

2.3.1. Student centric methods, such as experiential learning, participative learning and problem solving methodologies are used for enhancing learning experiences and teachers use ICT- enabled tools including online resources for effective teaching and learning process

S.No	Description
1	Description about centric methods
2	Experiential Learning Methods
3	Participatory Learning Methods
4	Problem Solving Methods
5	ICT Enabled Teaching



DESCRIPTION ABOUT CENTRIC METHODS

The institution provides different centric learning methods by creating a good atmosphere through which the students think in different way, answers and pose queries. Faculties, by playing an important role of facilitators, create discussions in classrooms among students and let the brainstorming evolve from student's perspective.

By different experiential learning and participative leaning activities the studentscan able to broaden their scope of education by imparting valuable thinking. During the tutorial hrs the students are stimulated their own way of thinking by building problems/case studies by providing individual attention to them.

The faculties are encouraged to undergo different workshop activities, Short term Training programs, Faculty Development Programs, online courses for effective design and exercise the student centric activities. For better classroom teaching, the teachers are advised to follow an academic plan, which contains the details regarding course objectives, details of contents to be covered, previous years internal and university question papers are referred.

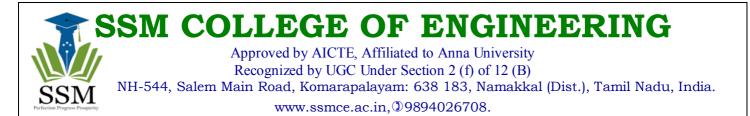
Special lectures, different illustration activities, field study, case studies, project based activities, experimental and group learning methods are included in problem solving methodologies. In order to improve the interactive, collaborative and independent learning process the college organizes guest lecturers and arranges industrial visits to the student.

To bring out the course interest during their library hours the students are allowed to utilize digital library with video lectures, e-books and e-journals. The performance of the students is measured through internal and class tests, during practical hours and seminar hours.

Our institution followed experiential learning, participatory learning and problem solving methodologies for enhancing learners' learning experience. Various Participatory learning activities followed in our institution.

Experiential Learning Methods

- Department conducts add-on/ value added programs to support students in their experiential learning.
- Laboratory Sessions are conducted with content beyond syllabus experiments.
- Internship -Students get hands on training while working in the company.
- Industrial Visits to engage them in experiential learning
- Guest lectures by eminent experts from industry and academics are organized to provide experiential learning.



Participatory Learning Methods

- Seminar- Students develop technical skills while presenting papers in seminars/symposium
- Group discussions in latest technologies and communication skills.
- Quizzes are organized for student participation at intra or inter college level.

Problem Solving Methods

- Case Studies are given for students to build solutions to problems
- Regular assignments based on problems

ICT Enabled Teaching

• ICT enabled teaching includes class rooms with LCD, Language Lab, Smart Class rooms, etc. The institution adopts modern pedagogy to enhance teaching-learning process.



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EXPERIENTIAL LEARNING METHODS

Add-on/ value added programs

In our Institution every semester each Department conducts add-on/ value added programs to support students in their experiential learning.

Additional courses can help you improve your abilities, extend your knowledge, and advance your career. These extra courses not only help you be just competence but also ensure that you build a well-rounded understanding of numerous topics as you investigate new things. To provide students an understanding of the expectations of industry. To improve employability skills of students. To bridge the skill gaps and make students industry ready. To provide an opportunity to students to develop inter-disciplinary skills.



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SAMPLE VALUE ADDED/ADD-ON PROGRAMS



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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ECEVAC1- INDUSTRIAL APPLICATION BASED EMBEDDED SYSTEM

Prepared By: Prof.M.Chamundeeswari,M.E,ASP/ECE Course Instructor:Prof.M.Chamundeeswari,M.E,ASP/ECE



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Date: 03.08.2018

REQUISITION LETTER

From

The Head of the Department

Department of Electronics and Communication Engineering

SSM College of Engineering

Komarapalayam

Namakkal Dt- 638183

То

The Principal SSM College of Engineering Komarapalayam Namakkal Dt- 638183

Respected Sir,

Sub: Requisition letter seeking approval to conduct Value added course.

We have planned to conduct a value added course for our students. In this regard, we seek your approval to conduct the same.

Name of the Value Added Course: Industrial Application Based Embedded System

Period: 25.08.2018 to 29.09.2018

Year / Semester: II & III / III & V

Course Instructor: Prof.M.Chamundeeswari, M.E, ASP/ECE

Maximum No of Participants: 70



Yours Sincerely Head of the Department



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Reference: SSM/ECE/2018-19/01

Date: 10.08.2018

CIRCULAR

A Value Added Course on "Industrial Application Based Embedded System" is organized for the II year & III year ECE Students as per the following schedule. Interested students can enroll their names to the course instructor.

Name of the Value Added Course/Code: Industrial Application Based Embedded System / ECEVAC1

Duration: 30 Hrs

Instruction Dates: 25.08.2018, 01.09.2018, 15.09.2018, 22.09.2018, 29.09.2018 Course Instructor: Prof.M.Chamundeeswari,M.E, ASP/ECE

То

To be read in all class room

Copy To

1. Principal for Information

2. Notice Board

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ORGANIZING COMMITTEE

Chief Patrons **Cavalier' Dr. M.S.Mathivaanan** M.Com., M.A., D.I.E.M., H.G.D.M.(LON).,F.T.A., M.Phil., Ph.D., Chairman SSM College of Engineering Komarapalayam.

