VISWAJYOTHI™
COLLEGE OF ENGINEERING & TECHNOLOGY
Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

Vazhakulam P.O., Muvattupuzha
Ernakulam Dist., Kerala - 686 670
Tel: 0485 2262211 / 44
Email:vjcet@vjcet.org
www.vjcet.org

2.3.1 Student centric methods, such as experiential learning, participative learning and problem solving methodologies are used for enhancing learning experiences

Table of Contents

VISWAJYOTHI
COLLEGE OF ENGINEERING & TECHNOLOGY
Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

Vazhakulam P.O., Muvattupuzha
Ernakulam Dist., Kerala - 686 670
Tel: 0485 2262211 / 44
Email:vjcet@vjcet.org
www.vjcet.org

1. Course plan and delivery plan of staff member - Participative Learning

Proof for Course diary of faculty member- Front Page

VISWAJYOTHI
COLLEGE OF ENGINEERING & TECHNOLOGY
Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

Vazhakulam P.O., Muvattupuzha
Ernakulam Dist., Kerala - 686 670
Tel: 0485 2262211 / 44
Email:vjcet@vjcet.org
www.vjcet.org

SCHEDULE OF WORK/TIME TABLE

Days	1	2	3	4	5	6	7
Mon		LCD -S3 EC					
Tue				LCD- Remedial		LCD - S3 EC	
Wed							
Thu	LCD- S3 EC						
Fri			LCD - S3 EC				LCD- S3 EC

VISWAJYOTHI COLLEGE OF ENGINEERING & TECHNOLOGY

Proof for Course diary of faculty member- Time Table

VISWAJYOTHI
COLLEGE OF ENGINEERING & TECHNOLOGY
Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

Vazhakulam P.O., Muvattupuzha
Ernakulam Dist., Kerala - 686 670
Tel: 0485 2262211 / 44
Email:vjcet@vjcet.org
www.vjcet.org

ELECTRONICS AND COMMUNICATION ENGINEERING

ECT 203	LOGIC CIRCUIT DESIGN	CATEGORY	L	T	P	CREDIT
		PCC	3	1	0	4

Preamble: This course aims to impart the basic knowledge of logic circuits and enable students to apply it to design a digital system.

Prerequisite: EST130 Basics of Electrical and Electronics Engineering

Course Outcomes: After the completion of the course the student will be able to

CO 1	Explain the elements of digital system abstractions such as digital representations of information, digital logic and Boolean algebra
CO 2	Create an implementation of a combinational logic function described by a truth table using and/or/inv gates/ muxes
CO 3	Compare different types of logic families with respect to performance and efficiency
CO 4	Design a sequential logic circuit using the basic building blocks like flip-flops
CO 5	Design and analyze combinational and sequential logic circuits through gate level Verilog models.

Mapping of course outcomes with program outcomes

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
CO 1	3	3										
CO 2	3	3	3									
CO 3	3	3										
CO 4	3	3	3									
CO 5	3	3	3		3							

Assessment Pattern

Bloom's Category	Continuous Assessment Tests		End Semester Examination
	1	2	
Remember	10	10	10
Understand	20	20	20
Apply	20	20	70
Analyse			
Evaluate			
Create			

Mark distribution

Total Marks	CIE	ESE	ESE Duration
150	50	100	3 hours

7

Proof for Course diary of faculty member- Syllabus

VISWAJYOTHI
COLLEGE OF ENGINEERING & TECHNOLOGY
Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

Vazhakulam P.O., Muvattupuzha
Ernakulam Dist., Kerala - 686 670
Tel: 0485 2262211 / 44
Email:vjcet@vjcet.org
www.vjcet.org

Course Plan

No.	Date & Day (Period)	Cumulative Hrs.	Topics to be Covered
			Module-1: Number Systems & Codes
1	12.9.22 Monday 2nd	1	Introduction to Logic systems. Different types of Number systems.
2	13.9.22 Tues 4th	2	Binary, octal, hexadecimal number systems, & conversions from one to another
3	13.9.22 Tues 6th	3	Counting in binary; Arithmetic operations in binary, octal, hexadecimal
4	15.9.22 Thursday 1st	4	Representation of signed numbers - 3 types of representations.
5	16.9.22 Friday 3	5	Arithmetic using signed numbers.
6	16.9.22 Friday 7	6	Fixed & Floating point numbers.
7	19.9.22 Monday 8	7	Binary codes - BCD code, Gray code, Excess 3 code.
8	20.9.22 Tues 6th	8	Error detection using parity bit
9	22.9.22 Thursday 1st	9	Error detection & corrections using Hamming code
10	23.9.22 Friday 3rd	10	Examples of Error detection & correction, ASCII code (Alphanumeric)
11	23.9.22 Friday 7th	11	Introduction to Hardware Description Language - Verilog; constructs
12	26.9.22 Monday 2	12	Basic Language Elements of Verilog - Identifier, data object, data types, operator
13	27.9.22 Tues 6th	13	Tutorial

8   VISWAJYOTHI COLLEGE OF ENGINEERING & TECHNOLOGY

Proof for Course diary of faculty member- Course Plan

VISWAJYOTHI
COLLEGE OF ENGINEERING & TECHNOLOGY
Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

Vazhakulam P.O., Muvattupuzha
Ernakulam Dist., Kerala - 686 670
Tel: 0485 2262211 / 44
Email:vjcet@vjcet.org
www.vjcet.org

Details of Assignments

No.	Date of submission	Date of return after evaluation	Description
1.	5.12.2022	12.12.2022	Define the terms noise margin, propagation delay, fan-in, fan out & power dissipation related to a logic family. Prepare a comparison table showing the values of each for the TTL, ECL, & CMOS logic families.
2	3.1.2023	4.1.2023	Timing Parameters of a flip flop. Clock skew & Time Race

VISWAJYOTHI COLLEGE OF ENGINEERING & TECHNOLOGY

Proof for Course diary of faculty member- Details of Assignment

VISWAJYOTHI
COLLEGE OF ENGINEERING & TECHNOLOGY
Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

Vazhakulam P.O., Muvattupuzha
Ernakulam Dist., Kerala - 686 670
Tel: 0485 2262211 / 44
Email:vjcet@vjcet.org
www.vjcet.org

Details of Tutorials

No.	Date	Description
1	10.10.2022	Questions on SOP, POS, Total no. of gate i/ps, K map.
2	27.10.2022	Word problems. Design for minimal SOP, minimal POS, To obtain real minimum expressions & implement using universal gates.

