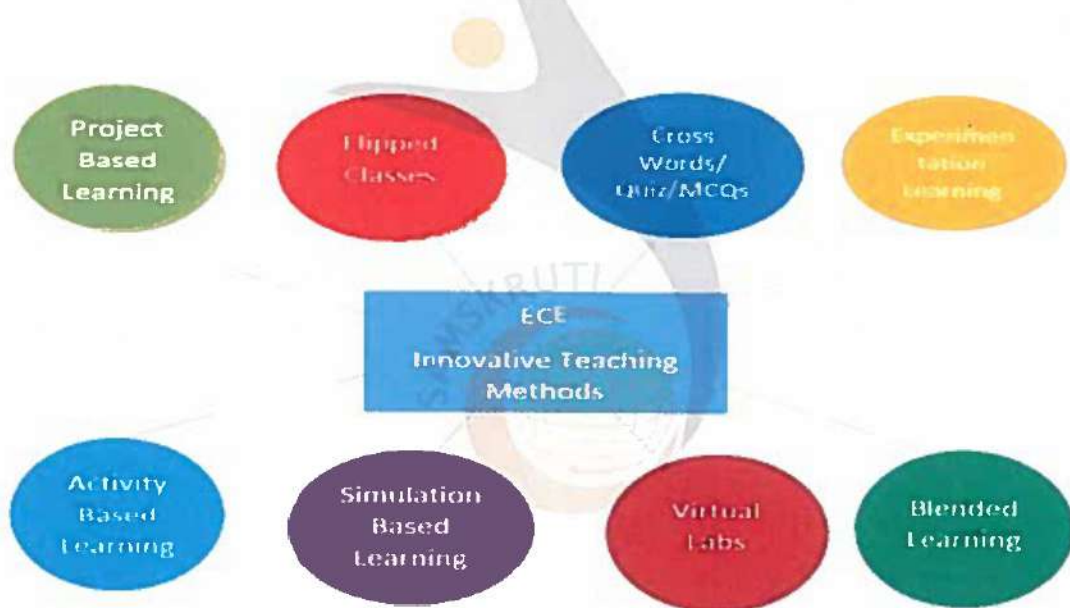


## Department of Electronics and Communication Engineering

### Innovative Teaching Methods A. Y : 2021-22

## Innovative Teaching Methods

The Department of ECE uses a number of cutting-edge teaching techniques that grab students' attention in the classroom, pique their interest in the material, inspire a desire to learn more, stimulate their minds, help them comprehend the material rather than just memories it, encourage student interaction, and enhance their capacity to apply what they have learned. Also, the new assignments boost students' participation in the class.



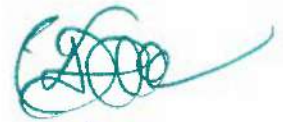
The Innovative teaching methods followed for various courses

  
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# Department of Electronics and Communication Engineering

## Innovative Teaching Methods

Sl. No	Name of Faculty	Course	Semester	Innovative method	PLATFORM /LINK
1	THALAPALLY MRINALINI CHARAN	Digital Image Processing	IV-1	Quiz	<a href="https://www.samskruti.ac.in/engineering/ece">https://www.samskruti.ac.in/engineering/ece</a>
2	KANCHARANA PRASANTH	Communication Systems	III-I	Experiential Learning	<a href="https://www.samskruti.ac.in/engineering/ece">https://www.samskruti.ac.in/engineering/ece</a>
3	CHUKKA RANJITH	Signal and Image Processing	IV-I	Flipped Class based	<a href="https://www.samskruti.ac.in/engineering/ece">https://www.samskruti.ac.in/engineering/ece</a>
4	NARESH DHONTHISARAM	VLSI System Design	III-I	Activity based Learning	<a href="https://www.samskruti.ac.in/engineering/ece">https://www.samskruti.ac.in/engineering/ece</a>
5	ANUSHA KORE	Embedded systems	IV-II	Project Based learning	<a href="https://www.samskruti.ac.in/engineering/ece">https://www.samskruti.ac.in/engineering/ece</a>
6	DR.P.LOVAKUMAR	Optical fibre communication and transmission technology	IV-I	Guest lecture	
7	D.NARESH	Ledmoschip	IV-I	Industrial Visit	



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## Department of Electronics and Communication Engineering

### Innovative Teaching Methods

Title of Innovation method/activity: **Program Implementation using MATLAB/Python**

Faculty / Inventor **THALAPALLY MRINALINI CHARAN**

Course Name: **Digital Image Processing**

**Objective of the method:**

The main objective was to give the students a hands-on implementation of the various Digital Image processing methods, with an emphasis on enhancement and restoration techniques.

**Topic covered through activity:**

Image Enhancement and Image Restoration

**Description of the method:**

During the class hours, some basic introduction to image processing tool of MATLAB and python was taught. Students accessed MATLAB online through the college license. Codes related to image reading, writing and basic arithmetic operations were explained. Later on, a small assignment on noise removal and image enhancement techniques was given to the students. The students were asked to add noise to the image and implement the filters to remove that noise. Similarly, the students were asked to implement low pass and high pass filters using masks. The students shared the results with the course faculty.



