload and which can maintain the integrity of the joint even under the severe dynamic condition, a Response Surface Methodology (RSM) to optimize the torque has been presented.</p>

RESEARCH PAPERS

Dept. of Mechanical Engg.

1.	Title	Experimental Investigation of Transmissibility by using Simplistic Data Acquisition System
2.	Author	Prof. S. S. Kadam
3.	Co Author	
4.	Journal/ Conference	Bharati Vidyapeeth University Research Journal, Vol. 5 (1), April 2007
6.	Year of Publication/ Presentation	2007
7.	Abstract	<p>In solving engineering problems, two general methods are available: theoretical and experimental. Many problems require the application of both methods. The relative amount of each depends on the nature of problem. Problems on the frontiers of knowledge often require very extensive experimental studies since adequate theories are not available yet. Thus theory and experimentation should be thought of as complementing each other. Here in this paper an attempt is made to develop a simplistic data acquisition system to measure the displacement, used to plot the motion transmissibility curve, which is the representation of any vibratory system.</p>

RESEARCH PAPERS of Dept. of Production Engineering
Total –17 papers updated from 2004 up to 2007

Dept. of Production Engg.

1.	Title	Investigation on Thermo-Mechanical effects of Transformer Oil and Kerosene in EDM process
2.	Author	Prof. S. C. Shilwant
3.	Co Author	
4.	Journal/ Conference	National conference on Advances in Manufacturing Technology in the are of Globalization (AMTEG-2005), COEP, Pune-5,
6.	Year of Publication/ Presentation	January 21-22-2005
7.	Abstract	Generally pure commercial grade kerosene is used as dielectric fluid in Electrical Discharge Machining (EDM) process. The flash point of kerosene is low and hence the working range for kerosene as working dielectric fluid is short especially in the region where the ambient temperature is around 35 ⁰ C. This short working temperature range invites frequent and strict check in temperature control of dielectric fluid. The mixture of transformer oil and kerosene as dielectric fluid can be commercially viable and cheap alternative. The objective of this paper is to determine the effects of mixing of transformer oil in kerosene, on flash point and working temperature range of the dielectric fluid mixture, material removal rate (MRR) and surface quality.

RESEARCH PAPERS

Dept. of Production Engg.

1.	Title	Experimental Investigation of Fluid Flow and Heat Transfer of a Grooved Heated Pedestal Using CFD
2.	Author	Prof. S. C. Shilwant
3.	Co Author	
4.	Journal/ Conference	National Conference on Computer applications in Mechanical Engineering (CAME-2005), JNTU College of Engineering, Anantpur, A.P.
6.	Year of Publication/ Presentation	21st December 2005
7.	Abstract	Turbulent flow field and heat transfer of a grooved pedestal by an impinging jet has been widely acknowledged for research work. In this paper the cooling of a grooved heated pedestal mounted on a flat plate, a configuration which is closer to the one met in some engineering applications i.e. cooling of electronic components has been experimentally studied. Results have been obtained for a range of jet Reynolds number and jet to pedestal distances. It has been observed that increase in Reynolds number, increases heat transfer from pedestal and increase in jet-to-pedestal distance decreases heat transfer rate, which is a very practical. To validate the experimental results support of computational techniques such as CFD has been reviewed.

RESEARCH PAPERS

Dept. of Production Engg.

1.	Title	Self Loosening of Bolted Joints: A parametric Study
2.	Author	Prof. S. C. Shilwant
3.	Co Author	
4.	Journal/ Conference	A National Conference on Recent Trends in Manufacturing, Kit's College of Engineering, Kolhapur
6.	Year of Publication/ Presentation	7th-8th January 2006
7.	Abstract	Bolted joints are the most commonly used components in machines and structures. The durability of machines and structures are proportional to the number of the bolted joints used. Two failure modes are found in bolted joints subjected to cyclic loading. Fatigue and self-loosening. Fatigue is the major failure form for a bolted joint subjected to tensile loading and self-loosening is the gradual loss of the clamping force in the bolted connections under cyclic external loading especially transverse loading.