VISWAJYOTHI COLLEGE OF ENGINEERING & TECHNOLOGY

Proof for Course diary of faculty member- Details of Tutorials

VISWAJYOTHI ™
COLLEGE OF ENGINEERING & TECHNOLOGY
Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

Vazhakulam P.O., Muvattupuzha
Ernakulam Dist., Kerala - 686 670
Tel: 0485 2262211 / 44
Email:vjcet@vjcet.org
www.vjcet.org

Proof for Course diary of faculty member- Attendance Sheet

Remedial Classes	Test I 50	Test II 50	Test III	Moderation on basis of Makeup Test	Assg. I	Assg. II	Attendance Percentage %	Attendance Marks	Sessional Marks	Remarks
8 1 3 6 / 11 13 12 12	28	34			10	10	91	10	41	41
	-6-	22		4	10	10	86	9	31	35
	18½	18		2	10	10	88	9	33	35
	46	38			10	10	96	10	46	46
	13½	16		3	10	10	95	10	32	35
	38½	24			10	10	100	10	41	41
aa	16	25		2	10	10	76	8	33	35
a	11	17		6	10	10	65	7	29	35
a	30	19½			8	10	94	10	36	36
	28	12		1	10	10	87	9	34	35
	20	21		1	10	10	86	9	34	35
a	10	15		5	8	10	90	10	30	35
a	a 24	17		1	10	10	95	10	35	36
	11	-9-		5	10	10	91	10	30	35
	45	45			10	10	100	10	48	48
	28+3	25			10	10	96	10	39	39
	40	30			10	10	94	10	43	43
	25	10		2	10	10	88	9	33	35
	-1-	-1-		9	10	10	94	10	26	35
	43	29			10	10	95	10	43	43
	26	27			10	10	95	10	38	38
a	21	22			10	10	91	10	36	36
	24	19			10	10	90	10	36	36
	24	30			10	10	95	10	39	39
a	a 15	13½		6	9	10	77	8	29	35
aa a	33	25			10	10	92	10	40	46
	10	18		3	10	10	95	10	32	35
a	22	a 15		3	10	10	75	8	29+3	35
aa	-8-	13½		7	8	10	86	9	28	35
	36	29			10	10	96	10	41	41
	32	39			10	10	88	9	42	42
	35	36			10	10	99	10	43	43
a	10	-7-		7	10	10	87	9	28	35
	10	17		3	10	10	90	10	32	35
	12	16		3	10	10	96	10	32	35

Proof for Course diary of faculty member- Mark Distribution Sheet

VISWAJYOTHI
COLLEGE OF ENGINEERING & TECHNOLOGY
Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

Vazhakulam P.O., Muvattupuzha
Ernakulam Dist., Kerala - 686 670
Tel: 0485 2262211 / 44
Email:vjcet@vjcet.org
www.vjcet.org

Subject Coverage

No.	Date & Day (Period)	Cumulative Hrs.	Topics to be Covered	Mode of Instruction
14	26.9.2022 Monday 5th	10	Problems of expanding a function to canonical SOP & POS.	Chalk & Talk
15	27.9.2022 Tuesday 2nd	11	Converting a function to minterms & max terms.	Chalk & Talk
16	27.9.2022 Tuesday 4th	12	Duality Principle. Duals of Boolean Identities	Chalk & Talk.
17	28.9.2022 Wednesday 3rd	13	Word Problems.	Chalk & Talk
18	29.9.2022 Thursday 2nd	14	Kmap. 2 variable 3 variable. intro.	Chalk & Talk.
19	30.9.2022 Friday 4	15	3 variable. K-map. — SOP	Chalk & Talk
20	30.9.2022 Friday 6	16	4 variable k map — SOP (minimal)	Chalk & Talk
21	1.10.2022 Saturday 5th	17	4 variable Kmap — minimal SOP	Chalk & Talk.
22	7.10.2022 Friday 3rd	18	POS - from K map	Chalk & Talk.
23	7.10.2022 Friday 5th	19	POS- 4 variable. Logic Exp to ckt. Find O/P from logic	Chalk & Talk
24	7.10.2022 Friday 7th	20	Logic expression using NAND logic.	Chalk & Talk.
25	10.10.2022 Monday 2nd	21	Tutorial Test.	(T)
26	14.10.2022 Friday 3rd	22	Logic expression using NOR logic XOR using NAND logic	Chalk & Talk

VISWAJYOTHI COLLEGE OF ENGINEERING & TECHNOLOGY   37

Proof for Course diary of faculty member- Subject Coverage

VISWAJYOTHI
COLLEGE OF ENGINEERING & TECHNOLOGY
Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

Vazhakulam P.O., Muvattupuzha
Ernakulam Dist., Kerala - 686 670
Tel: 0485 2262211 / 44
Email:vjcet@vjcet.org
www.vjcet.org

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
Academic Calendar - September 2022 to January 2023
B.Tech S7/S5/S3, BHMCT S5/S3, M.Plan S3, M.Arch S3

