

7.2 BEST PRACTICES

TWO INSTITUTIONAL BEST PRACTICES

1. VIRTUAL CLASSROOM SUPPORTS AND VIDEO CONFERENCING USING ZOOM MEETING

Objective:

- The main objective is to increase the quality of Teaching – Learning Processing by incorporating ICT modes like, online classes and webinars.
- Zoom Meeting and Google Classroom that aims to simplify creating virtual classroom, interacting and distributing the materials in a paperless way.
- This practice is to share needy resources between teachers and students.

The Context:

- VirtualClassroom supports and video conferencing using zoom meeting impacts to increase the students learning.
- Teachers can schedule the task dynamically and have the option to attach files to the assignment which students can view, edit, or get an individual copy.
- Students can create their own study materials, Assignment reports and their innovations effectively.
- Teachers have the option to monitor the progress of each student
- It allow the students to review the classes, assignments and other tasks for detailed understanding.
- Time Management, Evaluation, Assessment Report generation and remedial process become very easy with these types of ICT modes.

Evidence of Success:

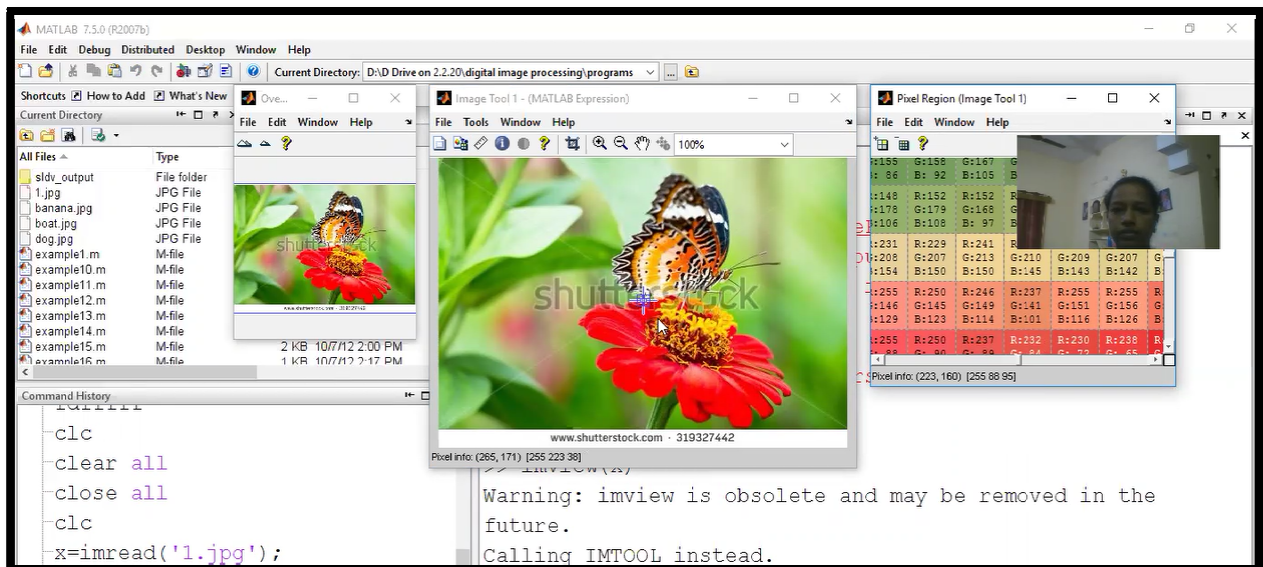
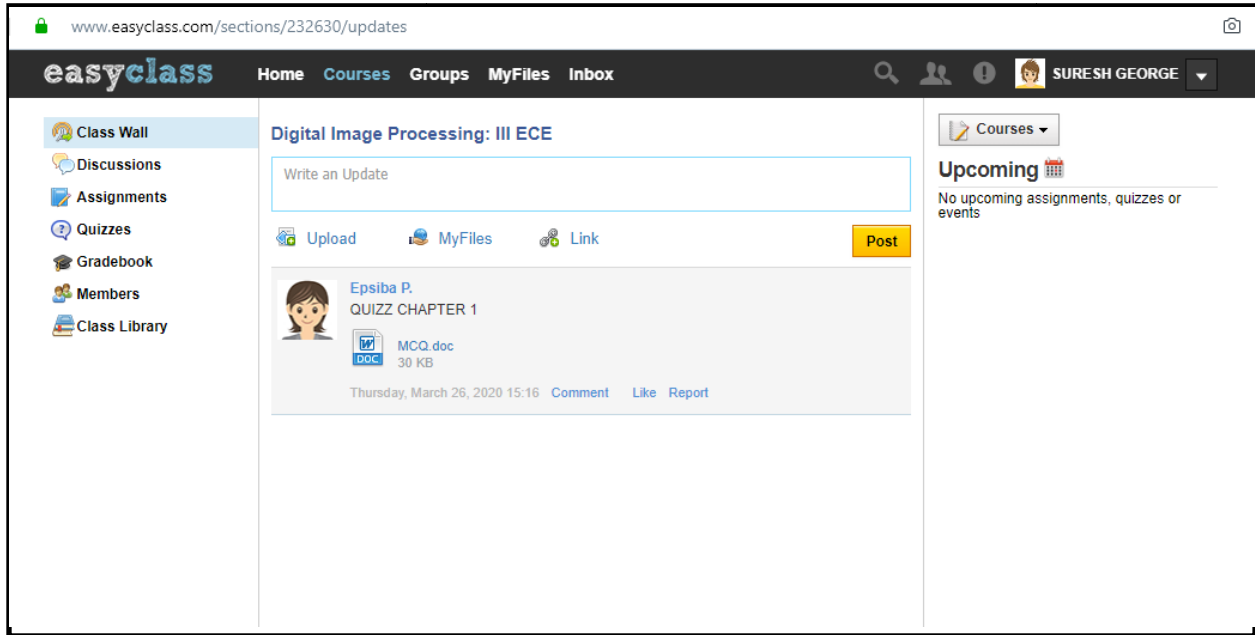
- The method helped all students for referring of syllabus, topics covered, important questions in the theory exam, previous year's question papers etc.
- Students can access it from their home or where ever and whenever they are free.
- Progress will be monitored timely.

