GTU INNOVATION COUNCIL
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GTU INNOVATION COUNCIL &

UDISHA CLUB

Campus Activity Report of September- 2015

(Om Engineering College, Junagadh)

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OM Engineering college, Junagadh

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Director/Principal,
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| 1.     | **Activity : Campus Drive by REPUTE INFOSYSTEMS**  
          **Type : Campus Drive**  
          **Date: 12th September 2015**  
          **Venue: OM Engineering College, Junagadh.** |

On dated 12th September 2015, Repute Info-systems company have visited Om Engineering college for campus drive for Final Year CE Students. Campus recruitment process was carried out by **Mr. Ankur Chotahi (Managing Director)**.

**Pre Placement Talk:**
**Mr. Ankur Chotahi (Managing Director)** have discussed about Terms and conditions as well as working environment of company, salary increment and salary structure, company profile etc.

**Aptitude Test:**
Total 29 students are appeared in Aptitude test. As per result, Students are shortlisted.
Interview Round:

The drive was coordinated by CE Department and Head – T&P. The dignitaries expressed satisfaction for the institutes's hospitality and student performance. Dignitaries have also given some necessary suggestions that will help to students for further recruitment in other IT companies. Total 6 students were selected from this campus drive.
2. **Activity**: Seminar on Cyber Security & Cyber Crime Awareness  
**Type**: Seminar  
**Date**: 11th September 2015  
**Venue**: OM Engineering College, Junagadh.

Our main purpose for this Seminar is to be aware of different kind of cyber crime and how to protect our data on from the hacker and how to protect our computer from the virus.  
Topics covered by **Prof. H. K. Gajera** and **Prof. R. J. Padariya** on Cyber Security & Cyber Crime Awareness during the workshop.  
- How to avoid spoofed mail;  
- How to identify fake sites;  
- How to utilize secure cyber space;  
- Crime committed using a computer;  
- Crime committed using an electronic device Cases of Data recovery;  
- CYBER TERRORISM Sec 66F IT Act;  
- CYBER PORNOGRAPHY Sec 67, 67A, 67B IT Act;  
- CYBER SPYING Sec 66E IT Act;  
- CYBER STALKING Sec 354D IPC;  
- SOCIAL MEDIA CRIMES.

**Cyber Spying:**  
Section 66-A Punishment for sending offensive messages.  
Any person who sends, by means of a computer resource or a communication device,  
a) Any information that is grossly offensive or has menacing character; or  
b) Any information which he knows to be false, but for the purpose of causing Annoyance, inconvenience, danger, obstruction, insult, injury, criminal intimidation, enmity, hatred, or ill will, persistently by making use of a computer resource or a communication device,  
c) any electronic mail or electronic mail message for the purpose of causing annoyance or inconvenience or to deceive or to mislead the addressee or recipient about the origin of such messages (Inserted vide ITAA 2008) shall be punishable with imprisonment for a term which may extend to three years and with fine.
Section 66-E. Punishment for violation of privacy.
Whoever, intentionally or knowingly captures, publishes or transmits the image of a private area of any person without his or her consent, under circumstances violating the privacy of that person, shall be punished with imprisonment which may extend to three years or with fine not exceeding two lakh rupees, or with both.

Cyber Pornography:

Section 67. Punishment for publishing or transmitting obscene material in electronic form.
Whoever publishes or transmits or causes to be published or transmitted in the electronic form, any material which is lascivious or appeals to the prurient interest or if its effect is such as to tend to deprave and corrupt persons who are likely, having regard to all relevant circumstances, to read, see or hear the matter contained or embodied in it, shall be punished on first conviction with imprisonment of either description for a term which may extend to three years and with fine which may extend to five lakh rupees and in the event of a second or subsequent conviction with imprisonment of either description for a term which may extend to five years and also with fine which may extend to ten lakh rupees.