Mr. Indarjith Mathivaanan B.E(Hons.) Vice Chairman SSM College of Engineering Komarapalayam.

Patron Dr.S.Manoharan, Ph.D., Principal SSM College of Engineering Komarapalayam

Convener **Prof.P.Senthilkumar, M.E** Prof & Head of the Department Department of Electronics and Communication Engineering SSM College of Engineering Komarapalayam.

Course Instructor **Prof.M.Chamundeeswari, M.E.,** Associate Professor Department of Electronics and Communication Engineering SSM College of Engineering Komarapalayam. SSM COLLEGE OF ENGINEERING Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai, Recognized by UGC Under Section 2(f) of 12(B)



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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Value Added Course Оп ECEVAC1 - INDUSTRIAL APPLICATION

BASED EMBEDDED SYSTEM 25.08.2018 -29.09.2018

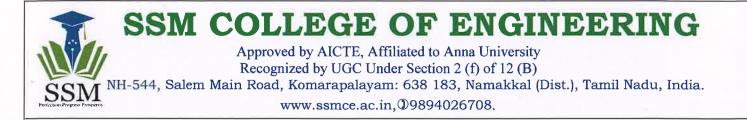
Organized by

Department of Electronics and Communication

Engineering SSM College of Engineering, Komarapalayam

Registration:

Contact: Prof.M.Chamundeeswari,M.E,ASP/ECE Last date: 20.08.2018



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING <u>SYLLABUS</u> ECEVAC1- INDUSTRIAL APPLICATION BASED EMBEDDED SYSTEM

COURSE DESCRIPTION:

The purpose of embedded systems is to control a specific function within a device. They are usually designed to only perform this function repeatedly, but more developed embedded systems can control entire operating systems. This course imparts the knowledge and skills to codes for embedded systems. The course curriculum is divided into different modules focusing on important concepts related to Specification Techniques, ARM Processors in Industrial Based Embedded System, ARM Cortex M4 programming and Interfacing of Industrial Application based Embedded System.

COURSE OUTCOMES:

- CO 1: Understand the overview of Industrial Application based Embedded Systems
- CO 2: Understand the evolution Specification Techniques
- CO 3: Analyse and understand the instruction set and development tools of ARM
- CO 4: Understand the architectural features of ARM cortex M4 microcontrollers
- CO 5: Understand the Interfacing of Industrial Application based Embedded System

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SYLLABUS

UNIT 1 Introduction to Industrial Application based Embedded Systems 6 Hrs

Embedded systems Overview- computing applications- Challenges- Common Designs Metrics-Embedded systems Characteristics of Industrial based embedded Design flow- Processor Technology, IC Technology- Trade offs

UNIT 2 Specification Techniques

State charts- Modeling Hierarchy- Specification Description Language (SDL)- Industrial based Embedded system modeling with Petri Nets- Unified Modeling Language (UML)- Activity diagram- Class diagram- Component diagram- Use case diagram- Sequence diagram

UNIT 3ARM Processors in Industrial Based Embedded System6 HrsIntroduction to ARM processors- Evolution of ARM processors- Pipeline organization- ARMProcessor cores and CPU cores- ARM Cortex M4 processor's architecture- Programmer's model-Special registers- Operation Modes- Memory map- Memory access attributes

UNIT 4ARM Cortex M4 programming6 HrsAssembly basics- Instruction set- Data transfer- Data processing- Conditional and branchinstructions- Barrier and saturation operations- Cortex M4 specific instructions- Thumb2instructions- Keil Microcontroller- Development Kit for ARM- Typical program compilationflow- Sample arithmetic and logical assembly language programs

UNIT 5Interfacing of Industrial Application based Embedded System6 HrsSerial Peripheral Interface (SPI)- Inter Integrated Circuit (12C)- RS-232- Universal SerialBus(USB)CAN- IrDA- Bluetooth- PCI and AMBA bus protocols

Total Hrs: 30 Hrs

6 Hrs

Reference Books:

1. Introduction to Embedded Systems by Mr.Shibu K V

2. Systems Fundamentals with ARM Cortex-M based Microcontrollers, A Practical Approach FRDM-KL25Z Edition by Alexander G Dean

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

NAME OF THE FACULTY	Prof.M.Chamundeeswari,M.E, ASP/ECE					
ACADEMIC YEAR	2018 – 2019 (Odd Semester)					
COURSE NAME	ECEVAC1- Industrial Application	Based Embedded System				
DURATION	30 Hours	Theory : 30 Hours				

