KAMARAJ
COLLEGE OF ENGINEERING & TECHNOLOGY
S.P.G. Chidambara Nadar - C. Nagammal Campus,
S.P.G.C. Nagar, K.Vellakulam - 625 701, Near Virudhunagar, Madurai District.
Accredited by NAAC with "A" Grade
DEPARTMENT OF MECHANICAL ENGINEERING
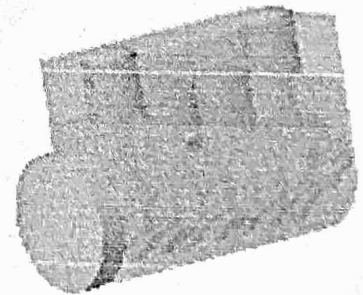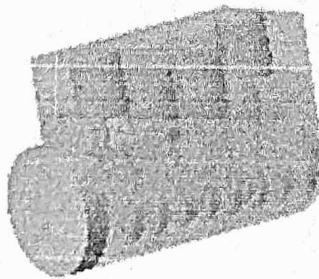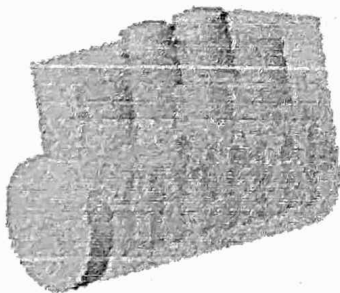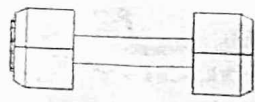Accredited by NBA, New Delhi

BEST PRACTICES

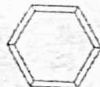|	
Name of the course instructor	: Mr.R.Sakthivel Murugan
Subject Name	: CAD/CAM LAB
Subject Code	: ME1311
Academic Year	: 2022-2023
Class & sec	: III-YEAR MECH
Tool Used	: Creative Thinking -Design Project

Objective:

- To make students to think out of box and to design it via 3D CAD modelling software with documentation.
- To make students to create their own design based on assumed/creative model in Creo with own dimensions.
- To make them present their Design Skills via Animation and assess them with proper rubrics.
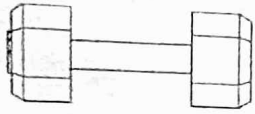
Proof (Photo\document\any other)

Top view

Side view

Isometric view

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Front view

Gym equipment-Thumbles		
T.thangaraj		
20ume029	3RD YEAR MECH	
Nov-10-22	SHEET NO :1	
SCALE :1.000	ALL DIMENSIONS ARE IN MM	

ICENGINES (Active) - PTC Creo Parametric

Model Tree

- ICENGINES.ASM
  - ENGINE_BLOCK.PRT
  - CRANKSHAFT.PRT
  - PISTON.PRT
  - PISTON.PRT
  - PISTON.PRT
  - CONNECTINGROD.PRT
  - CONNECTINGROD.PRT
  - CONNECTINGROD.PRT
  - CONNECTINGROD.PRT

Press L mouse button to accept positions.

ISOMENTRIC VIEW

SCALE 0.230

Outcome:

- It is an Individual Activity. All Students created unique design based on their own creative thinking.
- The design is created with Creo Tool and documented it in First Angle Projection with Title Block. At last, all students presented their design using animation.
- Assessment was done with proper rubrics and 25% weightage is given for Lab Internal Mark. (Out of 50)
- The assessment is mapped to PSO 1 and PSO2 which is most required in most of the core industries.
- Each student documented it in their Lab manual too.

Staff In charge

HoD\Mech

INNOVATION & BEST PRACTICES

|	
Name of the course instructor	**: Mr.R.Sakthivel Murugan**
Subject Name	**: Principles of Engineering**
Subject Code	**: GE2101**
Academic Year	**: 2022 – 2023**
Class & sec	**: I-YEAR ADS**
1. Tool Used	**: Activity Based Learning (Group Activity)**

Objective:

- To make students to create activity-based learning environment.
- To make paper model which should reach the ground in less time.
- To make students to learn the topic 'Qualities of Engineer' & 'Engineering Outcome' using this activity

Proof (Photo\document\any other)   **Conducted Date: 01.12.2023**
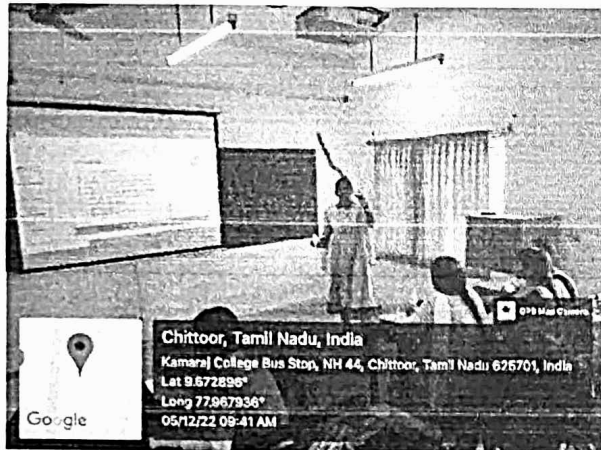
Outcome:

- The whole class participated effectively in this team building activity. All the students mutually shared their technical contents, ideas and involved as teams in the activity by constructing the tallest paper tower.
- Students implemented all the logical thinking concepts and techniques in the team building activity.
- At last, the best model is announced based on the rubrics and each team members appreciated by their team work.
- Winning team created the paper model with the maximum flight time of 3.8 sec.
- Finally, all the students have given a five minutes presentation about the ideas, techniques implemented, barriers, team coordination while doing the activity.

