



**K.K. Wagh Education Society's
K.K. Wagh Institute of Engineering
Education and Research, Nashik.**

January 2013

**Vol.:5
Issue:1**

An Annual Social Gathering "Maffick-2013"

An Annual Social Gathering "MAFFICK-2013" of our Institute was organized during 3rd to 5th January 2013. In Inaugural function the chief guest was Hon. Shri. D. S. Shinde (Trustee, K. K. Wagh Education Society) along with Principal Prof. Dr. Keshav N. Nandurkar, Maffick Coordinator Prof. Satish S. Banait and student counselor Prof. Vilas K. Patil. For prize distribution function, the chief guest was our Ex-student Mr. Manohar Shete, Executive Director, M&M Industries (an ISO9001:2008 certified company) Nashik. He was felicitated by Hon. Vice President of K. K. Wagh Education Society Shri. Kashinathdada Tarle. For this function Hon. Shri. D. S. Shinde, Principal Prof. Dr. K. N. Nandurkar, Mr. Vishwas D. Deshmukh (Business Controller) Atlas Copco, Mr. Tukaram Borade, Prof. Dr. Shirish S. Sane, Prof. Dr. Mrs. P. D. Bhamre, Prof. V. K. Patil, Prof. S. S. Banait and Mr. Vivek Kolhe were present on the dais. In Maffick-2013 many events were organized like Rangoli competition, Mehandi competition, Quiz competition, Signature competition, Flower decoration, Elocution and Debate. Cultural activities like Singing, Dancing, Drama, Personality Contest and Fashion show are the main highlights. During Prize Distribution Ceremony academics and cultural prizes are given.



Felicitation of Chief Guest Mr. Manohar Shete.

Emerging Trends in Smart Grid

Third National Workshop on "Emerging Trends in Smart Grid" is organized by Department of Electrical Engineering of our Institute during 5th - 7th January 2013. Around 150 participants attend

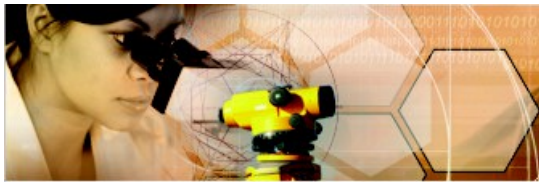
the event. Workshop was inaugurated by Mr. Prakash Nayak, Bangalore, who gave the overview of India's vision in Smart grid. He is a member of IET India and former director of ABB India Group. Dr. K. N. Nandurkar informed about the Institute. Prof. Dr. Sanjay Dambhare who is Professor and Head of Department, COEP, delivered expert talk on topic "SMART GRID: Wide area measurements based control, protection and automation". Pilot Smart Grid Project in MSEDCL is a working project in Maharashtra the details are given by Mr. U. S. Mane, CGM, MSEDCL. Dr. B. E. Kushare, Professor and Head, Department of Electrical Engineering introduced Power Quality Management and Energy Management in smart grid. Dr. Manoj Rathi added Grid Integration of Renewable Energies and Microgrid from smart grid point of view. Home and Building Automation is one of the crisp area in smart grid explained by Mr. Kaushal Bhagat, L & T, Nashik. Event concluded in presence of President Hon. Balasaheb Wagh and Vice President Hon. Kashinath Tarle. Event Coordinator Prof. P. M. Sonawane proposed vote of thanks.



Inauguration of National Workshop on "Emerging Trends in Smart Grid" on 5th Jan. 2013.

Visit by Prof. M. J. Deodhar

Prof. M. J. Deodhar, Ex. Principal, K. K. Wagh Institute of Engineering Education and Research, Nashik visited our Institute on 11th January 2013. He was felicitated by Hon. Shri. D. S. Shinde, Trustee of K. K. Wagh Education Society. On this occasion Hon. Trustee Ashokbhai Mrachant, Secretary Prof. K. S. Bandi and Principals of Various Institutes and Heads of department were present.



Visit by Prof. M. J. Deodhar, Ex. Principal of our Institute

Blood Donation Camp on 12th January 2013

NSS unit of our Institute and Saibaba Heart Institute, Nashik had jointly organized a Mega Blood donation camp on the occasion of National Youth Day on 12th January 2013. Dr. Anirudhha Dharmadhikari delivered a speech on "Importance of Blood Donation" and stressed the benefits of Blood Donation. Principal Prof. Dr. K. N. Nandurkar gave best wishes to the donors. In this camp, MVP Blood Bank and Civil Hospital Blood Bank had given good support and co-operation. Total 191 Blood bags were collected in this Camp. Prof. V. K. Patil, Prof. N. B. Gurule, Shri. P. S. Kolhe and others had taken special efforts in order to make this camp successful.



