

S J C Institute of Technology, Chickballapura- 562101
Department of Electronics and Communication Engineering

INNOVATIVE TEACHING METHODS

Year: 2022-2023 (Odd Sem)

<i>Sl no.</i>	<i>Subject Code</i>	<i>Faculty Name</i>	<i>Subject</i>	<i>ITM</i>
1.	21EC34	Dr. S Bhargavi	Analog Electronic Circuits	<ul style="list-style-type: none"> • One-minute activity • Flipped class • Problem-solving exercise • STAD • Peer teaching • Think pair share
2.	21EC32	Prof. Asha Rani M	Digital System Design using Verilog	<ul style="list-style-type: none"> • TAPPS • One-minute activity • Seminar • Technical Talk
3.	21EC34	Dr. M Nagendra Kumar	AEC	<ul style="list-style-type: none"> • Think pair share • Flipped Classroom
4.	21EC33	Prof. Anitha C	Basic Signal Processing	<ul style="list-style-type: none"> • Flipped Class
5.	18EC731	Prof. Ravi M V	RTS	<ul style="list-style-type: none"> • Flipped Classroom
6.	18EC52	Dr. Krushitha Shetty	Digital Signal Processing	<ul style="list-style-type: none"> • Seminar
7.	22PLC15B	Prof. Chandini A G	Introduction to Python Programming	<ul style="list-style-type: none"> • Coding analysis activity

Year: 2021-22 (Even)

<i>Sl no.</i>	<i>Subject Code</i>	<i>Faculty Name</i>	<i>Subject</i>	<i>ITM</i>
1	18EC62	Dr. S Bhargavi	Embedded Systems	<ul style="list-style-type: none"> • One-minute activity • Flipped Classroom • Coding • Think pair share activity • Quiz • Charts making • Who Am I • Crossword

2	18EC62	Prof. Shreehari H S	Embedded Systems	<ul style="list-style-type: none"> • Think, Innovate and Create • Quiz • Effective Presentation Skills • Real-Time Knowledge-Use of ECU in cars • Who Am I • Real-time usage of Process, Threads and handles
3	21ELN24	Dr. Pranjala Tiwari	Basic Electronics and communication systems	<ul style="list-style-type: none"> • Hands-on Project-based introduction to electronics. • 5- minute activity
4	18EC821	Prof. Anitha C	Network Security	<ul style="list-style-type: none"> • Quiz • Flipped Class
	18EC45		Signals & Systems	<ul style="list-style-type: none"> • Peer Teaching • Role Play
5	18EC821	Prof. Veena S	Network Security	<ul style="list-style-type: none"> • Flipped Class
6	18EC43 21ELN24	Prof. Chandini A. G	Control Systems(18EC43) Basic Electronics and communication	<ul style="list-style-type: none"> • Think pair share • Group Concept Guage • Surprize written Quiz
7	18EC81	Prof. Ravi M V	Wireless and Cellular Communication	<ul style="list-style-type: none"> • Flipped Classroom
8	21ELN24	Dr. C Rangaswamy	Basic Electronics and communication systems	<ul style="list-style-type: none"> • Role play
9	18EC42	Prof. Nirmala Devi A.C	Analog Circuits	<ul style="list-style-type: none"> • Flipped Classroom
10	18EC44	Dr. Sudhir P	Engineering Statistics and Linear algebra	<ul style="list-style-type: none"> • Online and coding approach to understanding Linear algebra concepts
11	18MAT41	Prof. Dhanalakshmi	Complex analysis, probability and Statistical methods	<ul style="list-style-type: none"> • Project models
12	18EC42	Prof. Bhavana S	Analog Circuits	<ul style="list-style-type: none"> • Teach Back • Who Am I
13	18EC63	Dr. Levy M	Microwaves and Antennas	<ul style="list-style-type: none"> • Practical Explanation on Antennas

Year: 2021-22

<i>Sl no.</i>	<i>Subject Code</i>	<i>Faculty Name</i>	<i>Subject</i>	<i>ITM</i>
1	18EC71	Dr. S Bhargavi	Computer Networks	<ul style="list-style-type: none"> • Who Am I? • Flipped Classroom • One-minute Paper activity • Problem solving exercise • Think pair share • Surprise written Quiz
2	18EC36	Prof. Ravi Kiran R	Power Electronics & Instrumentation	<ul style="list-style-type: none"> • Think Pair Share
3	18EC35	Prof. Chandini A. G	Computer Organization &	<ul style="list-style-type: none"> • “On-Spot -Quick Two” Activity – Problem based

Year: 2020-21

1	18EC46	Prof. Manjunatha Y R	Microcontrollers	<ul style="list-style-type: none"> • Mini Project
2	18EC55	Prof. Shwetha V	Electromagnetic Waves	<ul style="list-style-type: none"> • Technical Seminar/Guest Lecture

Year: 2019-20

1	15EC81	Prof. Ravi M. V	Wireless Cellular& LTE 4G Broadband	<ul style="list-style-type: none"> • Webinar
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Year: 2018-19

