GTU INNOVATION COUNCIL

UDISHA CLUB

Campus Activity Report of November-December – 2013

(Om Engineering College, Junagadh)
Electrical Department

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<th>SR. NO</th>
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| 1      | **Activity**: Industrial Visit of “Ukai Hydroelectric Power Station India”  
         **Type**: Industrial Visit  
         **Date**: 25-10-2013  
         **Venue**: Ukai Hydroelectric Power Station India, At. Tapi |

Electrical Engineering Department had decided to arrange one day industrial visit for 3rd Electrical Engineering students to improve practical knowledge and get benefited their theoretical knowledge. In U.H.P.S.I. Students will get benefit regarding their theoretical subject of conventional power Engineering, Electrical Power.

**Ukai Hydroelectric Power Station** is a water-flow power station in Gujarat, India. It is located on the bank of river Tapi in Tapi district. There are four unit which produce electricity and each have capacity of 75 MW. There is only one unit working at a particular time.
Executive Engineer, have explained all the technical details regarding the plant, working power plant models, their features, equipment details like turbine, generator, transformer and switch yard details. The turbine is situated about 30ft under the water. The water is coming forcefully through the slop. About 6000 cusec water is required to rotate turbine at 150 rpm. Means if we want to rotate turbine at the speed of 150 rpm we have required 28 liter water per second. They control whole plant automatically by using SCADA system & control panels. Ukai H.P.S break the 24 yrs old record by producing 221.2 MUS (1MUS =1000MW) electricity in last month.

After visit at the **Ukai Hydroelectric Power Station**, student can visualize the complex study of power generation using river water, which will help a lot in future in many field & he/she can understand the function of each component in hydroelectric power station, their importance, their arrangement & precautions that to be used for the safety in the plant.

Prof. D. A. Divrania and Prof. M. D. Thanki have leaded the students and joined the industrial visit.

Students really enjoyed visit over here and again want to thank to all faculties, staff of **Ukai Hydroelectric Power Station** to give them this great pleasure of the training. This is such a memorable visit for all the students.
Civil Department

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| 2 | Activity : National Summit On “Inclusive Urban Development”  
Type : National Summit  
Date : 17-10-2013  
Venue : Mahatma Mandir, Gandhinagar |

Department of civil engineering had decided to attend National level Summit on Inclusive Urban Development at Mahatma Mandir, Gandhinagar for 5th semester civil Engineering students to improve practical knowledge and get benefited their theoretical knowledge.

On that occasion welcome remark delivered by Dr. Guruprasad Mohapatra (IAS Commissioner Ahmedabad Municipal Corporation). The Summit aims to cover wide-ranging views from national and international experts on various aspects of urban and infrastructure transformation and development. It will provide a unique platform for sharing knowledge and technology which have stood the test of time. Dr. M. Ramachandran, former Secretary Urban Development (Government of India) listed out the challenges faced by urban India today including water shortage, waste management and sanitation.
The Urban Development Minister (Government of Gujarat) **Smt. Anandiben Patel** welcomed the dignitaries on behalf of the Government of Gujarat and talked about the role of cities in the growth of nations. She said that urbanization cannot be seen as a burden but should be an opportunity. She then talked about Gujarat’s efforts in creating better cities be it the BRTS in Ahmadabad and Rajkot, the changes in Surat, the Sabarmati Riverfront and Kankaria Lake.

**Mr. Narendra Modi** (Hon’ble Chief Minister of Gujarat) said that the glory of a city does not merely come by installing big gates or infrastructure only but it comes when each and every person of the city is integrated into the development journey. Shri Modi even talked about increasing the human resource development potential among the urban population, which can go a long way in developing our cities.
The students are going through the 8 different Technical sessions on various topics regarding the Urban Development, and knowledge about this all sessions is delivered by various expert faculties. The National Summit On Inclusive Urban Development successfully completed and finished with the constant support from all dignities.