Staff In charge   HoD
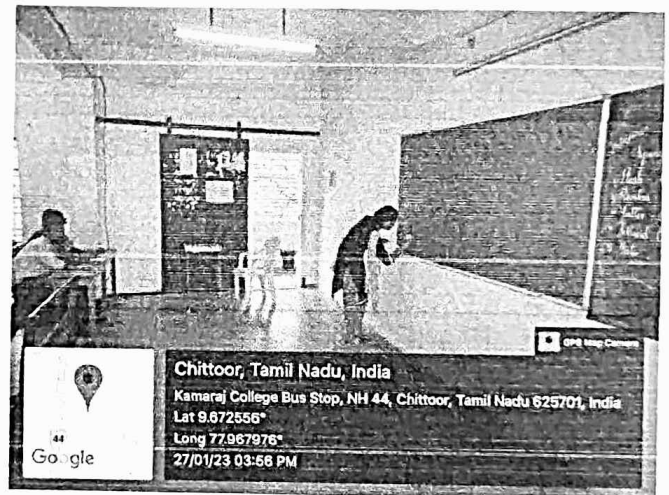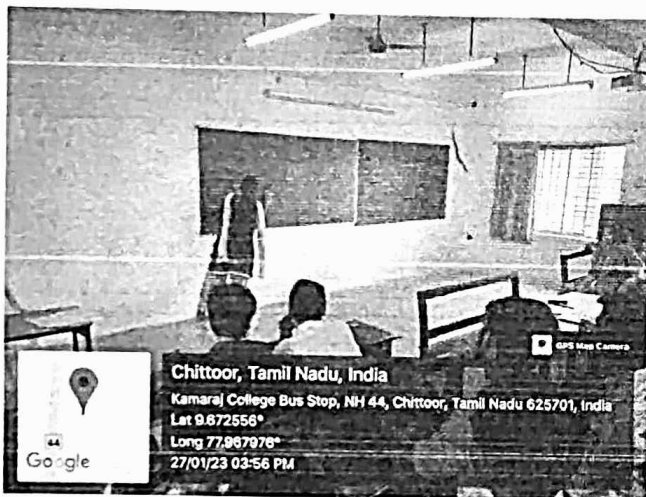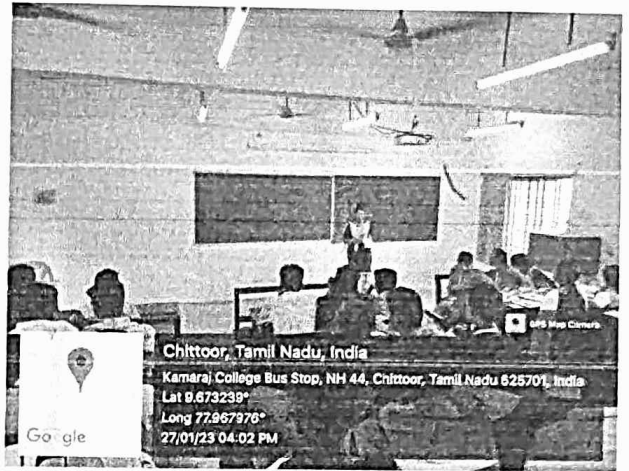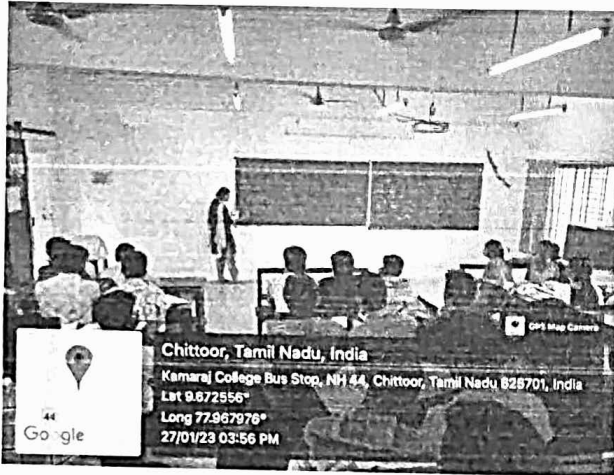
2. Tool Used : Seminar Presentation (Individual Activity)

Objective:

- To conduct a seminar in the topic of 'Mathematical Techniques for solving Equations'.
- To make students to deliver their ideas which was taught in their school education.
- To deliver seminar presentation to other students and clarify the doubts.

Proof (Photo\document\any other)   **Conducted Date: 27.01.2023**

Outcome:

- Ist Year Student Ms.T.Ashika (22UAD023) delivered the seminar presentation about the topic "Matrix Techniques for solving algebraic equations".
- Other students act as listeners and interacted effectively for clarifying doubts.
- Students acquire presentation skills and communication skills and strength the PO 10 & PO12.

Staff In charge   **HoD**
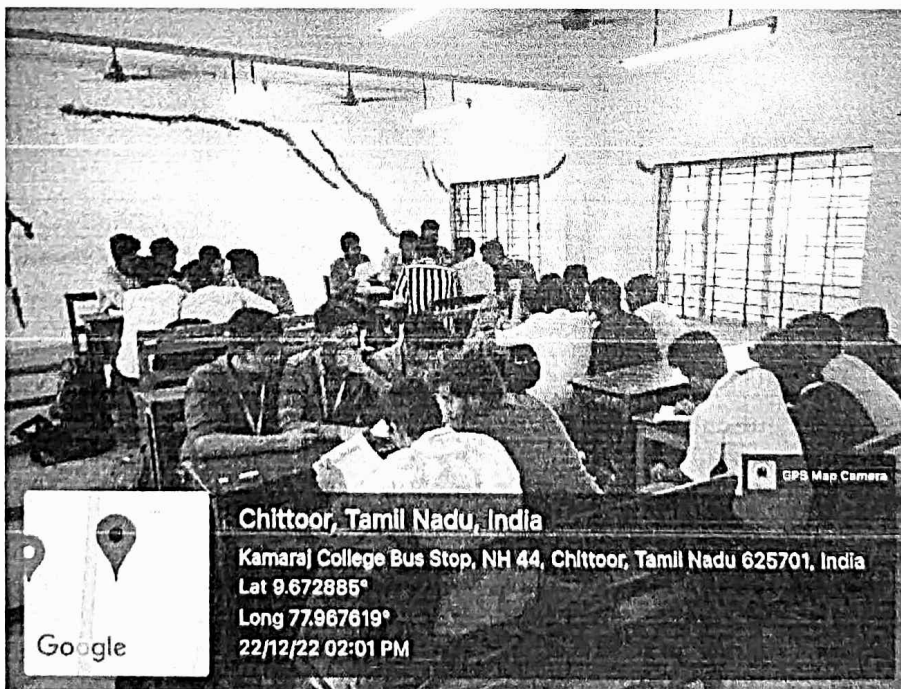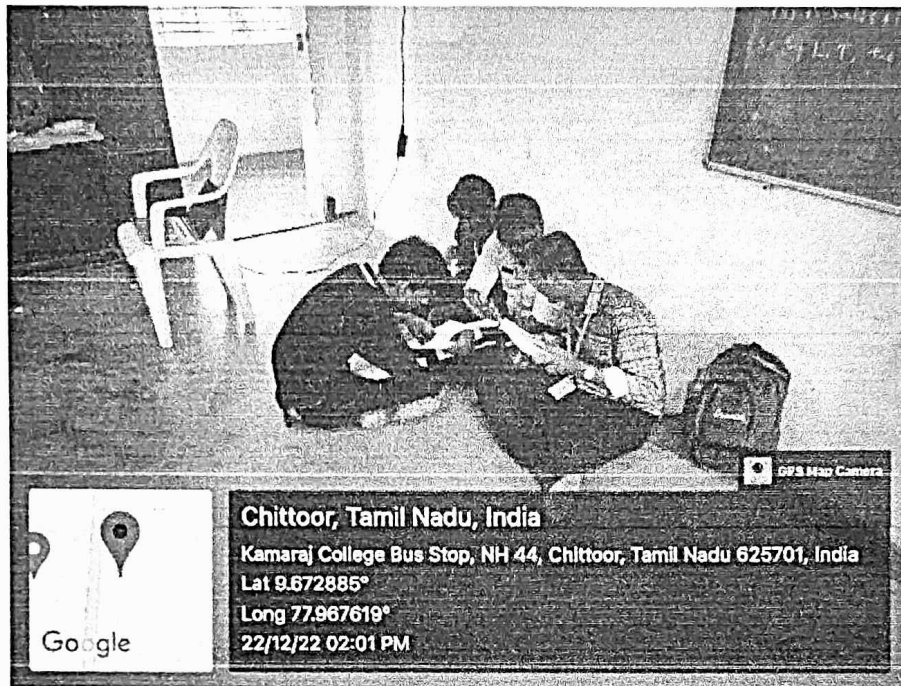
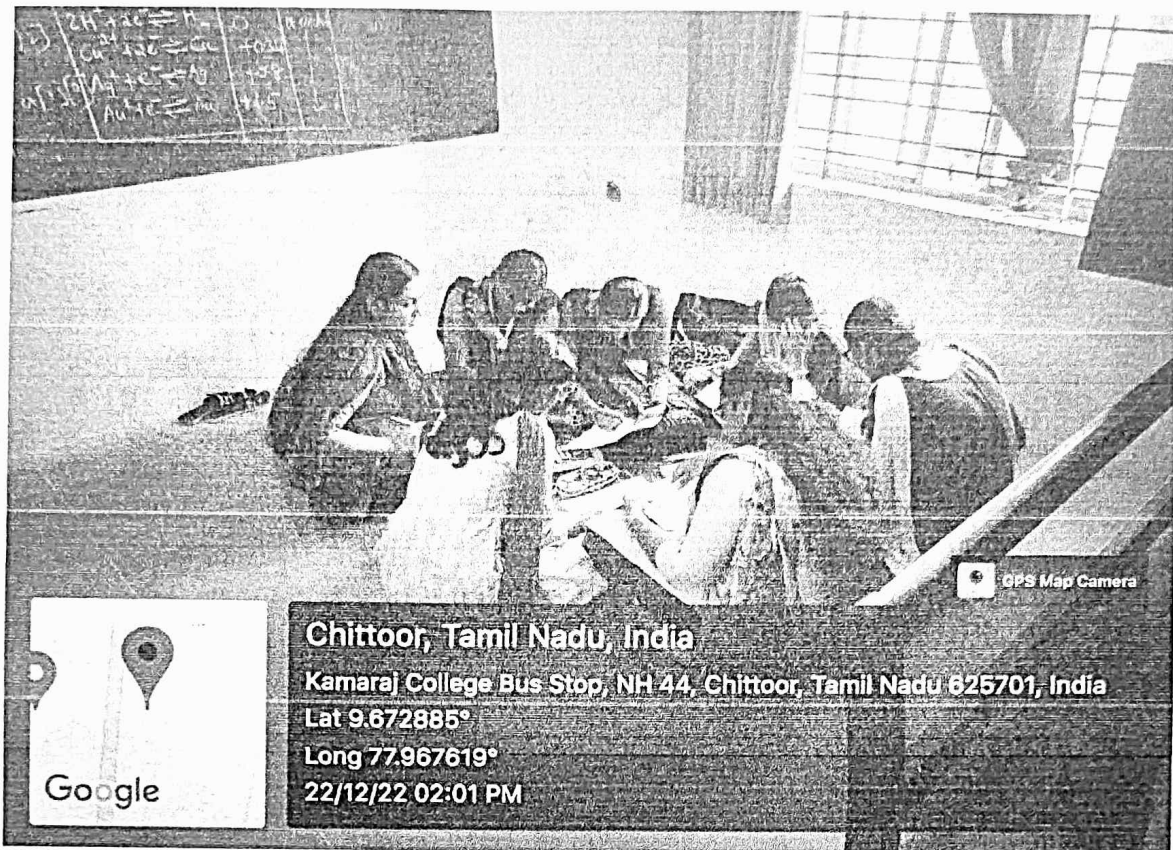**3. Tool Used** : Tutorial Classes (Problem Solving Skills)

