



1.2.2

Number of Add on /Certificate programs offered during the last five years



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Year	S.No	Name of Add on /Certificate programs offered	Duration of course
Academic Year 2020-2021			
2020-21 ODD	1.	VAC- Real Time Electronics System Design	30 hrs
	2.	Swayam-Digital Image Processing	12 Weeks
	3.	Swayam-Python for Data Science	4 Weeks
	4.	Swayam- Fundamentals of Electronic Devices Fabrication	4 Weeks
2020-21 EVEN	1.	SWAYAM course on "Electronic Waste management Issues and Challenges" - II Yr	4 Weeks
	2.	SWAYAM course on "Awareness Program on Solar water pumping system"	4 Weeks
	3.	MCC on "Smart Materials and Intelligent System Design" III Yr	4 Weeks
	4.	MCC course on "Awareness Program on Solar water pumping system" IV Yr	4 Weeks
Academic Year 2019-2020			
2019-20 ODD	1.	VAC- Real Time Electronic System Design	30 hrs
2019-20 EVEN	1.	Gate Coaching - III Yr	30 hrs
	2.	Mini Project- III Yr	30 hrs
	3.	MCC on "Electronic Waste management Issues and Challenges" - IV Yr	4 weeks
	4.	MCC on "A Brief introduction to Micro sensor" IV Yr	4 weeks
	5.	MCC on Stanford online certificate course on "Machine Learning" IV Yr	2 Months
	6.	MCC "Stanford online certificate course on "Introduction to cyber Attacks" IV Yr	2 Months
Academic Year 2018-2019			
2018-19 ODD	1.	C, C++ Programming -IV Yr	30 hrs
	2.	Interview skills-IV Yr	30 hrs
	3.	PCB layout -IV Yr	30 hrs
	4.	Swayam Course on " A brief Introduction to Micro Sensors"-IV Yr	30 hrs
	5.	Swayam course on " An Introduction to linear Block Codes" -III Yr	30 hrs
	6.	Swayam course on " An Introduction to linear Block Codes" -II Yr	30 hrs
	7.	GATE coaching -IV Yr	30 hrs
	8.	GATE coaching -III Yr	30 hrs
	9.	Labview III Yr	30 hrs
	10.	IEI/IETE - III Yr	30 hrs
	11.	Mini Project (III Yr)	30 hrs
2018-19 EVEN	1.	GATE coaching - III Yr	30 hrs
	2.	GATE coaching - IV Yr	30 hrs
	3.	MCC on "System Design Using Embedded C Programming"	30 hrs
	4.	MCC on "CCTV Installation And Servicing"	30 hrs
Academic Year 2017-2018			
2017- 2018 ODD	1.	GATE / Competitive Exam (III Yr)	30 hrs
	2.	Mini Project (II Yr)	30 hrs
2017- 2018 EVEN	1.	GATE / Competitive Exam (III Yr)	30 hrs
	2.	MCC on "Digital System Design & Verification Using EDA Tools" (IV Yr)	30 hrs
	3.	MCC on "Internet of Things" (IV Yr)	30 hrs
Academic Year 2016-2017			
2016- 2017 ODD	1.	GATE / Competitive Exam (III Yr)	30 hrs
	2.	Mini Project (II Yr)	30 hrs
2016- 2017 EVEN	1.	GATE / Competitive Exam (III Yr)	30 hrs
	2.	TANCET Coaching (IV Yr)	30 hrs
	3.	MCC on "C Programming " (IV Yr)	30 hrs
	4.	MCC on "PCB layout" (IV Yr)	30 hrs
	5.	MCC on "System Design Using Embedded C" (IV Yr)	30 hrs

ACADEMIC YEAR

2020-2021

AFFILIATED INSTITUTIONS
FACULTY OF INFORMATION AND COMMUNICATION ENGINEERING
LIST OF VALUE ADDED COURSES

S. NO	CODE ALLOTTED	COURSE TITLE	CREDITS
			L T P C
1.	IVA001	Design Thinking	1 0 1 2
2.	IVA002	PCB Design, Embedded System Interfacing with Arduino & Robotics	1 0 1 2
3.	IVA003	Interactive Web Designing and Progressive Java	1 0 1 2
4.	IVA004	Robotics and its Applications	1 0 1 2
5.	IVA005	VB.NET	1 0 2 2
6.	IVA006	Enterprise Application Development and Deployment on Cloud using IBM Bluemix	0 0 2 1
7.	IVA007	Predictive Modeling using IBM SPSS Modeler	0 0 2 1
8.	IVA008	Enterprise Mobile Application Development using IBM Worklight	0 0 2 1
9.	IVA009	iOS App Development	0 0 2 1
10.	IVA010	Transfer Learning Frameworks	0 0 2 1
11.	IVA011	Data Science with Python	1 0 1 2
12.	IVA012	Internet of Things with Node MCU	0 0 2 1
13.	IVA013	Virtual Instrumentation	1 0 1 2
14.	IVA014	IC Test Engineering	1 0 1 2
15.	IVA015	Learning C	1 0 1 2
16.	IVA016	Internet of Things Using Broadcom BCM2837	1 0 1 2
17.	IVA017	PHP and MYSQL	0 0 2 1
18.	IVA018	Advanced Python and Introduction to Machine Learning	0 0 2 1
✓ 19.	IVA019	Real Time Electronics System Design	1 0 1 2
20.	IVA020	Case Study – Operating System Design	0 0 2 1
21.	IVA021	Case Study – Network Design	0 0 2 1
22.	IVA022	Electronic Circuits Making and PCB Design	0 0 2 1
23.	IVA023	Data Mining Laboratory	0 0 2 1
24.	IVA024	Multimedia Laboratory	0 0 2 1
25.	IVA025	Visual Basic Laboratory	0 0 2 1
26.	IVA026	Advanced Java Programming	1 0 1 2
27.	IVA027	Website Blog Design	0 0 2 1
28.	IVA028	Virtual Instrumentation Using Lab View	1 0 1 2
29.	IVA029	Angular JS	0 0 2 1
30.	IVA030	Simulation and Analysis of Networks Using Software (NS-2)	0 0 2 1
31.	IVA031	The Ruby Programming Language	0 0 2 1
32.	IVA032	VB.Net Programming	0 0 2 1

33.	IVA033	Networking Design and Security	0 0 2 1
34.	IVA034	Radio Frequency Circuit Design	1 0 2 2
35.	IVA035	Internet of things (IOT) Application Development	1 0 2 2
36.	IVA036	Advanced Graphical System Design and DAS Design	1 0 2 2
37.	IVA037	Lab VIEW Programming	0 0 2 1
38.	IVA038	Smart Home – Theory and Practices	1 0 2 2
39.	IVA039	Ethical Hacking	1 0 2 2
40.	IVA040	System Design Using Micro Controllers	1 0 2 2
41.	IVA041	Robotic Process Automation Using Automation Anywhere	1 0 2 2
42.	IVA042	Blockchains and Cryptocurrencies	1 0 2 2
43.	IVA043	Non Linear Electronics and Modelling	1 0 2 2
44.	IVA044	Intrusion and Anomaly Detection Systems	1 0 2 2
45.	IVA045	React Framework	0 0 2 1
46.	IVA046	Advanced Graphical System Design DAS Design using NI technology	0 0 2 1
47.	IVA047	Embedded Systems Design using PIC Controller	1 0 2 2
48.	IVA048	PCB Designing	0 0 2 1
49.	IVA049	Verilog and System Verilog	1 0 2 2
50.	IVA050	Hands-on training on LabVIEW Core1	1 0 2 2
51.	IVA051	Administrative Essentials for New Admins in Lighting Experience	1 0 2 2
52.	IVA052	Data Visualization and Machine Learning using Python	0 0 2 1
53.	IVA053	Robotics Programming	0 0 2 1
54.	IVA054	Troubleshooting and Maintenance of Home Appliances	0 0 2 1
55.	IVA055	Communication and Image Processing Using MATLAB	1 0 2 2
56.	IVA056	Big Data Statistical Analysis Using R Programming	1 0 2 2
57.	IVA057	Network Engineering – Routing and Switching	1 0 2 2
58.	IVA058	Web Application Development using ASP.NET	0 0 2 1
59.	IVA059	AWS and Azure Cloud Management	1 0 2 2
60.	IVA060	Full Stack Web Development	1 0 2 2
61.	IVA061	Embedded using Raspberry Pi	1 0 2 2
62.	IVA062	Data Science in R and Python	1 0 2 2
63.	IVA063	Mobile Phone Technology	1 0 2 2
64.	IVA064	Arduino Programming	0 0 2 1
65.	IVA065	Ethical Hacking and Network Security	1 0 2 2
66.	IVA066	Machine learning Techniques	0 0 2 1
67.	IVA067	IOT using Arduino	1 0 2 2

U
26/9/2020

DIRECTOR
CENTRE FOR ACADEMIC COURSES

The 21/9



Dr. J. Arputha Vijaya Selvi, M.E., Ph.D.,
PRINCIPAL

Ref: KCE / PRL / VAC/20-21 / VAc-03

19.08.2020

To
The Director
Center for Academic Courses
Anna University, Chennai

Respected Sir,

Sub: Requisition for approving the Value Added Course on Real time
Electronics System Design for the batch of 2018 - 2022 -reg

Ref: Letter No. 2520/AU/VA/CAC/FICE/2019 dt. 16.08.2019

As per the AU Regulation 2017, ECE department of our college has planned to conduct the Value Added Course with 2 credits on the topic of Real time Electronics System Design for the batch 2018 -2022 having the strength of 39 students.

We received approval from Center for Academic Courses, Anna University, Chennai (as cited above) for the above mentioned value added course during academic year 2018 - 2019 and a batch of 48 students had completed the value added course successfully.

In this regard, we seek your consent to conduct the same value added course during the current academic year 2020 - 2021 (Odd Semester).

Thank You,

Regards,

J. Arputha Selvi
19/8/2020
PRINCIPAL
Kings College of Engineering,
PUNALKULAM - 613 303

Encl:

- i) Copy of the Approval letter
- ii) Copy of the Approved Syllabus
- iii) Copy of the timetable





CENTRE FOR ACADEMIC COURSES
ANNA UNIVERSITY
CHENNAI - 600 025

Off: 22357077 / 73
22357074
Fax / Dir : 22352272



16.08.2019

Dr. R. RAJU
DIRECTOR
Letter No.2520/AU/VA/CAC/FICE/2019

To
The Controller of Examinations
Anna University
Chennai - 25.

Sir,

Sub: A.U. - CAC - Affiliated Institutions - Value Added Courses - Reg.
Ref: Letter No.KCE/PRL/VAC/125/18-19.

With reference to the letter cited, the following Value Added Courses offered by Kings College of Engineering, Affiliated Institutions is allotted the course code as detailed below.

SI.NO	CODE ALLOTTED	TITLE	Credits			
			L	T	P	C
1.	IVA019	Real Time Electronics System Design	1	0	1	2

This is for your kind information and necessary action at your end.

Yours faithfully,

[Signature]
DIRECTOR

Copy to:

1. The Principal, Kings College of Engineering, Chennai - Bangalore Highway, Opposite to Hyundai Motors, Sriperumbudur Taluk, Irungattukottai - 602117
2. The Chairperson, Faculty of Information and Communication Engineering, A.U., Chennai -25.
3. The Stock File.

J. Manjethi
19/8/2020
PRINCIPAL
Kings College of Engineering,
PUNALKULAM - 613 303

SYLLABUS**IVA019****REAL TIME ELECTRONICS SYSTEM DESIGN****L T P C
1 0 1 2****UNIT I REAL TIME ELECTRONICS SYSTEM COMPONENTS****6**

Introduction-Functional components of real time electronics system-Analog IO devices-Digital IO devices-Processor -Memory devices -communication modules.

UNIT II CREATING APPLICATIONS WITH μ VISION4 SOFTWARE TOOL**6**

Development Tools- μ VISION4 Integrated development tool-Debugger-Compiler-Simulator-Keil RTX RTOS kernel-Creating Embedded Programs-Building the project-Logic Analyzer-Programming Flash devices.

UNIT III HARDWARE DESIGN AND DEVELOPMENT**6**

ATmega328P microcontroller - memory Integration-Interfacing compact Flash and SD cards-IO device Integration- Interfacing display device, switch, Buzzer, Relay -Sensor Integration-Interfacing gas sensor, Ultrasonic sensor, Infrared sensor, Accelerometer, gyro meter and magnetometer.

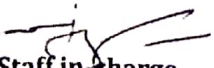
UNIT IV PROGRAMMING OF WIRELESS COMMUNICATION MODULES**6**

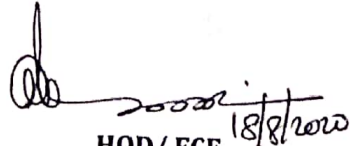
Wireless Technology for control applications -Development and implementation of wireless communication using Zigbee, Bluetooth, LiFi, and Wi-Fi - Development and Implementation of wireless control using RF transceiver, GSM and GPS.

UNIT V IMPLEMENTATION OF REAL TIME APPLICATIONS**6**

Automatic Irrigation System -Real time air pollution monitoring system using GSM and GPS-LPG gas leakage and fire alert safety system-camera based anti theft security system-Remote wireless control of electrical and electronics home appliances/industrial machines- Smart watch for heart rate and BP monitoring.