LESSON PLAN

S.NO	UNITS	TOPICS COVERED	HOURS	CUMULATIVE
1.		Embedded Systems Overview- Computing	1	1
2.		Challenges- Common Designs Metrics	1	2
3.	I	Embedded Systems Characteristics Of Industrial Based Embedded Design Flow	1	3
4.		Processor Technology	1	4
5.	-	IC Technology	1	5
6.		Trade Offs	1	6
7.		State Charts- Modeling Hierarchy- Specification Description Language (SDL)	1	7
8.		Industrial Based Embedded System Modeling With Petri Nets	1	8
9.	п	Unified Modeling Language (UML)	1	9
10.		Activity Diagram- Class Diagram	1	10
11.	-	Component Diagram- Use Case Diagram	1	11
12.		Sequence Diagram	1	12
13.		Introduction To ARM Processors- Evolution Of ARM Processors	1	12
14,	ш	Pipeline Organization- ARM Processor Cores And CPU Cores	1	14
15.		ARM Cortex M4 Processor's Architecture	1	15
16.		Programmer's Model	1	16



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17.		Special Registers - Operation Modes	1	17
18.		Memory Map- Memory Access Attributes	1	18
19.		Assembly Basics- Instruction Set- Data Transfer- Data Processing	1	19
20.	-	Conditional And Branch Instructions- Barrier And Saturation Operations	1	20
21.		Cortex M4 Specific Instructions- Thumb2 Instructions	2	21
22.	IV	Keil Microcontroller- Development Kit For ARM	1	22
23.		Typical Program Compilation Flow	1	23
24.		Sample Arithmetic And Logical Assembly Language Programs	1	24
25.		Serial Peripheral Interface (SPI)	1	25
26.		Inter Integrated Circuit (12c)	1	26
27.		Rs-232	1	27
28.	V	Universal Serial Bus(USB) Can	1	28
29.		Irda- Bluetooth	1	29
30.		PCI And AMBA Bus Protocols	1	30

COURSE INSTRUCTOR

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING RECORD OF CLASS WORK

S.NO	UNITS	DATE	HOURS	TOPICS COVERED	INITIAL
1		25.08.2018	1	Embedded Systems Overview- Computing Applications	metz
2		25.08.2018	2	Challenges- Common Designs Metrics	mehz
3	I	25.08.2018	3	Embedded Systems Characteristics Of	mehz
4	1	25.08.2018	4	Processor Technology	Mehz
5		25.08.2018	5	IC Technology	melz
6		25.08.2018	6	Trade Offs	mehz
1		01.09.2018	1	State Charts- Modeling Hierarchy- Specification Description Language (SDL)	meliz meliz meliz meliz meliz meliz meliz meliz meliz meliz
2		01.09.2018	2	Industrial Based Embedded System Modeling With Petri Nets	Nehz
3	II	II 01.09.2018 3 Unified Modeling Language (UML)			Nehz
4	1	01.09.2018	4	Activity Diagram- Class Diagram	prehz
5		01.09.2018	5	Component Diagram- Use Case Diagram	Nehz
6		01.09.2018	6	Sequence Diagram	Nelz
1		15.09.2018	1	Introduction To ARM Processors- Evolution Of ARM Processors	melz
2		15.09.2018	2	Pipeline Organization- ARM Processor Cores And CPU Cores	netz
3	III	15.09.2018	3	ARM Cortex M4 Processor's Architecture	melz
4		15.09.2018	4	Programmer's Model	nehz
5		15.09.2018	5	Special Registers - Operation Modes	mehz mehz mehz mehz
6		15.09.2018	6	Memory Map- Memory Access	mehz

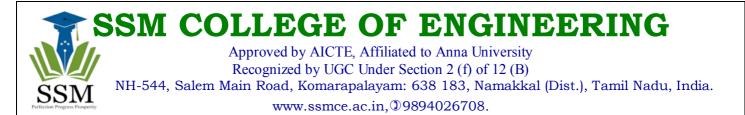


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				Attributes	
1		22.09.2018	1	Assembly Basics- Instruction Set- Data Transfer- Data Processing	melz
2		22.09.2018	2	Conditional And Branch Instructions- Barrier And Saturation Operations	Nelz
3	IV	22.09.2018	3	Cortex M4 Specific Instructions- Thumb2 Instructions	melz
4		22.09.2018	4	Keil Microcontroller- Development Kit For ARM	meliz
5		22.09.2018	5	Typical Program Compilation Flow	Nebz
6	.=	22.09.2018	6	Sample Arithmetic And Logical Assembly Language Programs	neliz
1		29.09.2018	1	Serial Peripheral Interface (SPI)	nehr
2		29.09.2018	2	Inter Integrated Circuit (12c)	neliz
3	v	29.09.2018	3	Rs-232	nehz
4	V	29.09.2018	4	Universal Serial Bus(USB)Can	Neliz
5		29.09.2018	5	IRDA- Bluetooth	Neliz
6		29.09.2018	6	PCI And AMBA Bus Protocols	nehz

COURSE INSTRUCTOR



CONTENT BEYOND LABORATORY

• In our institution we are conducting laboratory sessions as per Anna University Chennai Curriculum. We are conducting content beyond syllabus experiments for each laboratory to meet PO and CO.