Section 67-A. Punishment for publishing or transmitting of material containing sexually explicit act, etc. in electronic form.
Whoever publishes or transmits or causes to be published or transmitted in the electronic form any material which contains sexually explicit act or conduct shall be punished on first conviction with imprisonment of either description for a term which may extend to five years and with fine which may extend to ten lakh rupees and in the event of second or subsequent conviction with imprisonment of either description for a term which may extend to seven years and also with fine which may extend to ten lakh rupees.

Section 67-B. Punishment for publishing or transmitting of material depicting children in sexually explicit act etc. in electronic form.
Whoever,-
(a) Publishes or transmits or causes to be published or transmitted material in any electronic form which depicts children engaged in sexually explicit act or conduct; or
(b) creates text or digital images, collects, seeks, browses, downloads, advertises, promotes, exchanges or distributes material in any electronic form depicting children in obscene or indecent or sexually explicit manner; or
(c) Cultivates, entices or induces children to online relationship with one or more children for and on sexually explicit act or in a manner that may offend a reasonable adult on the computer resource;
(d) Facilitates abusing children online; or
(e) Records in any electronic form own abuse or that of others pertaining to sexually explicit act with children, Following IT Acts were covered by the Expert:
   - Defamation – 499 IPC
   - Abusive Language – 294 IPC
   - Indecent Representation of Women’s Act
   - Threatening Life – 506 IPC
   - Insulting Modesty of Women – 509 IPC
   - Hurting Religious Sentiments – 153 (A) IPC

The Workshop was an example of tireless efforts, that Prof. H. K. Gajera and Prof. R. J. Padariya is making, for spreading Cyber Security Awareness among st Faculty Members.
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| 1.    | Activity : Industrial Visit at Sardar Sarovar Narmada Dam, Hydro Power Plant  
Type : Industrial Visit  
Date: 11th Sept. 2015  
Venue: Sardar Sarovar Narmada Dam, Hydro Power Plant |

We are gladly & thankful to Director as well as Principal Shri C. N. Jasani and Head of the Departments Prof. M.M.Baraiya and our faculties who give us a great guidance regarding training and instruct us the importance of training in electrical field. So we decided to take visit in Hydro Power Plant which is situated at Sardar Sarovar Narmada Dam, Navagam.  
Total capacity of Hydro power plant is 1450 MV and Height is 163m. It is located at Sardar Sarovar Narmada Dam, Navagam. The Power is generated by use of water through penstock and using Francis and Kaplan turbine.  
Our main purpose for this visit is familiar with industrial environment and to get practical knowledge and learn where & how we apply our theoretical knowledge in real application.  
Total 83 Students of 5th and 7th semester were got the idea of electrical power generation, transmission and distribution. Students will also get familiar with HydroPower Plant, types of turbines.

We entered in to the plant we shown that there was 6 Francis and 5 kaplan turbines for producing electricity and capacity of turbines is 200 MW and 50 MW respectively.  
The Sardar Sarovar dam is a gravity dam on the Narmada River  
- The dam's main power plant houses six 200 MW Francis pump-turbines to generate electricity and include a pumped-storage capability. Additionally, a power plant on the intake for the main canal contains five 50 MW Kaplan turbine -generators. The total installed capacity of the power facilities is 1,450 MW. Its final configuration is the second largest concrete gravity dam  
- Main Dam - 1,210 m long, 163 m high from the deepest foundation level  
- Designed Live Storage Capacity of the Reservoir 5860 MCM (4.75 million acre feet)
• Irrigation - 1.905 million Ha (1.8 million Hector in Gujarat benefitting 1 million farmers)
• Drinking Water - 9633 villages and 131 towns (29 million people)
• Hydropower - 1,450 MW installed capacity (1 billion kWh every year)
• Canal Network - Approximately 75,000 km length within Gujarat

GENERAL LAYOUT OF PLANT:

CONCLUSION:

From this visit, 63 students of 5th semester and 20 students of 7th semester (Total 83 students) got the information about the hydro power plant and working of the Sardar Sarovar Dam Hydro Power Plant. We get practical knowledge for our bright future. We also get information about the instrument which were used to make and develop the hydro power plant which will be benefited to us in future.
2. **Activity**: Industrial Visit at Solar Power Plant, Mervadar-Upleta  
**Type**: Industrial Visit  
**Date**: 23rd Aug. 2015  
**Venue**: Solar Power Plant, Mervadar-Upleta

We are especially thankful to respected **Manager Mr. Rajesh Vaniya.** Solar power plant, Upleta because we granted us permission for taking visit in wonderful campus.