TOTAL: 30 PERIODS


Staff in-charge
JEYASEELAN.T, AP/ECE


HOD/ ECE


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VA-RES.D.2

KCE/ECE/CP/III-YR/RES.D



KINGS
COLLEGE OF ENGINEERING
(NAAC Accredited Institution)
(Approved by AICTE, New Delhi, Affiliated to
Anna University, Chennai)



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

COURSE PLAN

Sub. Code	: IVA019	Branch / Year / Sem	: B.E ECE / III / V
Sub. Name	: Real Time electronics system design	Batch	: 2018-2022
Staff Name	: Mr.T.Jeyaseelan	Academic Year	: 2020 - 21 (ODD)

COURSE OBJECTIVE

- To make the students to apply fundamental concepts in Electronics systems for providing solutions for real-time system design.
- To provide practical experience to the students on interfacing of Input-Output devices, communication devices with the processor.
- To introduce the basic concepts in Hardware and software design.
- To practice the students in order to implement electronics system for the real time applications

TEXT BOOKS

- T1.** "Real-Time Systems Design Principles for Distributed Embedded Applications", Hermann Kopetz, Kluwer Academic Publishers.
- T2.** The 8051 Microcontroller Architecture, Programming and Applications", Kenneth J. Ayala, THOMSON Learning.

REFERENCE BOOKS

- R1.** "Embedded C", Michael J. Pont, Pearson Education.
- R2.** "Sensors and Transducers", Ian R. Sinclair, Third edition, Newnes.
- R3.** "8051 Micro controller An applications based Introduction" David Calcutt, Fred Cowan Hassan Parchizadeh, Elsevier.
- R4.** "C Programming for Embedded Systems", Kirk zurell, R&D books, CMP media, Inc, USA.

WEB RESOURCES

- W1.** <https://nptel.ac.in/courses/Webcourse-contents/IIT%20Kharagpur/Embedded%20systems/Pdf/Lesson-3.pdf> (Topic No. 01, 05, 06)
- W2.** http://www.eng.auburn.edu/~nelson/courses/elec3040_3050/C%20programming%20for%20embedded%20system%20applications.pdf (Topic No. 09, 10, 11)
- W3.** <https://cs.wmich.edu/alfuqaha/spring15/cs6570/lectures/PHY-MAC-Bluetooth-ZigBee-rev2.pdf> (Topic No. 19)
- W4.** https://www.electronics-tutorials.ws/io/io_7.html (Topic No. 18)
- W5.** <https://www.engineersgarage.com/microcontroller/8051projects> (Topic No. 20-30)

Topic No	Topic	Books for Reference	Page No.	Teaching Methodology	No. of Hours Required	Cumulative No. of periods
UNIT I REAL TIME ELECTRONICS SYSTEM COMPONENTS (6)						
1.	Introduction	T1 W1	1-8	PPT	1	1
2.	Functional components of real time electronics system	T1	30-35	PPT	1	2
3.	Analog IO modules	R2	87-115	PPT	1	3
4.	Digital IO modules	R2	37-40	PPT	2	5
5.	Processor, Memory devices	W1		PPT		
6.	communication modules	W1		PPT	1	6
LEARNING OUTCOME At the end of unit, students will be able to <ul style="list-style-type: none"> Know the functional components of Real time electronic system. Understand the concept and architecture of real-time system. 						
UNIT II CREATING APPLICATIONS WITH μVISION4 SOFTWARE TOOL (6)						
7.	Development Tools	R1	36-37	PPT	2	8
8.	μ VISION4 Integrated development tool	R1	38-40	Practical		
9.	Debugger-Compiler-Simulator-Keil RTX RTOS kernel	R4, W2	60-63	Practical	1	9
10.	Creating Embedded Programs	R4, W2	64	Practical	1	10
11.	Building the project	R4 W2	63,66	Practical	1	11
12.	Logic Analyzer- Programming Flash devices.	R1	43-45	Practical	1	12
LEARNING OUTCOME At the end of unit, students will be able to <ul style="list-style-type: none"> Know the basics of μVISION4 Software Tool. Develop an embedded System for a typical electronic application. 						
UNIT III HARDWARE DESIGN AND DEVELOPMENT (6)						
13.	ATmega328P microcontroller	T2	11-22	PPT	1	13
14.	Memory Integration- Interfacing compact Flash and SD cards	T2	22-28	Practical	1	14
15.	IO device Integration- Interfacing display device, switch, Buzzer, Relay	T2	163-166	Practical	1	15
16.	Sensor Integration- Interfacing gas sensor-gyro meter and magnetometer	R2	87-115	Practical	1	16

VA-RES.D.4

KCE/ECE/CP/III-YR/RES.D

17.	Ultrasonic sensor, Infrared sensor and Accelerometer.	R2	116 - 155, 164-167	Practical	1	17
18.	Stepper motor and dc motor.	W4	-	Practical	1	18

LEARNING OUTCOME

At the end of unit, students should be able to

- Study the architectural features of AVR microcontroller.
- Know the interfacing of I/O devices and sensors with AVR microcontroller.

UNIT IV**PROGRAMMING OF WIRELESS COMMUNICATION MODULES****(6)**

Topic No	Topic	Books for Reference	Page No.	Teaching Methodology	No. of Hours Required	Cumulative No. of periods
19.	Wireless technology for industrial and control applications	W3	-	PPT	1	19
20.	Development and implementation of wireless communication using Zigbee	W5	-	Practical	1	20
21.	Bluetooth	W5	-	Practical	1	21
22.	LiFi, and Wi-Fi.	W5	-	Practical	1	22
23.	Development and Implementation of wireless control using RF transceiver, GSM	W5	-	Practical	1	23
24.	GPS	W5	-	Practical	1	24

LEARNING OUTCOME

At the end of unit, students will be able to

- Interface wireless communication module for real-time system.
- Implement wireless communication application.

UNIT V**REAL TIME SYSTEM APPLICATION EXAMPLES****(6)**

25.	Automatic Irrigation System on sensing soil moisture content	W5	-	Practical	1	25
26.	Real time air pollution monitoring system using GSM and GPS	W5	-	Practical	1	26
27.	LPG gas leakage and fire alert safety system	W5	-	Practical	1	27
28.	camera based anti theft security system	W5	-	Practical	1	28
29.	Remote wireless control of electrical and electronics home appliances/industrial machines	W5	-	Practical	1	29
30.	Smart watch for heart rate and BP monitoring	W5	-	Practical	1	30

LEARNING OUTCOME

At the end of unit, students will be able to

- Design Real-time Electronics systems.
- Implement Real-time Electronics applications.

VA-RES.D.5

KCE/ECE/CP/III-YR/RES.D

COURSE OUTCOME

At the end of the course, the students will be able to

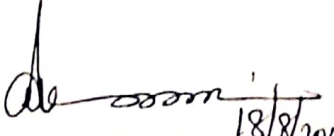
- Apply knowledge of basic Electronics for realizing real time electronics system
- Design applications based on sensors, IO devices, peripheral ICs and microcontroller.
- Formulate Hardware and software design of real-time system.
- Build real-time electronic applications.

INTERNAL ASSESSMENT DETAILS

ASST. NO.	I	II
Topic Nos.	1 - 15	16-30
Date		


Prepared by

Mr.T.Jeyaseelan


Verified by 18/8/2020

HOD/ECE

Approved by
J. Praveen Kumar
18/8/2020
Principal
Kings College of Engineering,
PUNALKULAM - 613 303

VA-RES.D.6

KCE/ECE/CP/III-YR/RES.D



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Academic Year 2020-21/ ODD Semester

VALUE ADDED COURSE

NAMelist

Class: III ECE

Hall No: 123

Subject Code/Name: IVA019- Real Time electronics system design

Staff Name: JEYASEELAN.T

Strength: 39

Roll No.	Register Number	Name of the student	Roll No.	Register Number	Name of the student
01	821118106001	AARTHI M	26	821118106036	SANTHIYA S
02	821118106002	AASHA A	27	821118106038	SARIKA A
03	821118106004	ABISHEIK P	28	821118106039	SHEELA T
04	821118106005	ANANTH ELA	29	821118106040	SHOBIGA P
05	821118106006	ANANTHAVALLI M	30	821118106041	SRIMATHI C
06	821118106007	ANITHA J	31	821118106042	SURIYA R
07	821118106008	ANIZ R K	32	821118106043	SUSHMA D
08	821118106009	APARNAA S	33	821118106044	THAMILSELVAN B
09	821118106010	ARUNKUMAR R	34	821118106045	THIRUMURUGAN S
10	821118106011	ANURAJ R	35	821118106046	VAISHNAVI P V
11	821118106014	DHIVYAKALKI M	36	821118106048	VINOTHA M
12	821118106015	DIVAGAR K	37	821118106049	VINOTHINI G
13	821118106016	DURGA DEVI S	38	821118106050	VISHWABHARATHY V
14	821118106017	GANESH B	39	821118106901	ARUNKUMAR K
15	821118106020	KAWYA A			
16	821118106022	KEERTHIKA M			
17	821118106023	KIRUTHIKA B			
18	821118106024	LATCHAYASRI G			
19	821118106026	MOUNISH RAJIAH D			
20	821118106027	NAGESWARI R			
21	821118106028	NIVETHA C			
22	821118106029	NIVETHA T			
23	821118106030	PRABHU G			
24	821118106033	PRIYADHARSHINI S			
25	821118106034	RAMYA K			

Course Coordinator
JEYASEELAN.T, AP/ECE

HOD / ECE



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING ACADEMIC YEAR (2020-2021) ODD SEMESTER

VALUE ADDED COURESE "IVA019- Realtime Electronics System Design" -REPORT

25.11.19

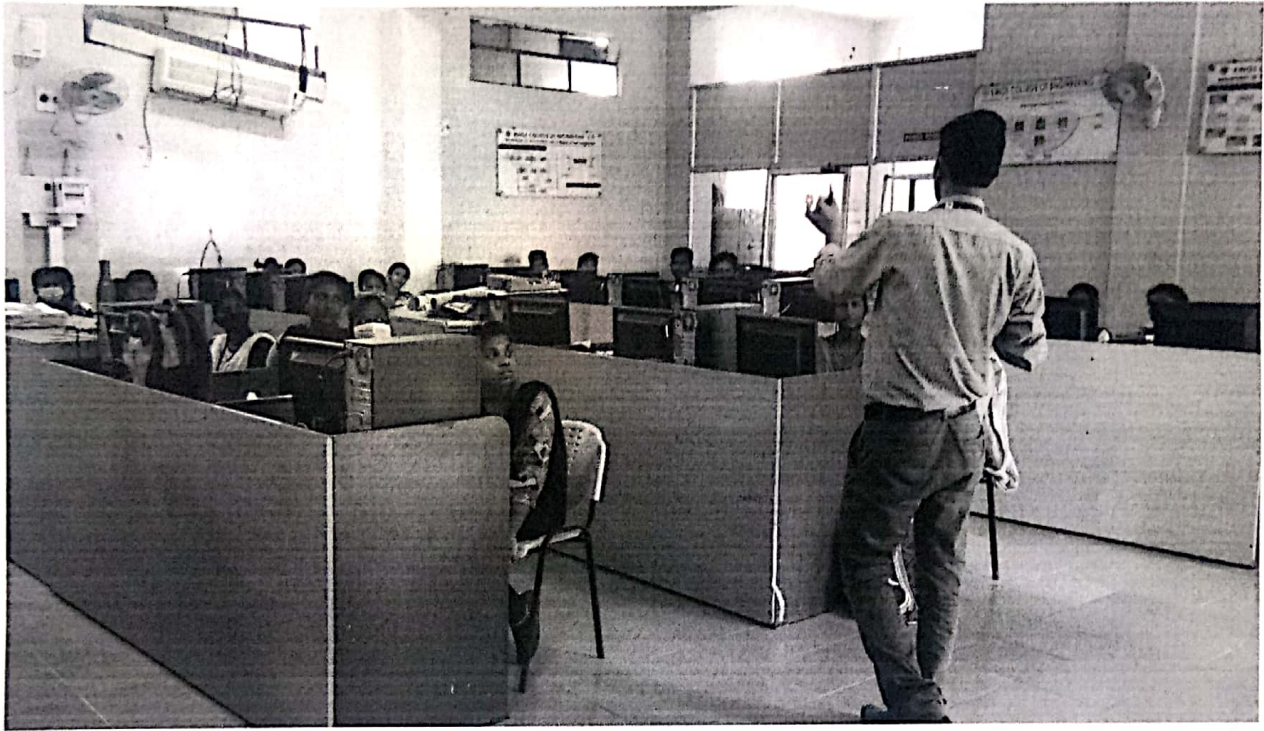
The Department of ECE, Kings College of Engineering, Punalkulam, Pudukkottai District, conducted a Value added course on **"IVA019- Realtime Electronics System Design"** from 12.08.2020 to 13.11.2020 for the third year (V semester) ECE students. Totally 39 students have enrolled for the course. Mr.T.Jeyaseelan Assistant Professor, Department of Electronics and Communication Engineering coordinated the course.

The syllabus for the value added course IVA019- Realtime Electronics System Design was framed with five units covering the topics such as Realtime Electronics system components, Programming Reatime Embedded computing system, IO devices interfacing and Programming, Programming of Wireless communication modules ,Realtime system application Examples.

The syllabus of Value added course "Realtime Electronics System Design" was approved from The Director, Center for Academic Courses, Anna University, Chennai-25 with the course code **IVA019** during the Academic year 2019-2020 on 16.08.2019. The value added course is a Practical oriented course with 2 credits. The Value added course commenced on 12.08.2020 and ended on 13.11.2020. The course was successfully completed for the batch 2018-2022.