S.NO	DEPARTMENT	LABORATORY DETAILS					
1.	Seieree	Physics Laboratory					
2.	Science and	Chemistry Laboratory					
3.	Humanities	Programming C Laboratory					
4.	numanities	Problem Solving and Python Programming Laboratory					
5.		Surveying and leveling Laboratory					
6.		Water & Waste water Laboratory					
7.	Civil	Hydraulic Engineering Laboratory					
8.	Engineering	Materials Testing Laboratory					
9.	Engineering	Soil Mechanics Laboratory					
10.		Highway Engineering Laboratory					
11.		Building Drawing and Detailing Laboratory					
12.		AI & ML Laboratory					
13.		Compiler Design Laboratory					
14.	Computer Science	Database Management System Laboratory					
15.	Engineering	Data Structure and Algorithms Laboratory					
16.		Foundation of Data Science Laboratory					
17.		Operating System Laboratory					
18.		Engineering Practices Laboratory					
19.		Electric Circuits Laboratory					
20.	Electrical	Linear and Digital Integrated Circuits Laboratory					
21.	and	Electrical Machines Laboratory – I					
22.	Electronics	Control and Instrumentation Laboratory					
23.	Engineering	Electrical Machines Laboratory– II					
24.		Power Electronics and Drives Laboratory					
25.		Microprocessors and Microcontrollers Laboratory					
26.		VLSI Laboratory					
27.		Digital Signal Processing Laboratory					
28.		Electronic Devices and Circuits Laboratory					
<u>29.</u>		Electronic Circuits Laboratory					
<u>30.</u>	Electronics	Digital Electronic Laboratory					
31.	and	Linear integrated Circuits Laboratory					
32.	Communication	Electronic System Design Laboratory					
33.	Engineering	Electronic and Instrumentation Laboratory					
34.		Communication System Laboratory					
35.		Optical and Microwave Laboratory					
36.		Embedded System Laboratory					
37.		Microprocessor and Microcontroller Laboratory					



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38.		Thermal Engineering Laboratory
39.		CAD/CAM Laboratory
40.		Strength of Materials Laboratory
41.	Mechanical	Fluid Mechanics Laboratory
42.	Engineering	Engineering Practices Laboratory
43.	0 0	Manufacturing Technology Laboratory
44.		Dynamics Laboratory
45.		Mechatronics Laboratory
46.		Web Essential Laboratory
47.		Embedded System & IOT Laboratory
48.	Information	AI & ML Laboratory
49.	Technology	Object Oriented Programming Language Laboratory
50.		Full Stack Development Laboratory
51.		Database Management System Laboratory
52.	Petrochemical	Fluid Mechanics and Solid Operation Laboratory
53.	Technology	Process Control & amp; Mass TransferLaboratory
54.	reennoiogy	Heat Transfer Laboratory
55.	Petroleum	Fluid Mechanics and Solid Operation Laboratory
56.	Engineering	Process Control & amp; Mass TransferLaboratory
57.	Lingineering	Heat Transfer Laboratory
58.		Printing Laboratory
59.	Textile	Processing Laboratory (Dyeing &Pretreatment)
60.	Chemistry	Finishing Laboratory
61.	Showing a	Textile Chemical Analysis Laboratory
62.		CCM Laboratory
63.		Spinning Laboratory
64.	Textile	Weaving Laboratory
65.	Technology	Textile testing Laboratory
66.		Stitching Laboratory



CONTENT BEYOND LABORATORY-SAMPLE



FIG: STUDENTS DOING SOIL MECHANICS LAB EXPERIMENTS

• students doing soil stabilization using limestone experiment as a content beyond syllabus in soil mechanics lab



FIG: STUDENTS DOING SURVEY LAB EXPERIMENTS

• students doing 3 point problem using plane table survey experiment as a content beyond syllabus in survey lab.



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FIG: STUDENTS DOING FABRIC MANUFACTURING LAB EXPERIMENTS

• students doing Test method to evaluate the fineness of fibre experiment as a content beyond syllabus in soil mechanics lab.



FIG: STUDENTS DOING YARN MANUFACTURING TECHNOLOGY LAB EXPERIMENTS

• students doing yarn twist tester experiment as a content beyond syllabus in yarn manufacturing technology lab



INTENSHIP

Internship provides the Students get hands on training while working in the company. Apart from classroom teaching internships provides Real-World Application of Knowledge, Skill Enhancement, Networking Opportunities, and Insight into Industry Dynamics, Resume Building and Career Opportunities.

In our Institution we encourage the students to undergo internship during summer and winter holidays.



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INTENSHIP-SAMPLES

Internship Degree / Branch: B.Tech – Textile chemistry

SSM COLLEGE OF ENGINEERING DEPARTMENT OF TEXTILE CHEMISTRY

FIELD WORK	-		21	1 1	т г э.
INTERNSHIP	SOEMIYA TEX ,Kunnathur,Tirupur. (25/06/2023 to 26/07/2023)	SMS Garment Factory, Tirupur		SMS Garment Factory, Tirupur (23/06/2023 to 22/07/2023)	SMS Garment Factory, Tirupur (23/06/2023 to 22/07/2023) SOEMIYA TEX , Kunnathur, Tirupur. (25/06/2023 to 26/07/2023)
PROJECT WORK	1	1			-
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DEPT	B.Tech-TC	B.Tech-TC		B.Tech-TC	B.Tech-TC B.Tech-TC
NAME OF THE STUDENT	DEEPAK KUMAR.M	JEEVANANTHAN.N		KANNAN.R	KANNAN.R PRAVEEN.N
REG.NO	732321114001	732321114003		732321114004	
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SSM COLLEGE OF ENGINEERING DEPARTMENT OF TEXTILE CHEMISTRY Internship