1	15EC52	Prof. Ravi M V	Digital Signal processing	<ul style="list-style-type: none"> • Subject Quiz
2	15EC53	Prof. Manjunatha Y R	Verilog HDL	<ul style="list-style-type: none"> • Think-Aloud-Pair-Problem Solving (TAPPS)
3	17EC36	Prof. Chaitra N	Engineering Electromagnetics	<ul style="list-style-type: none"> • Peer Review

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Department of Electronics and Communication Engineering

INNOVATIVE TEACHING METHODS

Year: 2022 (Even Sem)

Sl no.	Subject Code	Faculty Name	Subject	ITM
1	18EC62	Dr. S Bhargavi	Embedded Systems	<ul style="list-style-type: none"> One-minute activity Flipped Classroom Coding Think pair share activity Quiz Charts making Who Am I Crossword
2	18EC62	Prof. Shreehari H S	Embedded Systems	<ul style="list-style-type: none"> Think, Innovate and Create Quiz Effective Presentation Skills Real-Time Knowledge-Use of ECU in cars Who Am I Real-time usage of Process, Threads and handles
3	21ELN24	Dr. Pranjala Tiwari	Basic Electronics and communication systems	<ul style="list-style-type: none"> Hands-on Project-based introduction to electronics. 5- minute activity
4	18EC821	Prof. Anitha C	Network Security	<ul style="list-style-type: none"> Quiz Flipped Class
	18EC45		Signals & Systems	<ul style="list-style-type: none"> Peer Teaching Role Play
5	18EC821	Prof. Veena S	Network Security	<ul style="list-style-type: none"> Flipped Class
6	18EC43 21ELN24	Prof. Chandini A. G	Control Systems(18EC43) Basic Electronics and communication	<ul style="list-style-type: none"> Think pair share Group Concept Guage Surprize written Quiz
7	18EC81	Prof. Ravi M V	Wireless and Cellular Communication	<ul style="list-style-type: none"> Flipped Classroom
8	21ELN24	Dr. C Rangaswamy	Basic Electronics and communication systems	<ul style="list-style-type: none"> Role play

SJC INSTITUTE OF TECHNOLOGY, Chickballapur
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
INNOVATIVE TEACHING METHODS (EVEN SEM 2022)

TITLE OF INNOVATION: **ONE MINUTE ACTIVITY**
COURSE FACULTY: **Dr.S.BHARGAVI**
DESIGNATION: **PROFESSOR**
COURSE NAME & CODE: **EMBEDDED SYSTEMS (18EC62)**
SEMESTER & SECTION: **6th A**
OBJECTIVE OF THE METHOD: **TO MAKE STUDENTS LEARN THE
CONCEPT BY DOING AN ACTIVITY**
TOPIC COVERED: **MAJOR STRATEGIC COMPONENTS,
SYLLABUS & INTRODUCTION**
CONDUCTION DATE: **04.04.2022**

DESCRIPTION OF THE METHOD:

The Minute Paper is a formative assessment strategy whereby students are asked to take one minute (or more) to answer the questions. The Minute Paper refers to a fast and information evaluation of the knowledge of students. To use the Minute Paper, an instructor stops class two or three minutes early and asks students to respond briefly for few questions discussed on the topic. This activity can be performed after completion of a chapter or topic. Active learning can bring in the excitement and energy and keep away the boredom.

Teachers often give this activity within a learning environment to assess how the learners understand a concept. Therefore, it serves as a process to understand students' insight into the subject matter. In the process, the teachers can detect any possible knowledge gaps. Minute paper activity can help teachers assess the effectiveness of their instruction, as well as student understanding of the concepts taught.

BENEFITS OF THE METHOD:

- It keeps the student engaged
- It can be used at the end of any topic discussion.
- It provides a quick and extremely simple way to collect written feedback on student learning.
- It is a very adaptable tool.
- It improves the quality of class discussion
- It promotes class attendance and attentiveness
- It builds Faculty-student rapport

ACTIVITY DETAILS:

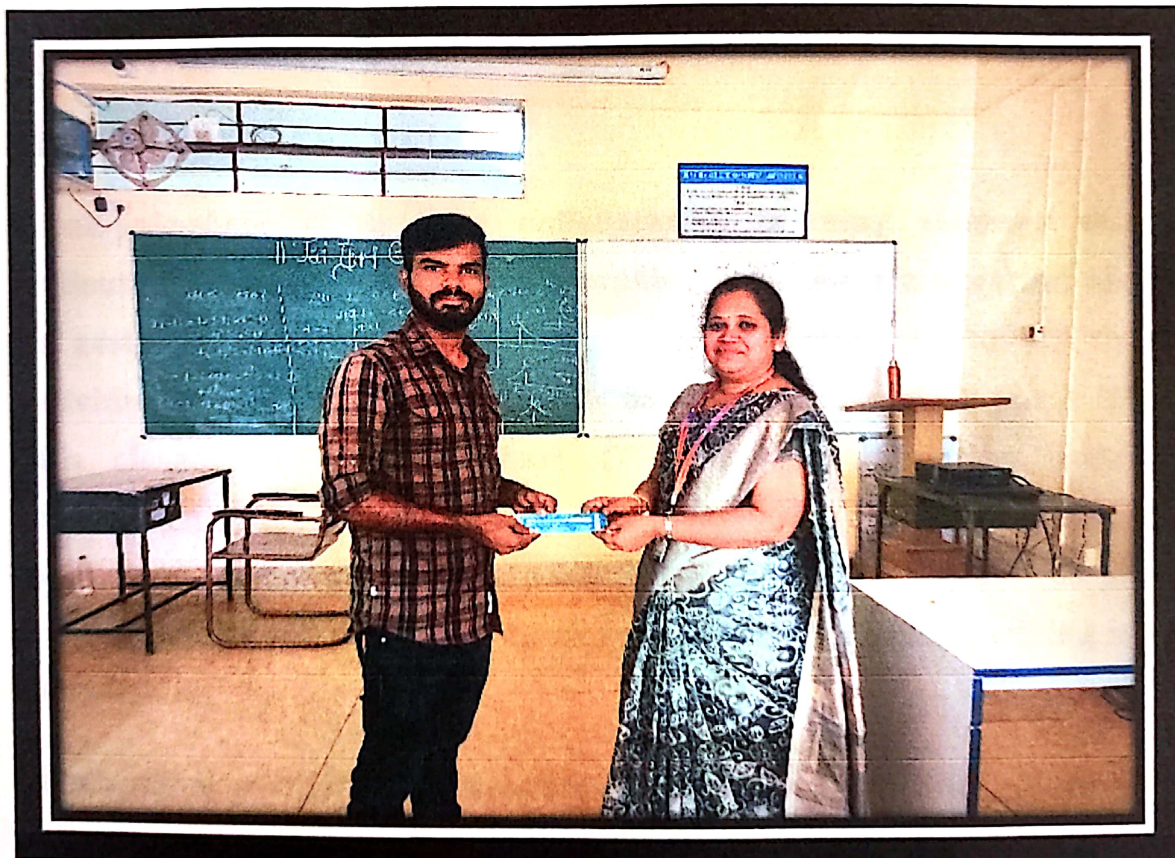


Topic:

1. Major Strategic Components
2. Syllabus & Introduction

Reflections: Wellaccepted

Gali Jaswanth Reddy won the I prize



B. N. Lakshmi
 orlou/ron
Prof. & Head
 Dept. of Electronics & Communication
 S.J.C. Institute of Technology
 Chikballanur-562101.

MSJ 05/04/2022
 Signature of Course Faculty

Innovative Methodology -1: ITC (Innovate, Think and Create)

Date: 21-04-2022

Time: 11:00 – 11:50 AM

Course : **EMBEDDED SYSTEM DESIGN**

Module Name: **Overview of the Cortex M3 (Chapter 2)**

Organized by: **Prof. Shreehari Harthi**, Assistant Professor, Dept. of ECE, SJGIT.

To make the students understand the concept of the **3-pipeline system (fetch, decode and execute)** and also challenge them to “**think out of the box**”, an activity was conducted and the outcome of the activity turned out fruitful.

Procedure:

1. Students were taken out of the class to the nearest open space and made into five small groups.
2. They were asked to create a new product with the available waste material (stones, grass, wood, plastic bottles) within 15 minutes (5 minutes for raw material collection and 10 minutes for building the product).
3. After 15 minutes, the students were asked to present the innovative product they had built.

Results:

1. Each team presented their ideas and most of them were brilliantly executed and excellently crafted.
2. One of the teams performed excellently well and built a “Double-decker” bus using two plastic bottles, and fencing wires, and also surprisingly used a piece of glass to cut the plastic bottle with precise measurements.
3. Finally, the aim of the activity was explained to the students and they were made to understand that the CORTEX M3 processor works the same way how a human brain works. The students were made to realize the importance of the concept of the **3 pipeline systems (fetch, decode and execute)** as they had just implemented the above concept (the human brain does it in the background).

Following are the field activity pictures and students presenting their respective ideas.

Outdoor Activity Snapshots:





Figure 1: Winner group – A double-decker bus model built by a team of students.



Figure 5: A natural water filter system model



Figure 6: Drip Irrigation System Model

Innovative assignment report

Concerned faculty:

Dr. Pranjala Tiwari

Associate Professor, ECE department, SJCIT

Assignment Title 1: Hands on project based introduction to Electronics.

Date and Time: 28/07/2022; 10-10:50 AM

Students involved: II semester K- section

Objective:

To introduce the students with basic electronics components (resistor, capacitor, batteries, LEDs, temperature sensor, voltage regulator, basic breadboard) and teach them how to use each one of them effectively in a circuit.

Discussion points:

1. Basic architecture of breadboard and its usage in making circuits.
2. Explanation on color coding of resistors and a small quiz on the same.
3. Discussion on series and parallel connections on breadboard.
4. Brief discussion on making a circuit diagram before implementing the breadboard connections.
5. Some basic experiments with LEDs and Zener diodes.

Photographs of the session held:

