



Bharatiya Vidya Bhavan's
SARDAR PATEL COLLEGE OF ENGINEERING

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Mechanical Engg. Dept. Report

July 2016 – March 2017

This report presents the information about status of activities carried out by Mechanical Engineering Department (MED).

1. Research and Academic Activities

- a) **Mr. Asif Hasan**, final year B.Tech. (Mechanical) student secured **all India FIRST rank in GATE 2017 (ME)** examination.



- b) **RGSTC Research Grant to Dr. R. S. Maurya**

Dr. R. S Maurya has received grant for Rs. 15.34 Lakhs for project titled "*Feasibility study of using solar powered cool boxes to improve the shelf life and hygiene of fish sold in retail markets in Mumbai*" from RGSTC, Govt. of Maharashtra. The project will be executed in collaboration Central Institute of Fisheries Education (CIFE), Mumbai.



- c) **DST Research Grant to Dr. K. S. Bhole**

Dr. Kiran Suresh Bhole has received a grant of Rs 20 Lakhs in August 2016 from Science and Engineering Research Board of Department of Science and Technology, Government of India for his research project titled "*Design and Development of Three Axis Flexural Stages for Micro-Milling Workstation*".



- d) **New Industrial Valve Testing Facility**

Experimental testing facility has been developed to characterize industrial instrumentation Valves by M.Tech. (M/c Design) students Mr. Romil Khawal and Mr. Akshay Ravande under guidance of Prof. D. N. Jadhav, MED and Dr. Tansen Chaudhary, Fluid Controls, Pune. The facility will be utilized to provide commercial testing service to valve manufacturers.



e) UMA/UBA projects

The department is actively participating in Unnat Maharashtra Abhiyan (UMA) / Unnat Bharat Abhiyan (UBA). A partial list of related projects is as follows.

- Self-sustaining pyrolysis of waste plastic to obtain fuel (B.Tech. project)
- Design and manufacture of a novel face mask for traffic officers (B.Tech. project)
- Design of windmill based desalination of sea water (M.Tech. project)

f) Naval Material Research Laboratory (NMRL) project

Preliminary discussions are carried out with Naval Material Research Laboratory (NMRL), Ambarnath, for allocating research projects to M.Tech. students. Following research topics are identified which may be initiated in future: (i) Investigation of fatigue life of weldments in high strength steels, (ii) Optimization of parameters for submerged arc welding on high strength material.

g) MOU with Imaginarium

Imaginarium, Mumbai, is the India's largest rapid prototyping and rapid manufacturing center. MoU has been signed between Imaginarium, Mumbai, and Mechanical Engineering Department, SPCE on 08 August 2016. This association will enhance department's expertise in the 3D printing and allied technologies.

h) Credit transfer student

Ms. Shivani S. Bhosale from SGGSIET, Nanded, has been enrolled for semester V of B.Tech.(Mechanical Engineering) program under Credit Transfer Scheme (CTS) for semester Jul-Dec'2016.

i) Faculty and Non-teaching Staff Participation in Training

- Prof. Megha Janbandhu coordinated for 2-day training program on "Automotive Design and Analysis" in collaboration with CODEX Design Services, Mumbai, from 25-26 March 2017. The program was organized with assistance from TEQIP and MESA and 60 students participated in the training.
- Dr Santosh Rane conducted training programme on Reliability Engineering for Design engineers at Switchgear Design and Development Centre, L&T Electrical & Automation Group, Powai on 10th February 2017.
- Dr Santosh Rane has successfully conducted 2 training sessions on Lean Six Sigma at SPJIMR on 08-06-2016 and 13-06-2016.
- Dr. Kiran Bhole conducted 6-day STTP on "Nanoscience and Nanotechnology: Fundamentals, Synthesis and Applications" from 02-07 January 2017 under TEQIP-II. The program was conducted in collaboration with expert faculty from IIT Bombay and included visit to Centre of Excellence in Nanoelectronics at IITB.
- Dr. Kiran Bhole conducted two day workshop on "Effective Engineering solutions using Altair Hyperworks" on 19-20 December 2016 in collaboration with Altair India.



- Department conducted 3-day training workshop on “Enhancement of Personal Skills and Personal Development” for non-teaching staff at Lonavala from 18-20 November 2016. The coordinator for the workshop was Dr. S. S. Umale and Shri Luis Dias.



j) Industry projects for PG students

In order to make PG courses more industry relevant and improve employability of PG students the department has promoted more PG projects in collaboration with industry. At present M.Tech.(Thermal Engg) and M. Tech. (M/c Design) have 6 and 13 industry collaborated projects respectively.

k) NAAC and NBA Accreditation

Department has been preparing for visit by NBA accreditation committee visits. All data for submission of NAAC report has been prepared in requisite format.

l) Smart Product Competition

Department has initiated “Build a Smart Product Competition” for Semester III and V students in August 2016. The aim of this competition is to give opportunity to the budding engineers to develop their engineering skills and innovative thinking ability. The competition will conclude in May 2017.

m) Introduction of Value Added Courses in curriculum

Department has introduced 2 new value added courses for S.Y.B.Tech.(Mechanical) students: (i) Internet of Things (IOT) and (ii) Introduction to Composite Material Technology.

2. Achievements

- Dr. R. S. Maurya** and **Dr. Kiran Suresh Bhole** received **research grants** of **Rs. 15.34 Lakhs** **Rs 20 Lakhs** respectively from Government funding agencies.
- Team SPCE ISHRAE** has stood **FIRST** among 19 teams from different colleges in Mumbai and has been qualified for zonal level of Aquest ISHRAE quiz competition 2017.
- Technical paper “*Implementation of Six Sigma: A Case Study in Wiper Motor Manufacturing Industry*” authored by **Dr. Santosh Rane** and **Ms Mittal Mewada** received **the Best Paper Award - 1st Prize** in the International Conference held at ICFAI Foundation, Hyderabad during 23-24 Sept 2016.
- Mr Milind Kirkire** has successfully completed his PhD in Mechanical Engineering in the Month of July 2016 under the guidance of **Dr Santosh Rane**.

- e) 'Nurturing Intelligence for Curious Engineers' (NICE) was an innovative competition organized by 'The Institution of Engineering and Technology' (IET). Our students, **Neha Akode, Kshitija Kulkarni, Shivgovind Gupta and Prathamesh Mokal from EED** and **Dhanashree Parab from MED** participated in this competition. This competition was aimed at creating awareness regarding the scope of Engineering among the students from junior colleges.



Our students were the **winners at the State-level** of NICE 2K16 held at S.S.V.P.S's B.S.D. College of Engineering, Dhule on 23rd September 2016. A total of 10 teams had participated from the states of Maharashtra and Gujarat.