  
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**Department of Electronics and Communication Engineering**  
**Innovative Teaching Methods**

Title of Innovation method/activity: **Quiz based Learning**

Faculty / Inventor: Designation: KANCHARANA PRASANTH,  
Associate Professor

**Course Name:** Information Theory and Coding

**Objective of the method:** To teach the subject beyond the syllabus and inculcate the research culture in students.

**Topic covered through activity:** Channel Encoding.

**Description of the method :**

1. The steps followed for innovative teaching methods.
2. Faculty will search the papers related to the latest topic on channel encoding.
3. Choose the relevant paper related to subject.
4. The students will be given with chosen recent research papers on the Channel Coding used in the communication applications two days advance.
5. The students will go through papers and understand the method/techniques implemented in the paper and hardware/software requirements.
6. Quiz will be conducted based on the papers.

**Benefits of method:**

1. The following are some of the takeaway by the participants:
2. This activity will help students to understand the industry relevance and how to solve the problem in a systematic way.
3. The topics on real time applications help students get an exposure to the need for studying any subject.
4. Students will be able to appreciate the application point of view. This would help them for selecting topics to conduct their final year projects or mini projects.



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Students attending quiz

  
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**Department of Electronics and Communication Engineering**  
**Innovative Teaching Methods**

**Title of Innovation method/activity:** Flipped Class Teaching

**Faculty / Inventor:** CHUKKA RANJITH

**Designation:** Associate Professor

**Course Name:** Satellite Communication

**Goals/objective of method:** To create interactive learning among students.

**Topic covered through activity:** Weather Forecast and Remote Sensing satellite


**Description of method (8 – 10 lines):** This method adds a new element to help students learn with each other. The class starts with a student explaining the concept covered before class. In a flipped classroom, the teacher does not give direct instruction but provides all the help and material for students to present their work. The flipped class creates a learning space that students can explore.

**Benefits of method:** The students will be able to learn at their own pace with more one-to-one interaction between teacher and student. This method provides more collaboration time for students. Moreover, flipped classroom changes the traditional learning culture into a learner-centered class.

  
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Students delivering seminar

  
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**Department of Electronics and Communication Engineering**  
**Innovative Teaching Methods**

<b>Title of Innovation:</b>	<b>Google it – Report writing</b>
<b>Faculty:</b>	<b>NARESH DHONTHISARAM</b>
<b>Designation:</b>	<b>Assistant Professor</b>
<b>Course Name:</b>	<b>Technological Innovation Management and Entrepreneurship</b>
<b>Objective of the method:</b>	<b>Inculcate presentation skills and give exposure to new tools for presentation.</b>
<b>Topic covered through activity:</b>	<b>Planning: Vision &amp; Mission statements</b>

**Description of the method :**

Students were asked to Google the vision, mission statements of any two Corporate Companies (public or private), Educational Organizations and Health sector and make a report of the same.

**Benefits of method:**

- Students understood the requirements of different domains by analysing the vision and mission statements.
- This activity enhances communication and writing skills as it is a team activity.
- The activity also engages student in independent/self-learning

  
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**Department of Electronics and Communication Engineering**  
**Innovative Teaching Methods**

**Title of Innovation:** Story Building  
**Faculty:** ANUSHA KORE  
**Designation:** Assistant Professor  
**Course Name:** Technological Innovation Management and Entrepreneurship

**Objective of the method:** To kindle interest/enthusiasm.

**Description of the method :**



- Story building is a team activity wherein all the team members communicate with each other during the online class, to build the story.
- Teams are given keywords of the story to be build.
- A preparation time of 10 minutes is given to build the story and narrate it to the class.
- Teams are also made to write the story and submit the document.