Objective:

- To motivate and make students for improving their problem-solving skills by conducting tutorial classes for solving problems.
- To solve problems as teams and students clarified the doubts among themselves as peer learning activity.
- To promote leadership skills among students and also to improve their logical thinking skills.

Proof (Photo\document\any other)   **Conducted Date: 22.12.2023**

Chittoor, Tamil Nadu, India
Kamaraj College Bus Stop, NH 44, Chittoor, Tamil Nadu 625701, India
Lat 9.672885°
Long 77.967619°
22/12/22 02:01 PM

Chittoor, Tamil Nadu, India
Kamaraj College Bus Stop, NH 44, Chittoor, Tamil Nadu 625701, India
Lat 9.672885°
Long 77.967619°
22/12/22 02:01 PM

Chittoor, Tamil Nadu, India
Kamaraj College Bus Stop, NH 44, Chittoor, Tamil Nadu 625701, India
Lat 9.672885°
Long 77.967619°
22/12/22 02:01 PM

Outcome:

- Students participated as teams effectively in solving all the problems assigned to their teams.
- Students solved the problems allotted to their teams and discussed the doubts with their team leader which promotes peer learning.
- At last, each team leaders shared their solved problems to all via mail and presented to all the students in the class room itself. It can be utilized as study material for their exam preparation.

Staff In charge

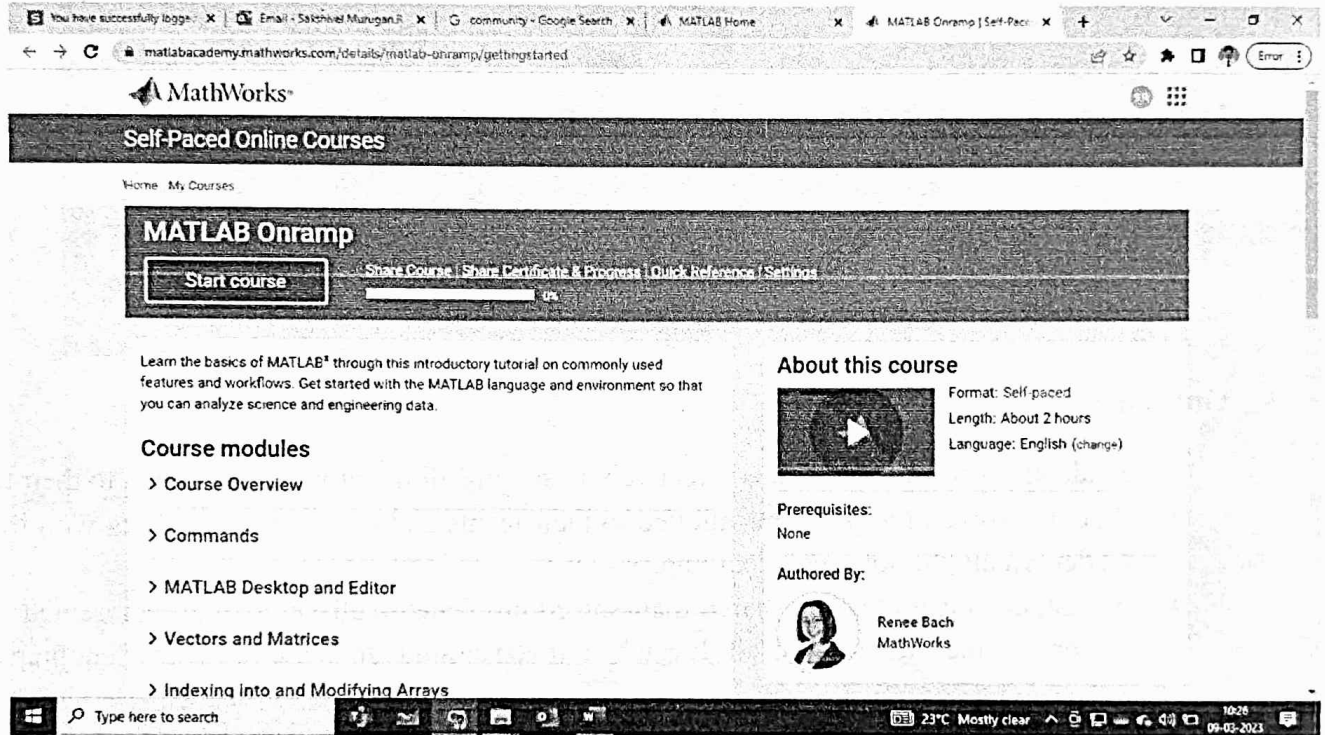**HoD**

4. Tool Used   **: MATLAB Certification Course (Self Learning Skills)**

Objective:

- To motivate students to learn the basics of MATLAB® through an online certification course "MATLAB On Ramp", a self-paced online course provided by Mathworks.
- To make students to self-learn tutorial on commonly used features and workflows.
- To gain knowledge in MATLAB language and environment so that they can analyze science and engineering data.
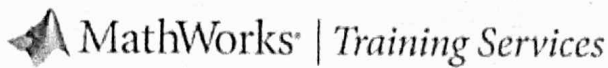
Proof (Photo\document\any other)   **Conducted Date: 01.03.2023**

MathWorks | Training Services
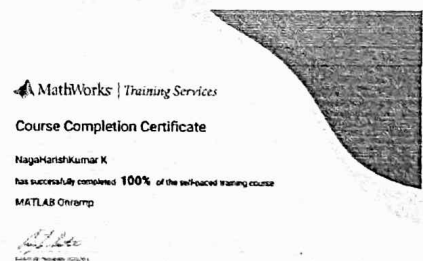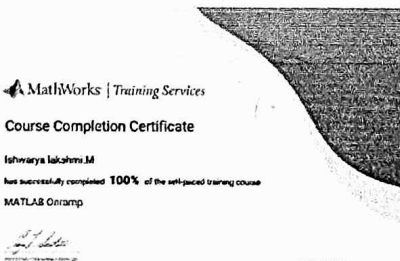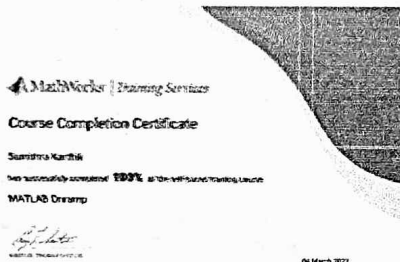
Course Completion Certificate

Jeya Rimaasri

has successfully completed **100%** of the self-paced training course

MATLAB Onramp

DIRECTOR TRAINING SERVICES

05 March 2023

MathWorks | Training Services

Course Completion Certificate

Jeya Sowmya

has successfully completed **100%** of the self-paced training course

MATLAB Onramp

05 March 2023

MathWorks | Training Services

Course Completion Certificate

Samithra Karthik

has successfully completed **100%** of the self-paced training course

MATLAB Onramp

04 March 2023

MathWorks | Training Services

Course Completion Certificate

Preethiga Vasanthakumar

has successfully completed **100%** of the self-paced training course

MATLAB Onramp

03 March 2023

MathWorks | Training Services

Course Completion Certificate

Yogesh P

has successfully completed **96%** of the self-paced training course

MATLAB Onramp

6 March 2023

MathWorks | Training Services

Course Completion Certificate

Ishwarya lakshmi M

has successfully completed **100%** of the self-paced training course

MATLAB Onramp

04 March 2023

MathWorks | Training Services

Course Completion Certificate

NagaHarishKumar K

has successfully completed **100%** of the self-paced training course

MATLAB Onramp

05 March 2023

Outcome:

- Students learnt the online course by self-learning and received the online certification.
- The certificates are uploaded in their LinkedIn profile which strengths their resume and placement opportunity.

Staff In charge

HoD

KAMARAJ ®

COLLEGE OF ENGINEERING & TECHNOLOGY

(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 & BEST PRACTICES

Name of the course instructor	: **Mr.R.Sakthivel Murugan**
Subject Name	: **Design Thinking**
Subject Code	: **GE2201**
Academic Year	: **2022 – 2023**
Class & sec	: **II-YEAR IT**
1. Tool Used	: **Paper Tower Building Activity (Group Activity)**

Objective:

- To make students to create paper tower as a team building activity.
- To encourage students to build their own creative paper tower as much as tall by applying all the design thinking techniques using the provided materials.
- Group to be created which should consists of bright, neutral and weak students.
- To make the students sportive by conducting this activity as a competition.
- Evaluation is based on the performance of team not on individual.
- At last a small presentation is given by the students about their technical content.

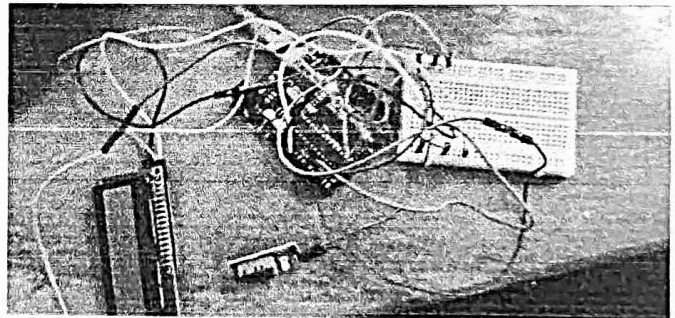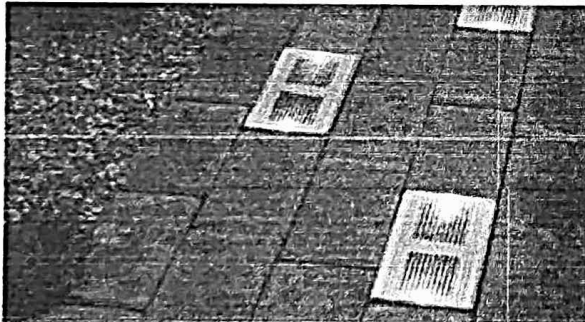**Proof (Photo\document\any other)**   **Conducted Date: 27.08.2022**
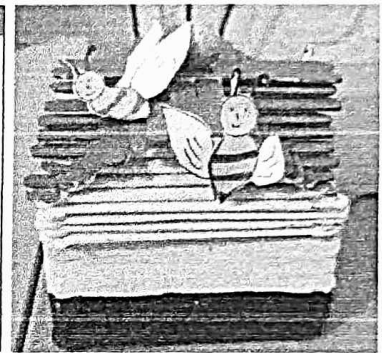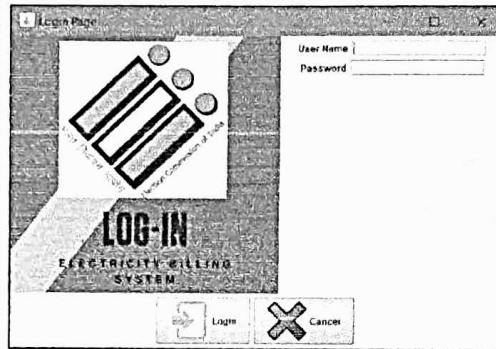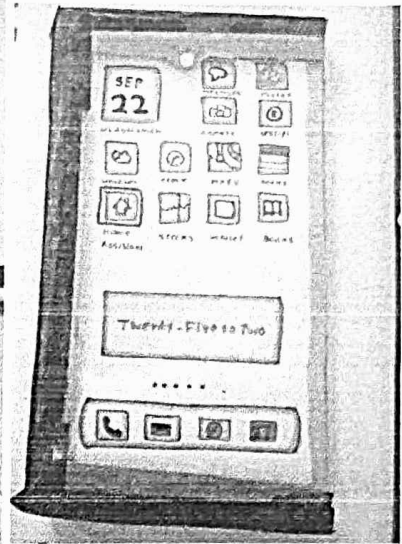
Outcome:

- The whole class participated effectively in this team building activity. All the students mutually shared their technical contents, ideas and involved as teams in the activity by constructing the tallest paper tower.
- Students implemented all the design thinking concepts and techniques in the team building activity.
- At last, the winning team is announced based on the rubrics and each team members appreciated by their team work.
- Winning team created the tallest tower with the maximum height of 220 ft.
- Finally, all the students have given a five minutes presentation about the ideas, techniques implemented, barriers, team coordination while doing the activity.