On behalf of Om Engineering College, HOD (Mr. H. H. Gajera), Asst. Professors (Miss. N.V.Khanpara and Mr. H. M. Bhimajiyani) along with 5th semester students attended the National Summit On Inclusive Urban Development. The Students really enjoyed summit over here and want to thank to all faculties, staff of this summit for their effort.
## Activity Information

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<td>3</td>
<td>Expert Talk on “ELECTROMAGNETICS”</td>
<td>Workshop/Seminar</td>
<td>27th December, 2013</td>
<td>Seminar Hall, Om Engineering College, Junagadh</td>
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Om Engineering College has organized Expert Talk on “ELECTROMAGNETICS” by Electrical Department under the co-ordination of Prof. R. A. Parmar, HOD of Electrical department. The main purpose for this Expert Talk is to subject Basic depth knowledge and also learnt how we apply our theoretical knowledge in real application.

Prof. Trushit Upadhyaya from EC Department, Charotar University of Science and Technology was invited at our college by Electrical department. He represented the power point slide to explain Electromagnetics more perfectly.

He started his talk with the brief discussion about the Electromagnetics. He explained that Electrical Engineering is Applied Electromagnetics as devices get smaller and smaller, and frequencies get higher and higher, circuit theory is less able to adequately describe the performance or to predict the operation of circuits. At very high frequencies, transmission line and guided wave theory must be used - high speed electronics, micro/nano electronics and integrated circuits.
Other applications of Electromagnetics are Fiber Optics, Microwave Communication Systems, Antennas and wave propagation, Optical Computing, Electromagnetic Interference, Electromagnetic Compatibility and Biology and Medicine/Medical Imagine.

Expert Covers most useful topic which is related to 6th semester electromagnetic subject it is very important for students to improve knowledge and interest on electromagnetic. He also Cover the topic which are fundamental and basic useful to understand the subject depth like Scalars and Vectors, Vector Algebra, Gauss’s Law, Divergence, Ampere’s Circuital Law etc.

After completion of Expert talk some valuable interaction with student to clear the Doubt about electromagnetics.

From this Expert Talk, students get the information about the Electromagnetics. They get usefulness in fundamental Knowledge which is important to understand the subject. Students also get information about industrial application and which comes in their study.

Organizing Team:
Prof. C.B.Makwana, Faculty, Department of Electrical Engineering
Prof. D. A. Divrania, Faculty, Department of Electrical Engineering
SR. NO | ACTIVITY INFORMATION
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4 | Activity: Expert Talk on “RAPID PROTOTYPING AND ITS APPLICATION”
Type: Workshop/Seminar
Date: 21st December, 2013
Venue: Seminar Hall, Om Engineering College, Junagadh

Om Engineering College has set up a milestone combining two practical fields like science and Engineering and arranged a Seminar on “RAPID PROTOTYPING AND ITS APPLICATION” with the immense help of Mechanical Department jointly organizes by Space Society Of Mechanical Engineers (SSME) and Gujarat Technological University, Ahmedabad (GTU) on 21st December 2013 at seminar hall.

Starting with the introductory speech of an anchor then program was started with SARASWATI VANDANA recited by the students of Om Engineering College. The seminar was inaugurated by welcoming the Chief Guest as well as invited Guest of Honor. These dignitaries were Shree. Jayant Jamuar (President of ASM), Prof. V.R.Iyer (Director, Nirma University), Shree. A.C.Mathur (President SSME), Prof. Harish M. Dalal (Dean, Oakbrook business school, Adalaj), Mr. Prashant Kadivar (Trustee, OM Engineering college, Junagadh).
After prayer and inauguration function the anchor has invited Director of Om Engineering College, Dr. H.M.Nimbark sir to enlighten about the activity and creativity of college.

Dr. H.M.Nimbark sir started his speech with the history and importance of Junagadh in Gujarat to the delegates. He also discussed about the VISION & MISSION of our college i.e. working for better education, research activity of student and work interdisciplinary, development of industrial knowledge of student as well as staff by making industrial tour and training. He suggested our students to cope with global education in India as well as abroad and guide to become a member of SSME and ASME.