RESEARCH PAPERS

Dept. of Production Engg.

1.	Title	Analysis and determining the ranking of dressing parameters in grinding operation by using single point diamond dresser for surface roughness by ANOVA and AHP method
2.	Author	Prof. S. C. Shilwant
3.	Co Author	
4.	Journal/ Conference	ICAMDIA-2007, Govt. College of Engineering, Shivajinagar, Pune.
6.	Year of Publication/ Presentation	10th to 12th January 2007
7.	Abstract	<p>Objective of present paper is to determine ranking and analyze the dressing parameter viz. cross-feed rate, depth of cut, tip radius and drag angle of dresser, for surface roughness produced in work piece (EN 31) in subsequent grinding operation. The grinding wheel performance is significantly affected by the way the wheel is dressed.</p> <p>Analytical Hierarchical Process (AHP) is used to develop hierarchical structure for the factors. After using AHP, it is found that the cross feed rate of the dressing as overall ranking followed by depth of the cut. Tip radius and drag angle has relatively low ranking.</p> <p>Dressing has predominant effect on the surface roughness followed by the depth of cut. The drag angle and tip radius have relatively weak effect on the surface roughness.</p> <p>Keywords: Analytical Hierarchical Process (AHP), ANOVA, Design of</p>

RESEARCH PAPERS

Dept. of Production Engg.

1.	Title	Knowledge Representation System with Help of Petri net in Supply Chain Management
2.	Author	Prof. M. V. Sulakhe
3.	Co Author	
4.	Journal/ Conference	International Conference on "An Advanced Optimization Technology Approach" coimbatore Institute of Technology, Coimbatore-641 014 (India)
6.	Year of Publication/ Presentation	2006
7.	Abstract	<p>With the current trends of increase-in Business process outsourcing in order to reduce the processing cost of information there is a need develop a system to understand and process the given data to information and further development of knowledge, expertise and capability. As according to) Beckman i.e. transforming knowledge from lower level to higher level).</p> <p>The basic idea behind the paper is to try to give a direction for developing a generalized stochastic (Petri net model to define man machine information interaction systems)</p> <p>The paper deals with providing the open view of the definition of knowledge and about knowledge management (KM).</p> <p>Petri nets are a promising tool for describing and studying systems that are characterized as being concurrent, asynchronous, distributed, parallel, non-deterministic, and/ or stochastic. As a graphical tool, Petri nets can be used as a visual-communication aid similar to flow charts, block diagrams, and networks. In addition, tokens are used in these nets to simulate the dynamic and concurrent activities of systems.</p>

RESEARCH PAPERS

Dept. of Production Engg.

1.	Title	Evaluation of Length of Propeller Shaft
2.	Author	Prof. R. N. Patil
3.	Co Author	
4.	Journal/ Conference	International Conference on "An Advanced Optimization Technology Approach" coimbatore Institute of Technology, Coimbatore-614 014 (India)
6.	Year of Publication/ Presentation	24th – 26th June 2006
7.	Abstract	<p>The power from Transmission shaft should be transmitted to the Rear axle of the vehicle. The axis of the transmission and the connecting member of Rear axle are at an angle, which changes with the variation in load or the road condition. To facilitate the power transmission at a variable angle a propeller shaft is used. With respect to the geometrical construction the Propeller shafts are categorized into single piece two-piece and three-piece propeller shafts.</p> <p>In case of two or multi stage propeller shaft length of the rear propeller shaft is subjected to variation while the remaining propeller shafts are rigid members; i.e. do not change in length. The variation in the length of rear propeller shaft is allowed using a splined shaft. Generally length of the propeller shaft is decided after freezing the remaining aggregates. It is assumed that the inclination of cross member bracket (in case of multistage propeller shaft) is also decided based on the requirement criteria such as beta equivalent angle. The maximum and minimum length of the propeller shaft required is found in this paper there by finding the slip required for the particular vehicle. The main objective of the paper is to find the length of the propeller shaft.</p>

RESEARCH PAPERS

Dept. of Production Engg.