Degree / Branch: B.Tech – Textile chemistry

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ADARSH GOSWAMI	GAYATHRI DEVI.S	GIRIDHARAN .K	GOKUL.J	JAYA SURYA.S	JEEVA.T	KARTHI.V	KARTHIKEYAN.A	KARTHIK RAJA.S	MADHAN.G
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SSM COLLEGE OF ENGINEERING DEPARTMENT OF TEXTILE CHEMISTRY Internship

Degree / Branch: B.Tech – Textile chemistry

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MOHANRAJ.K	NAVEENA.M	NEELAGANDAN.M	NITHISH KUMAR.M	PEU MUKHERJEE	POOMALAR MOHAN	PRABHAKARAN.S	PRANESH.M	RUDRAMUNI.L	SAHITHYA.R	SAKTHI SELVAN.T	SAMYUKTHA.B
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SSM COLLEGE OF ENGINEERING DEPARTMENT OF TEXTILE CHEMISTRY Internship

Degree / Branch: B.Tech – Textile chemistry

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Shri kavi Textile Processing,Erode (28/06/2023 to 28/07/2023)	Aruna Home Fashions, Erode (01/07/2023 to 31/07/2023	SMS Garment Factory, Tirupur (23/06/2023 to 22/07/2023)	SMS Garment Factory, Tirupur (23/06/2023 to 22/07/2023)	SMS Garment Factory,Tirupur (23/06/2023 to 22/07/2023)
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III	III	III	III	III
B.Tech	B.Tech-TC	B.Tech-TC	B.Tech-TC	B.Tech-TC
SIVA.M	SONA.D	SRIHARI.C	SRRIARIRAAM.S	SUKANTH.P.S
732321114331	732321114333	732321114334	732321114335	732321114337
28	29	30	31	32

GSTIN: 33AVAPK6825G1ZS

Cell: 98422 66692 98435 00440



SOWMIYA TEX

1/43, Ooradithottam, Karumancherai, KUNNATHUR - 638 103, Tirupur Dt, Tamilnadu, South India.

> Date..... 10-08-2023

Internship Training Certificate

This is certify that Mr.Deepakkumar M Student from SSM college of engineering has successfully completed his internship in our industry for a period of one month

 $(25^{th}$ June to 26^{th} July 2023)

During his internship program with us, he was exposed to various process and discipline during the period. He was seen as delight and hard working. We wish him success for his future endeavors.

For SOWMIYA TEX

Proprietor



S M S GARMENTS FACTORY

HT-HP SOFT FLOW DYEING UNIT

GSTIN : 33ACQFS2399G1ZN PAN No. : ACQFS2399G 211/1-A, Vijai Compound, Uppilion Thottam, Murugampalayam, Iduvampalayam, Tirupur - 641 607. Cell : 98422 02578 E-mail : smsdyeing123@gmail.com

Date :

24.07.2023

CERTIFICATE

This is to certify that SELVAN N.JEEVANANTHAN REG.NO.732320211002 IV year B.TECH (TC) IN SSM ENGINEERING COLLEGE Student, Has under Gone Industrial Training From 23.06.2023 to 22.07.2023 in the SMS GARMENTS FACTORY, TIRUPUR.

During the Training Period His conduct & character were good.

We wish all success In His Future Endeavors

For SMS GARMENTS FACTORY

Ti Partner



S M S GARMENTS FACTORY

HT-HP SOFT FLOW DYEING UNIT

GSTIN : 33ACQFS2399G1ZN PAN No. : ACQFS2399G 211/ -A, Vijai Compound, Uppilion Thottanı, Murugampalayam, Iduvampalaya n, Tirupur - 641 607. Cell : 98422 02578 E-mail : smsdyeing123@gmail.com

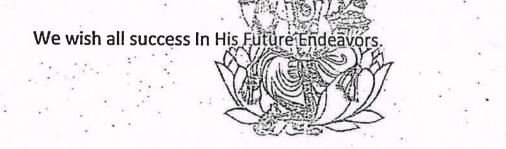
Date :

24.07.2023

CERTIFICATE

This is to certify that SELVAN R.KANNAN REG.NO.732320211003 IV year B.TECH (TC) IN SSM ENGINEERING COLLEGE Student, Has under Gone Industrial Training From 23.06.2023 to 22.07.2023 in the SMS GARMENTS FACTORY, TIRUPUR.

During the Training Period His conduct & character were good.



For SMS GARMENTS FACTORY

GSTIN: 33AVAPK6825G1ZS

Cell: 98422 66692 98435 00440



SOWMIYA TEX

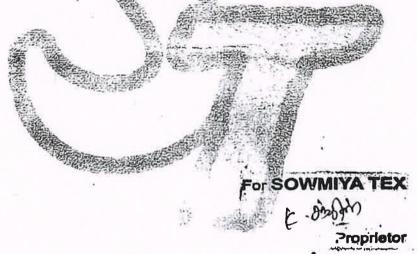
1/43, Ooradithottam, Karumancherai, KUNNATHUR - 638 103, Tirupur Dt, Tamilnadu, South India.

> 10-08-2023 Date.....

