
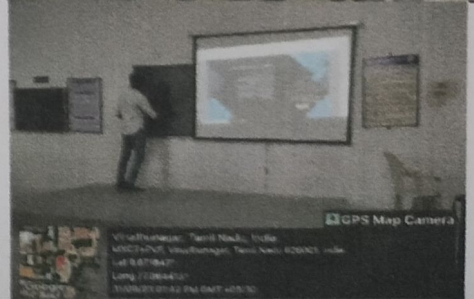
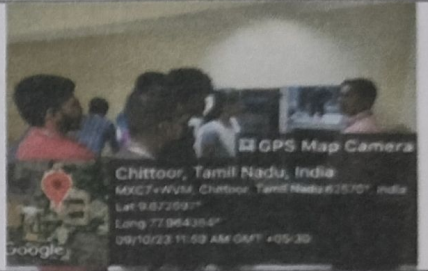
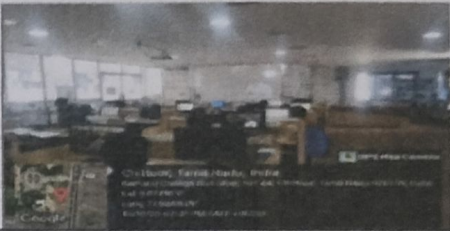






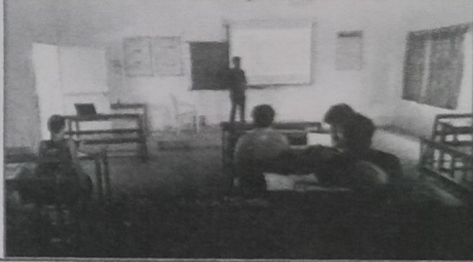

DEPARTMENT OF MECHATRONICS ENGINEERING
 (Accredited by NBA, New Delhi)

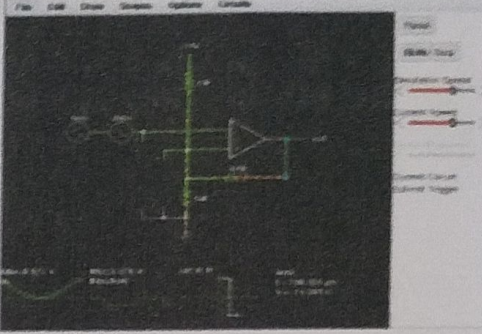

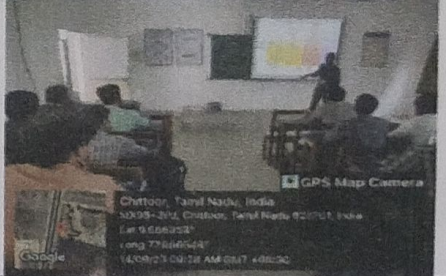
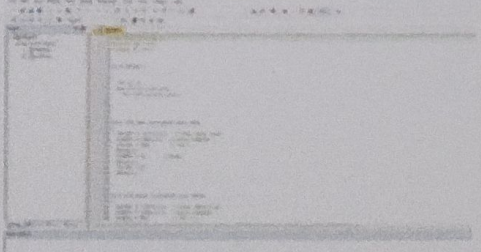
Academic Year 2023-2024 ODD

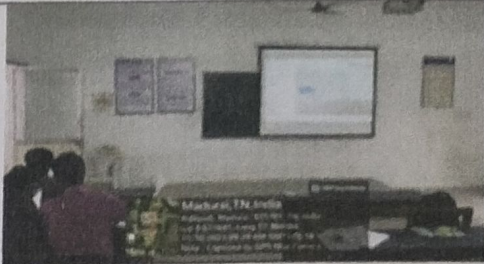
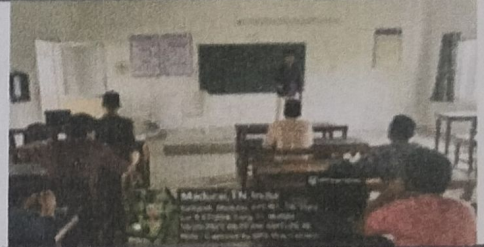

Innovations and ICT Tools/Activity Based Learning following in Class Room Teaching

S. No.	Year/ Sem	Name of the Subject	Name of the faculty	Name of the Topic	Type of activity (group activity/ Quiz/models/etc)	Proof(photos)
2023-2024						
1	II/III	MT2203-Fluid Mechanics & Thermal Science	Mr. A. Ganesan	Build a homemade fountain	Activity Based Assignment	
2	II/III	MT2203-Fluid Mechanics & Thermal Science	Mr. A. Ganesan	Fluid Mechanics and Machineries	Seminar Presentation	

3	III/ V	VMT325- Advanced Manufacturing	Dr. K. Muruganantham	FDM-Additive Manufacturing Machine	Demonstration of machines	
4	III/ V	MT2301- Embedded Systems and Programming	Dr. K. Kannan	Demonstration of ARM Architecture	Audio & Video class	
5	II/III	ME2201- Engineering Mechanics	Dr. S. Muthu Natarajan	Problem Solving	Activity Based Learning	
6	III/ V	MT2302- Kinematics and Dynamics of Machinery.	Dr. P. Balasundar	Seminar on CAM Profile	Seminar Presentation	

7	III/ V	MT2302- Kinematics and Dynamics of Machineries.	Dr. P. Balasundar	Beam Engine	Model Preparation	
8	III/ V	MT2302- Kinematics and Dynamics of Machineries.	Dr. P. Balasundar	Gyroscope	Demonstration using Machines	
9	IV/VI I	EI1634- Embedded Systems	Mr. S. Wesley Moses Samdoss	Embedded Product development Cycle	Activity Based Learning	
10	II/III	MT2202- Electrical Circuits and Machines	Mr. A. Arulkumar	Superposition Theorem	Seminar Presentation	

11	II/III	MT2201-Analog Devices and Circuits	Dr. S. Rajeshbabu	Diodes and Rectifiers	Online Simulation	
12	IV/VI I	GE1771-Principles of Management	Dr. G. Sakthivel	Principle of Management and Case Studies	Seminar Presentation	
13	IV/VI I	MT1770-Computer Aided Design and Manufacturing	Dr. P. Balasundar	Product Life Cycle	Seminar Presentation	
14	IV/VI I	EI1634-Embedded Systems	Mr. S. Wesley Moses Samdoss	Programming Concepts Using ARM/PIC	Simulation Based Learning	

15	III/V	VMT312-Robot Operating System	Mr. S. Wesley Moses Samdoss	Programming Concepts Using Robot Operating System (Coppeliassim)	Simulation Based Learning	
16	III/V	VMT312-Robot Operating System	Mr. S. Wesley Moses Samdoss	Programming Concepts Using Robot Operating System-2	Seminar Presentation	
17	IV/VI I	MT1702- Robotics and Machine Vision Systems	Dr. K. Kannan	Robot Kinematics and Dynamics	Simulation using Robot Analyser	

Department of Mechatronics Engineering

2023 - 2024 Odd Semester

MT2203 - Fluid Mechanics and Thermal sciences

Staff In-charge: Mr. A. GANESAN, AP/MTRE

Activity Based Assignment

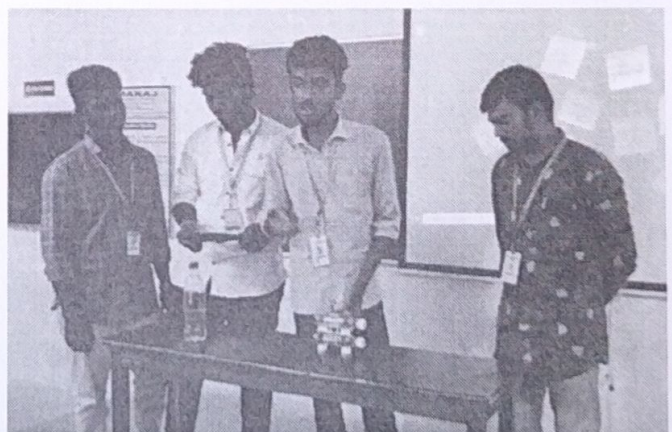
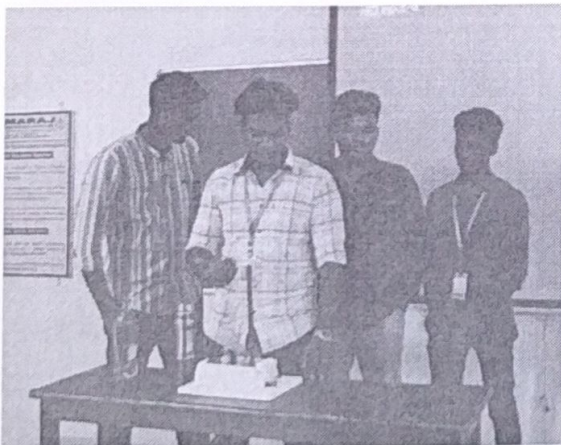
Title : BUILD A HOMEMADE FOUNTAIN

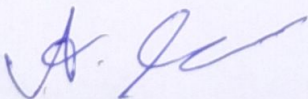
Objective : To demonstrate an understanding of fluid mechanics principles by designing constructing a functional homemade fountain.

Team Size : Maximum 4 students.

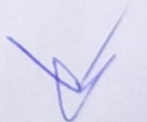
Duration : 10 Days.