Inauguration of Blood Donation Camp on 12th January 2013 on occasion of Youth Day

Lecture by Mr. Madhusudan Desai on 'Hasta Mudra and Roug Nivaran'



Mr. Madhusudan Desai gets felicitated by the hands of Principal Dr. K.N. Nandurkar

On 15th January 2013, lecture on 'Hasta Mudra and Roug Nivaran' by Mr. Madhusudan Desai was organized in the Institute. Principal Prof. Dr. K. N. Nandurkar felicitated the guest on this occasion. Mr. Desai told some simple techniques for living healthy life without medicines.

Expert Lecture on 'Software Engineering'

An Expert lecture by Dr. S. A. Kelkar, an Adjunct Professor from IIT Bombay on 'Software Engineering' was organized for TE Computer Engineering students on 19th January 2013. He provided overview of concepts in Software Engineering.

ICMAX-13 Organized By Dept. of Production Engg.

Our Institute was academic partner with Shri. Jagdishprasad Jhabarmal Tiberwala University, Jhunjhunu, Rajasthan for organizing International Conference on Manufacturing Excellence (ICMAX 2013) at JJTU during 28-30 Jan., 2013. Inauguration of ICMAX-13 conference was done by Hon. Chancellor of JJTU, Dr. Vinod Tibrewala, Vice Chancellor Dr. D. D. Agarwal, Guest of Honour Dr. K. S. Sangwan, HOD Mechanical BITS Pillani, Dr. N. S. Poonawala and Dr. K. N. Nandurkar Conveners of the Conference. Prof. Dr. K. N. Nandurkar and Prof. Dr. P. J. Pawar delivered expert talk during the conference. Prof. S. B. Chandgude, Prof. H. D. Mhatre and Prof. Mangesh Khalkar also attended the conference and presented their research papers.



Inauguration of ICMAX-13 conference at JJTU, Rajasthan

Republic Day Celebration

The Republic day was celebrated with full honour on 26th January 2013. The flag was hoisted at the hands of Principal Dr. K. N. Nandurkar. All staff members from all the Institutes of this campus and students from girls and boys hostels were present.

Cricket T20 Team Success

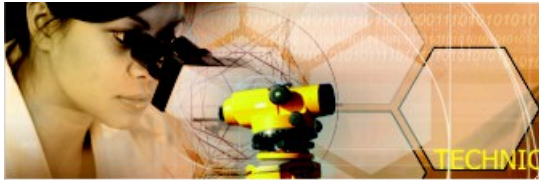


Principal Dr. K. N. Nandurkar, Physical Education Director Mr. More & Coach Mr. Sarang Naik with winning team T20 cricket of K. K. Wagh Boys.

In really a breathtaking finish K. K. Wagh boys cricket team won the Gokhle T20 cricket tournament which was organized by Gokhle Engineering College Nashik between various

Engineering Colleges in and around Nashik during 16th - 20th January 2013. The final match was a stunner for the dignitaries and the spectators. Abhijeet Joshi won the best bowler award while opener Ravi Shinde who hit the only the century in the tournament received the best batsman award.

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The same team was also runner up at T20 Cricket Tournament held at Sandip Institute of Technology and Research, Nashik during 09th-14th Jan. 2013.

■ **Expert Lecture/Seminar/Courses/Worshop Organized:**

- Department of Computer Engineering organized an expert lecture by Dr. S. A. Kelkar, Adj. Professor IIT Bombay on the topic 'Finance and Management system' on 29th January 2013.
- Department of Electronics & Telecommunication organized Expert Lecture on 'Deep space network' by Prof. J. P. Shah & Mr. Bhushan Ugale on 23rd January 2013. Same department also organized an expert lecture on 'Journey of computing from Mechanical to Electronics' by Prof. T. B. Kute, SITRC, Nashik on 24th January 2013 and an expert lecture on 'Embedded System & Project Development' by Mr. Ajay Arora, Infinity Foundation on 29th Jan. 2013.
- Department of Electrical Engineering organized an expert lecture on 'Insulation Design' by Mr. Manoj Mandlik on 11th Jan. 2013 and an expert lecture on 'Construction Working & Design of CT' by Mr. Prince Jain, CG, Ambad on 18th January 2013.
- Department of Chemical Engineering organized an expert lecture on 'Micro Reactor' by Dr. V. G. Pangarkar, Ex. Professor and Head, UDCT Mumbai on 22nd January 2013 and an expert lecture on 'Space Science' by Prof. J. P. Shah on 29th January 2013.
- Department of Information technology organized Elocution competition on topic 'Swami Vivekanand: Life & Teachings' on behalf of 'National Youth Day' on 11th January 2013. Same department also organized seminar on 'Cloud computing' by Mr. Rishikesh Jadhav, Sr. Software Developer, ESDS Nashik on 19th January 2013.