Sep-22 Days	Date	Description	Class	Oct-22 Days	Date	Description	Class	Nov-22 Days	Date	Description	Class
Thu	1			Sat	1		17	Tue	1		39
Fri	2			Sun	2	Gandhi Jayanthi		Wed	2		40
Sat	3			Mon	3		18	Thu	3		41
Sun	4			Tue	4	Mahanavami		Fri	4		42
Mon	5			Wed	5	Vijayadasami		Sat	5		43
Tue	6			Thu	6		19	Sun	6		
Wed	7	First Onam		Fri	7		20	Mon	7		44
Thu	8	Thiruvonam		Sat	8	Milad-i-sherif		Tue	8		
Fri	9	Third Onam		Sun	9			Wed	9		46
Sat	10	Fourth Onam		Mon	10		21	Thu	10		47
Sun	11			Tue	11		22	Fri	11	First Series test to be completed for B.Tech S7/S5, BHMCT S5/S3, M.Arch S3, M.Plan S3	48
Mon	12	Commencement of classes for B.Tech S3, BHMCT S5	1	Wed	12	Course Selection and Mapping Begins for B.Tech S5, BHMCT S3, M.Arch S3, M.Plan S3	23	Sat	12		
Tue	13	Commencement of classes for B.Tech S7	2	Thu	13		24	Sun	13		
Wed	14		3	Fri	14		25	Mon	14		49
Thu	15		4	Sat	15		26	Tue	15		50
Fri	16		5	Sun	16			Wed	16		51
Sat	17		6	Mon	17		27	Thu	17		52
Sun	18			Tue	18	Course Selection and Mapping Ends for B.Tech S5, BHMCT S3, M.Arch S3, M.Plan S3	28	Fri	18		53
Mon	19	Commencement of classes for B.Tech S5, M.Arch S3, M.Plan S3	7	Wed	19		29	Sat	19		
Tue	20		8	Thu	20		30	Sun	20		
Wed	21	Sree Narayana Guru Samadhi Day		Fri	21		31	Mon	21	Exam Registration begins for B.Tech S7/S5/S3, BHMCT S5/S3, M.Arch S3, M.Plan S3	55
Thu	22	Commencement of classes for BHMCT S3	9	Sat	22		32	Tue	22	Second CC Meetings for B.Tech S7/S5/S3, BHMCT S5/S3, M.Arch S3	56
Fri	23		10	Sun	23			Wed	23		57
Sat	24		11	Mon	24	Deepavali		Thu	24		58
Sun	25			Tue	25		33	Fri	25		59
Mon	26	Course Selection and Mapping Begins for B.Tech S7/S3, BHMCT S5	12	Wed	26		34	Sat	26		60
Tue	27	First CC Meetings for B.Tech S7/S5/S3, BHMCT S5/S3, M.Arch S3, M.Plan S3	13	Thu	27		35	Sun	27		
Wed	28		14	Fri	28		36	Mon	28		61
Thu	29		15	Sat	29		37	Tue	29		62
Fri	30	Course Selection and Mapping Ends for B.Tech S7/S3, BHMCT S5	16	Sun	30			Wed	30	Exam Registration ends for B.Tech S7/S5/S3, BHMCT S5/S3, M.Arch S3, M.Plan S3	63
				Mon	31		38				

Proof for Course diary of faculty member- Academic Calendar from the University

VISWAJYOTHI
COLLEGE OF ENGINEERING & TECHNOLOGY
Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

Vazhakulam P.O., Muvattupuzha
Ernakulam Dist., Kerala - 686 670
Tel: 0485 2262211 / 44
Email:vjcet@vjcet.org
www.vjcet.org

Proof for Course diary of faculty member- Semester Plan of College

VISWAJYOTHI ™
COLLEGE OF ENGINEERING & TECHNOLOGY
Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

Vazhakulam P.O., Muvattupuzha
Ernakulam Dist., Kerala - 686 670
Tel: 0485 2262211 / 44
Email:vjcet@vjcet.org
www.vjcet.org

2. Online Course Students Certificates-Participative Learning

Proof for NPTEL Certificate

VISWAJYOTHI™
COLLEGE OF ENGINEERING & TECHNOLOGY
Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

Vazhakulam P.O., Muvattupuzha
Ernakulam Dist., Kerala - 686 670
Tel: 0485 2262211 / 44
Email:vjcet@vjcet.org
www.vjcet.org

Proof for COURSERA Certificates

VISWAJYOTHI
COLLEGE OF ENGINEERING & TECHNOLOGY
Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

Vazhakulam P.O., Muvattupuzha
Ernakulam Dist., Kerala - 686 670
Tel: 0485 2262211 / 44
Email:vjcet@vjcet.org
www.vjcet.org

3. Student Certificates- Project Competition , Paper Presentation Design Contest, Cybathalon etc- Problem Solving Methodologies, Experiential and Participative Learning

REPORT ON IDEA FEST on 3rd and 4th January 2023

In Today's world, education is not only about learning and teaching in a class-room, it is much more about practical awareness rather than theoretical sessions. The idea fest was spread over two days on 3rd and 4th of January 2023 from 9.00 AM onwards with some Major and Minor projects and had a number of students and teachers participating and collaborating hand in hand to make the event successful. This exhibition was open to students from other schools as well as their parents.

Objective of the Event:

- To develop the presentation skills.
- To improve the teamwork of the project group members
- To create an aggressive mind-set among the students.
- To develop and present innovative skills as well as technical skills.
- To get maximum experience to latest technology and share their ideas and knowledge with the current technologies.

About the Event:

At 9.00 AM itself the idea fest was started by the Principal by giving a warm welcome speech and requested the Manager to assist him in lighting the lamp. Many students from different branches showed interest to showcase their projects with posters in the idea fest. All the projects were mentored and guided by the faculty members of the department. The students demonstrated the working of their projects to the visitors. The exhibition provides a good platform for students to showcase their talents and receive suggestions from other experts. All the faculty members of the department were present during the exhibition and provided guidance to the students for the successful execution of the program. This exhibition succeeded in giving an overview of practical applications in various domains. The event motivated the first and second year students

VISWAJYOTHI
COLLEGE OF ENGINEERING & TECHNOLOGY
Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

Vazhakulam P.O., Muvattupuzha
Ernakulam Dist., Kerala - 686 670
Tel: 0485 2262211 / 44
Email:vjcet@vjcet.org
www.vjcet.org

to take up the project work seriously and to bring in more innovations in the work that can be helpful to the society.

Photos of the Session

VISWAJYOTHI™
COLLEGE OF ENGINEERING & TECHNOLOGY
Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

Vazhakulam P.O., Muvattupuzha
Ernakulam Dist., Kerala - 686 670
Tel: 0485 2262211 / 44
Email:vjcet@vjcet.org
www.vjcet.org

Poster of the Idea Fest

VISWAJYOTHI ™
COLLEGE OF ENGINEERING & TECHNOLOGY
Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

Vazhakulam P.O., Muvattupuzha
Ernakulam Dist., Kerala - 686 670
Tel: 0485 2262211 / 44
Email:vjcet@vjcet.org
www.vjcet.org

Proof for conducting Science & Technical Project Competition.