Our main purpose for this visit is familiar with industrial environment and to get practical knowledge and learn where & how we apply our theoretical knowledge in real application. Students of 3rd semester will get the idea of electrical power generation, transmission and distribution. Students will also get familiar with Solar Power Plant, Solar Panel.

1) **Generation process:**
We entered into the plant we shown that there was Thirty unit for producing electricity and capacity of this plant is 25 MW. There was all units are working at that time.
Ganges Green Energy Private Limited (GGEPL) is implementing a 25 MW solar photovoltaic technology based power project in Mervadar &Dhank village, Upletain Rajkot district of Gujarat. The electricity generate from the project activity would be supplied to the North-East-West-North East (NEWNE) grid. GGEPL has signed a Power Purchase Agreement (PPA) with Gujarat UrjaVikas Nigam Limited (GUVNL) for a period of 25 years.

2) **Control process:**
After that we where go to control room. In control room they control whole plant automatically using SCADA system & control panels are used to control the system and also indicate the system conditions. In Control panel we learn about different relays which used for protection.

3) **Transmission process:**
In last at switch yard we learn transmission system. We also learn the equipment like lighting arrester, CT & PT, transformer, insulator etc. Power Evacuation: A mini switchyard shall be set up to facilitate power evacuation. The switchyard shall be located adjacent to 11kV HT Control Building. There shall be 15 numbers of 2MVA, 66/11 kV rating transformer. The transformer will
be located in the plant switchyard and paralleled with the Gujarat Energy Development Agency (GEDA) substation located at Mervadar Village.

CONCLUSION:
From this visit, we get the information about the Solar power plant and working of its. We get practical knowledge for our future. We also get information about the instrument which comes in our study in future.
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          **Type**: Industrial Visit  
          **Date**: 11<sup>th</sup> Sept. 2015  
          **Venue**: Sardar Sarovar, Narmada Dam. |

The Sardar Sarovar Dam is a gravity dam on the Narmada river near Navagam, Gujarat in India. It is the largest dam and part of the Narmada Valley Project, a large hydraulic engineering project involving the construction of a series of large irrigation and hydroelectric multi-purpose dams on the Narmada river. The project took form in 1979 as part of a development scheme to increase irrigation and produce hydroelectricity.

The place where Narmada dam is constructed is known as SADHU HILL.

In Narmada district, four civil engineering constructions are made:

- **Narmada dam**
- **Statue of Unity (Shree Sardar Vallabhbhai Patel)**
- **Narmada Canal**
- **Hydro power plant**

Our main purpose for this visit is to be familiar with industrial environment and to get practical knowledge of Hydraulic structure of dam and Hydro power plant in dam. Also in 5th semester subject like Hydrology and water resource engineering and in 7th Semester subject like Irrigation Engineering requires knowledge about how components of dam and hydropower plant are constructed, so it is very much convenient to see all the practical and components in real time work environment.

**Hydro power plant**:

It is constructed in 1.5km long tunnel. The water from dam is used to generate the electricity with the help of 6 turbines having capacity of production 200MV and 5 small turbines having capacity of production 50MV. The power plant feeds electricity to Maharashtra (27%) and Madhya Pradesh (57%).

**Narmada Dam**:

After power plant we went to see the Narmada Dam. The height of dam is 142m, width is 1.2km. In the construction of dam 88000m<sup>3</sup> concrete was used. To reduce the creep in concrete due to high temperature crushed ice was used in the construction. The depth of foundation below ground level is 17m. To negotiate the design flood, chute spillway Radial gates, 7 in number and size 60' x 60' and for service spillway, 23 Radial gates of size 60' x 55' were provided.