■ **Seminars / Workshop / Training Attended By Staff:**

- Prof. V. R. Takate, Prof. S. S. Dongare, Prof. Amrit Kaur and Prof. Nikhil Bhujbal of Department of Electronics & Telecommunication and Prof. Shital Deshmukh, Prof. Prajka Vispute and Prof. Smita Pachpande of Department of Information Technology attended one day workshop on 'NPTEL Awareness' conducted by Classle Software Pvt. Ltd. on 12th January 2013.
- Prof K. S. Holkar of Department of Electronics & Telecommunication attended one week workshop on 'Analytical Techniques for Applied Research' organized by department of Civil Engineering and Water Management Engineering, SGGSIET, Vishnupuri, Nanded during 21st-25th January 2013.

■ **Industrial Visits Organized by Department For Students:**

Date	Class	Name of Company
15/01/2013	B. E. E & TC	Mobile section, BSNL Satpur
19/01/2013	S. E. E & TC	MTNL, Mumbai
24/01/2013	T. E. Electrical	132KV/33KV/11/KV Substation
28/01/2013	T. E. Chemical	Abeline Polymer, Nashik

■ **Training & Placement :**

Name of the Department	Name of Company	No. of students selected
Computer Engg.	Ramakrishna IT Solutions	10
E & TC	Ramakrishna IT Solutions	02
Information Technology	Ramakrishna IT Solutions	01
Management Studies	ESDS Software Solution	01
	India Infoline Finance	05
	Shoppers Stop	08

■ **Other Achievements**

- Principal Dr. K. N. Nandurkar was invited to deliver lecture on 'Application of Optimization Technique for Cell formation problem' at SVNIT, Surat on 11th January 2013.
- Prof. Dr. P. J. Pawar of Department of Production Engineering delivered expert lectures (8 Hrs.) on 'Advanced Engineering Optimization through Intelligent Techniques' at SVNIT, Surat, during 07th-11th January 2013. Same departmental staff Dr. P. S. Kalos delivered expert lecture on 'Application of AHP and Fuzzy Logic to Design Engineering' at STTP organized by Late. Annasaheb Patil Polytechnic, Nashik on 22nd January 2013.
- Prof. V. K. Patil of Department of Civil Engineering delivered expert lecture on 'Bridge Engineering' to the students of K. K. Wagh Polytechnic, Nashik on 29th January 2013.
- K-Expo'13 website was inaugurated in presence of Mr. Ashish Bhattacharya, President-Operation, ESPEC, India & Mr. J. P. Pawar, Divya Marathi on 19th January 2013.
- Prof. Dr. B. E. Kushare, Head, Department of Electrical Engineering offered electrical consultancy to Times of India Mumbai, Times Global Broadcasting, Bosch Ltd., CG Ltd., Nashik, Himedia Lab., Dindori & he also delivered an expert talk on 'Energy Management' at Times of India, Delhi during 21st - 22nd January 2013. Same departmental staff Prof. Mrs. T. N. Date conducted soft skill training for S. E. & T. E. Electrical Engineering students during 9th-13th January 2013.

■ **Abstracts Of Papers Presented during January 2013:**

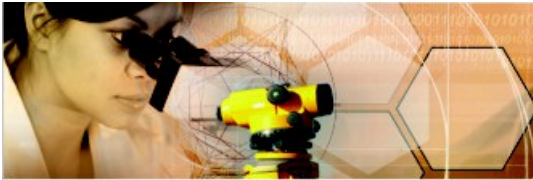
Effect of Input RMS Voltage Sag on Ageing of Front End Rectifier Diodes of ASD

Prof. Atul M. Shewale, Prof. (Mrs.) Tanuja N. Date, Prof. Dr. B. E. Kushare (Electrical Department)

(Presented at NCAPS 12 which is organized by K. K. Wagh Institute of Engineering Education and Research, Nashik during 20th-22nd Dec. 2012.)