Staff In charge

HoD

EARTH QUAKE DETECTOR

SEP 22

Twenty-Five to Two

LOG-IN
ELECTRICITY BILLING SYSTEM

User Name
Password

Login   Cancel
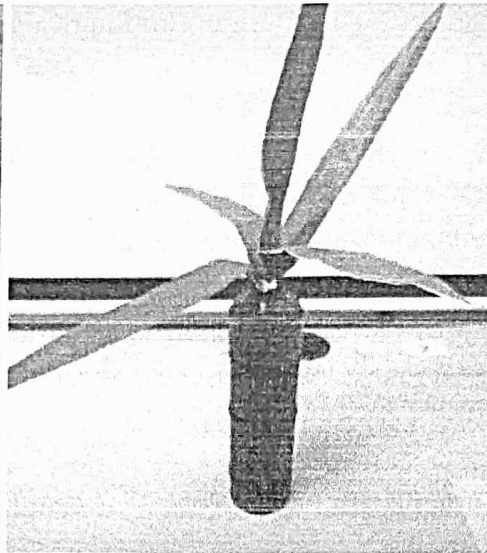
2. Tool Used : Design Thinking Contest (Creating Prototype)

Objective:

- To conduct a contest for design thinking as "Thinkathon 2022" for enhancing the ideas of various applications as a prototype model.
- To apply all the design thinking course outcomes of design thinking in developing the prototype model.
- To prepare a report for the prototype developed in the prescribed template.
- To assess the prototype model by the invited internal and external judges.

Proof (Photo\document\any other)   **Conducted Date: 21.11.2022**

KAMARAJ
COLLEGE OF ENGINEERING & TECHNOLOGY
(Autonomous)
S.P.G.Chidambara Nadar - C.Nagammal Campus
S.P.G.C. Nagar, Virudhunagar.

KAMARAJ / AO / 2022-23 / 18-57   16/11/2022

CIRCULAR

The Design Thinking Contest (Thinkathon 2022) organized under the banner of ISTE Student Chapter has been rescheduled to 21/11/2022 (Monday) for Second Year Students of ECE, CIVIL, MECH, MTRE, EEE, BT and IT who had registered for the event.

Schedule

Time : 9.30 am to 12.30 pm (FN)

Department : EEE, MTRE, CIVIL, ECE, IT, BT & MECH

Evaluation of the entire contest will be based on the following Rubrics:

S.No.	Criterion	Weightage (%)
1.	Innovation in Model design	20
2.	Model Making	30
3.	Team work	10
4.	Documentation	20
5.	Presentation	20

PRINCIPAL

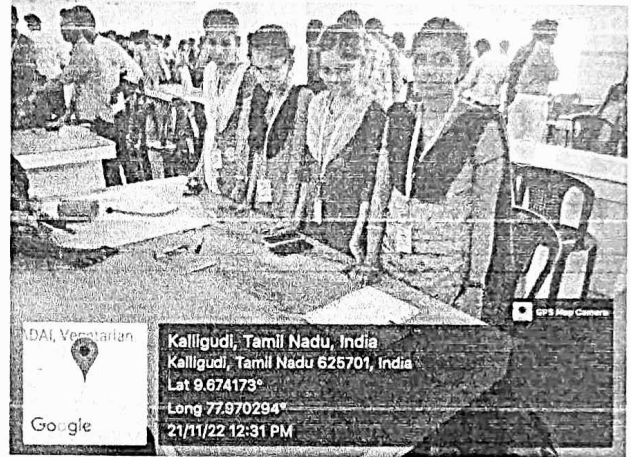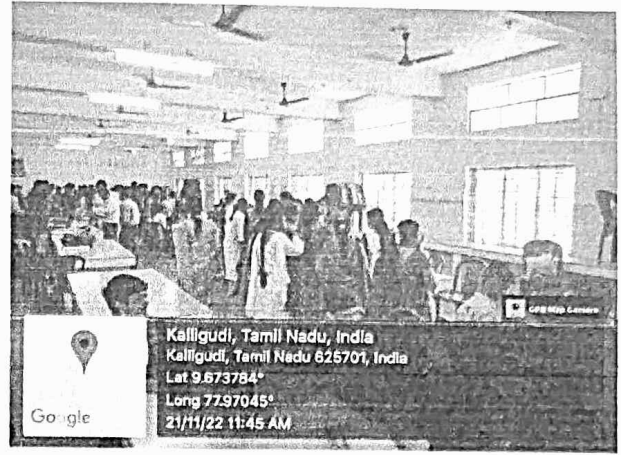**Copy to :**
- All II Year ECE, CIVIL, MECH, MTRE, EEE, BT and IT Dept Students through their email id.
- All HOD's through their email id.
- All teaching staff members through their email id.
- IQAC
- Superintendent / Administrative Office.
- File

Copy submitted to the Secretary / Treasurer

DESIGN THINKING CONTEST
THINKATHON 2022
ATTENTANCE SHEET
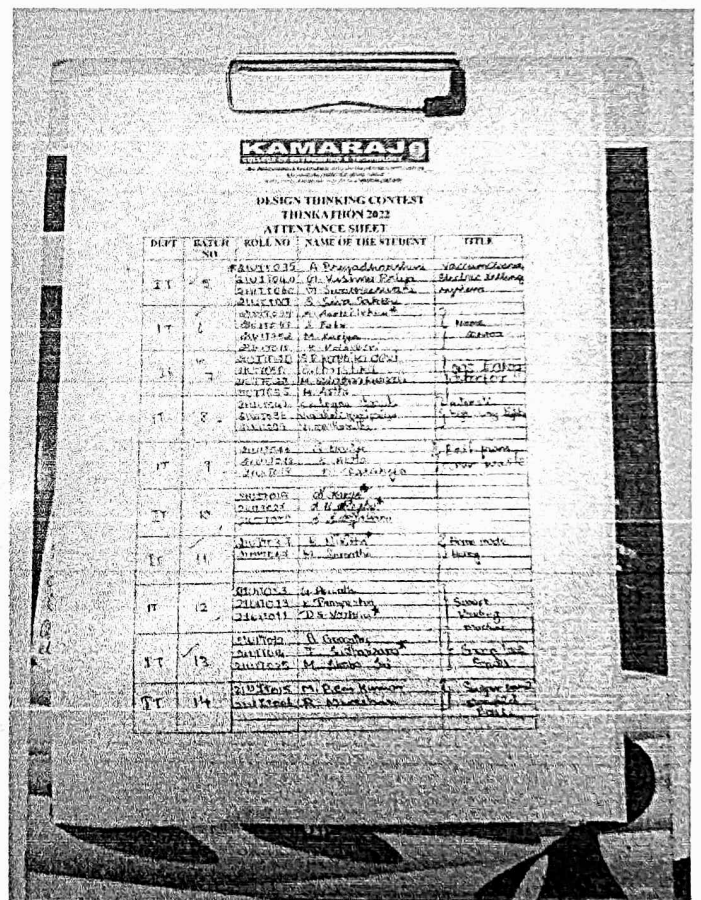
Outcome:

- Students participated enthusiastically in the Design Thinking Contest "Thinkathon 2022".
- Evaluation is done by the Rubrics which was already shared in the circular.
- Most of the students developed the prototype which belongs to multidisciplinary domains, Mobile Apps, Civil Applications, Natural Products etc which are all the initative for an entrepreneurship activity.
- Based on the external and internal judges' evaluation, three teams are identified and rewarded in the valedictory ceremony of "Thinkathon 2022" event.
- All the teams submitted the report in the prescribed format.