**Narmada Canal**:

The length of narmada canal from starting point is 532 km and width is 300 ft. The narmada canal brings water from Narmada – Bharuch – Kutch – Rajasthan.
The ogee fall is provided in downstream side to discharge the excess water during flood.

**CONCLUSION:**

From this visit, we get the information and knowledge about the components of dam, hydro-power plant and its construction. Students got very clear idea about the importance of different components.
### College level activity

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| 1. Activity: Bridge course  
Type: Bridge course  
Date: 3rd Aug. to 30th Aug. 2015  
Venue: OM Engineering College, Junagadh. |

The Bridge Course is aimed to act as a buffer for the new entrants, with an objective to provide adequate time for the transition to hard-core engineering courses. During this interaction of 4 weeks with the faculty and their classmates, the students will be equipped with the knowledge and the confidence needed to take on bigger challenges as future engineers of this country.

Director/Principal has initiated the orientation program with his energetic speech and addressed all first semester students. He oriented students with goal of GTU as well as make them aware with the mission and vision of OM Engineering College. He said that OM Engineering College believes to deliver practical education to increase learning autonomy. He has emphasized to develop one's learning attitude towards engineering studies. He shared the objectives of Bridge Course and upcoming activities are going to be done at OM Engineering College for a month.

**Start Up Village – Video streaming:**

The video contains various aspects of one's education life span where the idea of innovation is clearly mentioned specially in their personal life. It is suggesting that education is an opportunity where everyone has to go through with various and unknown options. And to take a side of an opportunity decides one's career.

Students have enjoyed this video a lot but when at last video discussion has started it has opened new horizons of thinking and makes them all realize about their future life as successful engineer as well as creative engineer.

Honorable Vice Chancellor, Dr. Akshay Agarwal has delivered LIVE speech on Hangout for the beneficial for first year student of Engineer. He has emphasized on various given points.
Mr. Prshant Kadivar, renowned trustee of OM Engineering College has appreciated efforts of GTU for spreading the awareness of Bridge Course. He asked students to use maximum resources likewise Library, laboratories etc. He insisted to learn to raise the question during classroom. He convinced students to raise question by saying that questions are raising the curiosity which leads to creativity and creativity gives birth to new thought which is the exact means of Engineering.

The Coordinator of Bridge Course has presented vote of thanks to Vice Chancellor of Gujarat Dr. Akshay Agarwal for his hangout video lecture. He also thanked to honorable trustee Mr. Prashant Kadivar, Mr. Jaydibhai Vaghela, Rajubhai Bedia and Manishbhai Boghara as well as Director and Principal Director/Principal Sir for their outstanding thoughts. He also thanked to parents and fresh students for remaining present while orientation program.

ICE-BREAKING ACTIVITIES:

- To shift learning attitude of students from rote learning to analyzing, evaluating and creativity.
- To provide the bridge between current learning attitude to engineering learning attitude
- To introduce Bloom’s learning domains: analyzing, evaluating and creativity through tech movies
- Students should understand and apply Bloom’s Taxonomy (Lower Order Thinking Skills to Higher Order Thinking Skills) in Engineering learning.

I, Robot Movie:

Above snaps, students have watched the movie. It has impacted deep in their mindset. As they were unable to favor the side of neither humanity nor robot, the movie. But students liked the movie very much after answering questions based on the movie.

To be Happy and make others Happy:

According to Bridge Course Syllabus, we have shown the video of life vest inside. We have divided students in group of four and asked them discuss about the video and come up with the conclusion of the discussion. The video was incredibly worth for the students. Infect they gave their outcome of video in written. Moreover few students have come up with their own ideas. Such videos generate
the positives in the students’ mindset and create sympathy as well as empathy among the others.

Anger Management Drawings:
Making students capable to control their anger and to deal With it in a positive way. Identifying possible solutions instantly, Assertiveness, Coping with stress and emotions. Students have prepared charts of anger management which all are incredible. There are many students who were shy and introverts were also drowning charts with their imaginations.