Outcome



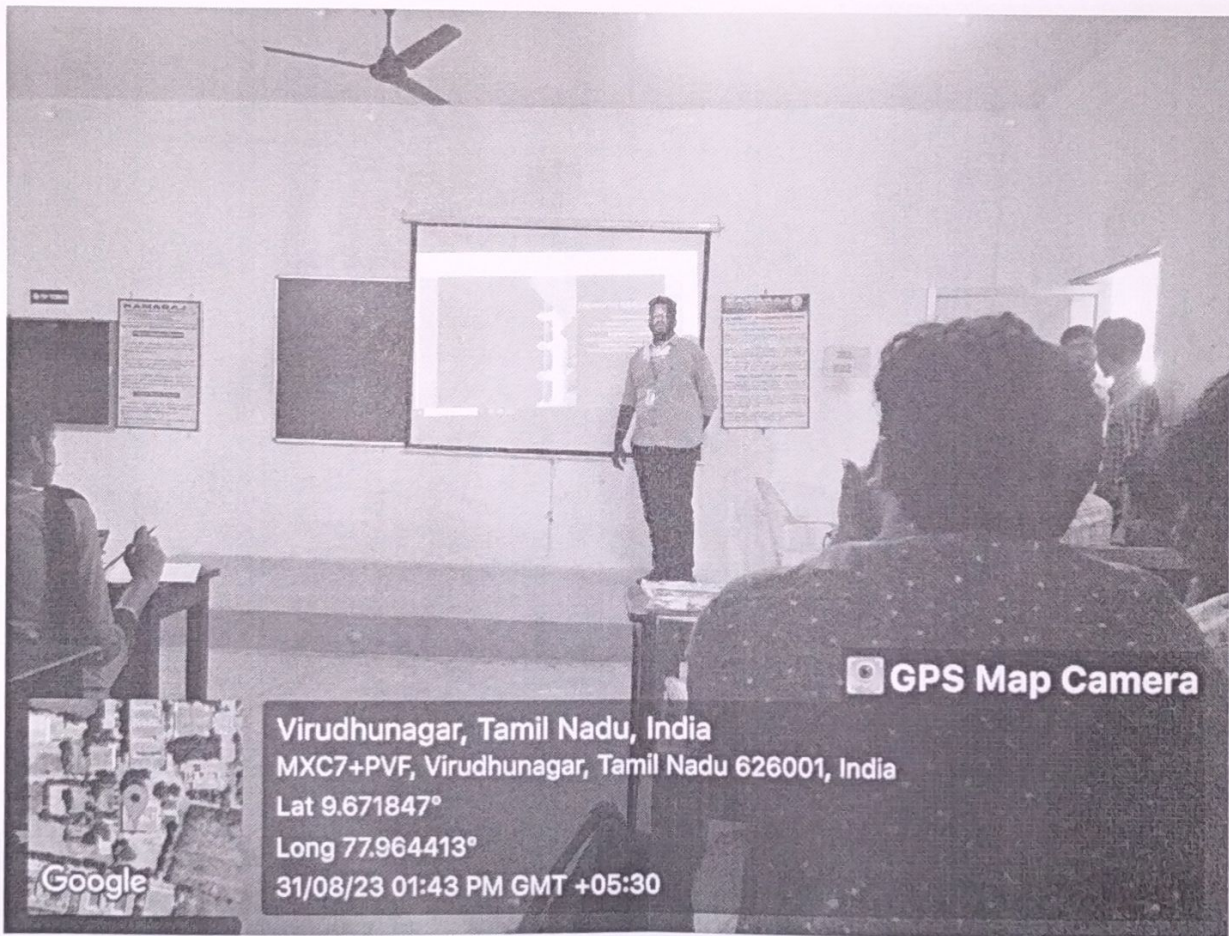
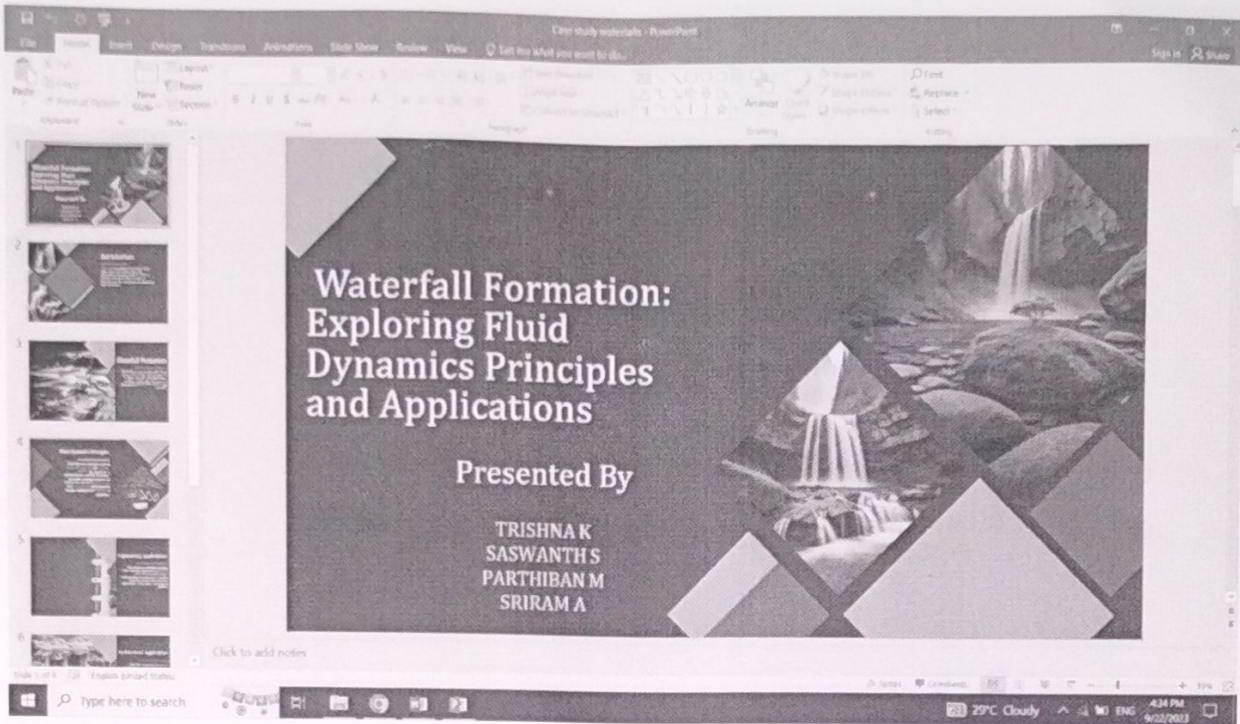


Staff In-charge

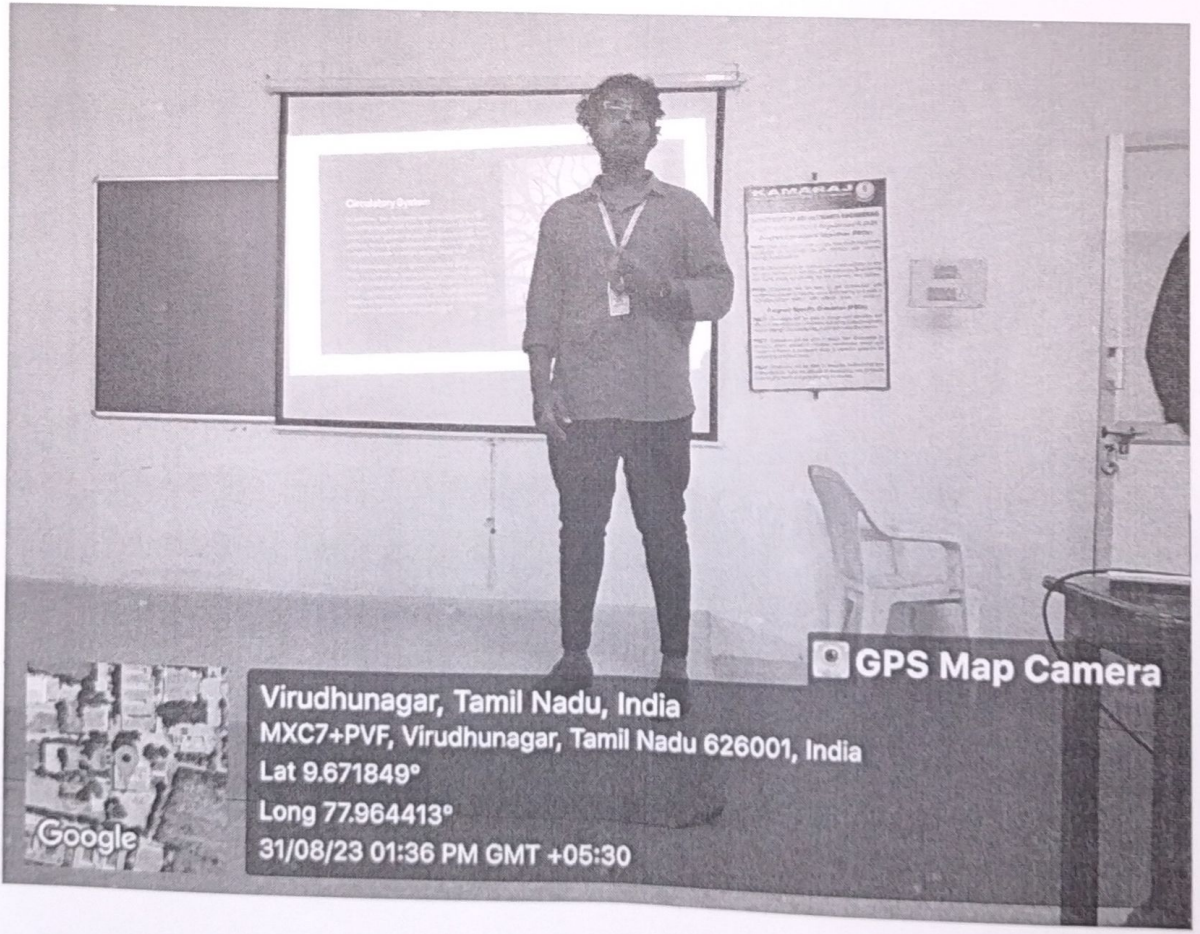
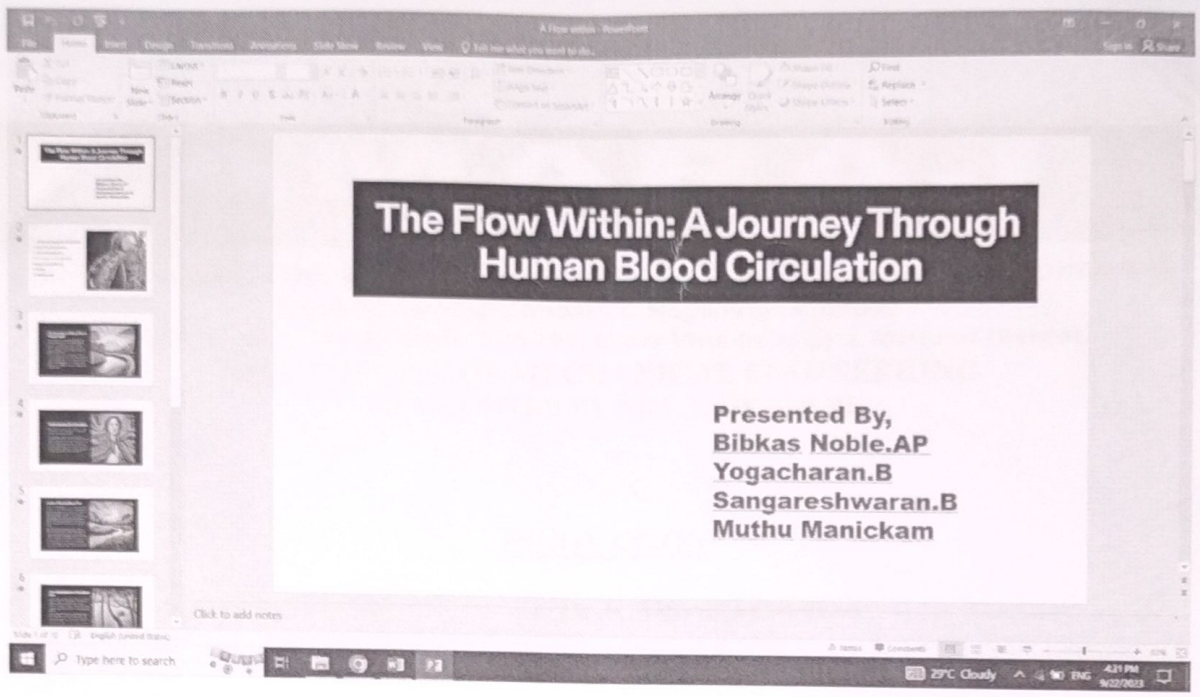


HoD/MTRE

22UMT001 - (85/100) H



22GUMT002 - (80/100) ✓





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S.P.G.Chidambara Nadar - C.Nagammal Campus

S.P.G.C.Nagar, K.Vellakulam - 625 701, (Near Virudhunagar), Madurai District.

DEPARTMENT OF MECHANICAL ENGINEERING

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INNOVATION

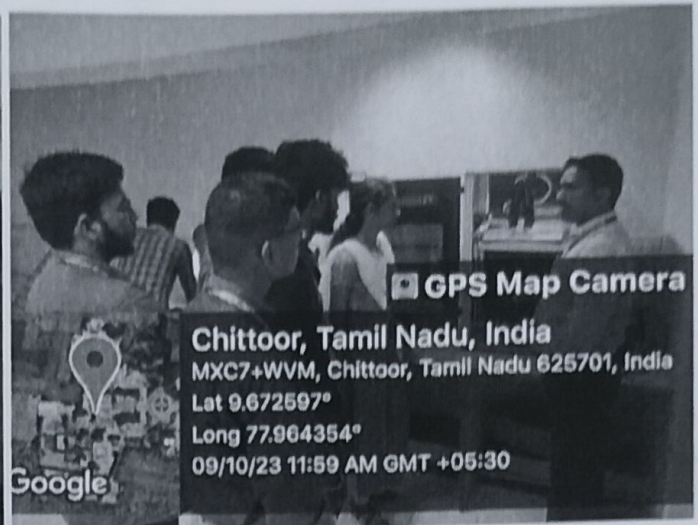
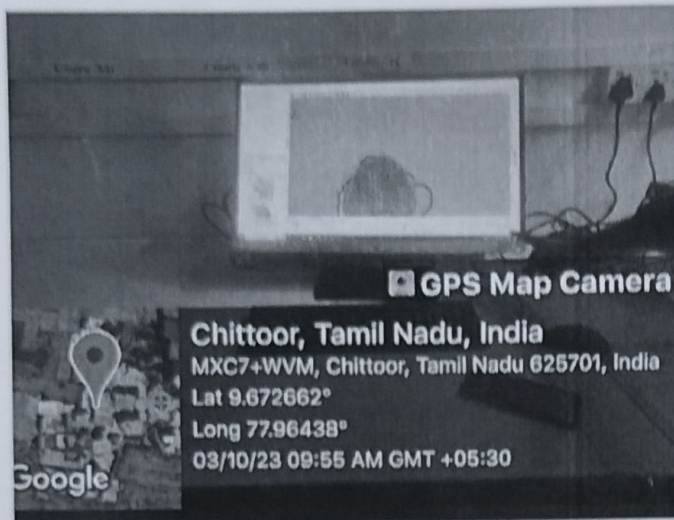
Name of the course instructor	: Dr.K.Muruganathan
Subject Name	: Advanced Manufacturing
Subject Code	: VMT325
Academic Year	: 2023-2024 (ODD Sem)
Class & sec	: V
Tool used	: FDM additive manufacturing machine

Description:

Students are getting the chance to be innovative by using FDM additive manufacturing in a hands-on way. With this, they learn to create things by adding layers using special materials. It's like building with blocks, but in a more high-tech way. They can turn their ideas into real objects they can hold. Working together, they try different designs and solve problems, which helps them get better at thinking creatively. The opportunity for students to experiment and generate innovative ideas makes studying manufacturing an intriguing area of study.