1.	Title	Supply chain Management for Corporate Profitability through Distribution of Product and Competitive Advantage
2.	Author	Prof. R. N. Patil
3.	Co Author	
4.	Journal/ Conference	Presented at COMET 04 Mechanical Engineering Society, Dept. of Mechanical Engineering Institute of Technology-BHU Varanasi
6.	Year of Publication/ Presentation	2004
7.	Abstract	<p>This paper attempts to concentrate at two ends of supply chain: reaching to customer in minimum possible cost and procurement of material.</p> <p>First part of the paper presents the cost reduction strategy for the distribution of products in the fast changing competitive environment. An in depth analysis is required for distribution systems and procedures, the location of distribution centers, the mode of transportation and options available for future distribution requirements. There must be some simple and cost effective measures to reduce the secondary freight cost and also a simple system and procedure for the distribution system.</p>

RESEARCH PAPERS

Dept. of Production Engg.

1.	Title	MOST (Maynard's Operation Sequence Technique)
2.	Author	
3.	Co Author	Prof. Mr. S. S. Patil
4.	Journal/ Conference	Proceeding of National Conference on Recent Trends CAD/CAM/CAE at RIT Sakharale, Islampur
6.	Year of Publication/ Presentation	
7.	Abstract	The paper is with the intention to provide awareness of particular work measurement technique called 'Maynard Operation Sequence Technique, essential for planning and controlling operation. The objective of paper any work measurement technique is to reduce work content and there by improve productivity of the process. The disadvantages of the other work measurement method over MOST is that in each technique like MMT, PMTS the recording of the data is classified into a number of intangible ranges which are not user friendly. MOST has the data manipulation during operation. They have almost eliminated the online worker uncomfortably.

RESEARCH PAPERS

Dept. of Production Engg.

1.	Title	Analysis and determining the Ranking of Dressing Parameters in grinding operation by using single point diamond dresser for surface roughness by ANOVA and AHP method
2.	Author	Prof. S. S. Patil
3.	Co Author	
4.	Journal/ Conference	ICAMDIA-2007, govt. College of Engg., Shivajinagar, Pune
6.	Year of Publication/ Presentation	10th to 12th January 2007
7.	Abstract	<p>Objective of present paper is to determine ranking and analyze the dressing parameter viz. cross-feed rate, depth of cut, tip radius and drag angle of dresser, for surface roughness produced in work piece (EN 31) in subsequent grinding operation. The grinding wheel performance is significantly affected by the way the wheel is dressed.</p> <p>Analytical Hierarchical Process (AHP) is used to develop hierarchical structure for the factors. After using AHP, it is found that the cross feed rate of the dressing as overall ranking followed by depth of the cut. Tip radius and drag angle have relatively low ranking.</p> <p>The experiment was conducted on EN 31 (work material) on surface grinding machine single point diamond dresser was used. Using ANOVA method, it is found that the cross feed rate of dressing has predominant effect on the surface roughness followed by the depth of cut. The drag angle and tip radius have relatively weak effect on the surface roughness.</p> <p>Keywords : Analytical Hierarchical Process (AHP), ANOVA, Design of Experiments, Dressing, Grinding, Surface roughness.</p>

RESEARCH PAPERS

Dept. of Production Engg.

1.	Title	New Uses of ADI in High Strength Thin Wall Automotive Parts
2.	Author	Prof. S. D. Lembhe
3.	Co Author	
4.	Journal/ Conference	NCQE 2007, D.Y. Patil College of Engineering, Akurdi, Pune
6.	Year of Publication/ Presentation	4-6 Oct. 2007
7.	Abstract	The objective of this work is to discuss some concepts referred to in the use of ADI for thin-wall, high strength parts, and to summarize the development and application of two high strength automotive parts: hollow connecting rods, used in a new to cylinder small car engine, and suspension front uprights, used as components of racing car suspensions.

RESEARCH PAPERS

Dept. of Production Engg.