Abstract:- Adjustable-speed drives are the type of equipment most sensitive to voltage sags. This paper analyzes the behaviour of front end rectifier of three-phase ac adjustable-speed drives during balanced and unbalanced sags. Emphasis is placed on the i^2t rating of diode assuming that the drive will not trip. By using a previously introduced classification of three-phase balanced and unbalanced sags, i^2t curves for various capacitor values and different sag conditions are

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obtained for ac adjustable-speed drive. The conclusion from the analysis is that voltage sags due to three-phase faults are a serious problem for adjustable-speed drives. However, single-phase and phase-to-phase faults, causing the majority of voltage sags, can be tolerated up to 80% of voltage sag for type C & F sag. While higher value capacitor is selected for enhancing voltage sag ride through, at the same time the bridge rectifier diode I^2t value should also be selected such that it should not cross the diode I^2t limit during sag and sag recovery duration.

Keywords:- Voltage sag, ac drive, front end rectifier, dc-bus, i^2t rating.

■ PHEVs AS DISPERSED ENERGY STORAGE FOR SMART GRID

Prof. Jaydeep Shah, Student Member, IEEE, Prof. Ms. Poonam Birar (Electrical Department)

(Presented at NCAPS 12 which is organized by K. K. Wagh Institute of Engineering Education and Research, Nashik during 20th-22nd Dec. 2012.)

Abstract:- Concern for the environment and energy security is changing the way we think about energy. Grid-enabled passenger vehicles, like electric vehicles (EV) and plug-in hybrid electric vehicles (PHEV) can help address environmental and energy issues. Vehicle-to-Home (V2H) provides an option to use the battery energy in electric vehicles to support loads in the power grid to have Potential benefits for Smart Grid. In this paper, the potential benefits of PHEVs as dynamically configurable dispersed energy storage will be discussed.

Index Terms—PHEV, Smart Grid, V2G

■ Reactive power and Stability Improvement in Wind Park System

Prof. Deepak P. Kadam and Prof. Dr. B. E. Kushare (Electrical Department)

(Presented at NCAPS 12 which is organized by K. K. Wagh Institute of Engineering Education and Research, Nashik during 20th-22nd Dec. 2012.)

Abstract:- Large number of wind turbines are being installed and connected to power systems. In some of the countries the penetration of wind power is significant high so as to affect the power quality, system operation and control and power system stability. In this paper an attempt is made to predict the reactive power burden of the wind farm based on conventional fixed speed induction generator during wind variation and three phase fault condition. PSCAD/EMTDC based large scale wind farm model is developed where STATCOM is introduced as an active voltage and reactive power supporter to increase the power system stability. STATCOM unit injects reactive power to mitigate power quality problems and to get stable grid operation.

Keywords:- Squirrel Cage Induction Generator (SCIG), PSCAD, Wind Turbine Generator (WTG), Static Synchronous Compensator (STATCOM).

■ Product Development and Customer Segmentation using Fuzzy Logic-ROC Approach

Prof. Sanjay R. Gangurde (Production Department)

(Presented at 10th International Conference on Management, organized by IIM, Bangalore, Inform & AIMS during 6th-9th Jan. 2013)

Abstract:- Manufacturing firms have to customize the product with lowest possible cost as per preference of customer by identifying meaningful clusters of customers that have relatively homogeneous sets of needs. The variation and uncertainty in the preference as well as customer worth will be evolved. The customer worth offered by customers for particular attribute of a product may be linguistic, uncertain and non precise which have to be evaluated with precise values. This paper proposed a methodology for developing the products by allocating the preferred attributes to the customer group using a fuzzy logic- rank order clustering approach.

■ Use of RFID-SAP-KANBAN System in Shelf Replenishment and Production confirmation

Prof. Sanjay R. Gangurde (Production Department)

(Presented at 10th International Conference on Management, organized by IIM, Bangalore, Inform & AIMS during 6th - 9th January 2013)

Abstract:- Inventory inaccuracy is a main issue in businesses dealing with physical assets. Radio frequency identification technology (RFID) can provide suppliers, manufacturers, distributors and retailers precise real time information about the status of products to improve their supply chain. In this paper based on RFID data with case level tagging, an actual inventory model has been created for supply chain of manufacturing. The model incorporates RFID hardware connected to SAP-KANBAN system which is capable of detecting product movement from store to production shop floor. Mathematical results indicate that the RFID-SAP-Kanban systems have the potential to improve the efficiency of SCM