Proof (Photo\document\any other)

Conducted Date: 03.10.2023 & 09.10.2023



Outcome:

1. **Knowledge Acquisition:** Students will acquire a solid understanding of additive manufacturing principles, including 3D CAD model design, slicing, G- Code conversion, and printing.
2. **Technical Skills:** Students will develop practical skills in building, programming, and troubleshooting additive manufacturing, fostering their technical proficiency.
3. **Problem Solving:** Students will enhance their problem-solving abilities by applying additive manufacturing concepts to real-world challenges.
4. **Collaboration:** Students will learn to work effectively in teams, encouraging collaboration and communication skills.
5. **Creativity:** Students will harness their creativity to design innovative additive manufacturing solutions for various applications.

K. Mungu

Staff In charge

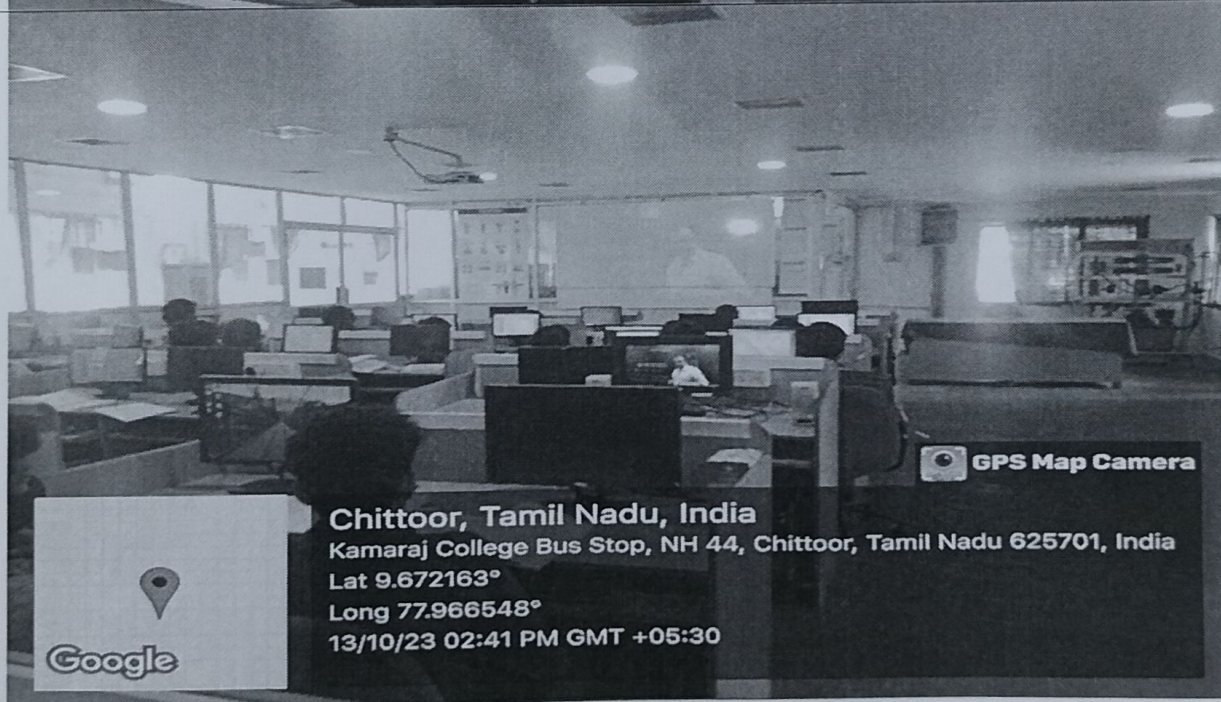
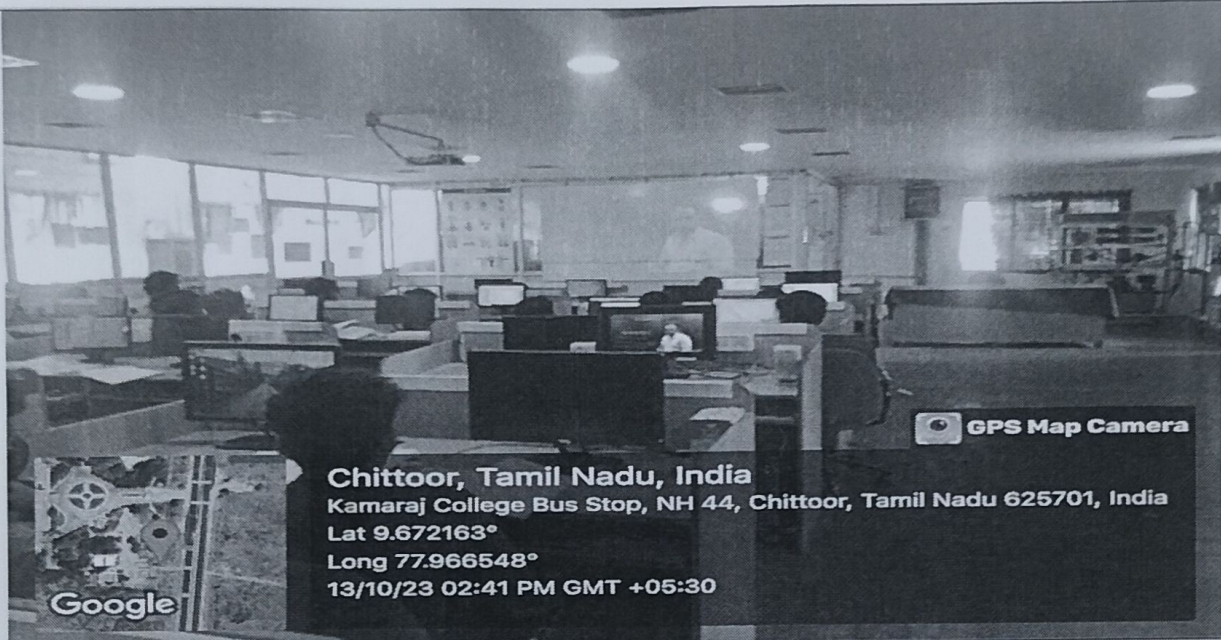
[Signature]

HoD\MTR

Department of Mechatronics Engineering

MT2301- Embedded Systems and Programming

ARM Architecture – Audio & Video Class on 13.10.2023



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Faculty signature

ACTIVITY BASED LEARNING REPORT

Activity Conducted : Think Pair Share

Name of the course instructor : Dr.S.Muthu Natarajan

Subject Name : Engineering Mechanics

Subject Code : ME2201

Academic Year : 2023-2024

Class & sec : IInd Mtre

Proof (Photo\document\any Other)

Conducted Date: 22.08.2023

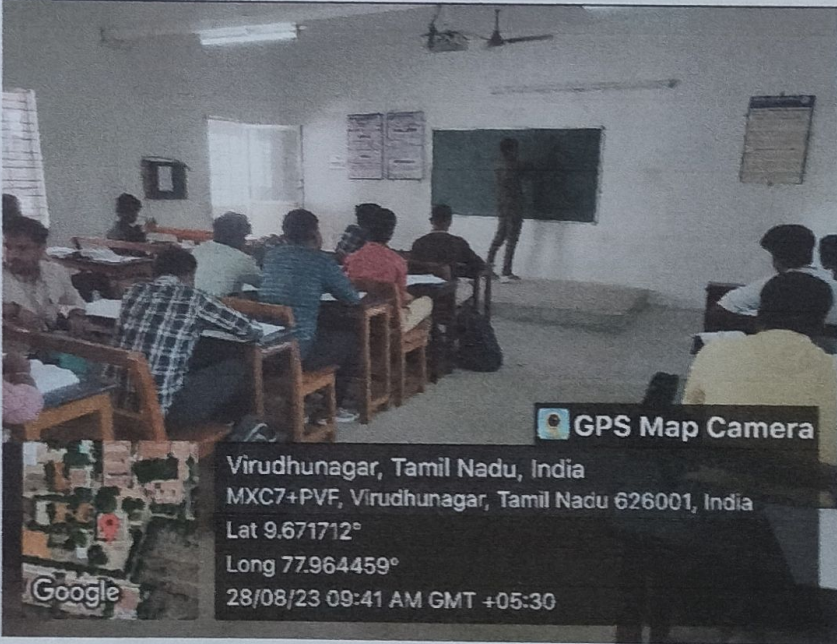


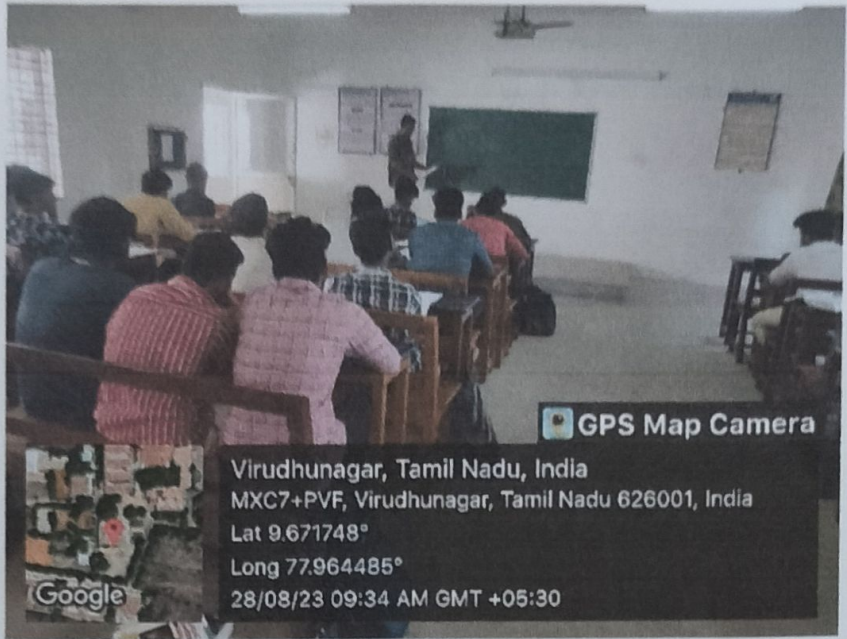
DEPARTMENT OF MECHATRONICS ENGINEERING

(Accredited by NBA, New Delhi)

ACADEMIC YEAR: 2023 - 2024 (ODD)

ACTIVE LEARNING METHODS FOLLOWED IN CLASS ROOM TEACHING

Name of the Faculty	Dr. P. Balasundar
Sub Code / Name	MT2302 Kinematics and Dynamics of Machinery
Year / Branch	III MTRE
Pedagogic Tool used	Seminar, Model preparation of Mechanisms and Demonstration using machines.
Purpose of the Tool used	To induce their creativity and to recall the important construction and working of Mechanisms.
Remarks	The students are eagerly participated and explained their topics in the Seminar.
Topic: Cam Profile	 <p>GPS Map Camera Virudhunagar, Tamil Nadu, India MXC7+PVF, Virudhunagar, Tamil Nadu 626001, India Lat 9.671712° Long 77.964459° 28/08/23 09:41 AM GMT +05:30</p>