The Outcome of this value added course is that the student can design and build Real time electronics system such as Automatic Irrigation System, LPG gas leakage alert system, fire alert safety system, Remote wireless control of electrical and electronics home appliances, Remote monitoring of industrial machines, Smart watch with heart rate and blood pressure monitoring based on sensors etc.,

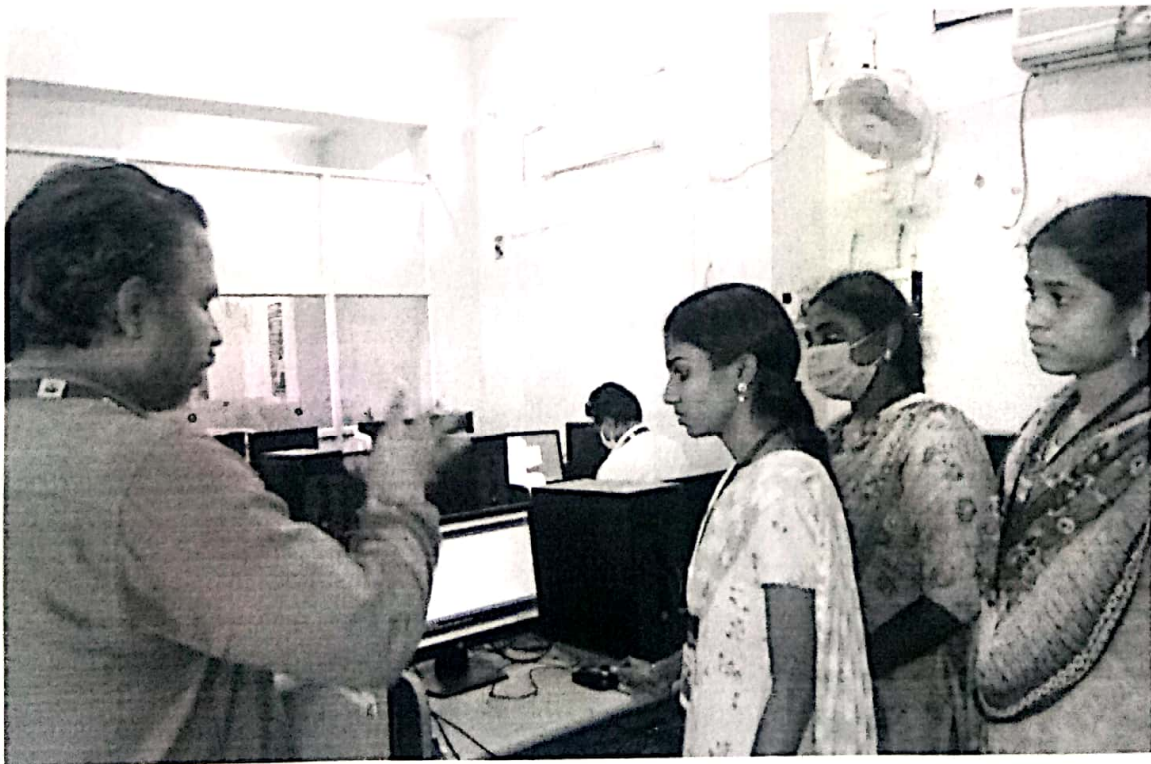
After completion of this value added course each student can earn 2 credits in their curriculum. The Evaluation of this Value added course is performed by conducting two Assessment tests. The Assessment tests are both theoretical and practical oriented. The grade obtained for the completed value added course shall appear in their fifth semester Grade sheet.



Students attending the value added course



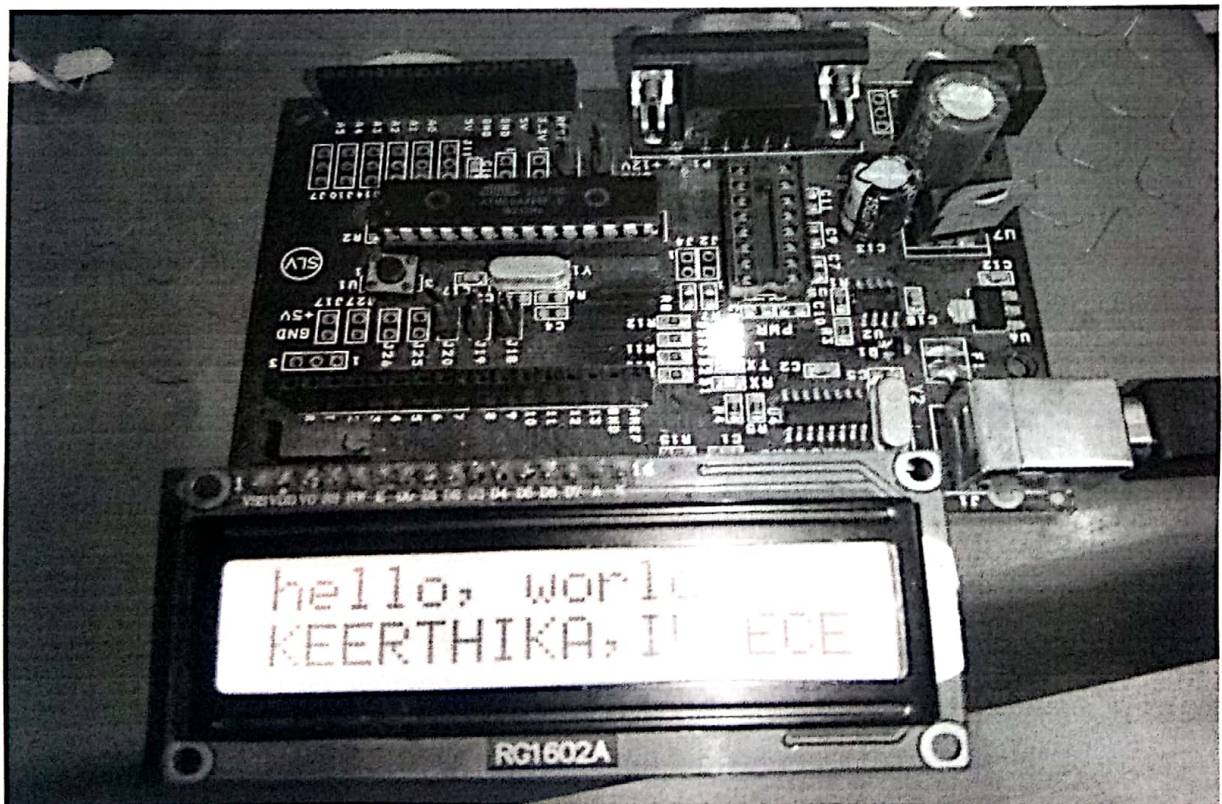
A batch of students learning LCD interface and Buzzer interface during the hands-on session.



A batch of students learning about the Integrated Development Environment (IDE) during the hands-on session of valued added course.



The students Developing RFID reader system with LCD interface at hands-on session



LCD interface and display by the student batch during the value added course session.

The students have actively participated in hands on session conducted for the value added course. Through this practical hands on session, students have learned about the interfacing sensors such as IR sensors, Humidity and Temperature sensor (DHT11 sensor) and ultrasound sensors, etc., with microcontroller and programming of microcontroller.

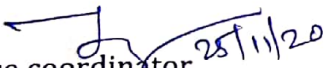
They also gained practical exposure on Hardware and Software design of typical Realtime Electronics System using Input Output devices such as switches, Relays, LEDs and LCDs, etc., and wireless modules such as Zigbee, Bluetooth and GSM modules etc.,.

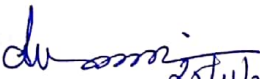
When they develop a Realtime Humidity and Temperature Monitoring system using DHT11 sensor they learned about how a sensor can be interfaced with microcontroller and how the temperature and humidity data can be read from the sensor through the microcontroller. They also learned about how to display the measured temperature and Humidity on LCD display and Computer through serial monitor utility.


Through this value added course students have been trained to work on Arduino IDE, µvision Keil IDE (integrated Development Environment) to write and develop Embedded C program to build hardware and software module of a Realtime Electronics System.

The hands on session program were practical and the students were actively participated in the program and got technical knowledge and skills in Realtime Electronics System Design.

The outcome of this value added course is that the students can build Electronics System for Realtime applications. The students can get better placement in industries/companies such as American Mega Trends, L&T, HoneyWell, Robert Bosch, HCL Technologies etc.,


Course coordinator
T. Jeyaseelan, AP/ECE


HOD/ECE


PRINCIPAL

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

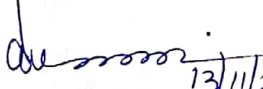
Course. Code : IVA0019	Branch / Year / Sem : B.E ECE / III / V
Course. Name: Realtime Electronics System Design	Batch : 2018-2022
Staff Name : Mr. T. IEYASEELAN	Academic Year : 2020-21 (Odd)

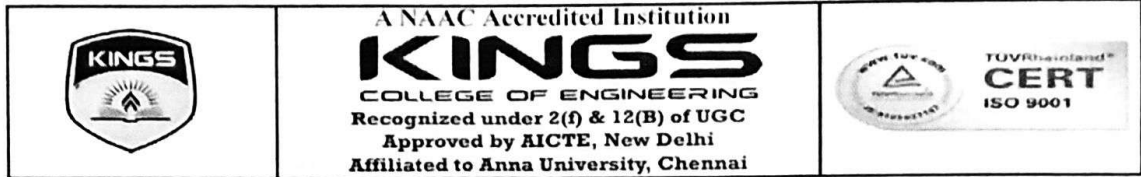
List of Students who Attended the VALUE ADDED COURSE

S.NO	REG.NO	STUDENTS NAME	SIGNATURE
1	821118106001	AARTHI M	M. Arthi
2	821118106002	AASHA A	A. Asha
3	821118106004	ABISHEIK P	P. Abiseik
4	821118106005	ANANTH ELA	Ananth
5	821118106006	ANANTHAVALLI M	K. Ananthavalli
6	821118106007	ANITHA J	J. Anitha
7	821118106008	ANIZ R K	R. K. Aniz
8	821118106009	APARNAA S	S. Aparna
9	821118106010	ARUNKUMAR R	R. Arunkumar
10	821118106011	ANURAJ R	R. Anuraj
11	821118106014	DHIVYAKALKI M	M. Dhivyakalki
12	821118106015	DIVAGAR K	K. Divagar
13	821118106016	DURGA DEVI S	S. Durga Devi
14	821118106017	GANESH B	B. Ganesh
15	821118106020	KAWYA A	A. Kawya
16	821118106022	KEERTHIKA M	M. Keerthika
17	821118106023	KIRUTHIKA B	B. Kiruthika
18	821118106024	LATCHAYASRI G	G. Latchayasri
19	821118106026	MOUNISH RAJIAH D	D. Mounish Rajiah
20	821118106027	NAGESWARI R	R. Nageswari
21	821118106028	NIVETHA C	C. Nivetha
22	821118106029	NIVETHA T	T. Nivetha
23	821118106030	PRABHU G	G. Prabhu
24	821118106033	PRIYADHARSHINI S	S. Priyadharshini

S.NO	REG.NO	STUDENTS NAME	SIGNATURE
25	821118106034	RAMYA K	K. Ramya
26	821118106036	SANTHIYA S	S. Sathya
27	821118106038	SARIKA A	A. S.
28	821118106039	SHEELA T	T. Sheela
29	821118106040	SHOBIGA P	P. S.
30	821118106041	SRIMATHI C	C. S.
31	821118106042	SURIYA R	R. S.
32	821118106043	SUSHMA D	D. Sushma
33	821118106044	THAMILSELVAN B	B. T.
34	821118106045	THIRUMURUGAN S	S. T.
35	821118106046	VAISHNAVI P V	P. V.
36	821118106048	VINOTHA M	M. Vinodh
37	821118106049	VINOTHINI G	G. Vinodhini
38	821118106050	VISHWABHARATHY V	V. V.
39	821118106901	ARUNKUMAR K	K. A.


 COURSE COORDINATOR
 (JEYASEELAN.T,AP/ECE)


 HOD/ECE



A REPORT ON

ACADEMIC YE
2020-2021 O

"SWAYAM/NPTEL ONLINE COURSES"

FOR THE ACADEMIC YEAR 2020-2021 ODD SEMESTER.