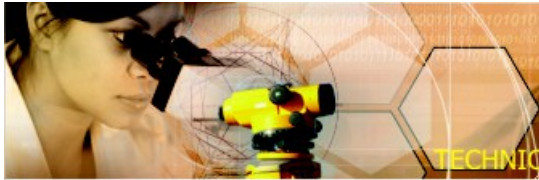
■ Prediction of resultant cutting force and surface roughness during end milling of hardened steel

Prof. Suryabhan B. Chandgude (Production Department)

(Presented at International Conference ICMAX-13, JITU, Rajasthan, jointly organized with Dept. of Production Engg., K. K. Wagh Institute of Engg. Education & Research, Nashik, during 28th-29th Jan. 2013)

Abstract:- The present paper outlines an experimental study, to predict the resultant cutting force and surface roughness during end milling of AISI-D2 tool steel. The cutting tool used during the end milling operation is solid carbide coated end mill. In this study the effects of cutting parameters on cutting forces is discussed and by developing the higher order equation the resultant cutting force is predicted. Similarly the effects of cutting parameters on surface roughness are also

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discussed and from the higher order equation, the surface roughness value for each experimental run is predicted. It is found that feed and the axial depth of cut are the two dominant factors affecting the cutting forces and surface roughness. The optimal cutting parameters for minimal cutting forces and surface roughness under the given experimental conditions are searched. The study reveals that the interactions with different machining parameters during machining of AISI-D2 tool steel were observed to be quite significant.

Keywords:- End Milling; Aisi-D2 Tool Steel; Cutting Force; Surface Roughness.

■ **A Brief Review Of Minimum Quantity Lubrication In Conventional Machining Processes**

Prof. Hitesh D. Mhatre (Production Department)

(Presented at International Conference ICMAX-13, JJTU, Rajasthan, jointly organized with Dept. of Production Engg., K. K. Wagh Institute of Engg. Education & Research, Nashik, during 28th-29th Jan. 2013)

Abstract:- The purpose of this paper is to review the relevant literature in machining using minimum quantity lubrication. as this process is eco-friendly it is related to environmental and health issues. cutting fluid is a vital element in machining processes and is used to remove heat and reduce friction thereby enhancing a number of important economic as well as quality parameters like cutting tool life and surface finish. however, it also has an impact on manufacturing cost, ecological damages and occupational health problems and these coupled with global trend of low cost and high productivity. near dry machining as a substitute for flood cooling is an eco-friendly process that uses minimum amount of cutting fluid and outline future potential research in this technology. the results indicate that the process of mist particles generation and their physical characteristics are yet to be determined for a whole class of machining processes and machining conditions. the resulting impact of the findings as related to machine and work place design is yet to be determined.

Keywords:- Cutting fluid, Minimum quantity lubrication.

■ **Optimum movement control of redundant manipulators using simulated annealing algorithm**

Prof. Mangesh Y. Khalkar (Production Department)

(Presented at International Conference ICMAX-13, JJTU, Rajasthan, jointly organized with Dept. of Production Engg., K. K. Wagh Institute of Engg. Education & Research, Nashik, during 28th-29th Jan. 2013)

Abstract:- In many industrial applications such as material handling, assembly, etc., the redundant manipulators are preferred over limited freedom degree manipulator. An attempt is made in this paper to achieve the optimum control of movement of redundant locators. The objectives considered is minimization of positional error of robot end effectors subjected to the constraint of

robots collision free movement as the end effectors moves from one position to the other. An advanced optimization algorithm known as simulated annealing is applied to find the optimal combination of parameters controlling the movement of redundant manipulators. An application example is presented to illustrate the proposed algorithm.

Keywords:- Redundant manipulators, simulated annealing, collision avoidance.

■ **Design and Analysis of Composite Patch Repair to Cracked Metallic Structures of Aircraft Using Taguchi Methods**

Prof. Nanasaheb B. Gurule & Prof. Dr. K. N. Nandurkar (Production Department)

(Presented at IT Research International Conference on Mechanical and Production Engineering (ICMPE), at Nagpur on 29th January 2013)

Abstract:- One of the applications of composites is in the patch repair of aircraft metallic structures. The option of using composites instead of metallic patch is being carried out from several years. Bonded patches are used for repair of panels, cracks in metallic structures, and reinforcement of deficient structures. However the technique is not much used in Russian origin aircrafts mostly used in India and Asian countries. As the repair process involves a lot of variables and the time for the repair process is very less at the actual site, suitable method ie required to provide the optimum results in least time. So Taguchi's method of design of the experiments is used. This design not only gives the best alternative out of a number of possibilities but also minimizes the cost and the time of the repair process.