Staff In charge

HoD

3. Tool Used : UIA Logo Contest – Software Graphics Design Tool

Objective:

- To motivate and make students to participate in the international level Logo Contest "UNESCO India Africa(UIA) Hackathon" organized by Ministry of Education's Innovation Cell.
- To design a logo entitled "UNESCO India Africa Collaboration, Innovation, Technology and it should have Indian element"
- To make students to participate the logo contest by implementing the design thinking strategies.
- To create the logo for the contest using any software graphics tool like CANVA, Photoshop etc.
- To make students to submit the design via online through Ministry of Education's Innovation Cell.

Proof (Photo\document\any other)   **Conducted Date: 16.08.2021**

UNESCO India Africa(UIA) Hackathon

Ministry of Education's Innovation Cell

Logo Contest

The UNESCO INDIA – AFRICA Hackathon provides a suitable platform allowing young innovators to come together and find solutions for social, environmental and technical problems faced by the collaborating nations. It serves as the foundation for creating potential start-ups with the potential to transform the world. It allows the participating students to unleash their creativity and explore new technologies to solve real-world problems under the guidance of experts - thus, spearheading business innovation in the modern world.

Collaboration of the student teams working together to solve shared problems opens the doors to cultural assimilation by introducing students and their mentors to methods, values and manners different from their own.

The Hackathon also serves as a symbol of the close relation cherished by India and its African counterparts and embodies the spirit of collaboration - bringing them together to solve problems for the betterment of humankind.

Logo should communicate: UNESCO India Africa Collaboration, Innovation, Technology and it should have Indian element

The Logo can be in full name format (UNESCO Africa India Hackathon) or abbreviation format (UIA Hackathon) or both

TERMS AND CONDITIONS

1. The contest is open to Indian citizens/artists. The entry could be an individual project or a team project.
2. All entries must be submitted on the IIC portal https://mic.gov.in/ only. Entries submitted through any other medium/ mode would not be considered for evaluation.
3. The winning logo would be the intellectual property of Ministry of Education's Innovation Cell and the winner cannot exercise any right over it, after selection.
4. Multiple submissions of logo by the same participant would not be accepted.
5. The entry should be accompanied by a brief explanation of the design and how it best symbolizes the ethos of the UIA Hackathon.
6. The logo design must be original. Plagiarism of any nature would not be accepted. It may also be noted herewith that the entries submitted by one individual shall not be viewable to the other participants

TECHNICAL SPECIFICATIONS

1. Participants should upload the Full HD Logo in PNG / JPEG or PDF format only.
2. The winner of the competition shall be required to submit the design in open file format (CDR/PSD etc.).
3. The Logo should be in high resolution with minimum 300 DPI.
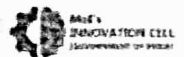
UNESCO India Africa(UIA) Hackathon

Ministry of Education's Innovation Cell

4. A specification sheet containing graphical construction of the design in exact proportions in a bigger size, along with the final design, theme synopsis and concept is required to be submitted by the winner of the competition
5. The logo should be designed on a digital platform. The winner of the competition shall be required to submit the design in an editable and open file format.
6. The logo should be usable on the website/social media such as Twitter/Facebook and on printed material such as black and white press releases, stationery and signage.
7. Participants should not imprint or watermark logo design.
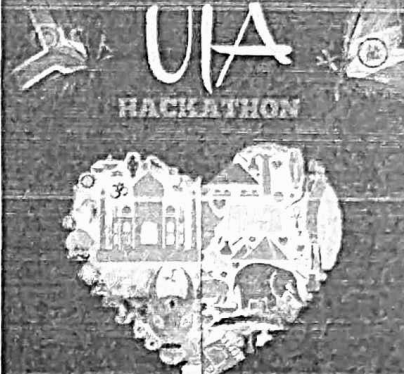8. Logo should be designed in color.

EVALUATION CRITERIA
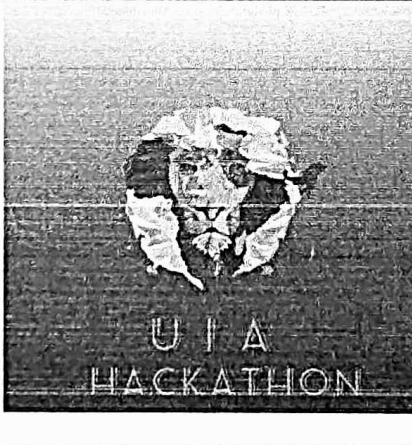
1. All the entries received would be assessed by a Selection Committee for final evaluation.
2. Entries would be judged on the basis of elements of creativity, originality, composition, technical excellence, simplicity, artistic merit, visual impact and its relevance to UIA Hackathon.
3. The decision of the Selection Committee would be final and binding on all the contestants and no clarifications would be issued to any participants for any of their decisions.
4. The disqualified entries shall not be used by the Ministry of Education's Innovation Cell for any purpose and the Ministry of Education's Innovation Cell shall have no intellectual rights over the same.

FOR WINNERS

1. Winner will receive a Memento and the Certificate of Appreciation from MoE's Innovation cell.

Last date for submission is 14th October 2022.

Submitted Designs – Sample

21UIT024	21UIT022	21UIT027

21UIT035	21UIT037	21UIT039

21UIT041	21UIT042	21UIT050

21UIT055	21UIT054	21UIT047
21UIT005		

Outcome:

- Interested Students participated in this logo contest under the proper guidance.
- Most of the Design Thinking Concepts like Thinking in shapes, colors, proportions, idea refinement techniques, metaphors etc are implemented by the students in the contest.
- All the students created their own content using CANVA and Photoshop software tools.
- Students submitted their created design along with short description via online in the provided link.
- 18 Students participated in this contest. All the designs are shared in front of other students and appreciated the participants in front of all the students.

Staff In charge

HoD

KAMARAJ ®
COLLEGE OF ENGINEERING & TECHNOLOGY
(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), Madurai District.
DEPARTMENT OF MECHANICAL ENGINEERING
ACCREDITED BY NBA, NEW DELHI

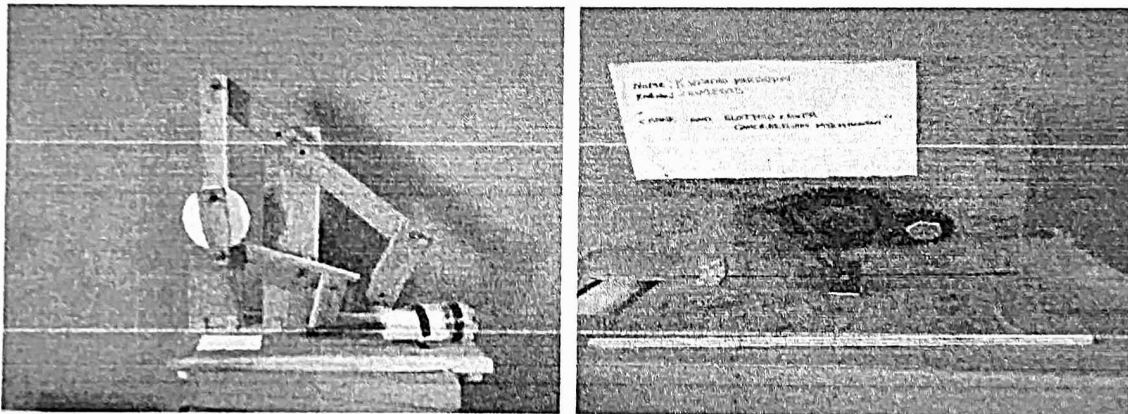## INNOVATION

Name of the course instructor	: Mr.B.K.Parrthipan
Subject Name	: Theory of Machines
Subject Code	: ME2254
Academic Year	: 2022 – 2023 (EVEN)
Class	: II
Tool Used	: Model Making Contest