Organized by

**Department of Electronics and Communication Engineering
KINGS COLLEGE OF ENGINEERING, PUNALKULAM**

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2020-2021 (ODD SEMESTER)

SWAYAM- COURSE TITLE

S.No	Class	SWAYAM Course Title
1.	II ECE	Fundamentals of Electronic Device Fabrication
2.	III ECE	Python for data science
3.	IV ECE	Digital Image Processing


 Department IQAC Member


 HOD/ECE



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2020 - 2021 / ODD SEMESTER

CLASS: II ECE

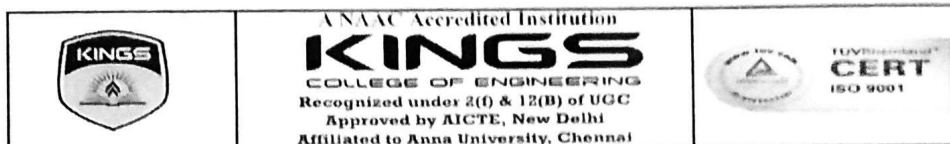
CLASS COORDINATOR: Mrs.R.PONNI

II YEAR ECE

ROLL NO.	REGISTER NUMBER	NAME OF THE STUDENT	ROLL NO.	REGISTER NUMBER	
01	821119106001	ABIMANEU S	23	821119106025	MADHUMITHA G
02	821119106002	AGALYA P	24	821119106026	MAHESWARI V
03	821119106004	BLESSON MANUEL J	25	821119106027	MATHIVANAN K
04	821119106005	DHARMADURAI A	26	821119106028	NITHITHA U
05	821119106006	DHARSHINI C	27	821119106029	NIVETHITHA S
06	821119106007	DURGA SRI R	28	821119106030	PAVITHRA P
07	821119106008	GANGA L	29	821119106031	PRAKASH A
08	821119106009	GANGA R	30	821119106032	PRETHIYA B
09	821119106010	GAYATHRI K	31	821119106033	PRIYANKA K
10	821119106011	GAYATHRI S	32	821119106034	RAMANA BHARATHI S
11	821119106012	ISHWARYA K	33	821119106035	RENUKA K
12	821119106013	JAYAKUMAR A	34	821119106036	RUTHRA R
13	821119106014	JEYAPRIYA	35	821119106037	SABARINATHAN S
14	821119106015	JOTHIKA R	36	821119106039	SARASWATHI K
15	821119106016	KABILAN R	37	821119106040	SATHYA G
16	821119106017	KABISHENA P	38	821119106042	SHATHANA B
17	821119106019	KARIKALAN G	39	821119106043	SOUNDHARYA R
18	821119106020	KARTHICK N	40	821119106044	SURIYA C
19	821119106021	KARTHIKA DEVI M	41	821119106045	SUSIKUMAR T
20	821119106022	KIRUBADHARSHINI S	42	821119106046	SWETHAA S M
21	821119106023	KRISHNADEVI G	43	821119106047	THAVAMANI P
22	821119106024	LOGESHWARAN P	44	821119106048	VAISHNAVI G

K. R. Ponni
CLASS COORDINATOR
(Mrs.R.PONNI, AP/ECE)

[Signature]
HOD / ECE 11/8/2021



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
ACADEMIC YEAR 2020-2021 (ODD SEMESTER)

ABOUT THE SWAYAM / NPTEL ONLINE COURSE:

As per the Instruction given by our HOD, it was planned to conduct SWAYAM / NPTEL online course for **second year ECE** students in 2020-2021 ODD semester.

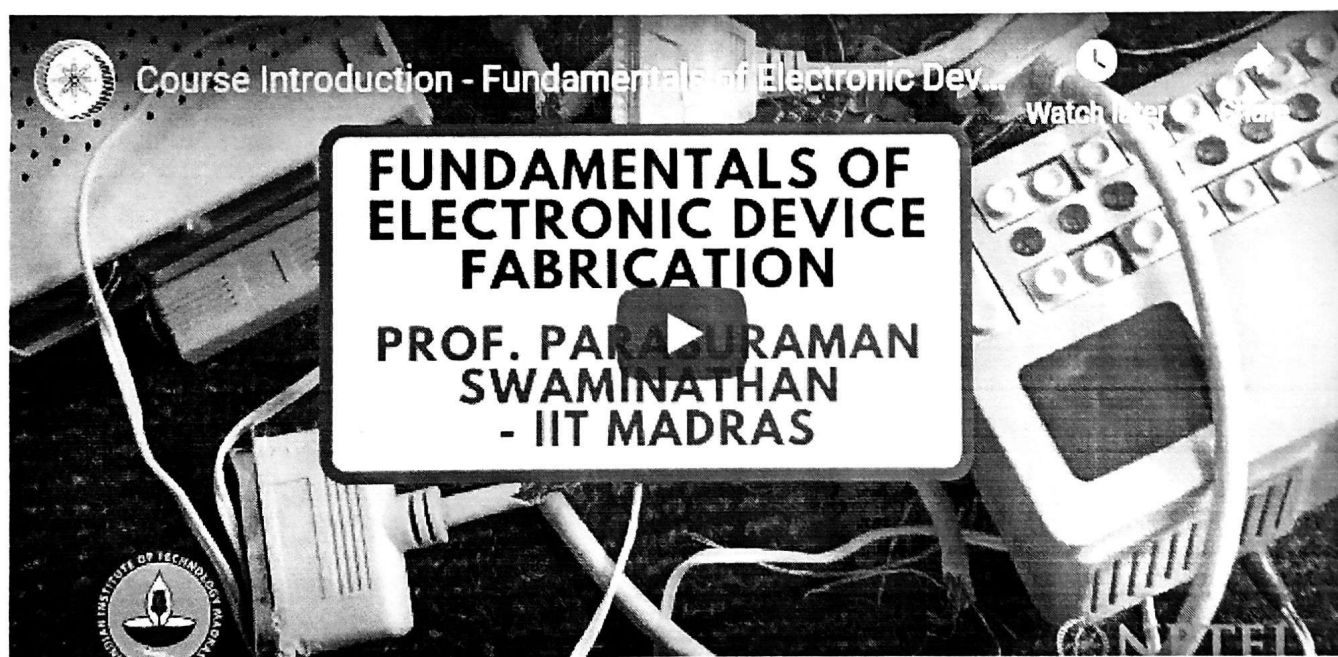
- **All the 43 students have enrolled in the course titled “Fundamentals of Electronic Device Fabrication”**

The duration of the course was 4 weeks.

Course Start Date: **14th September 2020** and the Course End Date: **09th October 2020**.

1. COURSE NAME: FUNDAMENTALS OF ELECTRONIC DEVICE FABRICATION

This course was handled by Prof. Parasuraman Swaminathan, Associate Professor in the Department of Metallurgical and Materials Engineering (MME), IIT Madras, India.



The Course layout was scheduled as follows.

This is a four week course, which deals with the various steps involved in integrated circuit fabrication, starting with quartz (silica), which is the raw material for making silicon wafers. The course contents are divided into four weeks as per the plan below.

Week 1: Introduction and overview of semiconductor device fabrication

Week 2: Fabrication operations: Oxidation, doping, and lithography

Week 3: Fabrication processes: etching and growth. Process evaluation

Week 4: Process yield, clean room design, and IC logic and packaging

Lectures videos are available for each week and there will be an assignment at the end of the week. There will also be a summary PPT for each week.

Along with this, optional additional reading material will also be available. Some of the alternate fabrication techniques, especially printed electronics will be included in this reading material.

Outcome:

- ✓ Among the 43 students 25 students have completed the course, and 6 students have applied for the final exam and also received the certificate.
- ✓ Progress of each student was attached.
- ✓ Sample certificates were also attached.

D. Venkatesh
14/12/20

IAAC Member

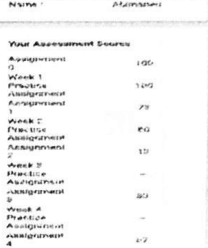

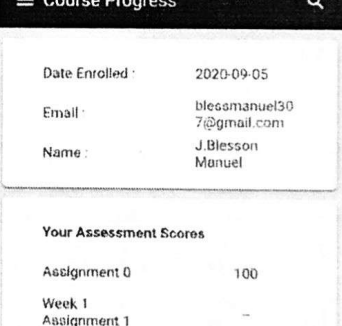
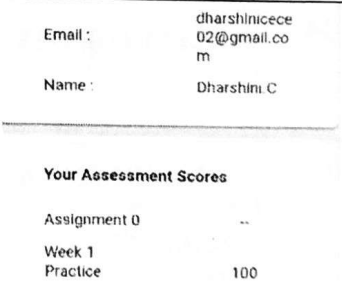
Dr. S. S. S. S.
14/12/20
HOD / ECE


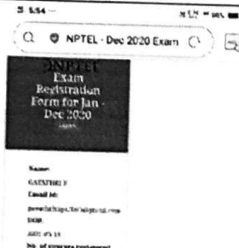
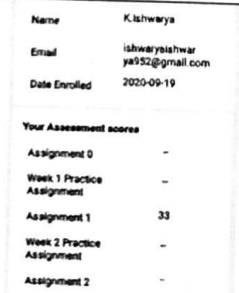
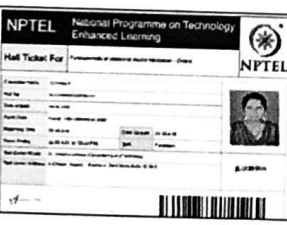
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
ACADEMIC YEAR 2020-21 ODD SEMESTER
SWAYAM PROGRESS DETAILS

STAFF NAME: R.PONNI

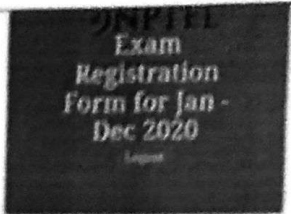



YEAR: II ECE

COURSE NAME: FUNDAMNETALS OF ELECTRONIC DEVICES FABRICATION

R.No	Register no.	Name of the Student	Status	Progress
1	821119106001	ABIMANEU S	COURSE COMPLETED	
2	821119106002	AGALYA P	COURSE COMPLETED	
3	821119106004	BLESSON MANUEL J	COURSE COMPLETED	
4	821119106005	DHARMADURAI A	COURSE COMPLETED	-
5	821119106006	DHARSHINI C	COURSE COMPLETED	

6	821119106007	DURGA SRI R	COURSE PROGRESS COMPLETED	
7	821119106008	GANGA L	COURSE COMPLETED	-
8	821119106009	GANGA R	COURSE COMPLETED	-
9	821119106010	GAYATHRI K	AMOUNT PAID & REGISTERED	
10	821119106011	GAYATHRI S	COURSE COMPLETED	-
11	821119106012	ISHWARYA K	COURSE COMPLETED	
12	821119106013	JAYAKUMAR A	COURSE COMPLETED	-
13	821119106014	JAYAPRIYA S	DISCONTINUED	
14	821119106015	JOTHIKA R	AMOUNT PAID & REGISTERED	
15	821119106016	KABILAN R	COURSE COMPLETED	-
16	821119106017	KABISHENA P	COURSE COMPLETED	-
17	821119106019	KARIKALAN G	COURSE COMPLETED	-

18	821119106020	KARTHICK N	COURSE COMPLETED	-
19	821119106021	KARTHIKA DEVI M	COURSE COMPLETED	<div>← Course Progress</div> <div>Your Assessment scores</div> <div>Assignment 070</div> <div>Week 1 Assignment 113</div> <div>Week 2 Assignment 2100</div> <div>Week 3 Assignment 380</div>
20	821119106022	KIRUBADHARSHINI S	COURSE COMPLETED	
21	821119106023	KRISHNADEVI G	COURSE COMPLETED	
22	821119106024	LOGESHWARAN P	COURSE COMPLETED	<div>Date Enrolled2020-09-12</div> <div>Emailwsrlogesh020@gnou.ac.in</div> <div>NameP Logeswaran</div> <div>Your Assessment Scores</div> <div>Assignment 0100</div> <div>Week 1 Practice Assignment 173</div> <div>Week 2 Practice Assignment 2-</div> <div>Week 3 Practice Assignment 3100</div> <div>Week 4 Practice Assignment 467</div> <div>Week 5 Practice Assignment 5100</div> <div>Week 6 Practice Assignment 647</div>
23	821119106025	MADHUMITHA G	COURSE COMPLETED	<div>NameMadhumitha</div> <div>Emailmadhumitha.govindharaman</div> <div>Date Enrolled2020-09-13</div> <div>Your Assessment scores</div> <div>Assignment 0--</div> <div>Week 1 Practice Assignment 150</div> <div>Assignment 255</div> <div>Week 2 Practice Assignment 2--</div> <div>Assignment 37</div> <div>Week 3 Practice Assignment 3--</div> <div>Assignment 433</div> <div>Week 4 Practice Assignment 4--</div> <div>Assignment 540</div>

24	821119106026	MAHESWARI V	AMOUNT PAID & REGISTERED	 <p> NPTEL Exam Registration Form for Jan - Dec 2020 <small>Logout</small> </p> <p> Name: MAHESWARI V Email Id: mathibaby1360@gmail.com DOB: 2001-10-13 No. of courses registered for exam: 1 </p>
25	821119106027	MATHIVANAN K	COURSE COMPLETED	-
26	821119106028	NITHITHA U	COURSE COMPLETED	-
27	821119106029	NIVETHITHA S	AMOUNT PAID & REGISTERED	
28	821119106030	PAVITHRA P	COURSE COMPLETED	
29	821119106031	PRAKASH A	AMOUNT PAID & REGISTERED	
30	821119106032	PRETHIYA B	COURSE COMPLETED	-
31	821119106033	PRIYANKA K	COURSE COMPLETED	-
32	821119106034	RAMANA BHARATHI S	COURSE COMPLETED	-
33	821119106035	RENUKA K	COURSE COMPLETED	-
34	821119106036	RUTHRA R	COURSE COMPLETED	-
35	821119106037	SABARINATHAN S	COURSE COMPLETED	-



A REPORT

ON

"SWAYAM/NPTEL ONLINE COURSES"

FOR THE ACADEMIC YEAR 2020-2021 ODD SEMESTER.

FOR I I ECE STUDENTS.



NPTEL



MHRD

Very good.
J. R. Srinivasan
30/3/2021

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Department of Electronics and Communication Engineering

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
ACADEMIC YEAR 2020-2021 (ODD SEMESTER)

SWAYAM ONLINE COURSE EXAM REPORT FOR II ECE STUDENTS

We are happy to inform you that, our second year ECE students have attended the SWAYAM online course during the academic year 2020-2021 ODD semester. All the 43 students have attended the course under SWAYAM/NPTEL.

The course details are as follows:

- The course titled "**Fundamentals of Electronic Device Fabrication**" was started on 14th September 2020 and ends on 09th October 2020 with 4 weeks duration.