VISWAJYOTHI
COLLEGE OF ENGINEERING & TECHNOLOGY
Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

Vazhakulam P.O., Muvattupuzha
Ernakulam Dist., Kerala - 686 670
Tel: 0485 2262211 / 44
Email:vjcet@vjcet.org
www.vjcet.org

Proof for Participation in Workshop on Machine Learning

VISWAJYOTHI
COLLEGE OF ENGINEERING & TECHNOLOGY
Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

Vazhakulam P.O., Muvattupuzha
Ernakulam Dist., Kerala - 686 670
Tel: 0485 2262211 / 44
Email:vjcet@vjcet.org
www.vjcet.org

Proof for Participation in Paper presentation

VISWAJYOTHI ™
COLLEGE OF ENGINEERING & TECHNOLOGY
Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

Vazhakulam P.O., Muvattupuzha
Ernakulam Dist., Kerala - 686 670
Tel: 0485 2262211 / 44
Email:vjcet@vjcet.org
www.vjcet.org

Proof for Participating in "Winter Hack", A 24 Hour hackathon Conducted by IEDC ICET

VISWAJYOTHI
COLLEGE OF ENGINEERING & TECHNOLOGY
Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

Vazhakulam P.O., Muvattupuzha
Ernakulam Dist., Kerala - 686 670
Tel: 0485 2262211 / 44
Email:vjcet@vjcet.org
www.vjcet.org

4. Proof for Gap Filling- Lecture Talk, Workshops etc- Participative Learning

Report of the Workshop on Machine Learning Concepts and Applications from 14th to 16th December 2022

The Event was organized on 14th, 15th and 16thof December 2022 with the intention to serve proper guidance on Machine learning concepts Dr.Shailesh Sivan, Assistant professor DCS,CUSAT, Ernakulam was the resourse person for the event. Around 50 students from 3rd level IT branch took part in this workshop. The Event was a great success and interactive for both the ends. Students showed their active participation in following mentors' guidance and mentors handled to worst to best situations wisely. Machine Learning has been on top of the charts of trending advanced technologies since a long time. It is a method of data analysis that automates analytical model building and happens to be a branch of artificial intelligence based on the idea that systems can learn from data, identify patterns and make decisions with minimal human intervention. In order to make the students acquainted with this topic, an initiative was raised to conduct a workshop on Machine Learning.

DAY 1

It started with warm welcome and inauguration of the event. Mentors started with the R language and made all the students familiar with R studio. the expert started the workshop by giving an introduction on machine learning and its applications. After the introduction the basic concepts and how Machine Learning works were taught. Moreover, the difference between Machine Learning and Deep Learning was also enlightened.

DAY 2

 The workshop was proceeded by emphasizing the applications of Machine Learning. Various applications of Machine Learning include Web Search Engine, Photo Tagging applications, Spam detector, Face Recognition and many more. The highlight of the workshop was "How to generate image from given dataset". This can be done by Generative Adversial Network (GAN).

DAY 3

They raised the level of workshop to intermediate by practical hands-on projects like speech to text, chatbots, classification, regression. New students found bit difficult initially as they were not much familiar but with the help of volunteers, they tried at their best to deliver quality.

Technical problems like internet connection suffered but mobile hotspots were arranged accordingly.

Photos of the Session

VISWAJYOTHI
COLLEGE OF ENGINEERING & TECHNOLOGY
Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

Vazhakulam P.O., Muvattupuzha
Ernakulam Dist., Kerala - 686 670
Tel: 0485 2262211 / 44
Email:vjcet@vjcet.org
www.vjcet.org

<u>Report on the Webinar Conducted on 7th January 2023 on the Topic "Design Thinking, Critical Thinking and Innovation Design".</u>

1. Introduction

The Resource Person of the workshop was Mr**.** Ramamirtham Thirusangu, Entrepreneur/ Success Smiles Coach / Author / Trainer. The workshop organized by IIC, IEDC & IIIC VJCET on 7th January was on the topic "Design Thinking, Critical Thinking and Innovation Design". The training was conducted in an intention to providing the students brief idea about innovation through design thinking.

2. Program Objective

The objective of conducting such a webinar is to encourage students to how to apply the innovation thinking and design thinking for a problem raised. Also, it is intended to make students familiar about to create a problem statement by understanding and analyzing the information given by user.

3. Program Description

The training was conducted through the online platform 'Zoom' and had begun by 10:00 am with a welcome speech by Mr. Antony Varghese. The Resource Person of the workshop was Mr. Ramamirtham Thirusangu, Entrepreneur/ Success Smiles Coach / Author / Trainer. The session was conducted for first year & second year mechanical students and a total of 51 students participated. During the session Mr. Ramamirtham Thirusangu explained about the creative thought process used to generate ideas and solutions. The program aims to synthesize information and make connections to interpret information and draw conclusions.

4. Program Outcomes

The session was very much useful for the students. It gave a lot of new insights and clarity about their goals & strategies and also students got a very good idea about facing everyday challenges through coordination & cooperation and also they got the knowledge about the requirements of an industry and how to fulfill the duties entitled to them.

5. Conclusion

The workshop was wound up by 11.30 am by the vote of thanks delivered by Mr. Melvin Joshy of first year student of Mechanical Engineering Department.

VISWAJYOTHI
COLLEGE OF ENGINEERING & TECHNOLOGY
Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

Vazhakulam P.O., Muvattupuzha
Ernakulam Dist., Kerala - 686 670
Tel: 0485 2262211 / 44
Email:vjcet@vjcet.org
www.vjcet.org

Photos of session

VISWAJYOTHI
COLLEGE OF ENGINEERING & TECHNOLOGY
Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

Vazhakulam P.O., Muvattupuzha
Ernakulam Dist., Kerala - 686 670
Tel: 0485 2262211 / 44
Email:vjcet@vjcet.org
www.vjcet.org