Objective:

The students are asked to create a model of a mechanism studied in the topic "Basic of Mechanisms"

Proof (Photo\document\any other)

Outcome:

The students created a model of various mechanism like four bar mechanism, single slider crank mechanism etc., with the help of their learnings in the topic "Basic of Mechanisms"

Staff In charge

HOD/MECH

INNOVATION & BEST PRACTICES

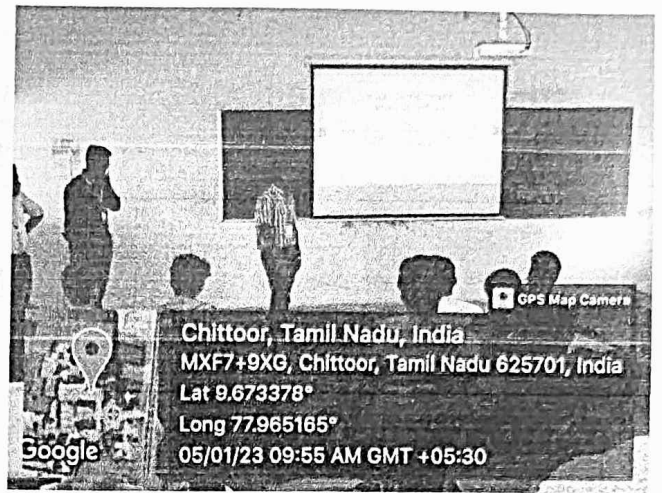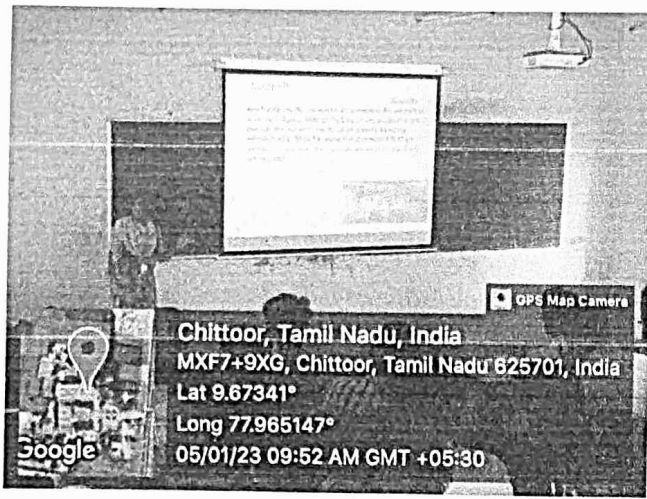|	
Name of the course instructor	: Mr.D.Palani Kumar
Subject Name	: Principles of Engineering
Subject Code	: GE2101
Academic Year	: ODD (2022 – 2023)
Class & sec	: I-YEAR CSE 'C'
1. Tool Used	: Seminar Presentation (Individual Activity)

Objective:

- To conduct a seminar in the topic of 'Engineering Discipline'.
- To improve the presentation skills of students.
- To enable students to prepare unique content for various Engineering disciplines.

Proof (Photo\document\any other)   **Conducted Date: 05.01.2023**

Chittoor, Tamil Nadu, India
MXF7+9XG, Chittoor, Tamil Nadu 625701, India
Lat 9.673515°
Long 77.965186°
05/01/23 09:28 AM GMT +05:30

Chittoor, Tamil Nadu, India
MXF7+9XG, Chittoor, Tamil Nadu 625701, India
Lat 9.673873°
Long 77.965254°
05/01/23 09:30 AM GMT +05:30

Outcome:

- All the students forming into teams delivered the seminar presentation about the topic "Engineering discipline".
- Other students act as listeners and interacted effectively for clarifying doubts.
- Students acquire presentation skills and communication skills and can strengthen the PO 10 & PO12.

Staff In charge

HoD

KAMARAJ ®
COLLEGE OF ENGINEERING & TECHNOLOGY

(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), Madurai District.

DEPARTMENT OF MECHANICAL ENGINEERING
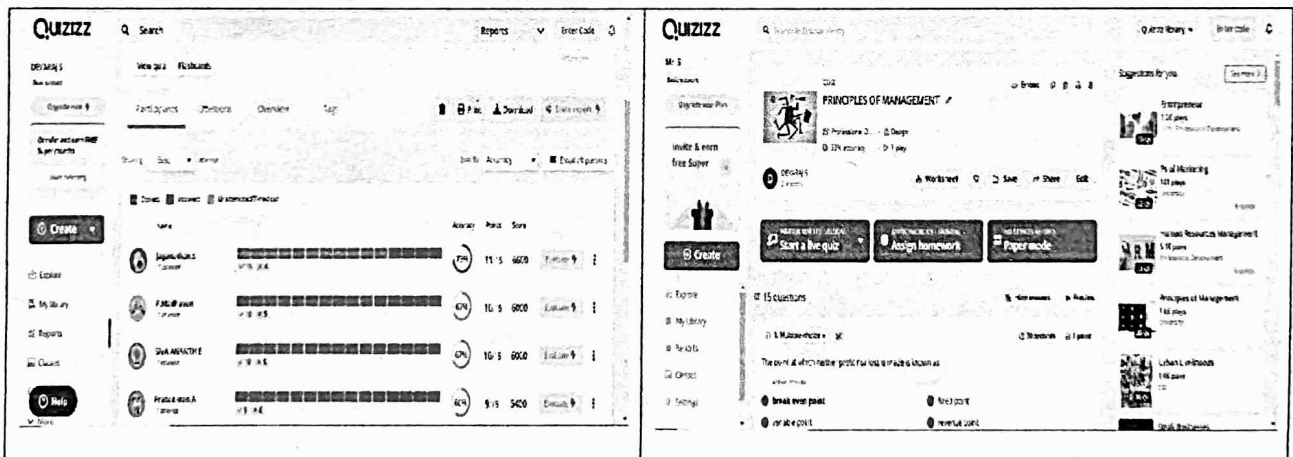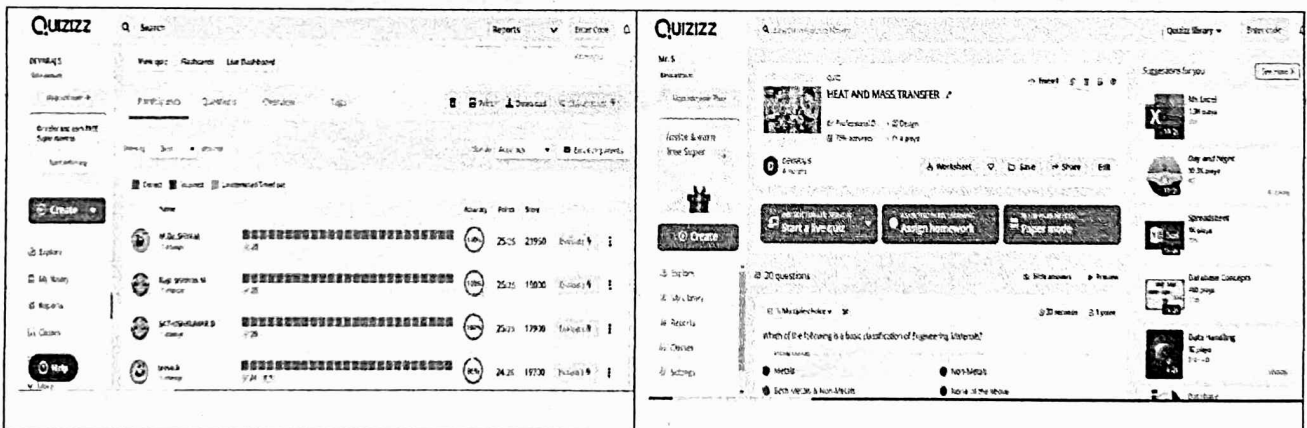### ACCREDITED BY NBA, NEW DELHI

INNOVATION BY FACULTY

Name of the course instructor   : A.Sankara Narayana Murthy

Subject Name   : **Principles of Management**

Subject Code   : **MG8591**

Academic Year   : **2022-2023 (Even)p**

Class   : **IV**

Tool used   : **QUIZZZ**

Description:

- Questions were uploaded in the QUIZZZ website and students were asked to fill it during the class hour.