The **SWAYAM/NPTEL** exam for "**Fundamentals Of Electronic Device Fabrication**" was conducted on 18th December 2020. Six students from **II ECE** have applied and attended the Exam. The final score and course certificate for **SWAYAM/NPTEL** Exam- was published on **24-02-2021**. The details and the sample certificates are attached below.

S.NO	NAME OF THE STUDENTS	NAME OF THE COURSE	FINAL SCORE	REMARKS
1.	Ms.V.Maheshwari	Fundamentals of Electronic Device Fabrication	48	Received Certificate
2.	Ms.R.Jothika	Fundamentals of Electronic Device Fabrication	55	Received Certificate
3.	Ms.S.M.Swethaa	Fundamentals of Electronic Device Fabrication	52	Received Certificate
4.	Mr.A.Prakash	Fundamentals of Electronic Device Fabrication	49	Received Certificate
5.	Ms.S.Nivethitha	Fundamentals of Electronic Device Fabrication	55	Received Certificate
6.	Ms.K.Gayathri	Fundamentals of Electronic Device Fabrication	56	Received Certificate

Sample Certificates – SWAYAM- NPTEL

This certificate is computer generated and can be verified by scanning the QR code given below. This will display the certificate from the NPTEL repository. <https://npTEL.ac.in/nrc/>

Roll No: NPTEL20MM25532390045

To
MAHESWARI V
3/75A, HOSPITAL ROAD
WILLIAM
THIRUVANMIKUR
TAMILNADU - 611004
PH. NO. 9884301201



Score	Type of Certificate
>=80	Elite+Gold
75-80	Elite+Silver
>=60	Elite
40-59	Successfully Completed
<40	No Certificate

No. of credits recommended by NPTEL:1
An additional 1 credit may be awarded if the University deems it fit, based on the actual student effort involved.



NPTEL Online Certification

(Funded by the Ministry of HRD, Govt. of India)



This certificate is awarded to
MAHESWARI V
for successfully completing the course

Fundamentals of Electronic Device Fabrication

with a consolidated score of **48** %

Online Assignments	16.67/25	Proctored Exam	31.5/75
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Total number of candidates certified in this course: 75

Prof. Devendra Jaiswal

Chairman
Centre for Continuing Education - IITM

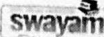
Sep-Oct 2020
(4 week course)

Prof. Andrew Thangaraj
NPTEL Coordinator
IIT Madras



Indian Institute of Technology Madras

Roll No: NPTEL20MM25532390045



To validate and check scores: <https://npTEL.ac.in/nrc/>

This certificate is computer generated and can be verified by scanning the QR code given below. This will display the certificate from the NPTEL repository. <https://npTEL.ac.in/nrc/>

Roll No: NPTEL20MM25532390013

To
JOTHIKA R
NO. 12
MELAVATTAM, NEW STREET
THEIRUPPALLI, THIRUVANMIKUR
TAMILNADU - 611004
PH. NO. 9885287112



Score	Type of Certificate
>=80	Elite+Gold
75-80	Elite+Silver
>=60	Elite
40-59	Successfully Completed
<40	No Certificate

No. of credits recommended by NPTEL:1
An additional 1 credit may be awarded if the University deems it fit, based on the actual student effort involved.



NPTEL Online Certification

(Funded by the Ministry of HRD, Govt. of India)



This certificate is awarded to
JOTHIKA R
for successfully completing the course

Fundamentals of Electronic Device Fabrication

with a consolidated score of **55** %

Online Assignments	19.42/25	Proctored Exam	36/75
--------------------	----------	----------------	-------

Total number of candidates certified in this course: 75

Prof. Devendra Jaiswal

Chairman
Centre for Continuing Education - IITM

Sep-Oct 2020
(4 week course)

Prof. Andrew Thangaraj
NPTEL Coordinator
IIT Madras



Indian Institute of Technology Madras

Roll No: NPTEL20MM25532390013



To validate and check scores: <https://npTEL.ac.in/nrc/>

This certificate is computer generated and can be verified by scanning the QR code given below. This will display the certificate from the NPTEL repository. <https://npTEL.ac.in/nrc/>

Roll No: NPTEL20MM25532390118

To
SWETHAA SM
13A, BHAYAGAMMA COLONY
THIRUVANMIKUR
TAMILNADU - 611004
PH. NO. 9885300642



Score	Type of Certificate
>=80	Elite+Gold
75-80	Elite+Silver
>=60	Elite
40-59	Successfully Completed
<40	No Certificate

No. of credits recommended by NPTEL:1
An additional 1 credit may be awarded if the University deems it fit, based on the actual student effort involved.



NPTEL Online Certification

(Funded by the Ministry of HRD, Govt. of India)



This certificate is awarded to
SWETHAA SM
for successfully completing the course

Fundamentals of Electronic Device Fabrication

with a consolidated score of **52** %

Online Assignments	17.25/25	Proctored Exam	34.5/75
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Total number of candidates certified in this course: 75

Prof. Devendra Jaiswal

Chairman
Centre for Continuing Education - IITM

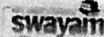
Sep-Oct 2020
(4 week course)

Prof. Andrew Thangaraj
NPTEL Coordinator
IIT Madras



Indian Institute of Technology Madras

Roll No: NPTEL20MM25532390118



To validate and check scores: <https://npTEL.ac.in/nrc/>

This certificate is computer generated and can be verified by scanning the QR code given below. This will display the certificate from the NPTEL repository. <https://npTEL.ac.in/nrc/>

Roll No: NPTEL20MM25532390072

To
PRAKASH A
133, MELAKKADU
THEIRUPPALLI
TAMILNADU - 611004
PH. NO. 9885300642



Score	Type of Certificate
>=80	Elite+Gold
75-80	Elite+Silver
>=60	Elite
40-59	Successfully Completed
<40	No Certificate

No. of credits recommended by NPTEL:1
An additional 1 credit may be awarded if the University deems it fit, based on the actual student effort involved.



NPTEL Online Certification

(Funded by the Ministry of HRD, Govt. of India)



This certificate is awarded to
PRAKASH A
for successfully completing the course

Fundamentals of Electronic Device Fabrication

with a consolidated score of **49** %

Online Assignments	18.92/25	Proctored Exam	30/75
--------------------	----------	----------------	-------

Total number of candidates certified in this course: 75

Prof. Devendra Jaiswal

Chairman
Centre for Continuing Education - IITM

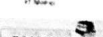
Sep-Oct 2020
(4 week course)

Prof. Andrew Thangaraj
NPTEL Coordinator
IIT Madras



Indian Institute of Technology Madras

Roll No: NPTEL20MM25532390072



To validate and check scores: <https://npTEL.ac.in/nrc/>

This certificate is computer generated and can be verified by scanning the QR code given below. This will display the certificate from the NPTEL repository. <https://npTEL.ac.in/noel>

Roll No: NPTEL20MM25532390064

To:
NIVETHITHA S
SILVER STREET
ARANGANATHUR (TN)
ARANYALUR
TAMIL NADU - 621715
PIN: NO. 9787663321



Score	Type of Certificate
>=80	Elite+Gold
75-80	Elite+Silver
>=70	Elite
40-69	Successfully Completed
<40	No Certificate

No. of credits recommended by NPTEL: 1

An additional 1 credit may be awarded if the University deems it fit, based on the actual student effort involved.



NPTEL Online Certification

(Funded by the Ministry of HRD, Govt. of India)



This certificate is awarded to
NIVETHITHA S
for successfully completing the course

Fundamentals of Electronic Device Fabrication

with a consolidated score of **55** %

Online Assignments **16.08/25** Proctored Exam **39/75**

Total number of candidates certified in this course: 75

Prof. Devendra Jainhal

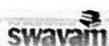
Coordinator
Centre for Continuing Education, IITM

Sep-Oct 2020
(4 week course)

Prof. Andrew Thanparaj
NPTEL Coordinator
IIT Madras



Indian Institute of Technology Madras



Roll No: NPTEL20MM25532390064

To validate and check scores: <https://npTEL.ac.in/noel>

This certificate is computer generated and can be verified by scanning the QR code given below. This will display the certificate from the NPTEL repository. <https://npTEL.ac.in/noel>

Roll No: NPTEL20MM25532390002

To:
GAYATHRI K
81 MUTHUSAMUTHIRAM RDVIL STREET
THIRUVAANANTHURUPATTI
THANJAVUR
TAMIL NADU - 611305
PIN: NO. 080846678



Score	Type of Certificate
>=80	Elite+Gold
75-80	Elite+Silver
>=70	Elite
40-69	Successfully Completed
<40	No Certificate

No. of credits recommended by NPTEL: 1

An additional 1 credit may be awarded if the University deems it fit, based on the actual student effort involved.



NPTEL Online Certification

(Funded by the Ministry of HRD, Govt. of India)



This certificate is awarded to
GAYATHRI K
for successfully completing the course

Fundamentals of Electronic Device Fabrication

with a consolidated score of **56** %

Online Assignments **20.00/25** Proctored Exam **36/75**

Total number of candidates certified in this course: 75

Prof. Devendra Jainhal

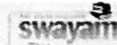
Coordinator
Centre for Continuing Education, IITM

Sep-Oct 2020
(4 week course)

Prof. Andrew Thanparaj
NPTEL Coordinator
IIT Madras



Indian Institute of Technology Madras



Roll No: NPTEL20MM25532390002

To validate and check scores: <https://npTEL.ac.in/noel>

Outcome:

- ✓ Out of 43 students, 42 have enrolled in "Fundamentals of Electronic Device Fabrication".
- ✓ 01 student was long absent.
- ✓ Among the 42 students, 25 students have completed their course successfully and they have submitted their course progress.
- ✓ 6 students have applied for the final exam and they have attended the exam on 18-12-2020 and the Result was published on 24-02-2021.
- ✓ Progress of each student was attached.
- ✓ Sample certificates are enclosed.

Dr. Venkatesh
30/3/21

30/3/21

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING


ACADEMIC YEAR 2020-2021 / ODD SEMESTER

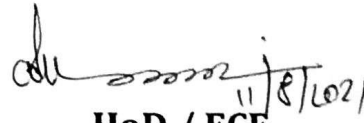
Class: III ECE

Class Coordinator: Mr.A.HERALD

III YEAR ECE

Roll No.	Register Number	Name of the student	Roll No.	Register Number	Name of the student
01	821118106001	AARTHI M	21	821118106028	NIVETHA C
02	821118106002	AASHA A	22	821118106029	NIVETHA T
03	821118106004	ABISHEIK P	23	821118106030	PRABHU G
04	821118106005	ANANTH ELA	24	821118106033	PRIYADHARSHINI S
05	821118106006	ANANTHAVALLI M	25	821118106034	RAMYA K
06	821118106007	ANITHA J	26	821118106036	SANTHIYA S
07	821118106008	ANIZ R K	27	821118106038	SARIKA A
08	821118106009	APARNAA S	28	821118106039	SHEELA T
09	821118106010	ARUNKUMAR R	29	821118106040	SHOBIGA P
10	821118106011	ANURAJ R	30	821118106041	SRIMATHI C
11	821118106014	DHIVYAKALKI M	31	821118106042	SURIYA R
12	821118106015	DIVAGAR K	32	821118106043	SUSHMA D
13	821118106016	DURGA DEVI S	33	821118106044	THAMILSELVAN B
14	821118106017	GANESH B	34	821118106045	THIRUMURUGAN S
15	821118106020	KAWYA A	35	821118106046	VAISHNAVI P V
16	821118106022	KEERTHIKA M	36	821118106048	VINOTHA M
17	821118106023	KIRUTHIKA B	37	821118106049	VINOTHINI G
18	821118106024	LATCHAYASRI G	38	821118106050	VISHWABHARATHY V
19	821118106026	MOUNISH RAJIAH D	39	821118106901	ARUNKUMAR K
20	821118106027	NAGESWARI R			


 IQAC MEMBER
 (Mrs.D.VENNILAAP/ECE)


 HoD / ECE



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
ACADEMIC YEAR 2020-2021 ODD SEMESTER)**

ABOUT THE SWAYAM / NPTEL ONLINE COURSE:

As per the Instruction given by our HOD, it was planned to conduct SWAYAM / NPTEL online course for **Third year ECE** students in 2020-2021 ODD semester.

The SWAYAM / NPTEL online course list was taken from the SWAYAM portal, and it was circulated to the students. Then they were asked to prefer any one course with four or six weeks duration.