1.	Title	Effect of parameters on the surface roughness of Electro-chemically (EC) Drilled Deep Hole Using Rotating Electrode and stationary Electrode
2.	Author	
3.	Co Author	Prof. P. V. Londhe
4.	Journal/ Conference	NCQE 2007, D. Y. Patil College of Engineering, Akurdi, Pune
6.	Year of Publication/ Presentation	4-6 Oct. 2007
7.	Abstract	This study focuses on the development of a precision ECM. Process which uses rotating electrode (anode) movement with the traditional ECM. The feasibility of the proposed process has been experimentally verified. Attempts are being made to investigate optimum process parameters such as conductivity, pressure, electrode diameter etc. keeping voltage, feed rate and rpm constant in the experimental proposed set up.

RESEARCH PAPERS

Dept. of Production Engg.

1.	Title	Self Loosening of Bolted Joints : A Parametric Study
2.	Author	Prof. M. J. Patil
3.	Co Author	
4.	Journal/ Conference	A National Conference on Recent Trends in Manufacturing, Kit's College of Engineering, Kolhapur
6.	Year of Publication/ Presentation	7th – 8th January 2006
7.	Abstract	<p>Bolted joints are the most commonly used components in machines and structures. The durability of machines and structures are proportional to the number of the bolted joints used. Two failure modes are found in bolted joints subjected to cyclic loading. Fatigue and self-loosening. Fatigue is the major failure form for a bolted joining subjected to tensile loading and self loosening is the gradual loss of the clamping force in the bolted connections under cyclic external loading especially transverse loading.</p> <p>Experiments were conducted to study the self loosening phenomenon of bolted joints under transverse cyclic loading at different operating conditions. The self-loosening of bolts is significantly affected by the three parameters i.e. Tightening Torque (N-m) Speed (rpm), Bolt size (mm). These parameters acted as the input parameters and the Loosening torque was the output parameter.</p>

RESEARCH PAPERS

Dept. of Production Engg.

1.	Title	Knowledge Representation System with help of Petri Net in Supply Chain Management
2.	Author	Prof. S. S. Chavan
3.	Co Author	
4.	Journal/ Conference	International Conference on "An Advanced optimization Technology Approach" Coimbatore Institute of Technology, Coimbatore- 614 014 India
6.	Year of Publication/ Presentation	24th to 26th June 2006
7.	Abstract	<p>With the current trends of increase in Business process outsourcing in order to reduce the processing cost of information there is a need develop a system to understand and process the given data to information and further development of knowledge, expertise and capability. As according to (Beckman i.e. transforming knowledge from lower level to higher level).</p> <p>The basic idea behind the paper is to try to give a direction for developing a generalized stochastic (Petri net model to define man machine information interaction systems).</p> <p>The paper deals with providing the open view of the definition of knowledge and about knowledge management (KM).</p> <p>Petri nets are a promising tool for describing and studying systems that are characterized as being concurrent, asynchronous, distributed, parallel, non-deterministic, and/ or stochastic. As a graphical tool, Petri nets can be used as a visual-communication aid similar to flow charts, block diagrams, and networks. In addition, tokens are used in these nets to simulate the dynamic and concurrent activities of systems.</p>

RESEARCH PAPERS

Dept. of Production Engg.

1.	Title	Evaluation of Length of Propeller Shaft
2.	Author	Prof. S. S. Chavan
3.	Co Author	
4.	Journal/ Conference	International Conference on "An Advanced optimization Technology Approach" Combatore Institute of Technology, Coimbatore-614 014, India
6.	Year of Publication/ Presentation	24th – 26th Sept. 2006
7.	Abstract	<p>The power from transformation shaft should be transmitted to the Rear axle of the vehicle. The axis of the transmission and the connecting member of Rear axle are at an angle, which changes with the variation in load or the road condition. To facilitate the power transmission at a variable angle a Propeller shaft is used. With respect to the geometrical construction the propeller shafts are categorized into single piece two-piece and three-piece propeller shafts.</p> <p>In case of two or multi stage ropeller shaft length of the rear propeller shaft is subjected to variation while the remaining propeller shafts are rigid members; i.e. do not change in length. The variation in the length of rear propeller shaft is allowed using a splined shaft. Generally length of the propeller shaft is decided after freezing the remaining aggregates. It is assumed that the inclination of cross member bracket (in case of multistage propeller shaft) is also decided based on the requirement criteria such as beta equivalent angle. The maximum and minimum length of the propeller shaft required is found in this paper there by finding the slip required for the particular vehicle. The main objective of the paper is to find the length of the propeller shaft.</p>