ATTENDANCE OF THE SESSION

WORKSHOP ON: DESIGN THINKING, CRITICAL THINKING & INNOVATION DESIGN

ATTENDANCE

SL NO.	NAME	CLASS	MAIL ID	MOB. NO.
1	Navin Antony Prince	S3 ME	nevinantony 25@gmail.com	7306189043
2	Vishnu Raju	S3 ME	iamvishnu14@gmail.com	7560953775
3	Nithin Roy	S3 ME	roy.nithin910@gmail.com	9867007090
4	Melvin F S	S3 ME	melvinES05@gmail.com	9895219298
5	Theja Baby	S3 ME	thejababy118@gmail.com	6282436054
6	Vivek Jose	S3 ME	vivekjose0606@gmail.com	9497108245
7	Albert Shaju	S3 ME	albertshaju644@gmail.com	8547875411
8	Dibin Shajan	S3 ME	dibin.shajan12@gmail.com	8590695308
9	Vivek Baby Varkey	S3 ME	vivekpbvar@gmail.com	9961971533
10	Bestin Baby	S3 ME	Bestinbaby5607@gmail.com	9257198544
11	Jophan Sony	S3 ME	jophen3baja@gmail.com	8848206040
12	Ashbin George	S3 ME	achunge01@gmail.com	7994127080
13	VYSHNAV KR	S9 ME	vyshnavkr22@gmail.com	7306047664
14	AMAL S Thampi	S3 ME	amarathompi123@gmail.com	7591910567
15	Alan Vincent	S3 ME	alanvincent4002@gmail.com	7561065775
16	BIBIN S	S3 ME	bibinsooo1@gmail.com	9037802660
17	Nandhakishor S	S3 ME	nandakishors123456@gmail.com	9497105436
18	Stephen MR	S3 ME	stephenmr323@gmail.com	9446827083
19	Abin Jose	S9 ME	abinJose904@gmail.com	9048591654
20	Ben Samuel	S3 ME	benjr0001@gmail.com	7594015124
21	GAGAN PREM	S3 ME	gaganprem38@gmail.com	9605603779
22	EMMANUEL LEJOY	S3 ME	emmanuel15kuttanbava@gmail.com	9207350618
23	Aadhil P thekke	S, ME	aadhilvechu112@gmail.com	8129316970
24	Teevan Sreejith	S,ME	teevansreejith@gmail.com	9567704660
25	Arjun Mohanan	S,ME	arjun.mohanan12@gmail.com	7736512747
26	Rohith R Manoj	S, ME	rohithrmanoj27m@gmail.com	7909110381
27	Ginu p s	S1ME	ganops@642@gmail.com	6235555571
28	Ted K Mani	S1ME	Tedkmani7000@gmail.com	8559926936
29	Hrishikesh Mauoj	S1ME	hrishikesh221m459@vjcet.org	8921791826
30	Fayaz P Ajmas	S ME	fayaz.payms@gmail.com	8546996497
31	Athul Anto Jolly	S1 ME	aihulantojoll@gmail.com	9895636102
32	Aswin K Ajan	S1ME	aswinkajan58200@gmail.com	7407370701
33	CHAMINDA VAS	S1ME	Chomindavas22em167@vjcet.org	9590692716
34	ASWIN C KANNAN	S1ME	aswincckannan.21b@gmail.com	9188811083
35	Alby Augustine	S1ME	albyaugustine123@gmail.com	7903966744
36	ELDHO SABU	S1 ME	eldhosabu1112@gmail.com	9846950195
37	John Sudhakar	S1 ME	johnsudhkumar11@gmail.com	8590451355
38	Abilmon K Biju	S1 ME	abilmon21m115@vjcet.org	8590788087
39	Jacial Sabu	S1 ME	j04alsaju200@gmail.com	9074593145
40	Melato Joshy	S1 ME	Melvinjoshy208@gmail.com	9895169534
41	Melvin P Issac	S1 ME	melvinissac.7@gmail.com	7025463067
42	Araf Arfaad	S1 ME	ArafArfaad989@gmail.com	9702354804
43	Abhinav Raju	S1 ME	Abonrav Raju11@gmail.com	8134363571
44	Asif A A	S1 ME	asifazyankale@gmail.com	9567261105
45	Abhinav M Suresh	S1 ME	abhinavms135@gmail.com	9744079908
46	Abilnavas Anil	S1 ME	crazy.abhinav09@gmail.com	9061135560
47	Amith Jashy	S1 ME	AmithJashy062@gmail.com	9745485053
48	Adityan p pradeep	S1 ME	adityan.pradeep.606@gmail.com	8921124409
49	Jino p s	S, ME	Jino@gmail.com	6235588771
50	Jaeio Joseph	S5 ME	jeejojoseph5@gmail.com	9497153876
51	Jichu TJ	S5 MO	Jichusanthosh86@gmail.com	8075951465

VISWAJYOTHI
COLLEGE OF ENGINEERING & TECHNOLOGY
Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

Vazhakulam P.O., Muvattupuzha
Ernakulam Dist., Kerala - 686 670
Tel: 0485 2262211 / 44
Email:vjcet@vjcet.org
www.vjcet.org

Proof for Online Training Program

VISWAJYOTHI™
COLLEGE OF ENGINEERING & TECHNOLOGY
Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

Vazhakulam P.O., Muvattupuzha
Ernakulam Dist., Kerala - 686 670
Tel: 0485 2262211 / 44
Email:vjcet@vjcet.org
www.vjcet.org

Proof for Organizing Webinars on Relevant Topics

VISWAJYOTHI ™
COLLEGE OF ENGINEERING & TECHNOLOGY
Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

Vazhakulam P.O., Muvattupuzha
Ernakulam Dist., Kerala - 686 670
Tel: 0485 2262211 / 44
Email:vjcet@vjcet.org
www.vjcet.org

Proof for Organizing Webinars on Relevant Topics

Proof for Organizing Webinars on Relevant Topics

Proof for Organizing Expert Talks on Relevant Topics

Vazhakulam P.O., Muvattupuzha
Ernakulam Dist., Kerala - 686 670
Tel: 0485 2262211 / 44
Email:vjcet@vjcet.org
www.vjcet.org

VISWAJYOTHI
COLLEGE OF ENGINEERING & TECHNOLOGY
Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

5. Students Seminars - Participative Learning

BONAFIDE CERTIFICATE

This is to certify that the seminar report entitled "VIBRATION ASSISTED WELDING ON ALUMINIUM ALLOY" submitted by **Mr. ALIAS M SUNNY** for the award of the Degree of Bachelor of Technology in Mechanical Engineering is a bonafide report of the work carried out under my guidance and supervision at Viswajyothi College of Engineering & Technology, Vazhakulam.