Role Play:
“Imagination is more important than knowledge. For knowledge is limited to all we now know and understand, while imagination embraces the entire world, and all there ever will be to know and understand.”

Students were divided into groups and they performed their role of teacher, parents etc. There were given a situation based on the conversation. With this activity they have surely developed their speaking skill.

Motivational Movie Club:
We have shown the various videos prescribed in syllabus of Bridge Course. Likewise Gita Sar by Deepak Manchanda, motivational speech of Nick who is not having their legs or hands. We have also shown the video based on the secret of happiness. Students were divided into group of four and asked to prepare notes with the discussion. And at the end of the discussion, the group leader shared their ideas based their understanding and they were fabulous.
Village Visit:
Students of OM Engineering have visited Bhiyad village which is situated near the College nearby premises. They took a brief survey of the village and distributed the areas according to their facilities and problems. Only few students have participated in the village visit. As they have decided to visit their own village as 70% students were belonging to villages. So Institute have prepared one survey report and distributed among the students to be filled while visiting their own village and that should be approved by Sarpanch or any authority.
Students have create a helping attitude by helping the needy people in the village...They have interacted with people and observe their way of living. Infect they have compared them with own lifestyle. Students have interacted with villagers and gathered the details. They have analyzed it with view to betterment. They have analyzed all problems personally and try to think logically to reach at the solutions.

Sample Format of Village Survey Questionnaire:
- Is there Safe Drinking Water facility problem at your village
- How many vehicles are there in your village per family?
- Is there any rain harvest sewage facility at your village?
- Are there any superstitions or rumors at your village believed by villagers?
- Is there any pollution problem in the village?
- Are there any problems in the village life?
- What will you list to do better as an Engineer point of view in the village?
- Is there any problem of electricity which can be fixed?
- Will they able to fulfil the dream of vision Clean India?
- Are there any health related problems at your village?
- How many percentage people are literate at your village?
- How many people used to migrate for study or business?

Topic Name: “Blooms Taxonomy-Ways to learn Engineering (Civil)”

Town planning:
- To contribute to a balanced town by ensuring that new and existing facilities are complimentary and well connected.
- To provide sustainable buildings that in environmental, social and economic terms can
continue to flourish

• To offer attractive transport alternatives for people living, working and visiting the area and minimize car parking provision on site.

Outcome:
Students of OM Engineering College has drawn a sample town planning based on Radial Town Planning which is known as the best town planning method ever in the Civil Engineering. Students were instructed to understand the town planning of Lothal city. Moreover there were few more cities were also explained to students. It has impacted on students’ mindset that 1900 year old culture were also able prepare such well managed town planning. Such Sheets were distributed to all students to design the well defined town planning just like Lothal and other places.

Topic Name: “Blooms Taxonomy-Ways to learn Engineering (Civil)”

Workshop Estimation:
To estimate the cost of industrial building
- Quantity surveying is concerned with controlling and managing the construction projects.
- To aware the students about the skill of estimation and costings.
- To develop the consultancy etiquette.
- To relate the application of mathematics in civil engineering field.
- To grow engineering learning domains amongst students – from understanding to Creativity

Workshop is an essential part of OM Engineering College. Students used to conduct their subjective practical under the workshop assistant. Prof. Brijrajsinh Sarvaiya has initiated this activity by survey method. He instructed students to fill the needed information of costing and submit it with an analyzed format.

Blooms Taxonomy-Ways to learn Engineering

Balloon Car Competition:
Prof. H M Maru has instructed students to gather waste material bottle as well as straw along with a big balloon. Afterwards students have prepared a balloon car by adding and fixing wheels and balloon. Then on the next day, all 1st semester students have come up with balloon car and in the college premises they have organized a balloon car competition. For new comers it was fabulous experience for putting their own design on the race. And at the end, Prof. H M Maru announced the three winners.
Outcome:
1. The students will be able to make useful application for society with the help of waste material.
2. Students will be able to learn how to apply Engineering Laws in real world as by making an application from Newton’s Law for Mechanical Engineering.
3. Students will be motivated to work on chain mechanism and balloon car which in turn will be helpful to create interest in mechanical subjects in future.
4. Development of Cognitive (knowledge) and Psychomotor (Manual skills) domain amongst students.
5. Development of team work and management amongst students (Affective Domain).