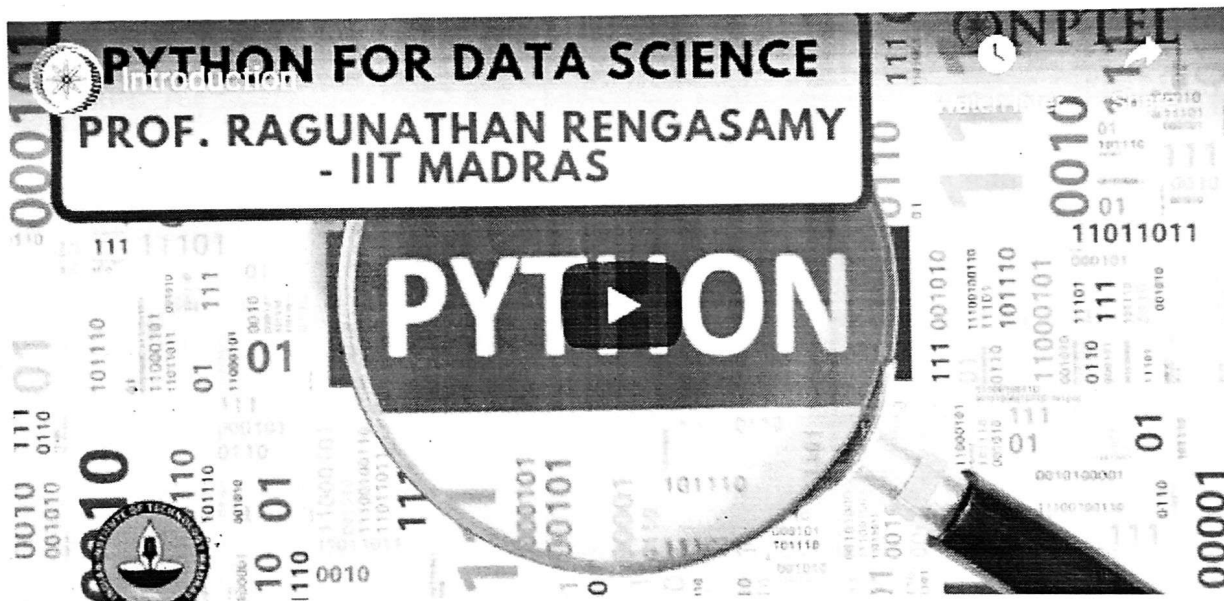
All the 39 students have preferred the course named "**Python for Data Science**".

The duration of the course was 4 weeks.

Course Start Date: **14th September 2020** and the Course End Date: **09th October 2020**.

1. COURSE NAME: PYTHON FOR DATA SCIENCE

This course was handled by Prof. Ragunathan Rengasamy from IIT Madras.



The Course layout was scheduled as follows.

Week 1: BASICS OF PYTHON SPYDER (TOOL)

- Introduction Spyder
- Setting working Directory
- Creating and saving a script file
- File execution, clearing console, removing variables from environment, clearing environment
- Commenting script files
- Variable creation

APARNAAS

Course Details

Unit	Assignment	Score
Unit 1	Assignment 1	71
Unit 2	Assignment 2	71
Unit 3	Assignment 3	71
Unit 4	Assignment 4	71

Overall Score: 71

Date Enrolled: 2020-09-14

Email: thirumurugan9152@gmail.com

Name: THIRUMURUGAN.S

Your Assessment Scores

Assignment 0	--
Assignment 1	64
Assignment 2	27
Assignment 3	17
Assignment 4	29

Course Progress

Date Enrolled: 2020-09-14

Email: mounishrajiah@gmail.com

Name: D Mounish Rajiah

Your Assessment Scores

Assignment 0	--
Assignment 1	91
Assignment 2	73
Assignment 3	--
Assignment 4	--

Course Progress

Date Enrolled: 2020-09-14

Email: vinothinigovindhan@gmail.com

Name: G.vinothini

Your Assessment Scores

Assignment 0	--
Assignment 1	38
Assignment 2	--
Assignment 3	--
Assignment 4	72

Course Progress

Date Enrolled: 2020-09-14

Email: shiyamganesh167@gmail.com

Name: B.Ganesh

Your Assessment Scores

Assignment 0	--
Assignment 1	25
Assignment 2	39
Assignment 3	--
Assignment 4	--

Date Enrolled: 2020-09-14

Email: latchayasri2k@gmail.com

Name: LATCHAYASRI. G

Your Assessment Scores

Assignment 0	--
Assignment 1	91
Assignment 2	76
Assignment 3	67
Assignment 4	31

D. Vennila
12/12/20
IQAC member
(Mrs.D.Vennila)

du...
14/12/2020
HOD/ECE

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2020-21 / ODD SEMESTER

Class: IV ECE

Class Coordinator: Mr.P.Rajapirian

IV YEAR ECE

Roll No.	Register Number	Name of the student	Roll No.	Register Number	Name of the student
01	821117106002	AJITH K	22	821117106027	PREETHIKA M
02	821117106003	AKASH S	23	821117106028	PRIYADHARSHINI R
03	821117106004	AMIRTHA V.G	24	821117106029	RAJALAKSHMI K
04	821117106005	CHITRA SRI S	25	821117106030	ROCHELLA M
05	821117106007	DHARSINI B	26	821117106032	ROSHINI R
06	821117106008	ESWARI A	27	821117106033	SANTHOSHINI R
07	821117106009	EZHILARASI M	28	821117106034	SATHYA V
08	821117106012	HARISH B	29	821117106035	SENTHAMARAI M
09	821117106013	HEMAMALINI S	30	821117106036	SIVAKUMAR R
10	821117106015	ISWARYA M	31	821117106037	SIVANANTHAM Y
11	821117106016	JAYABHARATHI P	32	821117106038	SIVA SARANYA A
12	821117106017	JULIYAT J	33	821117106039	SOUNDARYA R
13	821117106018	KARNAN P	34	821117106040	SOUNDHARYA K
14	821117106019	LINCY FREEDA P	35	821117106042	SRITHALA M
15	821117106020	MANUSHYA M	36	821117106044	SURYA G
16	821117106021	MELVIN CHARLES B	37	821117106046	VEERALAKSHMI M
17	821117106022	MOHAMED JHASIM J	38	821117106047	VIGNESHWARAN M
18	821117106023	NANDHINI S	39	821117106048	VINITHA T
19	821117106024	NISHA T	40	821117106049	VISHWANATH R
20	821117106025	NITHISH KUMAR K	41	821117106050	YUVANKISHORE MA
21	821117106026	PILAVENDRAN NIRMAL B	42	821117106301	KEERTHANA SHRI.G
			43	821117106302	SARANKUMAR.R


Class Coordinator
(Mr.P.Rajapirian,AP/ECE)


HoD / ECE



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
ACADEMIC YEAR 2020-2021 (ODD SEMESTER)**

ABOUT THE SWAYAM / NPTEL ONLINE COURSE:

As per the Instruction given by our HOD, it was planned to conduct SWAYAM / NPTEL online course for **Final year ECE** students in 2020-2021 ODD semester.

The SWAYAM / NPTEL online course list was taken from the SWAYAM portal, and it was circulated to the students. Then they were asked to prefer any one course with six or twelve weeks duration.

All the 43 students have preferred the course named "**Digital Image Processing**".

The duration of the course was 12 weeks.

Course Start Date: **14th September 2020** and the Course End Date: **04th December 2020**.

1. COURSE NAME: DIGITAL IMAGE PROCESSING:

This course was handled by Dr. Prabir Kr. Biswas from the Department of Electronics and Electrical Communication Engineering, IIT Kharagpur.



The Course layout was scheduled as follows.

- Week 1:** Introduction and signal digitization
- Week 2:** Pixel relationship
- Week 3:** Camera models & imaging geometry
- Week 4:** Image interpolation
- Week 5:** Image transformation

- Week 6:** Image enhancement I
Week 7: Image enhancement II
Week 8: Image enhancement III
Week 9: Image restoration I
Week 10: Image restoration II & Image registration
Week 11: Colour image processing
Week 12: Image segmentation
Week 13: Morphological image processing

Outcome:

- ✓ Among the 43 students 37 students have successfully completed the course, but no one have applied for the exam.
- ✓ Progress of each student was attached.

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
ACADEMIC YEAR 2020-21 ODD SEMESTER

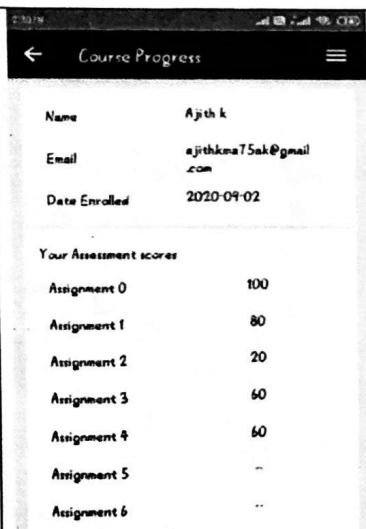
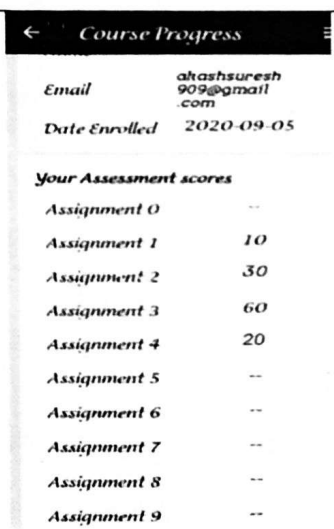
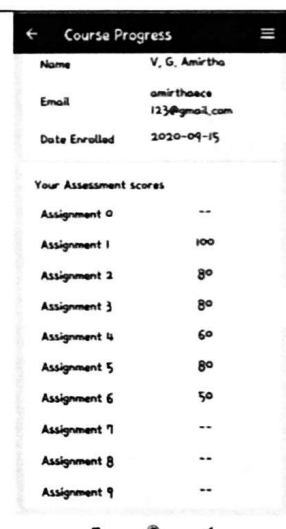
CONSOLIDATED PROGRESS REPORT (SWAYAM) - Digital Image Processing

YEAR : IV ECE

TOTAL STRENGTH : 43

S.NO	STUDENT NAME	Assinme nt-0	Assinme nt-1	Assinme nt-2	Assinme nt-3	Assinme nt-4	Assinme nt-5	Assinment - 6	Assinment - 7
1	AJITH K	100	80	20	60	60	-	-	-
2	AKASH S	-	10	30	60	20	-	-	-
3	AMIRTHA V.G	-	100	80	80	60	80	50	-
4	CHITRA SRI S	-	-	-	-	-	50	50	-
5	DHARSINI B	100	70	20	70	60	60	50	-
6	ESWARI A	100	80	20	60	60	60	50	-
7	EZHILARASI M	-	-	-	60	60	70	50	50
8	HARISH B	-	10	20	60	20	-	-	-
9	HEMAMALINI S	-	-	-	-	-	-	-	-
10	ISWARYA M	-	80	20	60	60	-	50	-
11	JAYABHARATHI P	100	80	20	70	40	70	50	-
12	JULIYAT J	-	-	-	-	-	-	-	-
13	KARNAN P	100	90	20	70	50	50	50	-
14	LINCY FREEDA P	-	-	-	-	-	-	60	-
15	MANUSHYA M	100	80	80	90	60	70	50	50
16	MELVIN CHARLES B	100	80	80	10	60	70	50	50
17	MOHAMED JHASIM J	-	80	20	60	50	50	40	-
18	NANDHINI S	-	-	-	-	-	-	-	-
19	NISHA T	100	80	-	-	60	50	50	-
20	NITHISH KUMAR K	100	100	20	-	60	50	50	-
21	PILAVENDRAN NIRMAL	100	100	20	-	60	50	50	-
22	PREETHIKA M	-	-	-	-	-	-	-	-
23	PRIYADHARSHINI R	-	50	80	80	60	-	60	-
24	RAJALAKSHMI K	-	80	-	70	50	60	50	40
25	ROCHELLA M	-	50	80	70	60	-	50	-
26	ROSHINI R	-	90	-	90	60	60	50	-
27	SANTHOSHINI R	-	90	20	90	60	50	50	-
28	SATHYA V	100	80	20	70	60	70	50	-
29	SENTHAMARAI M	-	10	-	60	-	-	-	-

S.NO	STUDENT NAME	Assinme nt-0	Assinme nt-1	Assinme nt-2	Assinme nt-3	Assinme nt-4	Assinme nt-5	Assignm ent- 6	Assignmen t- 7
30	SIVAKUMAR R	-	80	70	70	60	70	50	70
31	SIVANANTHAM Y	-	10	10	60	20	-	-	-
32	SIVA SARANYA A	-	80	20	90	60	-	50	-
33	SOUNDARYA R	AB	AB	AB	AB	AB	AB	AB	AB
34	SOUNDHARYA K	0	80	20	90	60	60	50	
35	SRITHALA M	-	-	-	70	60	-	50	-
36	SURYA G	100	80	20	70	60	-	60	-
37	VEERALAKSHMI M	100	80	20	30	60	-	50	-
38	VIGNESHWARAN M	-	-	-	-	-	-	-	-
39	VINITHA T	-	80	20	60	60	50	50	-
40	VISHWANATH R	-	70	70	70	60	50	-	50
41	YUVANKISHORE MA	0	80	80	70	60	60	-	50
42	KEERTHANASHRI	-	-	-	-	-	-	-	-
43	SARANKUMAR.S	-	70	70	70	60	-	-	-