Mr. ABRAHAM ANTONY
Seminar Supervisor

Mr. ABRAHAM ANTONY
Seminar Coordinator

Dr. SHUNMUGESH K
HOD MED

Place: VAZHAKULUM
Date: 23/12/2022

Proof for Seminar Report - Certificate Page

VISWAJYOTHI™
COLLEGE OF ENGINEERING & TECHNOLOGY
Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

Vazhakulam P.O., Muvattupuzha
Ernakulam Dist., Kerala - 686 670
Tel: 0485 2262211 / 44
Email:vjcet@vjcet.org
www.vjcet.org

Proof for Organizing Students Seminars

VISWAJYOTHI
COLLEGE OF ENGINEERING & TECHNOLOGY
Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

Vazhakulam P.O., Muvattupuzha
Ernakulam Dist., Kerala - 686 670
Tel: 0485 2262211 / 44
Email:vjcet@vjcet.org
www.vjcet.org

6. Industrial Study Missions Proof- Experiential and Participative Learning

Proof for Industrial Study Missions

VISWAJYOTHI ™
COLLEGE OF ENGINEERING & TECHNOLOGY
Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

Vazhakulam P.O., Muvattupuzha
Ernakulam Dist., Kerala - 686 670
Tel: 0485 2262211 / 44
Email:vjcet@vjcet.org
www.vjcet.org

Proof for Industrial Study Missions

7. Internship and Industrial Training -Proof- Problem Solving Methodologies, Experiential And Participative Learning

VISWAJYOTHI
COLLEGE OF ENGINEERING & TECHNOLOGY
Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

Vazhakulam P.O., Muvattupuzha
Ernakulam Dist., Kerala - 686 670
Tel: 0485 2262211 / 44
Email:vjcet@vjcet.org
www.vjcet.org

TVS MOBILITY

TVS MOBILITY PRIVATE LIMITED
X/863 A, KOTTAPPURAM JUNCTION
ALUVA - PARAVOOR ROAD
ALANGAD - 683 511

Alangad
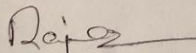
31-05-23

TO WHOM SO EVER IT MY CONCERN

This is to certify that Sri.Jichu T S., 3rd year Mechanical Engineering student of M/s.Viswajyothi College of Engineering and Technology, Vazhakulam, Muvattupuzha, Ernakulam,PIN-686670 has undergone internship in this establishment from 21-05-2023 to 31-05-23 successfully. He has gone through various service processes of Ashok Leyland vehicles during period and has acquired a basic knowledge about the same.

We wish him all success for the future endeavors.

For TVS Mobility Private Limited,

Senior Manager-HR & Operations

TVS Mobility Private Limited
Registered Office • No. 10, Jawahar Road, Chokkikulam, Madurai - 625 002
CIN U50400TN2018PTC121056

Proof for Internships and Industrial Training by the students

VISWAJYOTHI ™
COLLEGE OF ENGINEERING & TECHNOLOGY
Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

Vazhakulam P.O., Muvattupuzha
Ernakulam Dist., Kerala - 686 670
Tel: 0485 2262211 / 44
Email:vjcet@vjcet.org
www.vjcet.org

Proof for Internship and Industrial Training by the students

VISWAJYOTHI
COLLEGE OF ENGINEERING & TECHNOLOGY
Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

Vazhakulam P.O., Muvattupuzha
Ernakulam Dist., Kerala - 686 670
Tel: 0485 2262211 / 44
Email:vjcet@vjcet.org
www.vjcet.org

Proof for Internship and Industrial Training by the students

VISWAJYOTHI™

COLLEGE OF ENGINEERING & TECHNOLOGY

Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

Vazhakulam P.O., Muvattupuzha
Ernakulam Dist., Kerala - 686 670
Tel: 0485 2262211 / 44
Email:vjcet@vjcet.org
www.vjcet.org

Administrative Office:
Madaparambil Chambers,
Muvattupuzha-686661
Ernakulam (Dist.), Kerala,
India
Fax: +91 - 485-2830855

METROLLA STEELS PRIVATE LTD

An ISO 9001 Certified Company

Date: 03.02.2023

Ref: TCP/PW/33/2022-23

CERTIFICATE

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. Rahul R**, 7th semester B.Tech Mechanical Engineering student of Viswajyothi College of Engineering & Technology, Vazhakulam had done an Internship in our organisation for a period of 5 days. The period of Internship was from 27th January 2023 to 1st February 2023. He was found to be very sincere during the training period.

Thanking you,

Yours faithfully,

For Metrolla Steels Private Limited

(HR Department)

Factory:
Pezhakkappilly P.O, Paipra, Muvattupuzha-686674,
Ernakulam (Dist.), Kerala, India.
Tel: 9447065360
E-mail: metcon@gmail.com
Web site: www.metconindia.com

Proof for Internships and Industrial Training by the students

VISWAJYOTHI™
COLLEGE OF ENGINEERING & TECHNOLOGY
Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

Vazhakulam P.O., Muvattupuzha
Ernakulam Dist., Kerala - 686 670
Tel: 0485 2262211 / 44
Email:vjcet@vjcet.org
www.vjcet.org

8. **Main Project Report, Project Into Paper, Papers Published- Proof-Problem Solving Methodologies, Experiential and Participative Learning**

Proof for converting Final Year Project into Paper and Publishing in International Conference

VISWAJYOTHI™
COLLEGE OF ENGINEERING & TECHNOLOGY
Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

Vazhakulam P.O., Muvattupuzha
Ernakulam Dist., Kerala - 686 670
Tel: 0485 2262211 / 44
Email:vjcet@vjcet.org
www.vjcet.org

Proof for converting Final Year Project into Paper and Publishing in International Conference

VISWAJYOTHI ™
COLLEGE OF ENGINEERING & TECHNOLOGY
Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

Vazhakulam P.O., Muvattupuzha
Ernakulam Dist., Kerala - 686 670
Tel: 0485 2262211 / 44
Email:vjcet@vjcet.org
www.vjcet.org

9. Activities regarding Professional Bodies- Participative Learning

Proof for IEEE Memberships

VISWAJYOTHI™

COLLEGE OF ENGINEERING & TECHNOLOGY

Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

Vazhakulam P.O., Muvattupuzha
Ernakulam Dist., Kerala - 686 670
Tel: 0485 2262211 / 44
Email:vjcet@vjcet.org
www.vjcet.org

2022 Certificate of IEEE Membership

This certificate recognizes

Mridula Oommen

as a Student Member in good standing through December 2022, denoting
a personal and professional commitment to the advancement of technology

...in the company of innovators worldwide

Jacob Ziv
2021 Medal of Honor Recipient
Technion Research Professor Emeritus,
Technion, Israel Institute of Technology,
Haifa, Israel
"For fundamental contributions to information
theory and data compression technology,
and for distinguished research leadership."