Proof (Photo)   **Conducted Date: 21/02/2023**

Outcome:

Students were engaged in a different way of answering the questions which increased their participation resulting in more knowledge in their basics

Staff In charge   **HoD\Mech**

INNOVATION BY FACULTY

Name of the course instructor	:	A.Sankara Narayana Murthy
Subject Name	:	Heat and Mass Transfer
Subject Code	:	ME1603
Academic Year	:	2022-2023 (Even)
Class	:	III
Tool used	:	QUIZZZ
Description:		

- Questions were uploaded in the QUIZZZ website and students were asked to fill it during the class hour.

Proof (Photo)   **Conducted Date: 08/02/2023**

Outcome:

Students were engaged in a different way of answering the questions which increased their participation resulting in more knowledge in their basics

Staff In charge   **HoD\Mech**
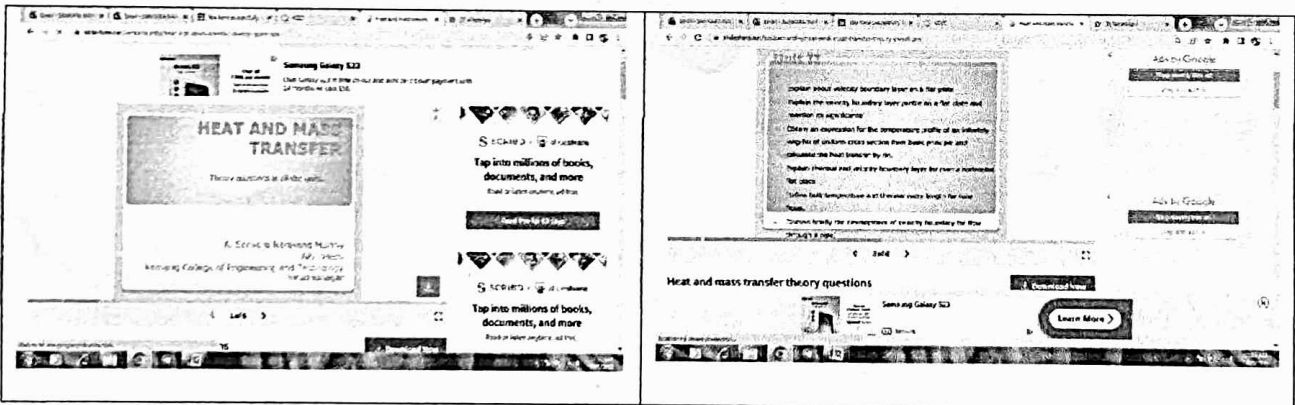
INNOVATION BY FACULTY

Name of the course instructor : A.Sankara Narayana Murthy
Subject Name : Heat and Mass Transfer
Subject Code : ME1603
Academic Year : 2022-2023 (Even)
Class : III
Tool used :
Description:

- Since it is a problematic based subject the theory questions were uploaded in the slideshare.
- Students were encouraged to study the content from the slideshare website.

Proof (Photo)   **Conducted Date: 20/04/2023**

Outcome:

Students understood the basic theory parts of the Heat and mass transfer and the definitions involved in it.

Staff In charge   **HoD\Mech**

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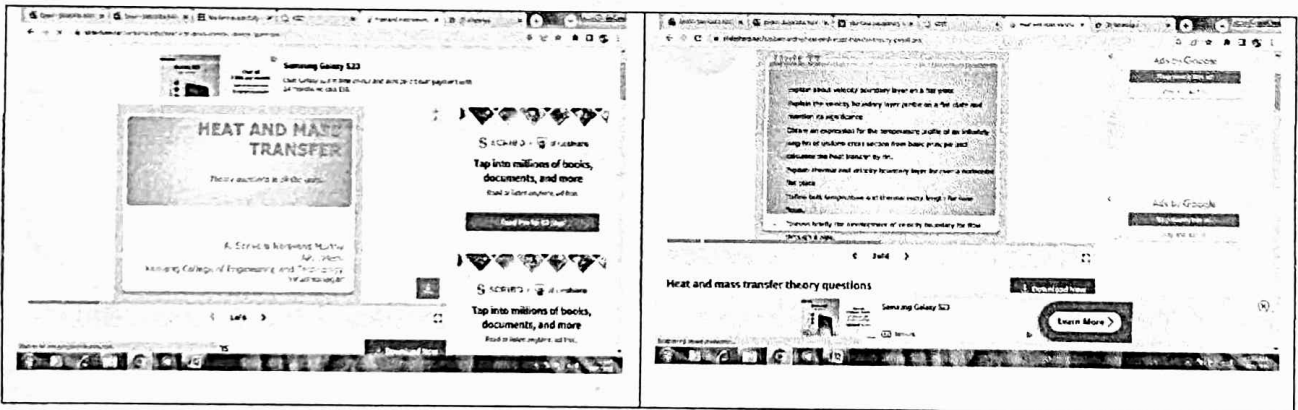### DEPARTMENT OF MECHANICAL ENGINEERING
ACCREDITED BY NBA, NEW DELHI

INNOVATION BY FACULTY

Name of the course instructor	: A.Sankara Narayana Murthy
Subject Name	: Heat and Mass Transfer
Subject Code	: ME1603
Academic Year	: 2022-2023 (Even)
Class	: III
Tool used	:
Description:	

- Since it is a problematic based subject the theory questions were uploaded in the slideshare.
- Students were encouraged to study the content from the slideshare website.
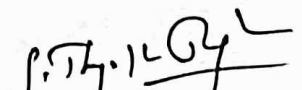
Proof (Photo)   **Conducted Date: 20/04/2023**

Outcome:

Students understood the basic theory parts of the Heat and mass transfer and the definitions involved in it.

Staff In charge   **HoD\Mech**

ACTIVITY BASED LEARNING

Name of the course instructor	:	Dr.M.Prithiviraj
Subject Name	:	Principles of Engineering
Subject Code	:	GE2101
Academic Year	:	2022-2023 (Even)
Class & sec	:	I & CSE "B" Sec
Tool used	:	Contraption

Description:

The subject GE2101 – Principles of Engineering (POE), For unit 2 which covers the length, mass and time is demonstrated by students through contraption models. This activity based learning enables the students to learn the basic concepts about the time, Mass and length and its basic units and difficulties in the fabrication.

Proof (Photo\document\any other)   Conducted Date: 04/03/2023

Outcome:

1. The students will be able to understand the basics units better.

2. The students will have the chance to know the difficulties about the fabrication and need for accuracy in length and mass.

Staff In charge

Hod\Mech