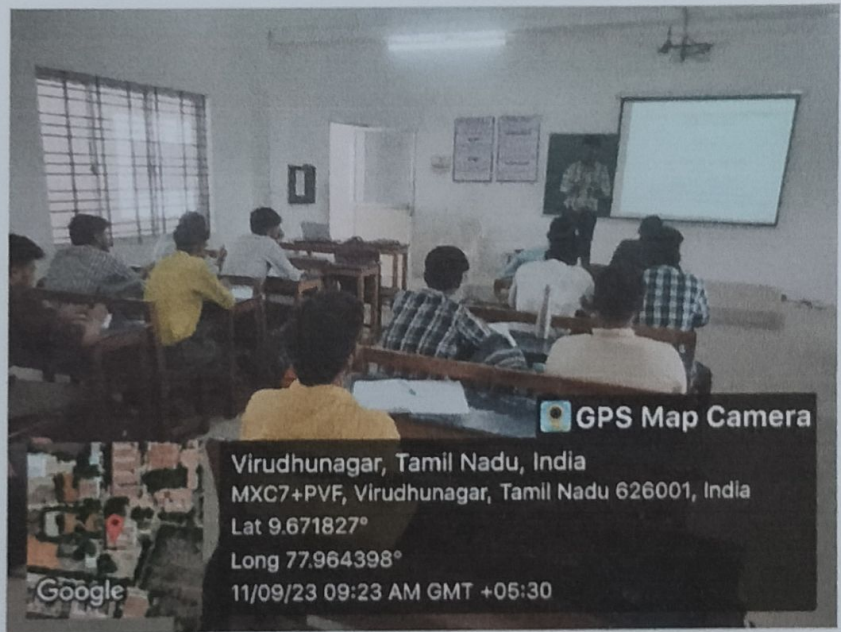


GPS Map Camera

Virudhunagar, Tamil Nadu, India
MXC7+PVF, Virudhunagar, Tamil Nadu 626001, India
Lat 9.671748°
Long 77.964485°
28/08/23 09:34 AM GMT +05:30

Google

Topic: Gears and Gear
Trains

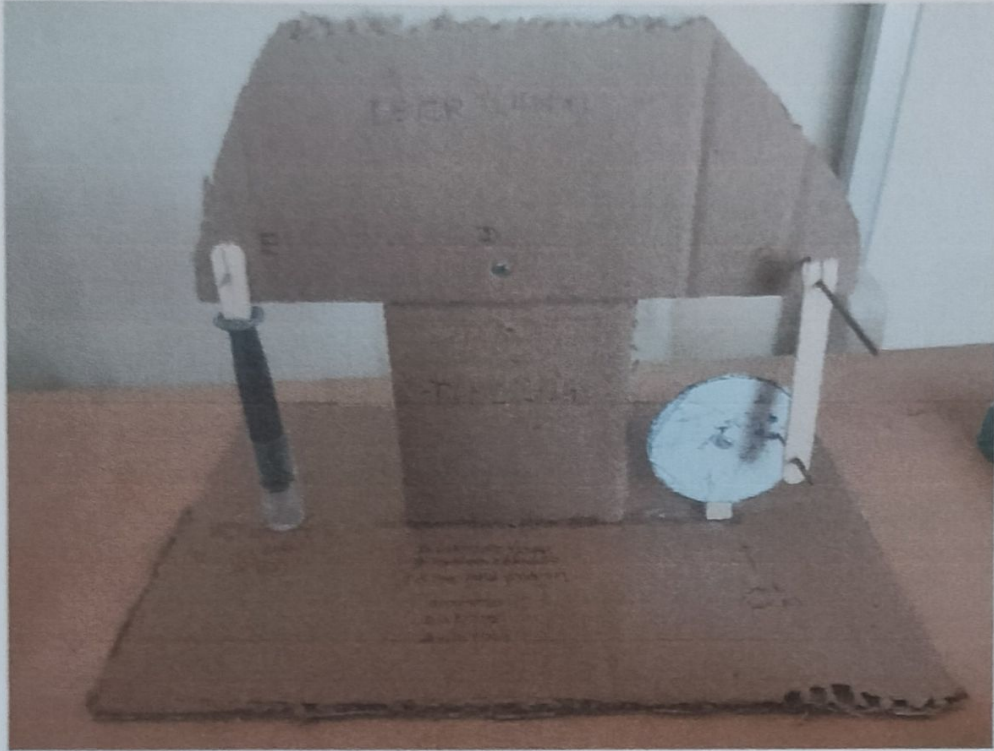


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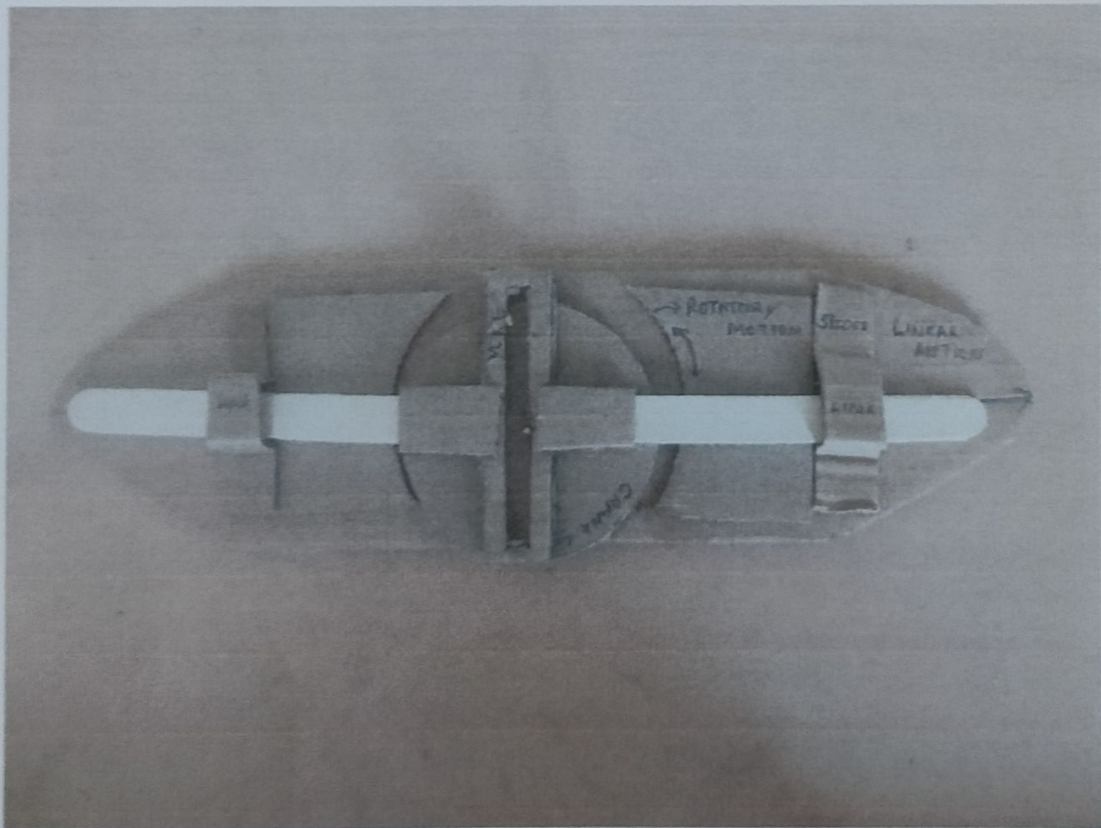
Virudhunagar, Tamil Nadu, India
MXC7+PVF, Virudhunagar, Tamil Nadu 626001, India
Lat 9.671827°
Long 77.964398°
11/09/23 09:23 AM GMT +05:30