After welcoming session the whole program was handled by Mr. Amit Agrawal, (scientist SAC Division ISRO). He gave brief introduction of ISRO and explained its working. And then he invited Shree A.C.Mathur sir for his presentation.
Shree A. C. Mathur started with the topic “Introduction of SSME and Its Working”. In his he covered the foundation and development of SSME and its member and various posts offered to them. He also gave information about the rules of membership of SSME. He has highlighted the constitution; salient features and research activities of SSME like the journals of Mechanical Engineering published by SSME are read widespread and are prepared by some of the branches of IIT. SSME also organizes seminars, news bulletins, workshops, expert talks, Demos, publishing journals and lectures.

Shree Jayant Jamuar, President of American Society of Metals and chairman of forging association, previously worked as a director technical at Kadvani forging, Rajkot started his presentation on "INTRODUCTION OF RAPID PROTOTYPING". He gave the introduction about rapid prototyping and explained basic working principal of rapid prototyping and its advantages for industries. He explained to faculty as well as students that with help of CAD/CAM software and new techniques like RP they are able to do design and manufacturing components very rapidly and efficiently.
Prof. V.R. Iyer, director of Nirma University started his presentation on RAPID PROTOTYPING AND ITS APPLICATION. He is working with in a field of CAD/CAM since past 25 years and regular guide for FEM in ISRO from last few years. He explained that many industries are approaching the field CAD/CAM. He also suggests starting innovation and research in education system and improving practical knowledge with use of RPT technique and starting testing various aspects in design.

Prof. Harish M. Dalal, the Dean of Oakbrook business school Adalaj shared his view about 2D and 3D PRINTING. The main topic discussed by him was Objective of printing, printing of biological object like engineering Heart valve, printing of other components like guitar, flute, high hill shoes, loom, racing car component. He also discussed design concept of 4D printing and also shown video for current features of 4D printing.

Mr. Ravi Patil, Technical Manager, design tech, Pune gave his presentation on ADDITIVE MANUFACTURING. He explained many other innovative techniques related to rapid prototyping. He discussed about polyjet technique and FDM technology, he gave brief idea about rapid fabrication process steps. He also explained many things for printing technology.
Prof. Ketan Panchal, production manager in IGTR gave his presentation on ADDITIVE MANUFACTURING IN METAL AND RAPID PROTOTYPING. He discuss that how rapid prototyping is useful for investment casting industries, and use of software for conformal cooling in rapid prototyping process to find out cooling rate which is beneficial for time saving as well as cost reduction in rapid prototyping process. Also, He discussed materials like stainless steel, hot work steel, nickel based alloy on which RP can be applicable in future.

Shree Sammir Sakhare, senior scientist and project manager in ISRO Ahmedabad, gave presentation on RPT IN PERSPECTIVE. He further discussed many different topics and give brief idea on rapid prototyping method. He also explained different RP machine parameters like Material, Cost, Resolution, Scan speed, Build volume. And at last he discussed some problem with Rapid Prototyping Techniques.

Shree S. S. Gill, Scientist, SAC/ISRO and Project Manager of MARS MISSION, conduct last session of workshop on APPLICATION OF LASER ADDITIVE MANUFACTURING IN REALIZATION OF SPACE WORTHY HARDWARE IN METAL. In his presentation he covered mostly all topics related to RPT like How RP used in different fields and compare RPT with conventional design. Lastly he explained the different space payload types and latest development in field of MLT.
After presentations, On behalf of Om Engineering College Prof. B.M. Garala presented memento to the dignitaries.
**Valedictory Function:**

Mr. B.M. Garala addressed the session with vote for thanks and the event certificates were distributed to all participants.

**Upshot:**

It’s matter of privilege and milestone that Om Engineering College was chosen as third platform for SSME seminar. Approximate 116 participants have registered their participation with willingness. Attendees were remained present in whole seminar from regional Institutions as well as reputed well known Industries. At the end, curious question of upcoming seminar and an attempt to achievement has lead to a tag of successful seminar.