Internship Training Certificate

This is certify that Mr.Praveen.N Student from SSM College of engineering has successfully completed his internship in our industry for a period of one month (25th June to 26th July 2023)

During his internship program with us, he was exposed to various process and discipline during the period. he was seen as delight and hard working. We wish him success for his future endeavors.





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Industrial Visits

Industrial Visits to engage them in experiential learning. Industrial visits provide firsthand exposure to realworld industrial processes, technologies, and operations. This practical experience helps individuals understand theoretical concepts better and bridges the gap between classroom learning and practical application.

In our institution we arranged industrial visits for all batch students in core and allied industries to enhance their knowledge.

Samples

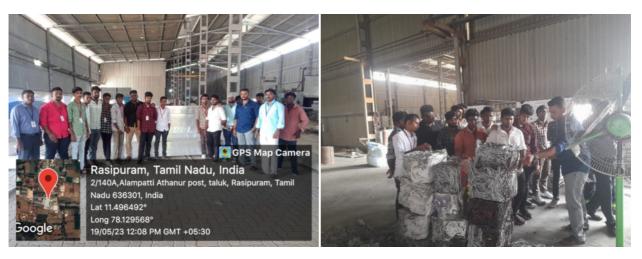


Fig. Mechanical students visited BRS aluminum roller industry at Rasipuram



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GUEST LECTURES

Guest lectures by eminent experts from industry and academics are organized to provide experiential learning.

Samples:



Guest lecture on IoT by industrial experts



Fig :guest lecture on employability

Conducted by chitradevi officer Namakkal employment office.



Participatory Learning Methods

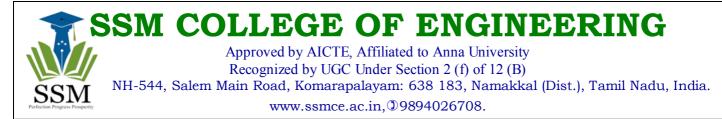
- Seminar- Students develop technical skills while presenting papers in seminars/symposium
- Group discussions in latest technologies and communication skills.
- Quizzes are organized for student participation at intra or inter college level.



Fig:Group discussion sessions for MBA students through placement cell



Fig: Seminar in sustainable textiles by Dr.M.S.Mathivanan Chairman



Problem Solving Methods

Case studies and assignments given to the students for problematic subjects.

R. SIMRAN **BE-ECE** STATISTICS AND NUMERICAL METHODS ASSIGNMENT-2

15 The heights of college students in chennai are normally distributed with std deviation 6 cm and sample of 100 students had their mean height 158 cm. Test the hypothesis that the mean height of college students in chennai is 160 cm at 1% level of significance.

Solution :-Step 1: n=100 n= 158 $\sigma = 6$

Je = 160

Step 2: Ho : Ju = 160

H1: JU # 160

step 3: level of significance & = 1% Step 4: rest statistics

 $Z = \overline{n} - \mu$ 0/vn Z = 158 - 1606/ 1100 z = -3.33|Z| = 3.33Step 5: crictical value is 2.58

to abilitize at Step 6: conclusion 3.33 > 2.58 LA WELL Ho is rejected. 25 A machine suns on an average of 125 hrs/year. A random Sample of 49 machines has an annual average of 126.9 hours with a s.d. of 8.4 hrs. Does this suggest to believe that machines are used on the average more than 125 hours annually at 0.05 level af significance. Solution :-Step 1: n=49 $\bar{n} = 126.9$ 0=8.4 J= 125 Step 2 : Ho : 1 = 125 Hi: J1> 125 (one tail test) Step 3: Level of significance &= 5%. Step 4 : Test statistics $Z = \frac{n - u}{\sigma/\sqrt{n}} = \frac{126.9 - 125}{8.4/\sqrt{49}}$

2 = 1.58

Step 5: critical value is 1.645

Step 6: conclusion

1.58 2 1.645

Ho is accepted.

36 The average income of persons was RS. 210 and with RS. 10 for S. d in a sample of 100 people of city. For another sample of 150 people of average income was RS. 220 with S.d of RS 12. Test whether there is any significant difference between the average income of the locality.

2 =5%.

Solution :

Step 1: n, =100
$N_{2} = 150$
$\overline{n}_{1} = 210$
n2 = 220
$\sigma_1 = 10$
$\sigma_2 = 12$
Step 2: Ho: M, = M2
$H_1: \mathcal{M}_1 \neq \mathcal{M}_2$
step 3: level of Significance
Step 4 : Test statistics
$Z = \overline{n_1} - \overline{n_2}$
$\sqrt{\frac{\sigma_1^2}{n_1} + \frac{\sigma_2^2}{n_2}}$

Z = 210 - 220 $\sqrt{\frac{10^2}{100} + \frac{12^2}{150}}$ 2 = -7.14 35 MELLE OVERNOUS INCOME OL 121 = 7.14 Step 5 : Critical value is 1.645 Step 6 : conclusion 7.14 > 1.645 Ho is rejected. 24. - M. 1 34 12 9352 api? Stor Love? Is the How have the station

Assignment - 2

M. Ashvitha varshini BE (ECE)

Statistics and Numerical Methods

1) The higher of the clg student in chennai or normally distentibuted with S.D 6 cm and the sample of 100 students has the mean high 158 cm Test the hypothies that the mean height of collage students in Chennai 106 cm at 1°1. level. dolution:-T = 158 $\sigma = 6$ H = 160