 <p>Course Progress</p> <p>Name: Ajith k</p> <p>Email: ajithkma75ak@gmail.com</p> <p>Date Enrolled: 2020-09-02</p> <p>Your Assessment scores</p> <table><tr><td>Assignment 0</td><td>100</td></tr><tr><td>Assignment 1</td><td>80</td></tr><tr><td>Assignment 2</td><td>20</td></tr><tr><td>Assignment 3</td><td>60</td></tr><tr><td>Assignment 4</td><td>60</td></tr><tr><td>Assignment 5</td><td>--</td></tr><tr><td>Assignment 6</td><td>--</td></tr></table>	Assignment 0	100	Assignment 1	80	Assignment 2	20	Assignment 3	60	Assignment 4	60	Assignment 5	--	Assignment 6	--	 <p>Course Progress</p> <p>Email: akashsuresh909@gmail.com</p> <p>Date Enrolled: 2020-09-05</p> <p>Your Assessment scores</p> <table><tr><td>Assignment 0</td><td>--</td></tr><tr><td>Assignment 1</td><td>10</td></tr><tr><td>Assignment 2</td><td>30</td></tr><tr><td>Assignment 3</td><td>60</td></tr><tr><td>Assignment 4</td><td>20</td></tr><tr><td>Assignment 5</td><td>--</td></tr><tr><td>Assignment 6</td><td>--</td></tr><tr><td>Assignment 7</td><td>--</td></tr><tr><td>Assignment 8</td><td>--</td></tr><tr><td>Assignment 9</td><td>--</td></tr></table>	Assignment 0	--	Assignment 1	10	Assignment 2	30	Assignment 3	60	Assignment 4	20	Assignment 5	--	Assignment 6	--	Assignment 7	--	Assignment 8	--	Assignment 9	--	 <p>Course Progress</p> <p>Name: V. G. Amirtha</p> <p>Email: amirthoece123@gmail.com</p> <p>Date Enrolled: 2020-09-15</p> <p>Your Assessment scores</p> <table><tr><td>Assignment 0</td><td>--</td></tr><tr><td>Assignment 1</td><td>100</td></tr><tr><td>Assignment 2</td><td>80</td></tr><tr><td>Assignment 3</td><td>80</td></tr><tr><td>Assignment 4</td><td>60</td></tr><tr><td>Assignment 5</td><td>80</td></tr><tr><td>Assignment 6</td><td>50</td></tr><tr><td>Assignment 7</td><td>--</td></tr><tr><td>Assignment 8</td><td>--</td></tr><tr><td>Assignment 9</td><td>--</td></tr></table>	Assignment 0	--	Assignment 1	100	Assignment 2	80	Assignment 3	80	Assignment 4	60	Assignment 5	80	Assignment 6	50	Assignment 7	--	Assignment 8	--	Assignment 9	--
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<div><div>Course Progress</div><div><div>Email</div><div>lincyfreeda4@gmail.com</div></div><div><div>Date Enrolled</div><div>2020-09-15</div></div></div> <div><div>Your Assessment scores</div><table><tr><td>Assignment 0</td><td>--</td></tr><tr><td>Assignment 1</td><td>--</td></tr><tr><td>Assignment 2</td><td>--</td></tr><tr><td>Assignment 3</td><td>--</td></tr><tr><td>Assignment 4</td><td>60</td></tr><tr><td>Assignment 5</td><td>--</td></tr><tr><td>Assignment 6</td><td>--</td></tr><tr><td>Assignment 7</td><td>--</td></tr><tr><td>Assignment 8</td><td>--</td></tr><tr><td>Assignment 9</td><td>--</td></tr></table></div>	Assignment 0	--	Assignment 1	--	Assignment 2	--	Assignment 3	--	Assignment 4	60	Assignment 5	--	Assignment 6	--	Assignment 7	--	Assignment 8	--	Assignment 9	--	<div><div>2020-09-02</div><div><div>Email</div><div>manushyam urugaiyan@gmail.com</div></div><div><div>Name</div><div>M.manushya</div></div></div> <div><div>Your Assessment Scores</div><table><tr><td>Assignment 0</td><td>100</td></tr><tr><td>Assignment 1</td><td>80</td></tr><tr><td>Assignment 2</td><td>80</td></tr><tr><td>Assignment 3</td><td>90</td></tr><tr><td>Assignment 4</td><td>60</td></tr><tr><td>Assignment 5</td><td>70</td></tr><tr><td>Assignment 6</td><td>50</td></tr><tr><td>Assignment 7</td><td>50</td></tr><tr><td>Assignment 8</td><td>--</td></tr><tr><td>Assignment 9</td><td>--</td></tr></table></div>	Assignment 0	100	Assignment 1	80	Assignment 2	80	Assignment 3	90	Assignment 4	60	Assignment 5	70	Assignment 6	50	Assignment 7	50	Assignment 8	--	Assignment 9	--	<div><div>Date Enrolled</div><div>2020-09-02</div></div> <div><div>Email</div><div>rockmelvin21@gmail.com</div></div> <div><div>Name</div><div>B. Melvin Charles</div></div> <div><div>Your Assessment Scores</div><table><tr><td>Assignment 0</td><td>100</td></tr><tr><td>Assignment 1</td><td>80</td></tr><tr><td>Assignment 2</td><td>80</td></tr><tr><td>Assignment 3</td><td>10</td></tr><tr><td>Assignment 4</td><td>60</td></tr><tr><td>Assignment 5</td><td>70</td></tr><tr><td>Assignment 6</td><td>50</td></tr><tr><td>Assignment 7</td><td>50</td></tr><tr><td>Assignment 8</td><td>--</td></tr><tr><td>Assignment 9</td><td>--</td></tr></table></div>	Assignment 0	100	Assignment 1	80	Assignment 2	80	Assignment 3	10	Assignment 4	60	Assignment 5	70	Assignment 6	50	Assignment 7	50	Assignment 8	--	Assignment 9	--
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<div><div>5:57 PM</div><div>← Course Progress</div><div><div>Name</div><div>K. Rajalakshmi</div></div><div><div>Email</div><div>rojalakshmi7856@gmail.com</div></div><div><div>Date Enrolled</div><div>2020-09-02</div></div><div><div>Your Assessment scores</div><div><div>Assignment 0</div><div>-</div></div><div><div>Assignment 1</div><div>80</div></div><div><div>Assignment 2</div><div>-</div></div><div><div>Assignment 3</div><div>70</div></div><div><div>Assignment 4</div><div>50</div></div><div><div>Assignment 5</div><div>60</div></div><div><div>Assignment 6</div><div>50</div></div><div><div>Assignment 7</div><div>40</div></div></div></div>	<div><div>← Course Progress</div><div><div>Name</div><div>M. Rochella</div></div><div><div>Email</div><div>mrochellatnj@gmail.com</div></div><div><div>Date Enrolled</div><div>2020-09-14</div></div><div><div>Your Assessment scores</div><div><div>Assignment 0</div><div>-</div></div><div><div>Assignment 1</div><div>50</div></div><div><div>Assignment 2</div><div>80</div></div><div><div>Assignment 3</div><div>70</div></div><div><div>Assignment 4</div><div>60</div></div><div><div>Assignment 5</div><div>-</div></div><div><div>Assignment 6</div><div>50</div></div><div><div>Assignment 7</div><div>-</div></div><div><div>Assignment 8</div><div>-</div></div></div></div>	<div><div>← Course Progress</div><div><div>Name</div><div>R.ROSHINI.</div></div><div><div>Email</div><div>mrsroshini be@gmail.com</div></div><div><div>Date Enrolled</div><div>2020-09-17</div></div><div><div>Your Assessment scores</div><div><div>Assignment 0</div><div>-</div></div><div><div>Assignment 1</div><div>90</div></div><div><div>Assignment 2</div><div>-</div></div><div><div>Assignment 3</div><div>90</div></div><div><div>Assignment 4</div><div>60</div></div><div><div>Assignment 5</div><div>60</div></div><div><div>Assignment 6</div><div>50</div></div></div></div>
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<div><div>← Course Progress</div><div><div>Name</div><div>R. Santhoshini</div></div><div><div>Email</div><div>santhoshinim anjula@gmail.com</div></div><div><div>Date Enrolled</div><div>2020-09-17</div></div><div><div>Your Assessment scores</div><div><div>Assignment 0</div><div>-</div></div><div><div>Assignment 1</div><div>90</div></div><div><div>Assignment 2</div><div>20</div></div><div><div>Assignment 3</div><div>90</div></div><div><div>Assignment 4</div><div>60</div></div><div><div>Assignment 5</div><div>50</div></div><div><div>Assignment 6</div><div>50</div></div></div></div>	<div><div>11:54 AM</div><div>← Course Progress</div><div><div>Name</div><div>V SATHYA</div></div><div><div>Email</div><div>sathyavjs134@gmail.com</div></div><div><div>Date Enrolled</div><div>2020-09-02</div></div><div><div>Your Assessment scores</div><div><div>Assignment 0</div><div>100</div></div><div><div>Assignment 1</div><div>80</div></div><div><div>Assignment 2</div><div>20</div></div><div><div>Assignment 3</div><div>70</div></div><div><div>Assignment 4</div><div>60</div></div><div><div>Assignment 5</div><div>70</div></div><div><div>Assignment 6</div><div>50</div></div><div><div>Assignment 7</div><div>-</div></div><div><div>Assignment 8</div><div>-</div></div><div><div>Assignment 9</div><div>-</div></div></div></div>	<div><div>← Course Progress</div><div><div>Name</div><div>M. Senthamarai</div></div><div><div>Email</div><div>sendhamarai babes@gmail.c...</div></div><div><div>Date Enrolled</div><div>2020-09-05</div></div><div><div>Your Assessment scores</div><div><div>Assignment 0</div><div>-</div></div><div><div>Assignment 1</div><div>10</div></div><div><div>Assignment 2</div><div>-</div></div><div><div>Assignment 3</div><div>60</div></div><div><div>Assignment 4</div><div>-</div></div><div><div>Assignment 5</div><div>-</div></div><div><div>Assignment 6</div><div>-</div></div></div></div>
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<div><div>← Course Progress</div><div><div>Name</div><div>SIVAKUMAR R</div></div><div><div>Email</div><div>sivasarasanyaa@gmail.com</div></div><div><div>Date Enrolled</div><div>2020-09-05</div></div><div><div>Your Assessment scores</div><div><div>Assignment 0</div><div>-</div></div><div><div>Assignment 1</div><div>80</div></div><div><div>Assignment 2</div><div>70</div></div><div><div>Assignment 3</div><div>70</div></div><div><div>Assignment 4</div><div>60</div></div><div><div>Assignment 5</div><div>70</div></div><div><div>Assignment 6</div><div>80</div></div><div><div>Assignment 7</div><div>70</div></div><div><div>Assignment 8</div><div>-</div></div></div></div>	<div><div>← Course Progress</div><div><div>Name</div><div>SIVANANTHAM Y</div></div><div><div>Email</div><div>thetiresiva@gmail.com</div></div><div><div>Date Enrolled</div><div>2020-09-05</div></div><div><div>Your Assessment scores</div><div><div>Assignment 0</div><div>-</div></div><div><div>Assignment 1</div><div>10</div></div><div><div>Assignment 2</div><div>10</div></div><div><div>Assignment 3</div><div>60</div></div><div><div>Assignment 4</div><div>20</div></div><div><div>Assignment 5</div><div>-</div></div><div><div>Assignment 6</div><div>-</div></div></div></div>	<div><div>← Course Progress</div><div><div>Name</div><div>SIVA SARANYA A</div></div><div><div>Email</div><div>sivasarasanyaa@gmail.com</div></div><div><div>Date Enrolled</div><div>2020-09-05</div></div><div><div>Your Assessment scores</div><div><div>Assignment 0</div><div>-</div></div><div><div>Assignment 1</div><div>80</div></div><div><div>Assignment 2</div><div>20</div></div><div><div>Assignment 3</div><div>70</div></div><div><div>Assignment 4</div><div>60</div></div><div><div>Assignment 5</div><div>-</div></div><div><div>Assignment 6</div><div>50</div></div><div><div>Assignment 7</div><div>-</div></div></div></div>
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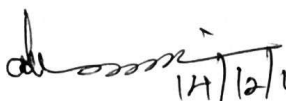
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

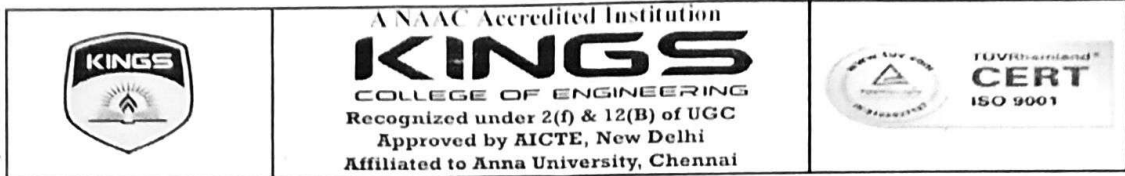
ACADEMIC YEAR 2020-2021 (ODD SEMESTER)

SWAYAM EXECUTION STATUS

S.No	Class	SWAYAM Course Title	No. of students Completed the Course	No. of students Received Certificate
1.	II ECE	Fundamentals of Electronic Device Fabrication	25/42	06/42
2.	III ECE	Python for data science	27/39	NIL
3.	IV ECE	Digital Image Processing	37/43	NIL


 Department IQAC Member


 HOD/ECE



A REPORT

ON

"SWAYAM/NPTEL ONLINE COURSE

ACADEMIC

2020-2021

FOR THE ACADEMIC YEAR 2020-2021 EVEN SEMESTER.



Organized by

Department of Electronics and Communication Engineering
KINGS COLLEGE OF ENGINEERING, PUNALKULAM

A NAAC Accredited Institution

Recognized under 2(f) & 12(B) of UGC

(Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai)

Phone : 04362-282474, 282395

Website : www.kingsindia.net

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2020-2021 (EVEN SEMESTER)

SWAYAM- COURSE TITLE

S.No	Class	SWAYAM Course Title
1.	II ECE	Electronic Waste Management Issues and Challenges
		Awareness Program on Solar Water Pumping System
2.	III ECE	Awareness Program on Solar Water Pumping System
3.	IV ECE	Smart Materials and Intelligent System Design
		Awareness Program on Solar Water Pumping System


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 16/12/21
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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR (2020-2021) EVEN SEM

Swayam / NPTEL online course

CIRCULAR

Date: 18.01.2021

This is to inform you that all the second year, third year and final year students of ECE have to enroll in the swayam/ NPTEL online course for this 2020-2021 even semester. The Swayam title and the schedule were attached below. All the students are requested to attend the online course compulsorily and at the end of the course all should submit their course progress to swayam incharge.

