

## ACTIVE LEARNING- CREATING EXCITEMENT IN THE CLASSROOM'S- 1<sup>st</sup> Accomplishment

Under “Active Learning- Creating Excitement in the classroom” project, GTU in collaboration with L.D. College of Engineering organized a workshop for Subject Mathematics.

### Report on “Visualization of Calculus”

The programme “Visualization of Calculus” was held at L. D. College of Engineering from 4<sup>th</sup> June 2012 to 8<sup>th</sup> June 2012. This program was organized by Gujarat Technological University, coordinated by Dr. H.C. Patel, Head of Department, Mathematics and Humanities Dept., L. D. College of Engineering and inspired by Prof. M. N. Patel, Principal, L. D. College of Engineering. **The main objective of this program was to introduce animations and videos of calculus.** It may help the students to obtain formal recognition of Mathematical skills and applications of Mathematics.

This workshop focused on effective teaching of Mathematics. The aim of the workshop was to deepen the understanding of practitioners, teachers and policy makers and assist them to optimize opportunities for mathematics. One of the objectives of this programme was to find and prepare animations / videos for calculus. Introduction of animation and videos is a new concept in mathematics at Gujarat Technological University level .This concept is introduced first time at Gujarat Technological University level. As we know that in all the branches of Engineering we mainly need safety, speed and low cost and all these can be achieved by calculus and applied Mathematics

The first day of the Workshop started with active registration from participants. Then the session started with the formal introductory speech by Dr. H.C. Patel on calculus in which he encouraged all participants by explaining them importance of this workshop. Participants also gave their suggestions in line of theme. All participants were divided in teams of two members. Topics were distributed from the curriculum of calculus and polytechnic mathematics. In second and third session, all teams collected information and link of subject from the internet. In last session, all teams made a small presentation about their collection.

On Second day, all teams collected animations and videos of subject from the internet. Participants found some useful websites which may make mathematics easy and interesting. In last session of second day, all teams made a small presentation.

Third day, all teams prepared power point presentations with animation regarding allocated topic. In second session of third day, all teams presented their presentations. Honorable Vice Chancellor delivered motivational speech and suggested participants to make subject alive for engineers. Finally, there was a discussion on the work done.

On fourth day, the first Session started with an expert lecture on Mathematica -7 and Latex by Dr. A. H. Hasmani. The expert taught participants how to use Mathematica for solving problems and sketching

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graphs. In the second session final PowerPoint presentation was prepared on different topics by participants. Finally, there was a discussion on the work done.

On the last day, there was an expert lecture by Mr. Anil Nayak on videos and animations software like flash and Tech Smith Camtasia Studio 5.0.2. In second session all teams presented their presentations. Finally, there was a discussion on their presentations and collection of the material prepared. The programme was concluded by vote of thanks to Honorable Vice Chancellor, Gujarat Technological University; Respected Principal, L. D. College of Engineering; Mechanical and Computer Department, L. D. College of Engineering and Government Polytechnic, Ahmadabad. All faculties are requested to make more efficient presentation of their work in future for wide benefit of students.

It is found that this initiative will may affect globally in the state. All participants have prepared PowerPoint presentation material during the workshop. ***It is aimed to circulate this material to all colleges by Gujarat Technological University.*** We may welcome all faculties who want to enhance their material day by day. In this way, the teaching-learning material can be made very much useful, fruitful, interesting and knowledgeable. We may seek such type of programme at regional level under the guidance of Dr. H.C. Patel in all regions of Gujarat

The Program was a great success and 20 participants attended the workshop .The experts during the sessions were Dr A.H. Hasmani and Mr. Anil Nayak. The Programme was advertised by official website of Gujarat Technological University. We are grateful to Gujarat Technological University for this generous gesture and hope that this relationship may last longer for the enlightenment of faculties of Mathematics.

## FEEDBACK FROM FACULTIES

- 1) This workshop is one of the best workshops of mine. We have known about application & animation of Calculus. I am very impressed by well co-ordination.

By- Team: Group 2

*Members:*

- 1.Mrs. D A Patel (Asst. Prof-LDCE, Ahmedabad)
- 2.Mr. V P Gohil (Asst. Prof-Govt. Engg College, Bhavnagar )

- 2) Got knowledge about “Flash player software” and making videos. Make ppts with figures and add hyperlink of animations. Presentation on double integrations.

By -Team: Group 3(Multiple integrates)

*Members:*

1. Rekha V Patel (Asst. Prof-Govt. Engg college, Palanpur)
2. Mr. A A Prajapti (Asst. Prof-LDCE, Ahmedabad)

- 3) This type of programmes & workshop should be done once in six month. We learnt a lot & specially How to work with good math soft wares. Good organizing & a quality work is came out.

By - Team: Group 4

*Members:*

1. Zalak A Patel (Asst.Prof-LDCE, Ahmedabad)
2. Digesh B Shah (Asst.Prof-LDCE, Ahmedabad)

- 4) Expert made us aware about how to prepare animation with the help of flash player.

By- Team: Group 5

*Members:*

1. F J Narsingani (Asst. Prof-LDCE, Ahmedabad)
2. P L Thakkar (Asst. Prof-LDCE, Ahmedabad)

- 5) The efforts made by coordinator and his team were excellent. The arrangement (schedule) of the workshop was very good. Local faculty members were highly co-operative to the outsider faculty.

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The workshop was extremely useful for all staff members and it would be highly useful to the students also. We must thank to the coordinator and his team for their efforts.

By- Team: Group 6

*Members:*

1. Dr.A R Patel (Asst. Prof -VGEC, Chandkheda)
2. P B Trivedi (Asst. Prof -Govt Engg College, Bhavanagar)

- 6) This workshop helpful us to develop innovative teaching style, so students can developed their interest in mathematics. We thankful to H C Patel & his team.

By - Team: Group 7

*Members:*

1. R M Patel (Lecturer, VGEC, Chandkheda)
2. H G Boriya (Lect in Maths- GEC, Modasa)

- 7) We have learned so many things from this workshop. So this type of workshop should be held institute. Very good lecture on flash player and movie making software.

By - Team: Group 1

*Members:*

1. Sachin Gajjar (Lect in Maths- G P,Ahmedabad)
2. Dushyant Patel (Lect-G P for Girls,Ahmedabad)

- 8) Excellent management by H C Patel sir and his team. Organize this type of workshop at least one week in a year. This workshop is helpful to develop innovative teaching styles through PowerPoint Presentation, animation which will be helpful to create student interest in mathematics. By such kind of workshop, all the faculties come together and can communicate their thoughts. We can know some new things which can be useful in teaching our subject to the students very well.

It will be good if you can share all the faculties' email-id, contact no. so that we all remain in touch with each other and can share new thoughts.

By -Team: Group 2(Polytechnic)

*Members:*

1. Sandip R Patel (Lect –Govt. Polytechinc Gandhinagar)
2. Manish N Patel (Lect in Maths- Govt.Polytechic, Godhra)