**Blooms Taxonomy-Ways to learn Engineering**

**LED light preparation:**
Students of 1st Semester have prepared LED light modal which can be used anywhere with the purpose of décor. The instruction was given to them to collect raw material for preparing LED light.

Students were asked to gather LED lamps, diode, registers, lamp holder, capacitors (AC & DC both) and single core wires and they were asked to come with few videos based LED lights preparation. Students have followed the instruction and attempted to prepare LED light. Students were divided in group four and asked to run PCB (Printed Circuit board). Each component asked to mount on PCB and connect as per circuit and run the original project.
Topic Name: “Presentation on Technical Disaster or Innovation”

Presentation on Technical Disaster or Innovation:
To shift learning attitude of students from rote learning to understanding, analyzing designing and creating. To prepare a presentation on any one Technical Disaster or Innovation with which some technical concepts, knowledge and information can be concluded To develop soft skills like self learning, group behavior, group ethics, management skills and presentation skills as well as technical skills amongst students Students will understand and apply Bloom’s Taxonomy (Lower Order Thinking Skills to Higher Order Thinking Skills) in Engineering learning. Students were divided in group of four and asked to choose their favorite topic among the list of topics. On the first day, they were taught how to prepare slides. On the second day they were asked to gather material and suggested to add in the slides and make it approved by assigned faculty members. On the third day they were asked to present it in front of the class.
So over all students have completed a project on power point presentation. The question answering sessions were really interesting and eye opening. And topics were also innovation innovations which have develop higher order thinking skills.

The Pythagorean Theorem:
The Pythagorean Theorem deals with the lengths of the sides of a right triangle. It is often written in the form of the equation: \( a^2 + b^2 = c^2 \)
The theorem states that:
The sum of the squares of the lengths of the legs of a right triangle (\( a\) and \( b\) in the triangle shown below) is equal to the square of the length of the hypotenuse (\( c\)).
The Pythagorean Theorem is also frequently used in more advanced math. The applications that use the Pythagorean theorem include computing the distance between points on a plane; converting between polar and rectangular coordinates; computing perimeters, surface areas and volumes of various geometric shapes; and calculating maxima and minima of perimeters, or surface areas and volumes of various geometric shapes.
Students have learnt the Pythagoras theorem in past studies. But this activity has opened their eyes and taught them the real use of Pythagoras theorem in routine life. Especially they learnt to measure Television screen measurement in diagonal dimensions. Overall this topic has served well defined objectives and proved to be for practical Engineering Studies.
Newton’s Motion Laws:
Understand the Newton’s motions law with help of Bhagavad Gita’s chapter 4 (18th Sloka). Students have understood the meaning of sloka and try to relate it with Newton's Motion Laws.

One who realizes the renunciation of action in activities and action in the renunciation of activities, he is spiritually intelligent among mankind, transcendently situated a perfect performer of all actions.

Gravitation Force & Earth Magnetic Field:
To know the how all object fall down to the earth with help of universal law.

Magnetic Levitation & Archimedes Principle:
Cryptography:
Understanding the mechanism of encrypting and decrypting, to produce strong ciphers, that can have use in various fields of engineering.

Suggestion:
The Village Visit of six days can be managed in two days according to the tasks given in the syllabus. Time Duration of Bridge Course can be utilized in two or three weeks. The course implementation should be started after end of admission process so all students can get the benefit together.

It is well designed syllabus. It has impacted on the students very deep to improve the technical abilities. Students have started thinking based on their thinking abilities. So Bloom Taxonomy has also developed the higher order thinking skills. Bridge course has rightly bridge the gap between science and engineering.