K. J. RAY LIU
2022 IEEE PRESIDENT

IEEE
Advancing Technology
for Humanity

Proof for IEEE Memberships

VISWAJYOTHI
COLLEGE OF ENGINEERING & TECHNOLOGY
Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

Vazhakulam P.O., Muvattupuzha
Ernakulam Dist., Kerala - 686 670
Tel: 0485 2262211 / 44
Email:vjcet@vjcet.org
www.vjcet.org

VISWAJYOTHI
College of Engineering and Technology

IEEE PES Power & Energy Society®

IEEE Power & Energy Society
Women in Power

IEEE Women in Engineering
WIE

IEEE

CERTIFICATE
OF PARTICIPATION

This is to certify that

Jichu T S

of *Viswajyothi College of Engineering and Technology, Vazhakulam*

has actively participated in a webinar on

Elimination of Violence Against Women *conducted on*

25 November 2022

Anish M Jose	Anjaly Saji	Allen Shajan	Sayana Fathima
Branch Counsellor	Chair	Chair	Chair
IEEE SB VJCET	IEEE SB VJCET	IEEE PES SBC VJCET	IEEE WIE AG VJCET

Proof for Participating in the Activities regarding Professional Bodies

VISWAJYOTHI™

COLLEGE OF ENGINEERING & TECHNOLOGY
Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

Vazhakulam P.O., Muvattupuzha
Ernakulam Dist., Kerala - 686 670
Tel: 0485 2262211 / 44
Email:vjcet@vjcet.org
www.vjcet.org

Proof for SEEM (Society of Energy Engineers & Managers) Memberships

VISWAJYOTHI ™
COLLEGE OF ENGINEERING & TECHNOLOGY
Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

Vazhakulam P.O., Muvattupuzha
Ernakulam Dist., Kerala - 686 670
Tel: 0485 2262211 / 44
Email:vjcet@vjcet.org
www.vjcet.org

CII

TAX INVOICE(Original for Recipient)

IRN:	
INVOICE NO.: 36GB22-23SL06768	**INVOICE DATE: 27 Feb 2023**

Bill To:	
DIOCESAN TECHNICAL EDUCATION TRUST Muvattupuzha-Thodupuzha Road Vazhakulam PO, Muvattupuzha Kochi-686670 Kerala India State Name and Code: Kerala 32 GSTIN/Unique ID Number:	**CONFEDERATION OF INDIAN INDUSTRY** CII-Sohrabji Godrej Green Business Centre Survey #64, Near HITEC City Kothaguda Post, Ranga Reddy Hyderabad - 500084, Telangana, India T : 040-44185101 E : dasari.malleshwar@cii.in W : www.cii.in GSTIN: 36AAATC0188R1ZA PAN NO. : AAATC0188R

PARTICULARS	TOTAL AMOUNT
MEMBERSHIP SUBSCRIPTION SAC Code: 999599 IGBC Membership Renewal fee under the Institutions & Non Profit Organisation for the period January 2023 – December 2023. (PAN No: AAATD9848H)	2,500.00
Taxable Value	2,500.00
IGST @18 %	450.00
Place of Supply : Kerala	
Total	**₹ 2,950.00**

Amount Chargeable (In Words):	E.&O.E.
INR : Two Thousand Nine Hundred Fifty Rupees Only	

Payable on presentation of invoice.
Please pay by cheque/ demand draft in favour of "CONFEDERATION OF INDIAN INDUSTRY" payable
at Hyderabad and forward it to our address above.
Bank details for remittance:
Account Holder Name: CONFEDERATION OF INDIAN INDUSTRY
Bank Name and Address: ICICI BANK LTD. , Stone Ridge Centre, Kondapur,

Type of account : CURRENT ACCOUNT
Bank Account Number : 004005011896
IFSC Code : ICIC0000040
MICR :

Whether Tax payable under Reverse Charge: No

This is a computer generated Invoice and does not require any stamp or signature

Proof for IGBC Membership

10. Proof for News and Apps for Daily Updations- Participative Learning

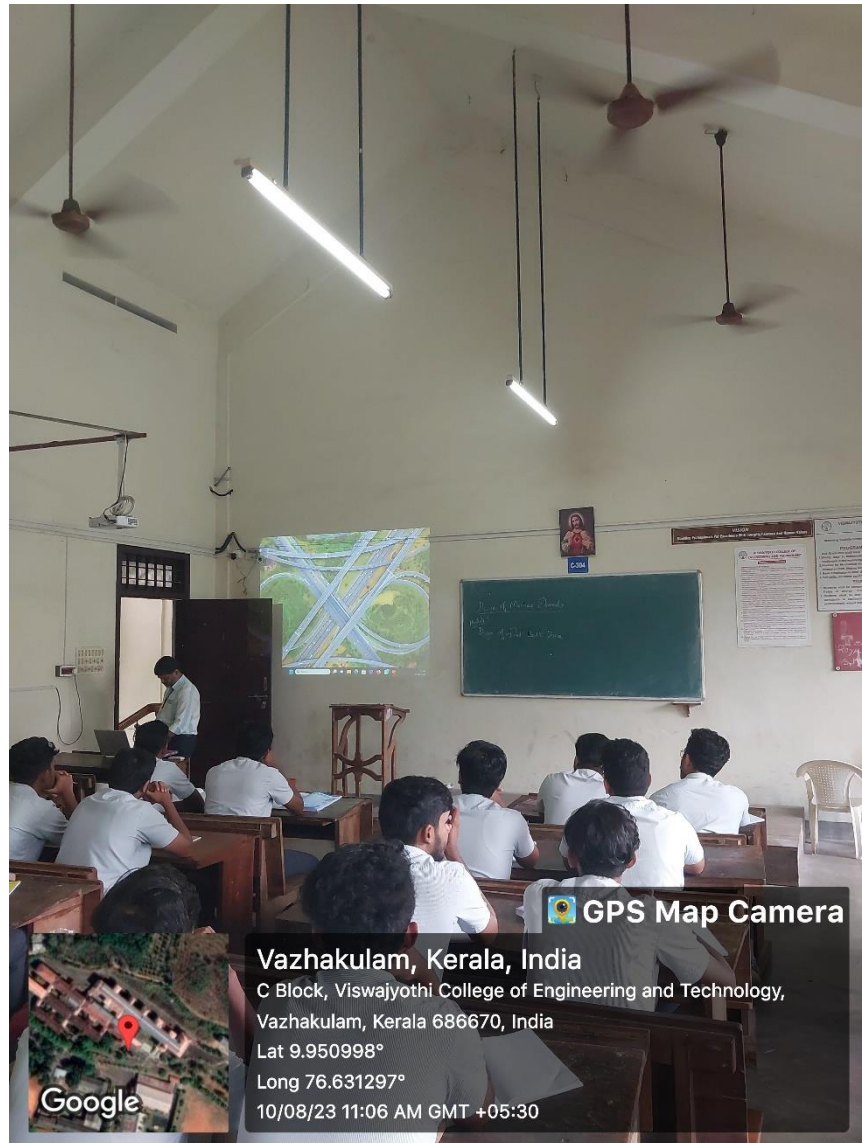*Proof of Using Youtube for Daily Updations and sharing of informative contents*