Keywords:- aircraft structure, crack repair, composite patch, Taguchi method.

■ **Optimization of Water Content to make Extrudable Paste of Pure Alumina**

Prof. Nanasaheb B. Gurule & Prof. Sudish Ray (Production Department)

(Presented at International Conference ICMAX-13, JJTU, Rajasthan, jointly organized with Dept. of Production Engineering, K. K. Wagh Institute of Engg. Education & Research, Nashik, during 28th-29th January 2013)

Abstract:- Experiments were carried out to establish extrusion process of pure alumina rods and tubes of industrial importance through powder processing technology. The aspects of establishing industrial product oriented process consist of die design, compositional optimization and establishment of the aforesaid parameters with final property requirement. a piston and cylinder type ram extrusion method is used to check the extrudability of experimental paste. Conical die entry case is analyzed for the past flow during extrusion to get the round bars on a vertical hydraulic press. Paste is made of 99.8% pure alumina powder (Al_2O_3), methyl-cellulose as a binder and water. During

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the extrusion process of pure alumina powder mixing and paste formation is a very important term because the minor variation in water content shows a great effect on rheological properties of paste and microstructure of final product. So experiments are conducted to get the optimum percentage of water required during paste formation for the ram extrusion process with conical die entry. Visual surface finish is also examined during the extrusion for different quantity of water.

■ **Evaluation of embodied energy in building materials for sustainable energy Alternatives**

Prof. Dr. Sunil Kute (Civil Department)

(Presented at National Level Conference at Kolkata during 02nd to 7th January 2013)

Abstract:- The embodied energy (carbon) of a building material is the total primary energy consumed (Carbon released over its life cycle). Embodied energy is the energy consumed by all of the processes associated with the production of a building, from the acquisition of natural resources to product delivery. This even includes mining, manufacturing, and the transport of the materials. There is a need for optimum utilization of available energy resources and raw materials to produce simple, energy efficient, environment friendly and sustainable building alternative techniques to satisfy the increasing demand for buildings. Embodied energy is a significant component of the life cycle impact of a building. Every building is a complex combination of many processed materials, each of which contributes to the building's total embodied energy. Present paper deals with the computation of embodied energy of materials used in the construction of an institutional building as a case study. The building is a 5-storey framed structure and has the net built up area of 9174.88 Sq.M. Embodied energy of major construction material is computed based on Process Energy Requirement (PER). Based on the results, the measures are suggested for sustainable energy development in the form of alternatives to the high energy building materials.

Keywords:- Embodied Energy, Energy Efficiency Life Cycle Assessment, Process Energy requirement Construction industry

■ **The Outlook of Established Retailers towards Entry of FDI in Multi Brand Retail Trading in India.**

Prof. Ms. Sadhana D. Wagh (MBA Department)

(Presented at National Level Conference at K. R. Sapkal College of Management Studies Nashik during 12th - 13th January 2013)

Abstract:- Foreign direct investment has been a prominent area of research since the liberalization and privatization wave that swept across the developing world in last two decades. In post liberalization period, changes in consumer purchase behavior are seen with

growing liberalization, rise in GDP, per capita income and explosion of brands. The retail industry is expected to grow at the rate of 14% by 2013. First step towards FDI investment in retail was taken in year 2006. Government of India has allowed 100 % FDI in single brand retail and 51% FDI in multi brand retail. However debates are still going on. The proposed research takes a positive approach to understand the outlook of established domestic retailers towards entry of FDI in multi brand retail. Second part of research takes a detail view on impact of FDI in multi brand retail by using SWOT analysis.

■ **Forth Coming Events**

Sr. No.	Name of Department	Name of Technical Event	Scheduled Date
1	Electronics & Telecommunication	Telekinesis	19 th -20 th March 2013
2	Production Engineering	Invasion	19 th -20 th March 2013
3	Chemical Engineering	ChemFest	20 th -21 st March 2013
4	Information Technology	Itiazza	20 th -21 st March 2013
5	Civil Engineering	Force	20 th , 21 st -22 nd March 2013
6	Mechanical Engineering	Mecheven	21 st - 22 nd March 2013
7	Computer Engineering	Equinox	22 nd -23 rd March 2013
8	Electrical Engineering	Karmaveer Expo	22 nd -23 rd March 2013

■ **Cultural programme during Maffick 2013**



Prof. Dr. K. N. Nandurkar
PRINCIPAL