Google

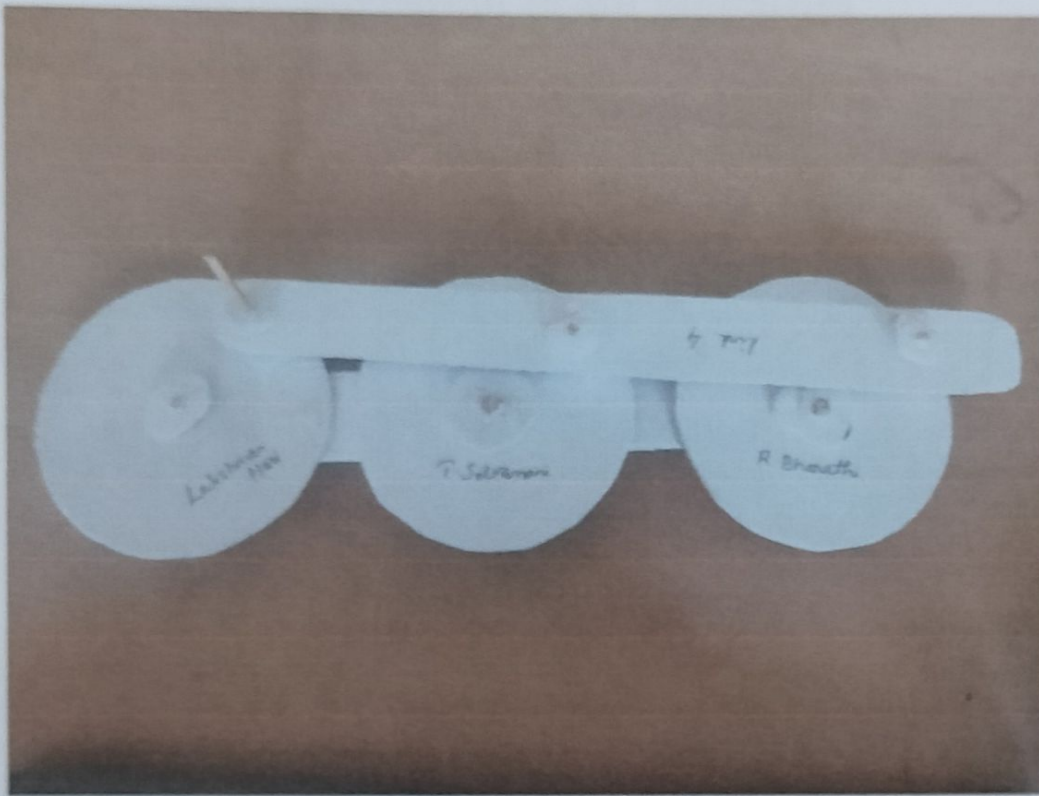
MODEL PREPARATION



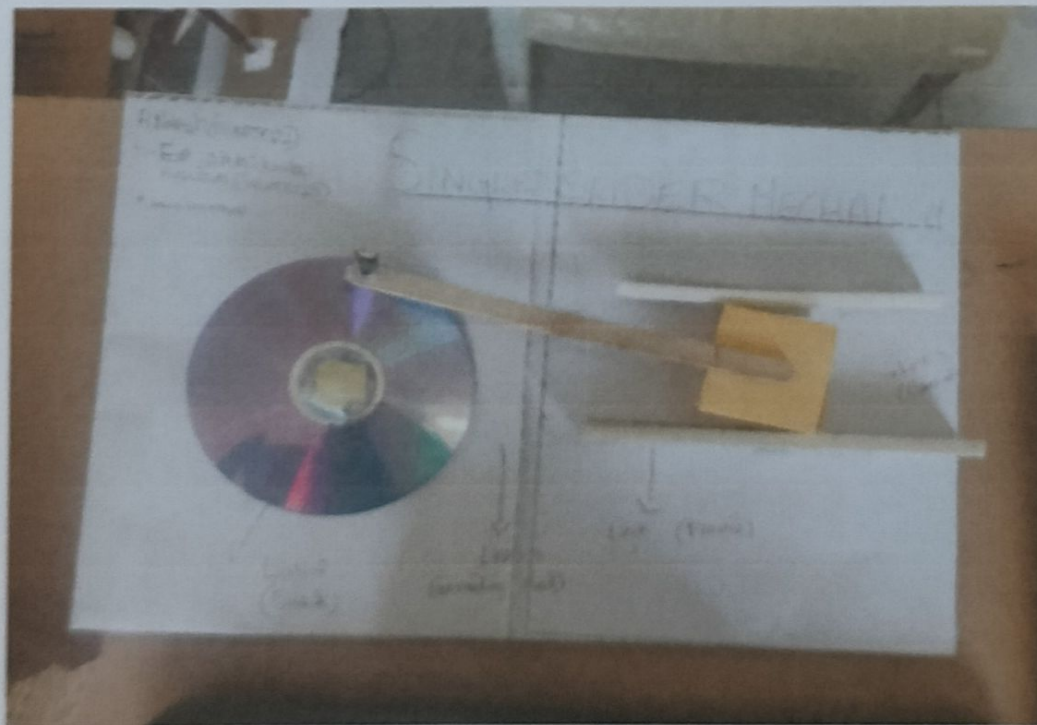
Beam Engine



Elliptical Trammel

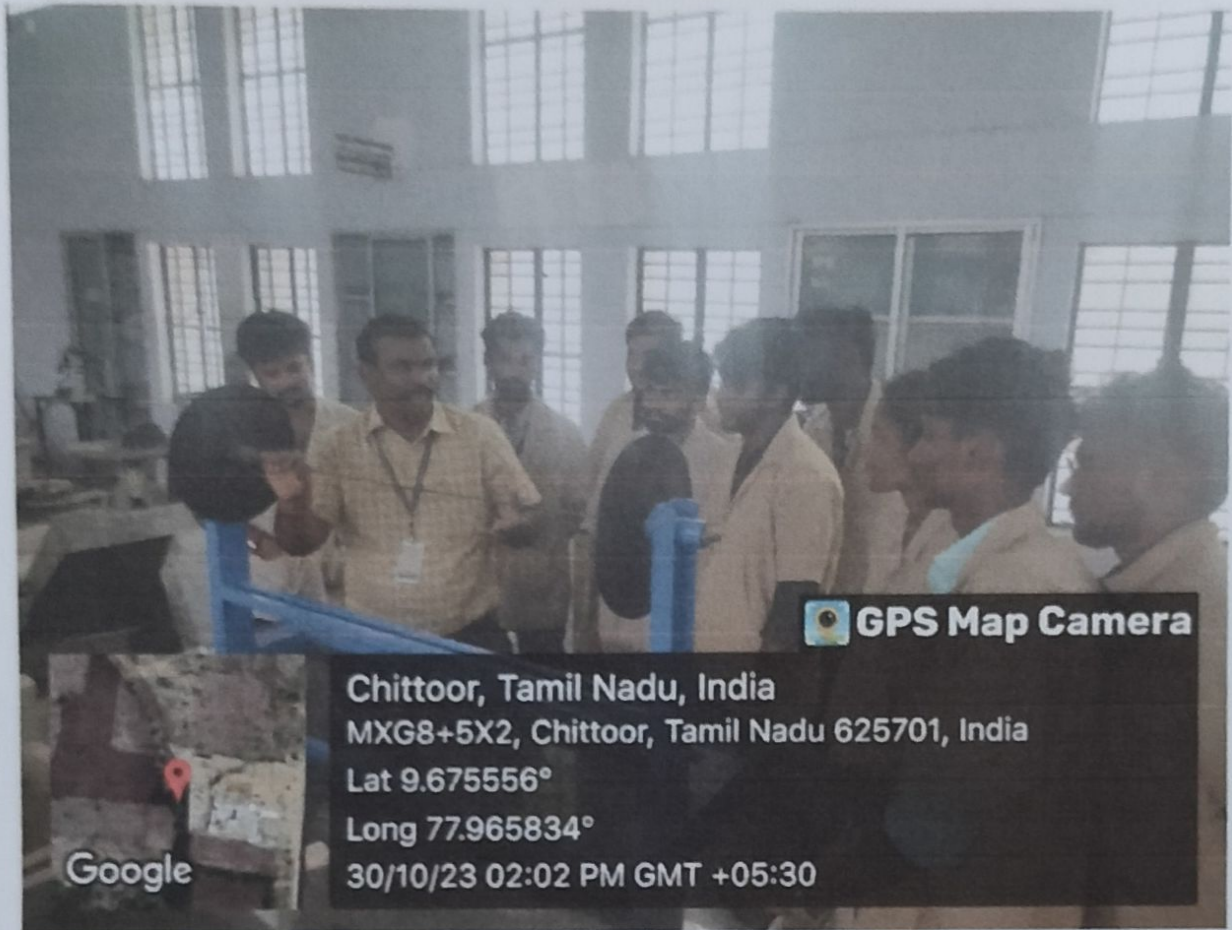


Double crank mechanism

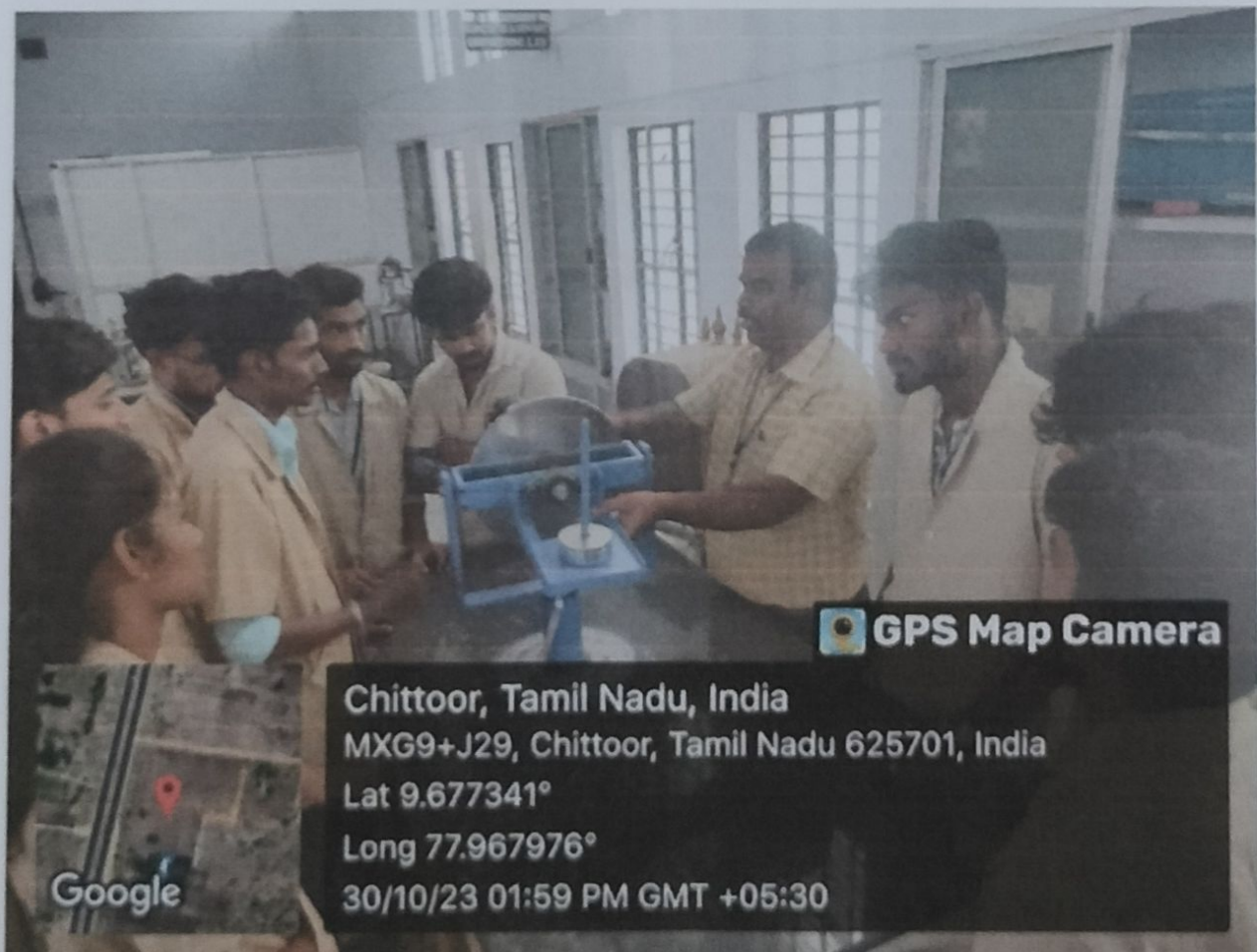


Slider Crank Mechanism

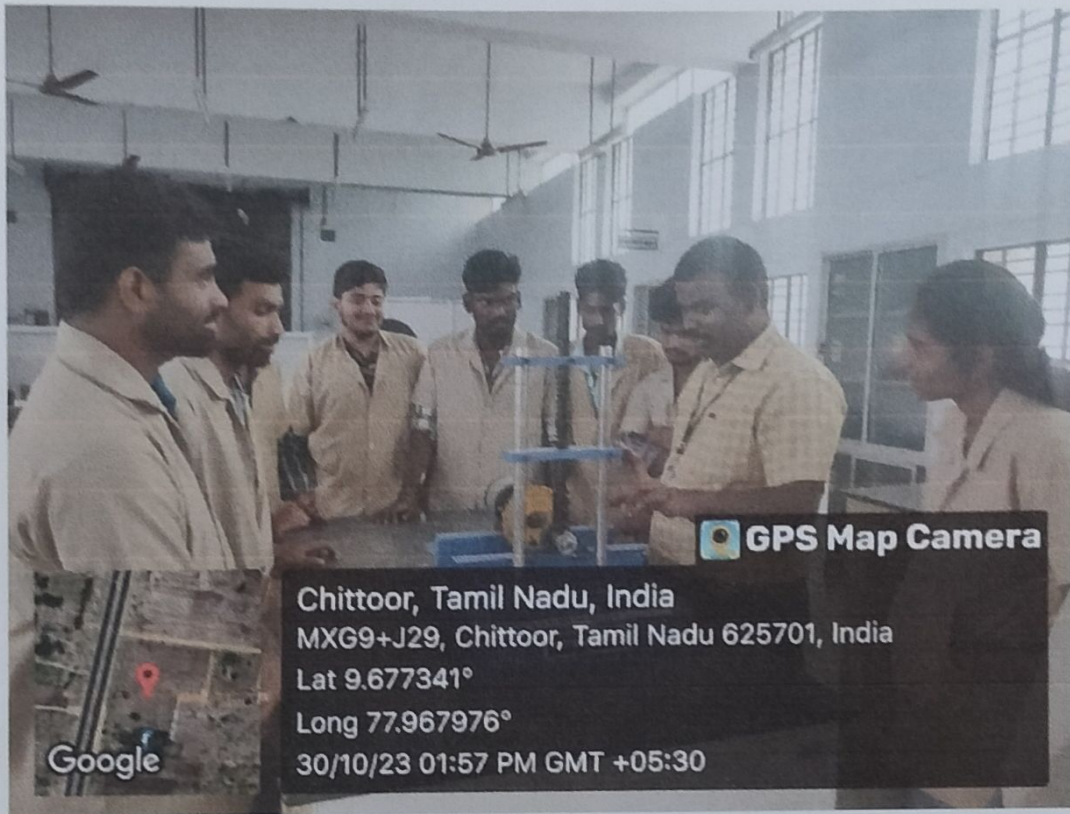
Demonstration using machines



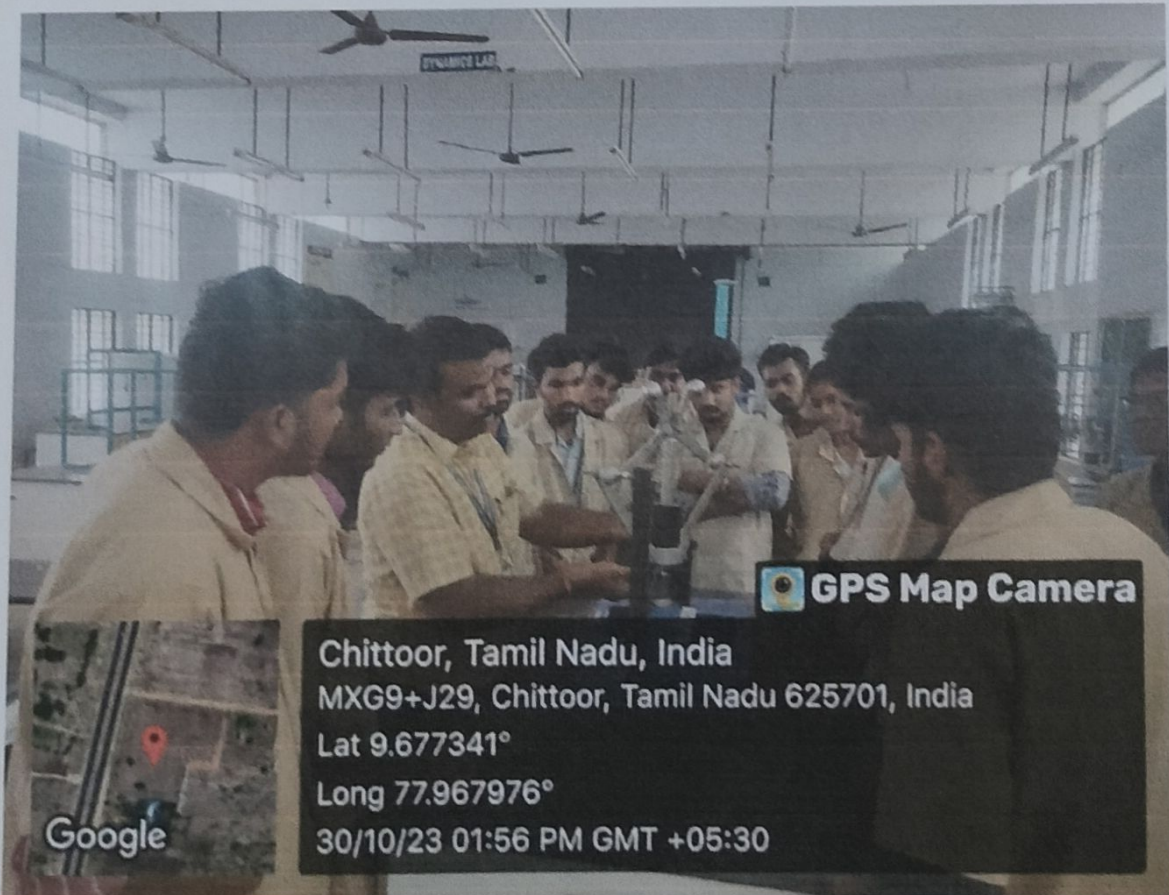
Torsional Vibrations



Gyroscope



Cam Profile



Governors

P. Balasubramanian
 Faculty Incharge

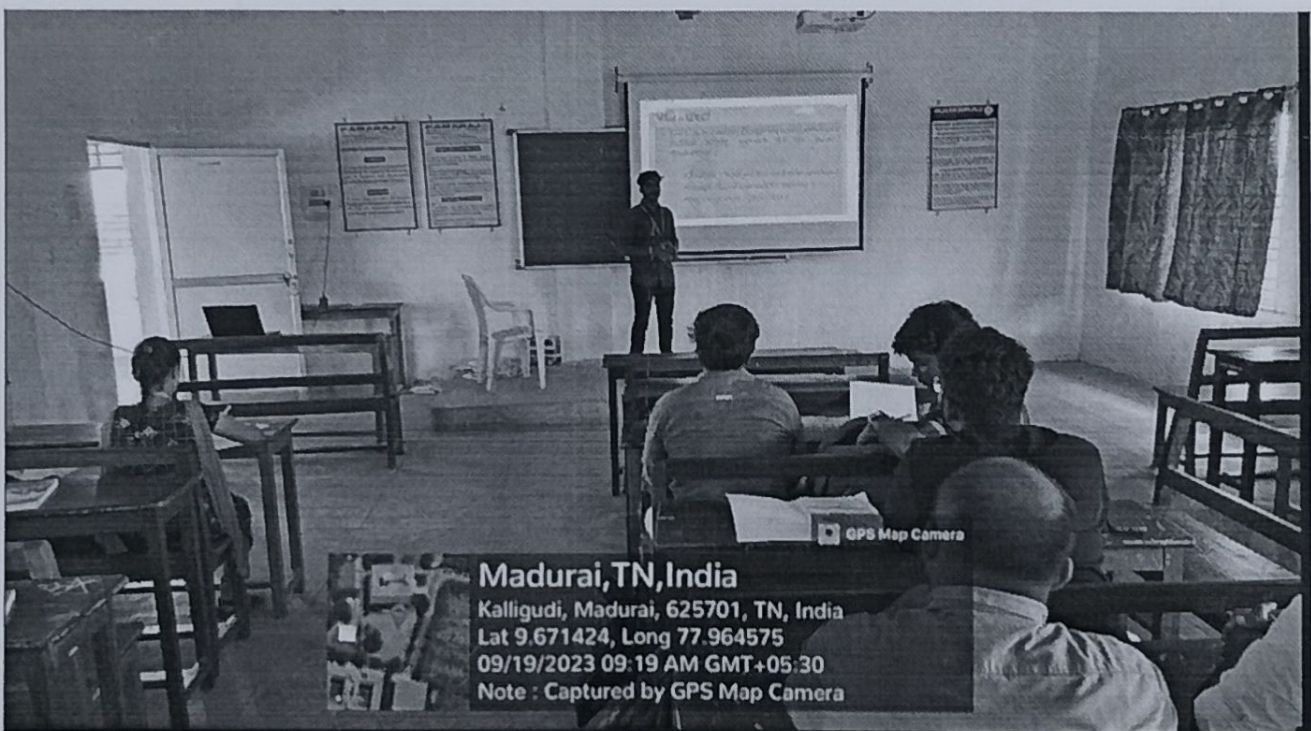
P. Balasubramanian
 Chairperson


[Signature]
 HoD / MTR

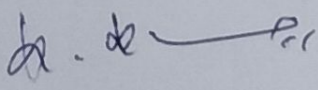
ACTIVITY BASED LEARNING

Name of the course instructor : Mr.S.Wesley Moses Samdoss
Subject Name : Embedded System
Subject Code : EI1634
Academic Year : 2023-2024 (ODD Sem)
Class & sec : IV MTRE
Tool Used : Activity Based Learning through seminar
Description:

Seminar topic : Embedded Product Development Life Cycle






Faculty signature

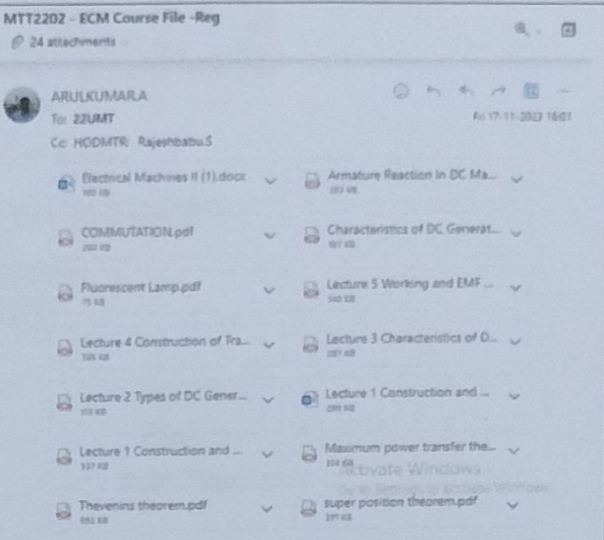
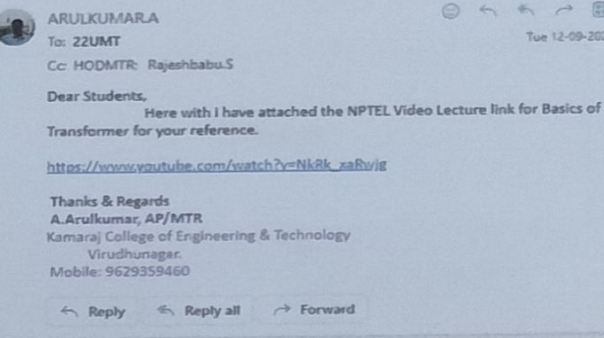

HOD MTRE


Innovations /Activity in Teaching Learning Process

Department of Mechatronics Engineering
2023 - 2024 (ODD SEMESTER)

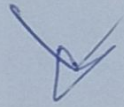
Year : II Year MTRE
Faculty Name : A.Arulkumar
Course code (as per NBA) : 21MTC205
Course Name : Electrical Circuits and Machines
Regulation : R2021
Course Code : MT2202

S No	Type of Activity	Topic	Purpose	Photos
1	Seminar Presentation	Topic: Basics on Transformers Shiva R (22UMT016) II year MTRE	The topic cover POs 5, 9 & 10 by helping the students to learn a new tool and in improving their communication skills.	 Chittoor, Tamil Nadu, India Chennai - Villupuram - Trichy - Kanyakum Chittoor, Tamil Nadu 625707, India Lat 9.66567° Long 77.966548° 14/09/23 09:22 AM