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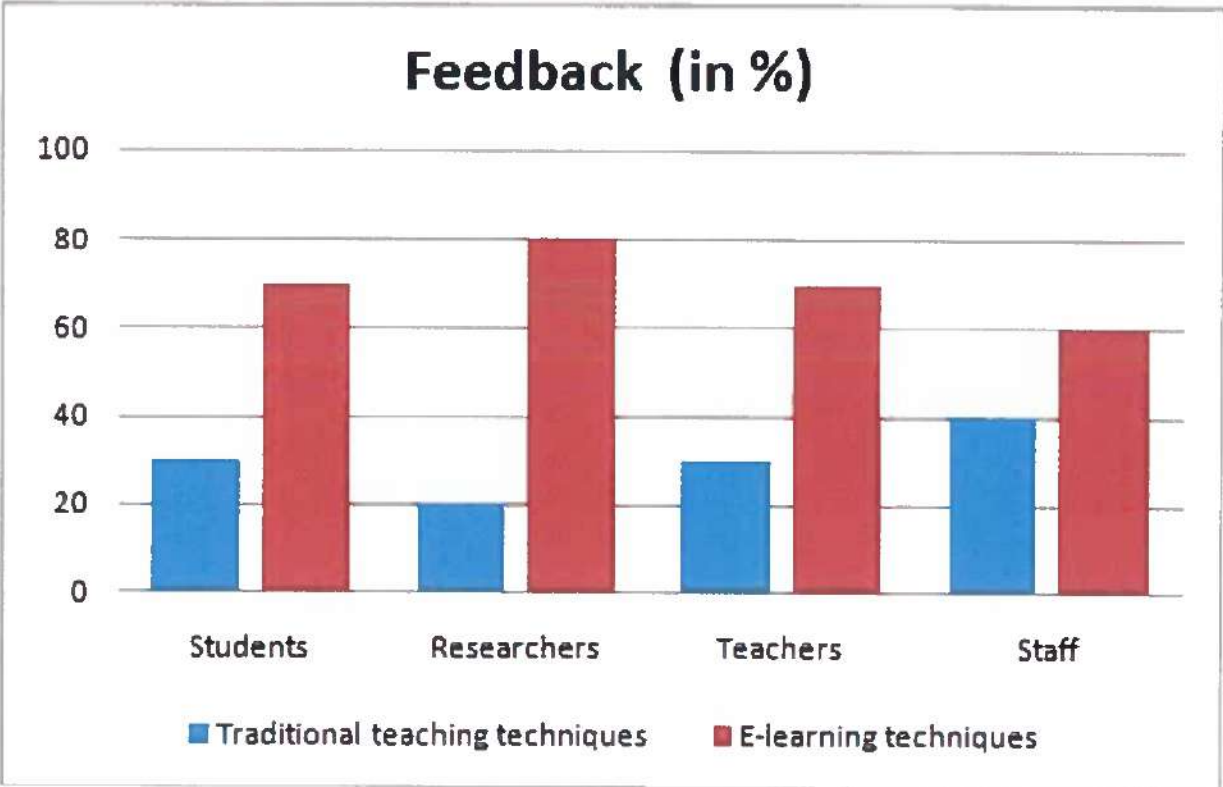
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**Benefits of method:**

- This activity serves as a technique to memorize / remember the concepts with ease.
- Activity inculcates creativity and writing skills



  
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## Department of Electronics and Communication Engineering

### Innovative Teaching Methods

<b>Title of Innovation:</b>	<b>Guest lecture on Optical fibre communication and transmission technology</b>
<b>Faculty:</b>	<b>Mr. P.Lova kumar</b>
<b>Designation:</b>	<b>Senior Manager RTTC BSNL</b>
<b>Course Name:</b>	<b>Optical fibre communication</b>
<b>Objective of the method:</b>	<ul style="list-style-type: none"><li>• To understand the concepts of optical fibre communications</li><li>• To know the different parameters of optical communications</li></ul>
<b>Topic covered through activity:</b>	<ul style="list-style-type: none"><li>• Optical fibre high speed data transmission.</li><li>• Its long distance transmission</li><li>• Its electromagnetic interference</li><li>• Its uses in space communications</li></ul>

#### **Description of the method :**

This method, is part of a single course, the lecture topic being relevant to the contents and learning goals of the course being the primary audience, it supplements the regular curriculum for the students. They provide additional information, practicals; insights and relevant industry practices that the students can use to enhance their basic understanding.

#### **Benefits of method:**

- The experts share their real life experiences
- The experts enlighten students beyond the theoretical knowledge.
- Better understanding of the concepts associated with the course.



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Guest lecturer explaining the optical fibre communication

  
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HOD Addressing the students on Guest lecture importance

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# Department of Electronics and Communication Engineering

## Innovative Teaching Methods


<b>Title of Innovation:</b>	<b>Industrial visit to LEDCHIP</b>
<b>Faculty:</b>	<b>D.Naresh</b>
<b>Designation:</b>	Assistant Professor
<b>Course Name:</b>	Study of Chip designing
<b>Objective of the method:</b>	<ul style="list-style-type: none"><li>• To Bridge the widening gap betw theoretical learning and Practical exposure.</li><li>• Different business operations and proc performed at the work place.</li></ul>
<b>Topic covered through activity:</b>	<ul style="list-style-type: none"><li>• How Innovation and Research done</li><li>• How products quality and Reliability is checked</li></ul>

### Description of the method :

Industrial visits play a vital role in holistic education and profession professional develop by offering practical exposure, networking opportunities and a better understanding of in practices and dynamics.

### Benefits of method:

- Helps students to understand the functioning of the industry
- Provides an insight into the real working environment
- Provides and opportunity to plan, organize and engage things.
- A good opportunity to interact with the experts
- Helps to enhance their interpersonal skills.

  
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Vist to LEDCHIP



  
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Pics showing LED chip Designing

  
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