Challenging Issues:

- Uploading resources are the main challenges

❑ Lack of adequate ICT Support

❑ Internet connectivity



2. DIGITAL POSTER PRESENTATION BY STUDENTS

Objective:

- To cultivate out of box thinking, such as inter-disciplinary thinking, synthesizing knowledge of different disciplines and to cope with complexity among students.
- To ensure the knowledge acquiring among the students community.
- To make them understand the emerging concepts from known concepts.
- To stimulate in-depth learning of the concepts and understanding of various topics.

The Context:

- This event is to provide an opportunity for the students to share their knowledge with the peer group members.
- The digital poster is prepared in advance with desired technical framework to share the knowledge on inter-disciplinary fields.
- This activity will lead to encourage the students to participate in symposia, technical presentation.

The Practice:

- The schedule is prepared and given to the faculty members to prepare and present the acquired
- This presentation is recorded for review and template for the other participants.

Evidence of Success:

- Outcome of this practice enables the students to
 - ✓ Participate in technical presentation
 - ✓ Conferences
 - ✓ Project Expo
 - ✓ Participate in skill oriented competitions

Challenging Issues:

Resources are the main challenges for participation in the competition.

- For success of such practices require attitude and willingness without which it is difficult to motivate students which is the target audience of the Institute.
- Degree of motivation required in the minds of the students can result in success of such practices.

ELECTRONICS

We are surrounded by devices that rely on electronics.
We rely on electronics for communication, to light and heat our homes.

EXAMPLES OF ELECTRONICS



Mobile Phone



Calculator



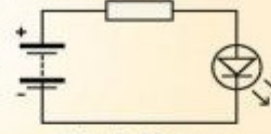
Computer

CIRCUITS

In electronics, circuit diagrams are used to show how a circuit works.
Symbols are used to represent the components.



Circuit



Circuit Diagram

PCB (PRINTED CIRCUIT BOARDS)



Circuits are made on a Printed Circuit Board (PCB).
This is a board with thin copper tracks that link the components together.

Traditional PCBs have the components on one side and the soldering on the other.

Surface Mounting

On modern PCBs, the copper tracks and components are surface mounted onto the same side of the board. The components are miniaturized.

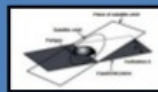


Satellite Mobile Communication



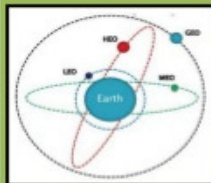
Introduction:-

- A satellite is an object that orbits another large object like planet.
- A communication Satellite is a station in space that is used for telecommunication, radio and television signals.
- In Simplest form, a satellite communication can be thought of as microwave repeater in the sky.



Types:-

- Geostationary or geosynchronous earth orbit (GEO).
- Quasi-Zenith Satellite.
- Low Earth Orbit (LEO).
- Medium Earth Orbit (MEO).
- Highly Elliptical Orbit (HEO).



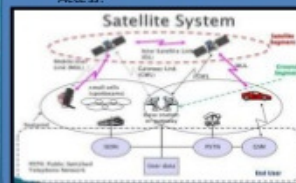
Working:-

Modulation:

1. Amplitude Shift Keying
2. Frequency Shift Keying
3. Phase Shift Keying

Multiple Access Technique:

1. Frequency division Multiple Access (FDMA).
2. Time Division Multiple Access (TDMA).
3. Code Division Multiple Access (CDMA).
4. Wideband Code Division Multiple Access.



Application:-

1. Weather Forecasting.
 2. Radio and TV Broadcasting.
 3. Military Application.
 4. Navigation Application.
 5. Connecting Remote Areas.
 6. Global Mobile communication.
- And Much More.....

References:-

Satellite Communication Systems Design
Dimitris Anastasiadis
<http://www.cse.cuhk.edu.hk/~dimitris/>