2	Seminar Presentation	Topic: Super Position Theorem Ms. B.Rathikashree (22UMT022) II Year MTRE	The topic cover POs 5, 9 & 10 by helping the students to learn a new tool and in improving their communication skills.	 Chittoor, Tamil Nadu, India Chennai - Villupuram - Trichy - Kany Chittoor, Tamil Nadu 625707, India Lat 9.66567° Long 77.966548° 31/08/23 09:25 AM

3	Microsoft Teams/Office 365	Entire Course file contents shared with students.	The Previous batch students had opined that this method helped them to score good marks in this paper and hence did for this batch too	
4	NPTEL Video Lectures	NPTEL Video Lectures link were shared to promote self learning	The Previous batch students had opined that this method helped them to do self study and hence did for this batch too	


Faculty In-charge


Chairperson


Head of the Department

COURSE PLAN

Department of Mechatronics Engineering
 2023-2024 (ODD SEMESTER)

Year	:II	Course Code	:MT2201
Faculty Name	:Dr.S.Rajeshbabu	Course Name	: Analog Devices and Circuits
Course code (as per NBA)	21MTC204	Regulation	:2021

Innovation in Teaching Process

The First unit comprises basic concepts in analog electronics to understand the concept in clear an online simulator was introduced to understand the basic concepts. Some examples were shown in fig.1.

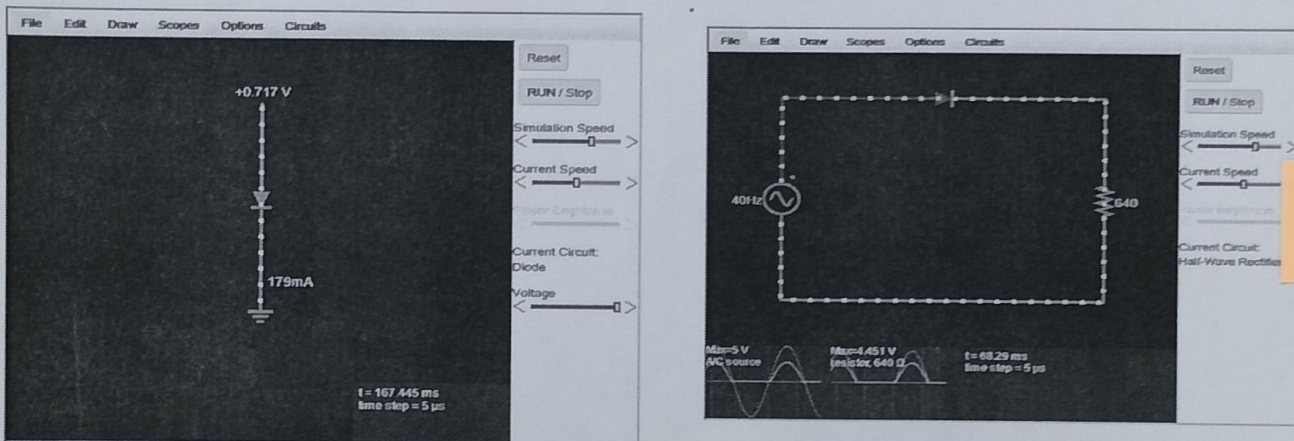


Fig:1 Screenshot of an online simulator for diode and rectifier

The unit II comprises of operational amplifier, characteristics and its applications like mathematical operation, clipper clamper and A/D converter. Sample of the application were shown in fig.2.