Proof of facebook page of the college for sharing informative contents
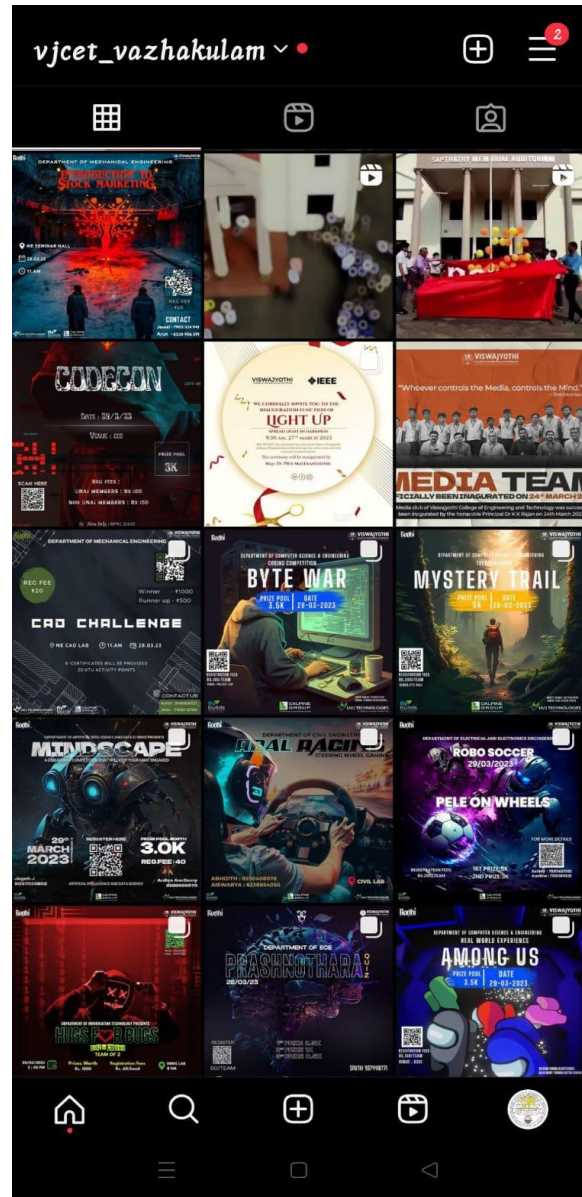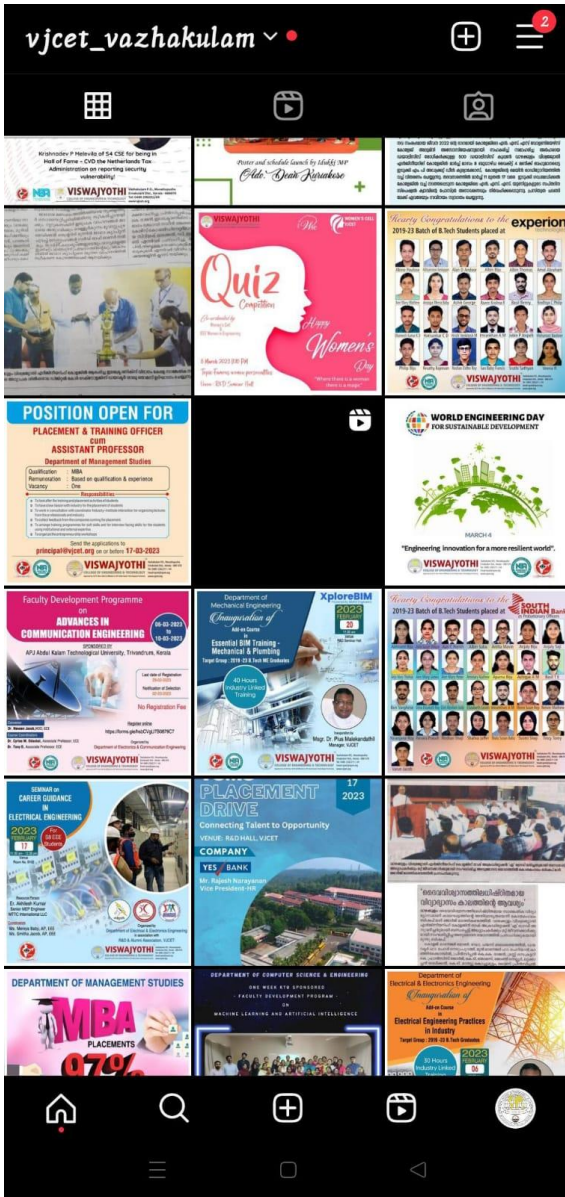
Proof of Instagram page of the college for sharing informative contents

Vazhakulam P.O., Muvattupuzha
Ernakulam Dist., Kerala - 686 670
Tel: 0485 2262211 / 44
Email:vjcet@vjcet.org
www.vjcet.org

VISWAJYOTHI
COLLEGE OF ENGINEERING & TECHNOLOGY
Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

11.Proof for ICT Enabled Teaching Facilities-Photos- Participative Learning

Proof for using ICT Enabled Teaching Facilities

VISWAJYOTHI ™

COLLEGE OF ENGINEERING & TECHNOLOGY
Approved by AICTE New Delhi & Affiliated to APJ Abdul Kalam Technological University

Vazhakulam P.O., Muvattupuzha
Ernakulam Dist., Kerala - 686 670
Tel: 0485 2262211 / 44
Email:vjcet@vjcet.org
www.vjcet.org

Proof for using ICT Enabled Teaching Facilities