H = 160 step 2 => Hd: M = significant H: M ≠ significant

step 3 => level of significant

d = 1%

A Provide the the

 $Mep \ 4 \Rightarrow = \frac{\overline{\chi} - M}{\sigma / \sqrt{n}}$

 $= \frac{158 - 160}{6/\sqrt{100}} = -3.33$

	$z = -3.33$ $ z = 3.33$ $step 5 \Rightarrow$ $vuitical Value of 1\% = 2.58$ $step 6 \Rightarrow$ $conclusion$ $3.33 > 2.58$ $H_0 is sujected$
2)	" at an ava of the house

step2 >> Ho: HI HA Marghaldant

3) The ang income of present was surpres 210. An with surpres 10 for 8.D in a sample of 100 people of the city. for the another sample of 100 people the avg income was 220 with standard deviation surpres 12. Test the different income.

 $\begin{array}{l} \text{Step 1} = \\ & \begin{array}{c} n_{1} = 100 & n_{2} = 150 \\ \hline n_{1} = 210 & n_{2} = 220 \\ \hline \sigma_{1} = 210 & \sigma_{2} = 12 \end{array}$

 $M_0: M_1 = M_2$ $H: M_1 \neq M_2$

step $3 \Rightarrow$ devel of significant $\alpha = 5\%$

no is analitich.

 $Z = \frac{\overline{x_1} - \overline{x_2}}{\overline{n_1} + \frac{\overline{n_2}^2}{\overline{n_2}}}$

$$z = \frac{210 - 220}{\sqrt{\frac{1092}{100} + \frac{(10)^2}{150}}}$$

$$z = -7.143$$

$$|z| = 7.143$$

$$(20) = 5 = 3$$

$$(uitical Value = 5.7. is = 1.96)$$

$$(10) = 3 = 1.96$$

$$Ho is surjected.$$

•_____



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ICT Enabled Teaching



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DETAILS OF ICT FACILITY

S.No	Location	Floor	Room Number	Name of the Class	Size of the Class Room in Sq.ft	Type of ICT facility
1.	Main Block	First Floor	UG L01 First Year		910.94	LCD Projector
2.	Main Block	First Floor	UG L02	UG L02 First Year		LCD Projector
3.	Main Block	First Floor	UG L03	First Year	910.94	LCD Projector
4.	Main Block	First Floor	UG L04	First Year	910.94	LCD Projector
5.	Main BlockFirst FloorUG L02Civil Engineering III- Year			920	LCD Projector	
6.	Main Block	$ a_{1}n B_{1}OCK $ $ U_{1}U_{3} $		Civil Engineering IV- Year	770	LCD Projector
7.	Hexagonal Block 2	\mathbf{U}		Computer Science Engineering III-Year	1022.57	LCD Projector
8.	Hexagonal Block 2	First Floor	UG L03	Computer Science Engineering IV-Year	1022.57	LCD Projector
9.	Hexagonal Block 2	First Floor	PG L01	Computer Science Engineering PG I-Year	1022.57	System with LCD Projector
10.	Main Block	Second Floor	UG L01	Electronics and Communication Engineering II-Year	760.79	LCD Projector
11.	Main Block	Second Floor	UG L03	Electronics and Communication Engineering IV-Year	760.79	LCD Projector
12.	Main Block	Second Floor	PG L01	Applied Electronics PG I-Year	920.96	System with LCD Projector
13.	Main Block	First Floor	UG L02	Electrical and Electronics Engineering II-Year	613	LCD Projector
14.	Main Block	First Floor	UG L03	Electrical and Electronics Engineering IV-Year	613	LCD Projector



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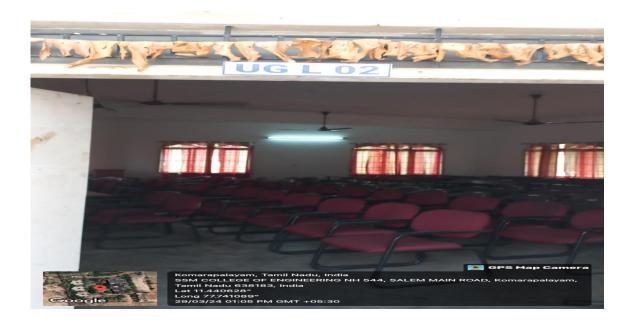
15.	Hexagonal Block 2	Second Floor	UG L02	Information Technology III-Year	1022.57	LCD Projector
16.	Hexagonal Block 2	Second Floor	UG L03	Information Technology IV-Year	1022.57	LCD Projector
17.	Main Block	Main Block Ground Floor UG I		Mechanical Engineering III-Year	613	LCD Projector
18.	Main Block	Ground Floor	UG L03	Mechanical Engineering IV-Year	613	LCD Projector
19.	Main Block	Ground Floor	PG L01	Mechanical Engineering PG I-Year	613	LCD Projector
20.	Hexagonal Block 1	Second Floor	UG L02	Petroleum Engineering III-Year	1022.57	LCD Projector
21.	Hexagonal Block 1	Second Floor	UG L03	Petroleum Engineering IV-Year	1022.57	LCD Projector
22.	Hexagonal Block 1	First Floor	UG L02	Petrochemical Technology III-Year	1022.57	LCD Projector
23.	Hexagonal Block 1	First Floor	UG L03	Petrochemical Technology IV-Year	1022.57	LCD Projector
24.	Hexagonal Block 3	Second Floor	UG L02	Textile Chemistry III-Year	1022.57	LCD Projector
25.	Hexagonal Block 3	Second Floor	UG L03	Textile Chemistry IV-Year	1022.57	LCD Projector
26.	Hexagonal Block 3	Second Floor	PG L01	Textile Chemistry PG I-Year	1022.57	System with LCD Projector
27.	Hexagonal Block 3	Second Floor	UG L02	Textile Technology III-Year	1022.57	LCD Projector
28.	Hexagonal Block 3	Second Floor	UG L03	Textile Technology IV-Year	1022.57	LCD Projector
29.	Hexagonal Block 3	First Floor	PG L01	MBA I-Year	940.98	LCD Projector
30.	Hexagonal Block 3	First Floor	PG L02	MBA II-Year	940.98	LCD Projector