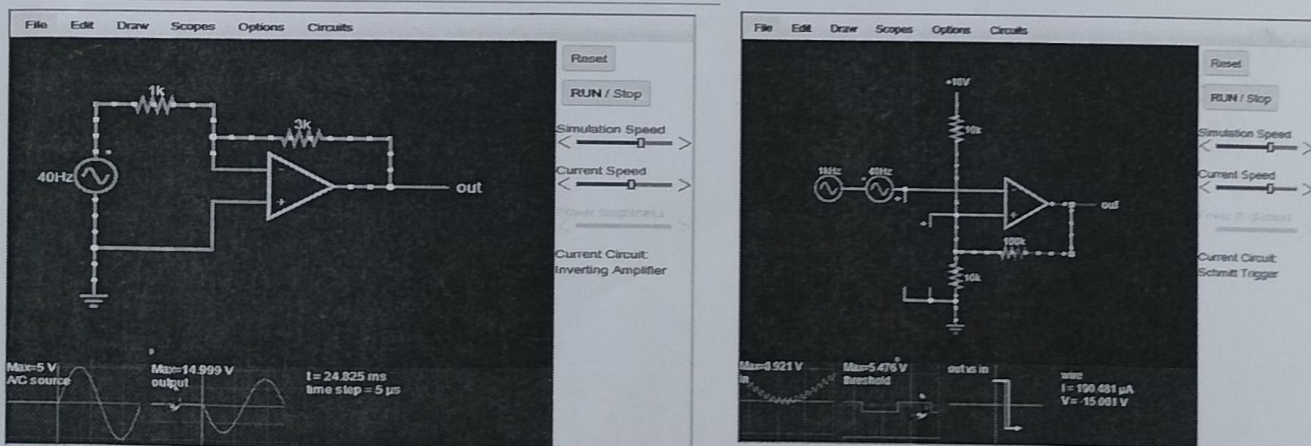


Fig:2. Screenshot of an online simulator for OP-AMP as inverting and Schmitt trigger

S.P.T
 Subject Incharge

S.P.T
 Chairperson

S.P.T
 HoD/MTRE



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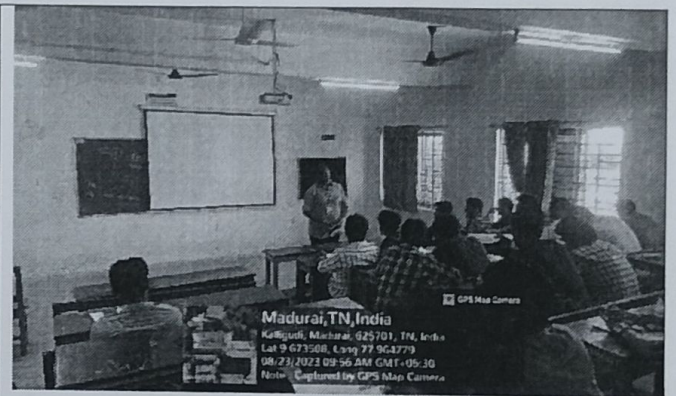
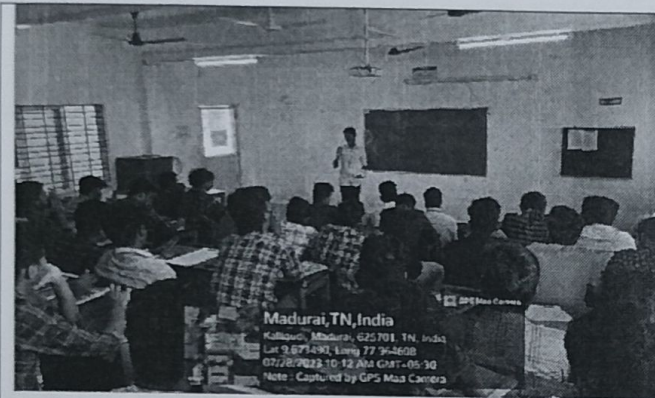
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Innovation in Teaching Learning Process

2023 – 2024 ODD SEMSTER

Class : IV year / VII semester

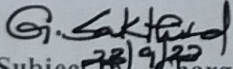
Subject Code & Name : GE1771 Principles of Management





Seminar Presentation by students

1. Principles of Mangement

2. Case study in Planning- Presentation by students


Subject in Charge


Chairperson


HoD



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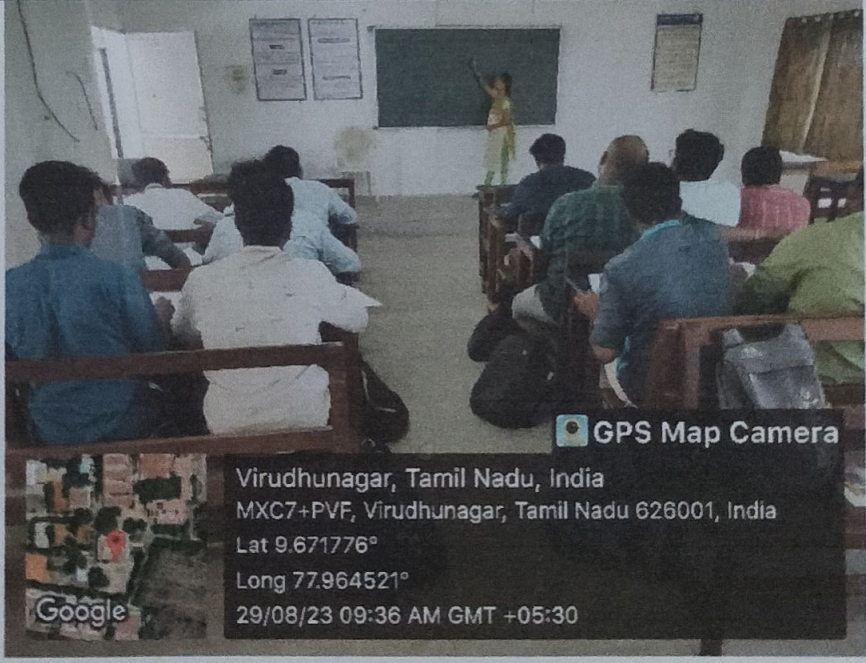
S.P.G.C. Nagar, K.Vellakulam - 625 701 (Near VIRUDHUNAGAR).

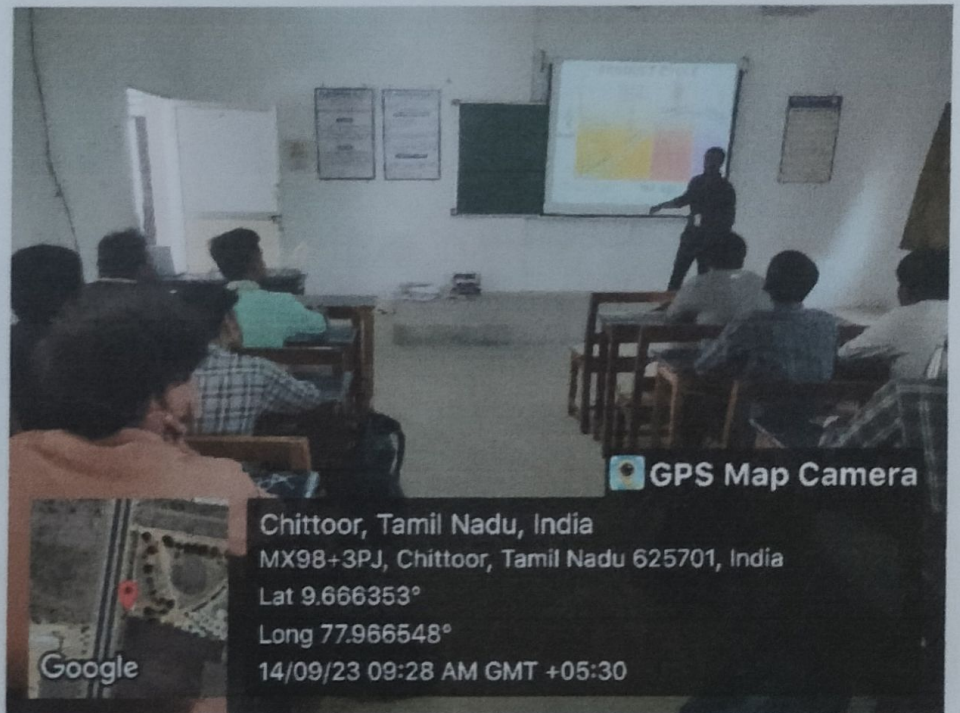
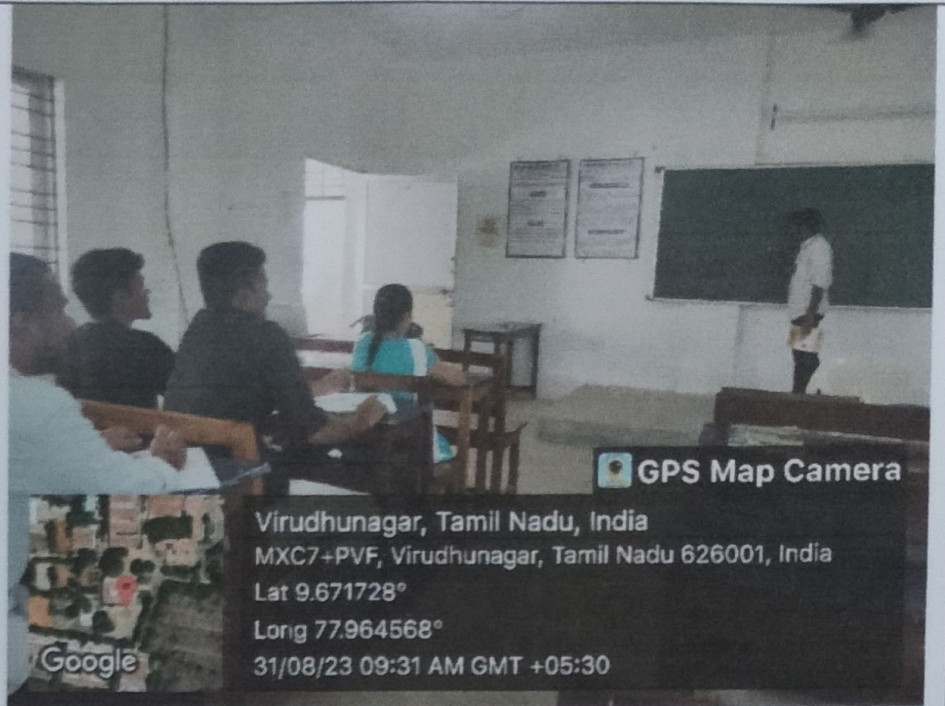
DEPARTMENT OF MECHATRONICS ENGINEERING

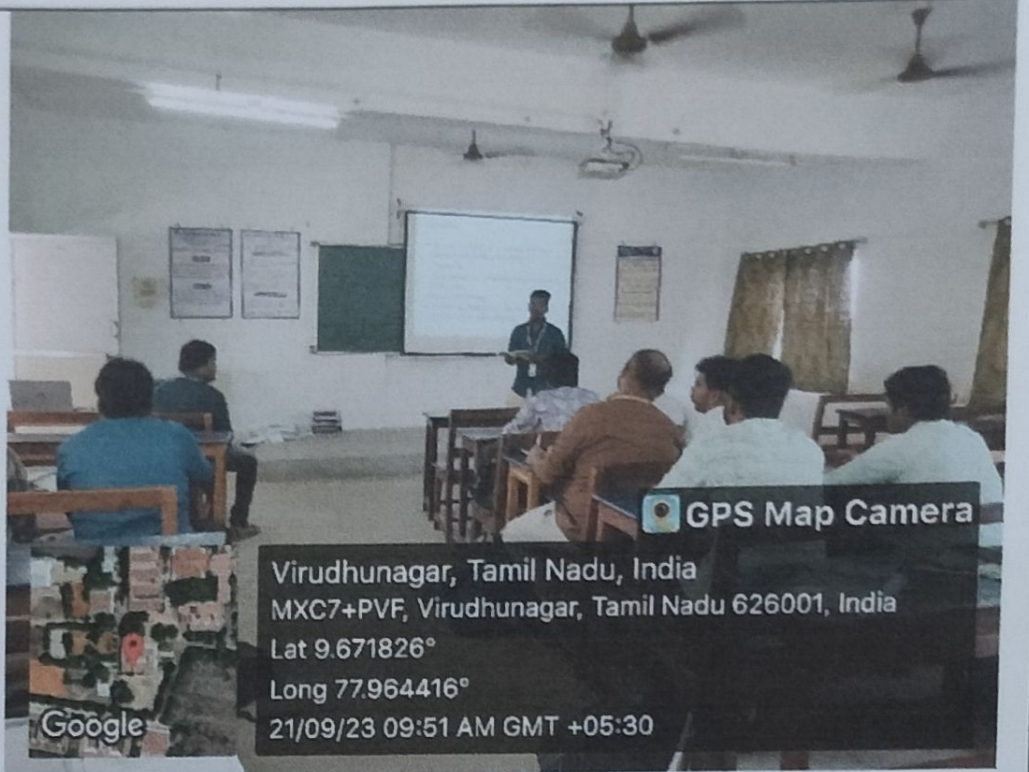
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ACADEMIC YEAR: 2023 – 2024 (ODD)