RESEARCH PAPERS

Dept. of Production Engg.

1.	Title	Enhancement of surface finish of electrochemically drilled deep hole using rotating electrode
2.	Author	Prof. P. V. Jadhav
3.	Co Author	
4.	Journal/ Conference	48th National Convention IIIE, Nimhans convention centre, Bangalore
6.	Year of Publication/ Presentation	29th – 30th Sept. 2006
7.	Abstract	<p>Electro-chemical machining was developed to yield higher rates of machining and for processing the new high strength temperature resisting materials (HSRT), which are generally used in aircraft industry. Electrochemical machining has been developed initially to machine these hard to machine alloys, although any metal can be machined. Electro-chemical machining is an electrolytic process and it is based on the phenomenon of electrolysis. In this method hard metals can be shaped electrolytic by using ECM and the rate of machining does not depend on their hardness. The tool electrode used in the process does not wear, and therefore soft metals can be used as tools to form shapes on harder work pieces, unlike conventional machining methods. The process is used to smooth surfaces, drill holes, form complex shapes, and remove fatigue cracks in steel structures. Due to recent advancement in computer-aided tool design it has led to greater accuracy for ECM produced components.</p>

RESEARCH PAPERS

Dept. of Production Engg.

1.	Title	Surface improvement of electrochemically drilled deep hole using rotary electrode over stationary electrode
2.	Author	Prof. P. V. Jadhav
3.	Co Author	
4.	Journal/ Conference	ICAMDIA – 2007 Govt. College of Engineering, Shivajinagar, Pune
6.	Year of Publication/ Presentation	10th to 12th January 2007
7.	Abstract	<p>Today, demand for the deep hole drilling is steadily increasing. Deep holes are required in weaponry, Automobile industries and textile industries. Electronic engineering aerospace engines, medical applications etc. As the ratio of depth of diameter increases it become extremely difficult to produce such holes.</p> <p>The improvement of machining accuracy electrochemical machining (ECM) continues to be a major challenge for aerospace components. Literature review shows that there is sustained gain in machining accuracy owing to uniform flow of electrolyte in the machining gap. The given study focuses on the development of a precision ECM process by using rotary electrode movement. The feasibility of proposed method is experimentally verified. Attempts are being made to investigate optimum process parameters such as conductivity; pressure, electrode area, etc. keep voltage, federate and rpm constant on the response surface using proposed setup.</p>

RESEARCH PAPERS

Dept. of Production Engg.

1.	Title	Effect of parameters on the surface roughness of Electrochemically (EC) Drilled Deep Hole Using Rotating Electrode and stationary electrode
2.	Author	Prof. P. M. Jadhav
3.	Co Author	
4.	Journal/ Conference	Multi-disciplinary journal, New Delhi
6.	Year of Publication/ Presentation	
7.	Abstract	Today, demand for the deep whole drilling is steadily increasing. As the ratio of depth to diameter increases it become extremely difficult to produce such holes. The improvement in machining accuracy of electrochemical machining (ECM) continues to be a major challenge for user industries. This study focuses on the development of a precision ECM. Process which uses rotating electrode (anode) movement with the traditional ECM. The feasibility of the proposed process has been experimentally verified. Attempts are being made to investigate optimum process parameters such as conductivity, pressure, electrode diameter etc. keeping voltage, feed rate and rpm constant in the experimental proposed set up.