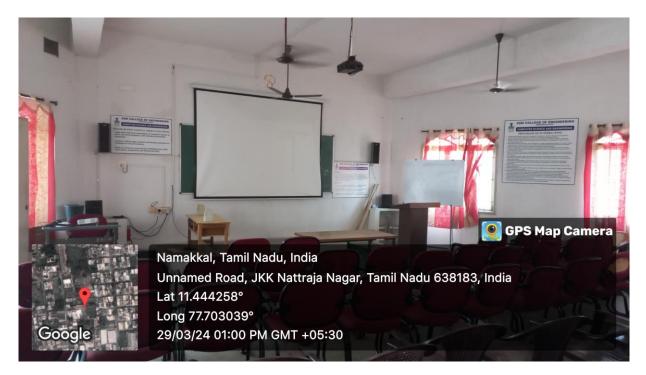


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Location	Floor	Room Number	Name of the Class	Size of the Class Room in Sq.ft	Type of ICT facility
Hexagonal Block 2	First Floor	UG L02	Computer Science Engineering III-Year	1022.57	LCD Projector



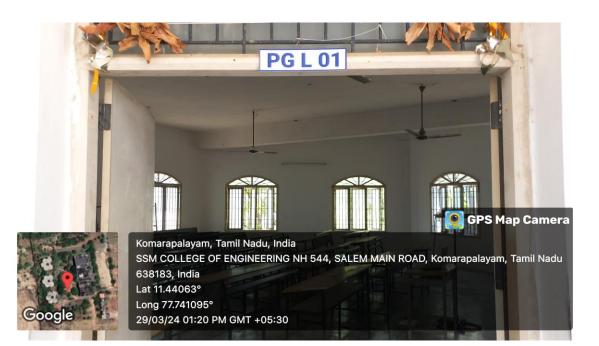




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Location	Floor	Room Number	Name of the Class	Size of the Class Room in Sq.ft	Type of ICT facility
Hexagonal Block 2	First Floor	PG L01	Computer Science Engineering PG I-Year	1022.57	System with LCD Projector





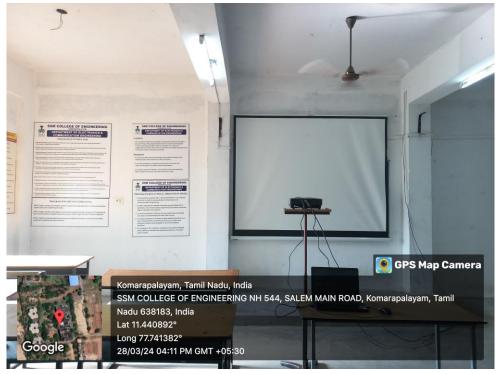


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Location	Floor	Room Number	Name of the Class	Size of the Class Room in Sq.ft	Type of ICT facility
Main Block	Second Floor	UG L01	Electronics and Communication Engineering II-Year	760.79	LCD Projector



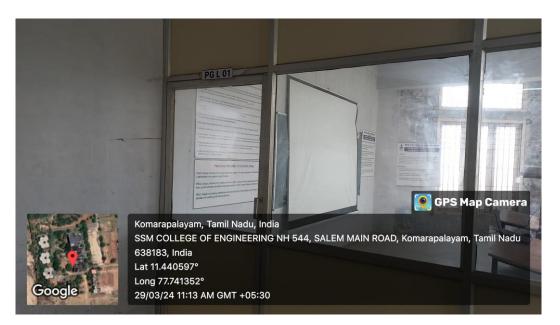




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Locatio	n Floor	Room Number	Name of the Class	Size of the Class Room in Sq.ft	Type of ICT facility
Main Block	Second Floor	PG L01	Applied Electronics PG I-Year	920.96	System with LCD Projector







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Location	Floor	Room Number	Name of the Class	Size of the Class Room in Sq.ft	Type of ICT facility
Hexagonal Block 3	Second Floor	UG L02	Textile Chemistry III-Year	1022.57	LCD Projector







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Location	Floor	Room Number	Name of the Class	Size of the Class Room in Sq.ft	Type of ICT facility
Hexagonal Block 3	Second Floor	PG L01	Textile Chemistry PG I-Year	1022.57	System with LCD Projector