ACTIVE LEARNING METHODS FOLLOWED IN CLASS ROOM TEACHING

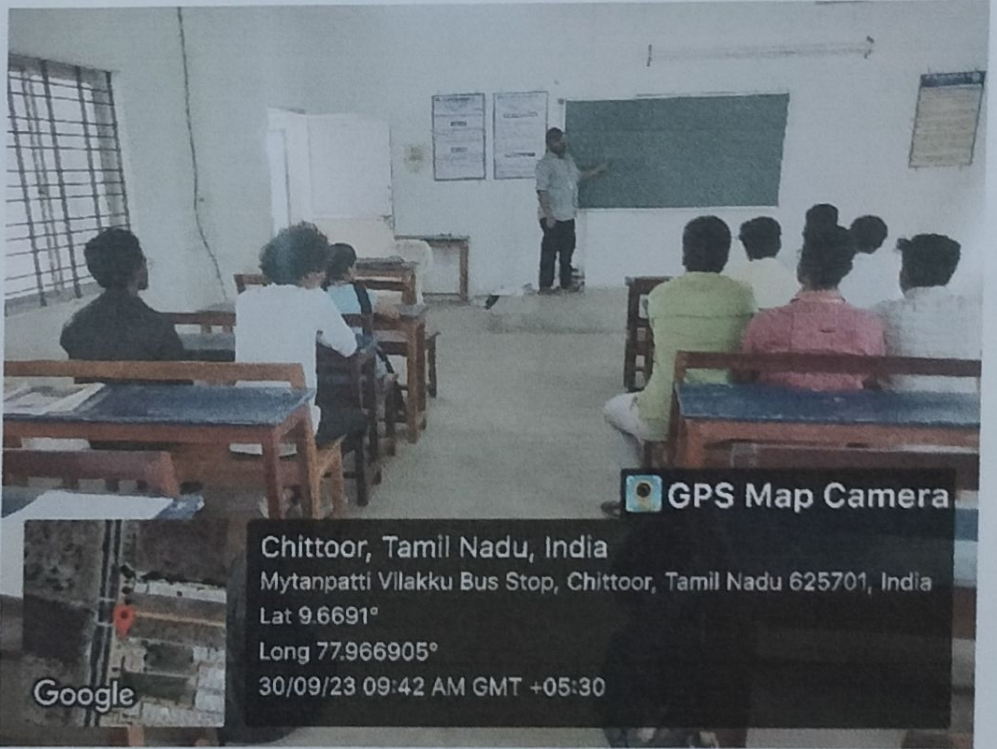
Name of the Faculty	Dr. P. Balasundar
Sub Code / Name	MT1701 Computer Aided Design and Manufacturing
Year / Branch	IV MTRE
Pedagogic Tool used	Seminar Presentation of Computer Aided Design
Purpose of the Tool used	To induce their creativity and to recall the important topics of Computer Aided Design.
Remarks	The students are eagerly participated and explained their topics in the Seminar.
Proof	





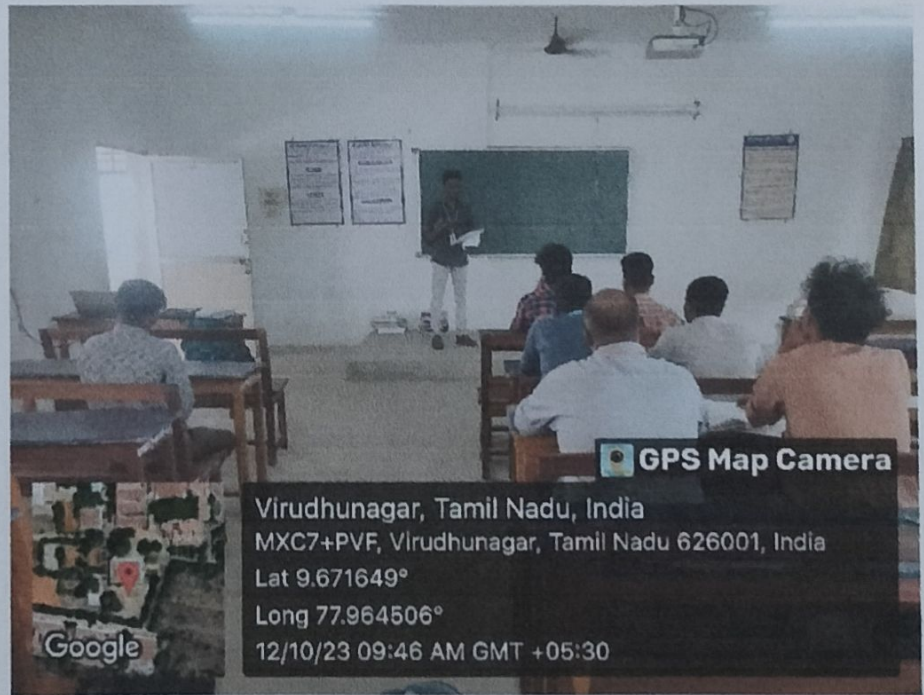
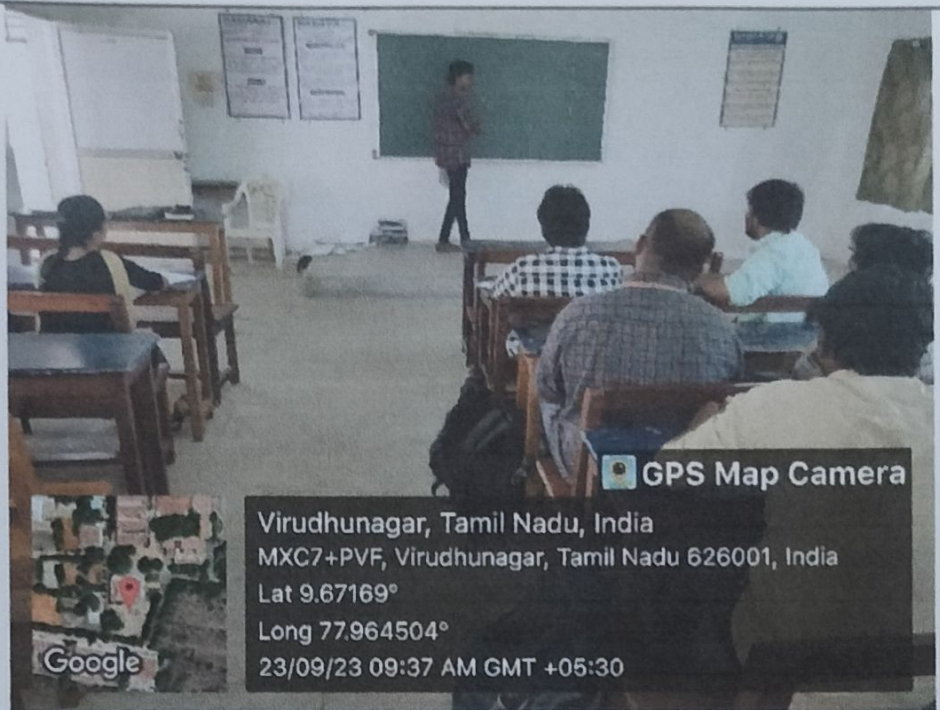
GPS Map Camera

Virudhunagar, Tamil Nadu, India
MXC7+PVF, Virudhunagar, Tamil Nadu 626001, India
Lat 9.671826°
Long 77.964416°
21/09/23 09:51 AM GMT +05:30

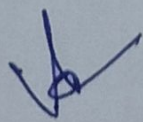



GPS Map Camera

Chittoor, Tamil Nadu, India
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Long 77.966905°
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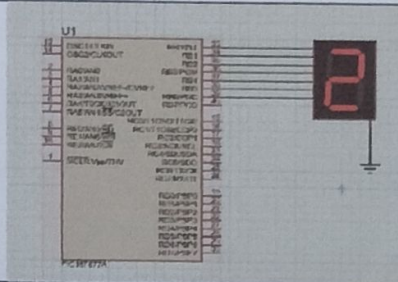
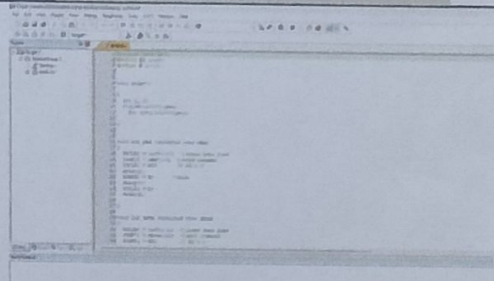
P. Balasubramanian
Faculty Incharge


Chairperson


HOD / MORE

EI1634 – EMBEDDED SYSTEM

INNOVATION/ACTIVITY CONDUCTED

S.No	ICT tool / ABL	Purpose	Remarks
1.	ICT tool – Proteus for PIC/ARM Microcontroller simulation	Used to draw schematic diagram using PIC/ARM Microcontroller	
2.	ICT tool- Keil Simulation software	Simulate the various programming concepts using ARM	

Faculty signature

HOD /MTR



(An Autonomous Institution - AFFILIATED TO ANNA UNIVERSITY, CHENNAI)

S.P.G.Chidambara Nadar - C.Nagammal Campus

S.P.G.C, Nagar, K.Vellakulam – 625 701 (Near VIRUDHUNAGAR).

INNOVATION/ACTIVITY BASED LEARNING

Name of the course instructor : Mr.S.Wesley Moses Samdoss

Subject Name : Robot Operating Systems

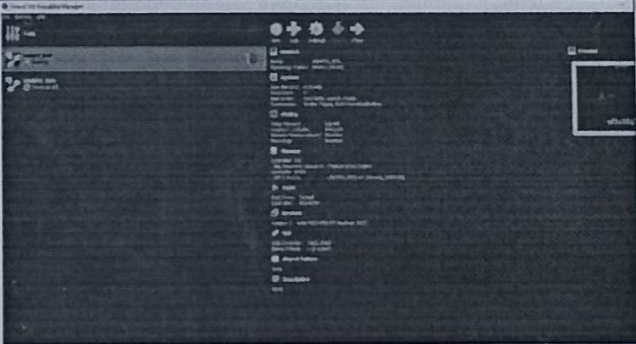
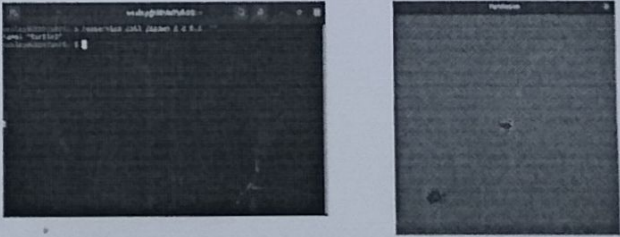
Subject Code : VMT312

Academic Year : 2023-2024 (ODD Sem)

Class & sec : III MTRE

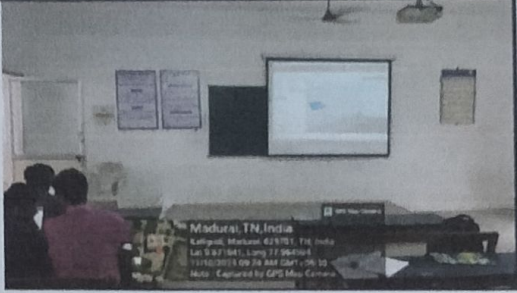
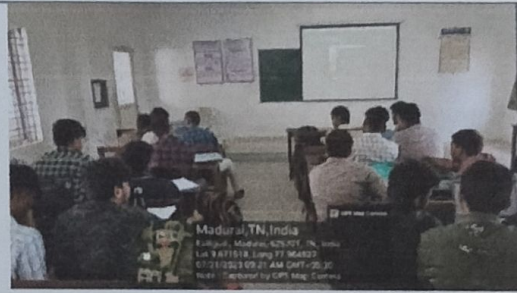

Tool Used

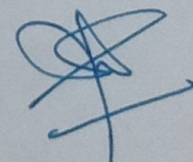
Description:

S. No.	ICT tool / ABL	Purpose	Remarks
1.	Virtual Machine for ROS demonstration	To demonstrate ROS using ubuntu operating system	
2.	Turtlesim Simulator	To understand concepts such as ROS Topics, ROSService	

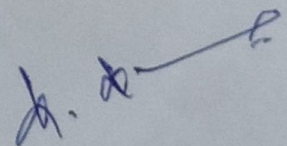
VMT312 – ROBOT OPERATING SYSTEMS

INNOVATION/ACTIVITY CONDUCTED

S.No	ICT tool / ABL	Purpose	Remarks
1.	ICT tool – Coppeliasim	Robot Simulation	
2.	ICT tool – Virtualbox	Robot Simulation using ROS	
3.	ABL - Seminar	Seminar in ROS2	



Faculty Signature



HOD/MORE

Department of Mechatronics Engineering

MT1702- Robotics and Machine Vision Systems

Robot Kinematics and Dynamics Simulation using Robot Analyser 21.09.2023