Note:

- All the Final year students have to apply for Swayam / NPTEL online exam also. Since this Swayam course was considered as MCC.
- All the second and third year students can also apply for the Swayam / NPTEL online exam based on your interest.

S.No	Class	Swayam Course Title	Course Starting & Ending Date	Duration
1.	II ECE	Electronic Waste Management Issues and Challenges	Course Start Date: 27-01-2021 Course End Date: 21-02-2021	4 Weeks
2.	III ECE	Awareness Program on Solar Water Pumping System	Course Start Date: 15-02-2021 Course End Date: 30-04-2021	4 Weeks
3.	IV ECE	Smart Materials and Intelligent System Design	Course Start Date: 15-02-2021 Course End Date: 12-03-2021	4 Weeks
4.		Awareness Program on Solar Water Pumping System	Course Start Date: 15-02-2021 Course End Date: 30-04-2021	4 Weeks

D. Venkatesh
18/1/21
Department IQAC Member

[Signature]
HOD/ECE 18/1/21



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR (2020-2021) EVEN SEM


Swayam / NPTEL online course

CIRCULAR

Date: 18.01.2021

As per our academic schedule, My Credit Course will be conducted during the eighth semester for final year students. For this Academic year 2020-2021 it was planned to conduct SWAYAM / NPTEL course as My credit course. All the final year students of ECE are requested to enroll the courses given below through SWAYAM portal. All the students are requested to complete the course and submit the course progress for the 2 courses and also they have to attend the exam for any one course as mandatory.

S.No	Class	Swayam Course Title	Course Starting & Ending Date	Duration
1.	IV ECE	Smart Materials and Intelligent System Design	Course Start Date: 15-02-2021 Course End Date: 12-03-2021	4 Weeks
2.		Awareness Program on Solar Water Pumping System	Course Start Date: 15-02-2021 Course End Date: 30-04-2021	4 Weeks


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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
ACADEMIC YEAR 2020-2021 (EVEN SEMESTER)

A Glimpse on the Background of SWAYAM / NPTEL Course:

SWAYAM is a programme initiated by Government of India and designed to achieve the three cardinal principles of Education Policy viz., access, equity and quality. The objective of this effort is to take the best teaching learning resources to all, including the most disadvantaged. SWAYAM seeks to bridge the digital divide for students who have hitherto remain untouched by the digital revolution and have not been able to join the mainstream of the knowledge economy.

NPTEL

National Programme on Technology Enhanced Learning (**NPTEL**) is a project of MHRD initiated by seven Indian Institutes of Technology (**Bombay, Delhi, Kanpur, Kharagpur, Madras, Guwahati and Roorkee**) along with the Indian Institute of Science, Bangalore in 2003, to provide quality education to anyone interested in learning from the IITs. The main goal was to create web and video courses in all major branches of engineering and physical sciences at the undergraduate and postgraduate levels and management courses at the postgraduate level.

The courses hosted on SWAYAM are in 4 quadrants – (1) video lecture, (2) specially prepared reading material that can be downloaded/printed (3) self-assessment tests through tests and quizzes and (4) an online discussion forum for clearing the doubts.

Steps have been taken to enrich the learning experience by using audio-video and multi-media and state of the art pedagogy / technology.

In order to ensure that best quality content is produced and delivered, nine National Coordinators have been appointed. They are:

1. **AICTE** (All India Council for Technical Education) for self-paced and international courses
2. **NPTEL** (National Programme on Technology Enhanced Learning) for Engineering
3. **UGC** (University Grants Commission) for non technical post-graduation education
4. **CEC** (Consortium for Educational Communication) for under-graduate education
5. **NCERT** (National Council of Educational Research and Training) for school education
6. **NIOS** (National Institute of Open Schooling) for school education

7. **IGNOU** (Indira Gandhi National Open University) for out-of-school students
8. **IIMB** (Indian Institute of Management, Bangalore) for management studies
9. **NITTTR** (National Institute of Technical Teachers Training and Research) for Teacher Training programme

NPTEL Online Certification Courses

Since 2013, through an online portal, 4-, 8-, or 12-week online courses, typically on topics relevant to students in all years of higher education along with basic core courses in sciences and humanities with exposure to relevant tools and technologies, are being offered. The enrolment to and learning from these courses involves no cost. An in-person, proctored certification exam (optional) will be conducted at Rs. 1000/- per course and a certificate is provided through the participating institutions and industry, when applicable.

OVERVIEW OF MY CREDIT COURSE:

In KCE, Department of Electronics and Communication Engineering, has organized my credit course for the Final year students in the final semester. This course was planned to conduct as Swayam /NPTEL online course. The main objective for selecting this Swayam / NPTEL online course was to give the awareness about the best teaching learning resources to the students and also to have more idea about the tools used for the teaching learning methodology.

Under the guidance of our Principal, Dr. J. Arputha Vijaya Selvi, we organized this online course. Mrs. N.Mangaiyarkarasi, HOD/ECE gave the instructions regarding this online course. Mrs.D.Vennila, AP/ECE was the online course coordinator.

ABOUT THE COURSE SELECTION:

The Swayam / NPTEL online course list was taken from the swayam portal, and it was circulated to the students. Then they were asked to prefer any one course with four or six weeks duration.

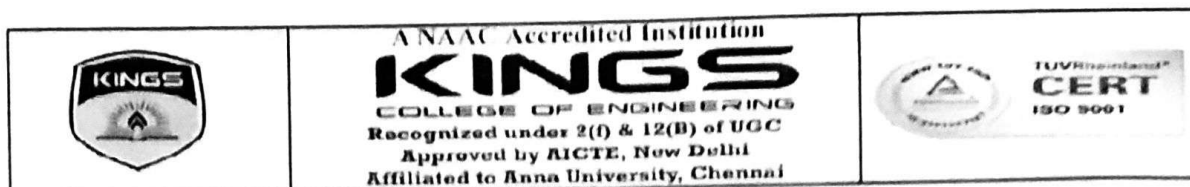
ABOUT THE REGISTRATION PROCESS:

The instructions regarding the online course were given to the students. The login details and the registration process were explained to the students through practical session by the course coordinators. All the students were instructed to register for the course before the due date.

Registration Link: <https://swayam.gov.in>.

CRITERIA TO GET A CERTIFICATE:

- Average assignment score = 25% of average of best 3 assignments out of the total 4 assignments given in the course.
- Exam score = 75% of the proctored certification exam score out of 100
- Final score = Average assignment score + Exam score



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
ACADEMIC YEAR 2020 - 2021 / EVEN SEMESTER

CLASS: II ECE


HALL NO: 123

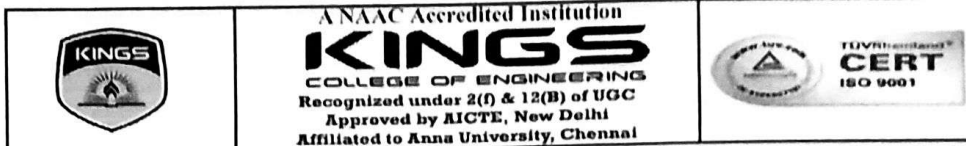
CLASS COORDINATOR: Mrs.U.JEYAMALAR

STRENGTH: 43

ROLL NO.	REGISTER NUMBER	NAME OF THE STUDENT	ROLL NO.	REGISTER NUMBER	NAME OF THE STUDENT
01	821119106001	ABIMANEU S	23	821119106026	MAHESWARI V
02	821119106002	AGALYA P	24	821119106	II YEAR ECE
03	821119106004	BLESSON MANUEL J	25	821119106	
04	821119106005	DHARMADURAI A	26	821119106	
05	821119106006	DHARSHINI C	27	821119106030	PAVITHRA P
06	821119106007	DURGA SRI R	28	821119106031	PRAKASH A
07	821119106008	GANGA L	29	821119106032	PRETHIYA B
08	821119106009	GANGA R	30	821119106033	PRIYANKA K
09	821119106010	GAYATHRI K	31	821119106034	RAMANA BHARATHI S
10	821119106011	GAYATHRI S	32	821119106035	RENUKA K
11	821119106012	ISHWARYA K	33	821119106036	RUTHRA R
12	821119106013	JAYAKUMAR A	34	821119106037	SABARINATHAN S
13	821119106015	JOTHIKA R	35	821119106039	SARASWATHI K
14	821119106016	KABILAN R	36	821119106040	SATHYA G
15	821119106017	KABISHENA P	37	821119106042	SHATHANA B
16	821119106019	KARIKALAN G	38	821119106043	SOUNDHARYA R
17	821119106020	KARTHICK N	39	821119106044	SURIYA C
18	821119106021	KARTHIKA DEVI M	40	821119106045	SUSIKUMAR T
19	821119106022	KIRUBADHARSHINI S	41	821119106046	SWETHAA S M
20	821119106023	KRISHNADEVI G	42	821119106047	THAVAMANI P
21	821119106024	LOGESHWARAN P	43	821119106048	VAISHNAVI G
22	821119106025	MADHUMITHA G			


CLASS COORDINATOR
(Mrs.U.JEYAMALAR, AP/ECE)


HOD / ECE



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
ACADEMIC YEAR 2020-2021 (EVEN SEMESTER)

ABOUT THE SWAYAM / NPTEL ONLINE COURSE:

As per the Instruction given by our HOD, it was planned to conduct swayam / NPTEL online course for **second year ECE** students in 2020-2021 Even semester.

The Swayam / NPTEL online course list was taken from the swayam portal, and it was circulated to the students. Then they were asked to prefer any one course with four or six weeks duration.

Among the 42 students,

- **36** students have preferred the course named **"Electronic Waste Management- Issues and Challenges"** with 4 weeks duration.

Course Start Date: **27th January 2021** and the Course End Date: **21st February 2021**

- **6** students have preferred the course named **"Awareness Program on Solar Water Pumping System"** with 4 weeks duration.

Course Start Date: **15th February 2021** and the Course End Date: **30th April 2021**.

1. COURSE NAME: ELECTRONIC WASTE MANAGEMENT- ISSUES AND CHALLENGES

This course was handled by **Professor Brajesh Kumar Dubey** from Indian Institute of Technology (IIT) Kharagpur, India.

The course starting date was 27th January 2021.

The course ending date was 21st February 2021.

The duration of this course was 4 weeks.

The Course layout was scheduled as follows.

Week 1: Overview of the course

- ✓ E-Waste Overview
- ✓ E-Waste management Overview

Week 2: Exposure pathway of pollutants emitted from Recycling of E-Waste

- ✓ Environment and public health issues
- ✓ E-Waste health Risk Assessment

Week 3: E-Waste Management Rules of India (2011 and 2016 Rules)

- ✓ Recovery of materials from E-Waste
- ✓ Metal Recovery process
- ✓ Recovery of metals from E-waste

Week 4: E-waste Management: Case Studies and Unique Initiatives from around the World

- ✓ Electronics and LCA
- ✓ LCA Applications for Electronics

In this course, nearly 5 assessments were given. These assessments scores were considered for the final exam.

2. COURSE NAME: AWARENESS PROGRAM ON SOLAR WATER PUMPING SYSTEM

This course was handled by Dr. Mukesh Kumar, from Indira Gandhi National Open University, India.

The course starting date was **15th February 2021**.

The course ending date was **30th April 2021**.

The duration of this course was 4 weeks.

The Course layout was scheduled as follows.

Week 1:

Module 1:

- ✓ Solar Energy and its Application
- ✓ Solar Energy and Irrigation Method

Week 2:

Module 2:

- ✓ Solar Water Pump and its components
- ✓ Components of solar pump and PV Module

Week 3:

Module 3:

- ✓ Operation Maintenance and Safety

Week 4:

- ✓ Tests



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2020-2021 (EVEN SEMESTER)

SWAYAM ONLINE COURSE EXAM REPORT FOR II ECE STUDENTS

We are happy to inform you that, our second year ECE students have attended the SWAYAM online course during the academic year 2020-2021 Even semester. All the 42 students have attended the course under SWAYAM/NPTEL.

The course details are as follows:

Among the 42 students,

- **36** students have preferred the course named “**Electronic Waste Management- Issues and Challenges**” with 4 weeks duration.

Course Start Date: **27th January 2021** and the Course End Date: **21st February 2021**

- **6** students have preferred the course named “**Awareness Program on Solar Water Pumping System**” with 4 weeks duration.

Course Start Date: **15th February 2021** and the Course End Date: **30th April 2021**.

The **SWAYAM/NPTEL** exam for “**Electronic Waste Management- Issues and Challenges**” was conducted on **21st March 2021**. Three of the students from **II ECE** have applied and attended the Exam. The final score and course certificate for **SWAYAM/NPTEL** Exam- was published on **29-03-2021**. The details and the sample certificates are attached below.

S.NO	NAME OF THE STUDENTS	NAME OF THE COURSE	FINAL SCORE	REMARKS
1.	Ms.S.M.Swethaa	Electronic Waste Management-Issues and Challenges	71	Received ELITE Certificate
2.	Ms.K.Priyanka	Electronic Waste Management-Issues and Challenges	54	Received Certificate
3.	Ms.M.Karthika Devi	Electronic Waste Management-Issues and Challenges	54	Received Certificate

SWAYAM- NPTEL - Certificates

This certificate is computer generated and can be verified by scanning the QR code given below. This will display the certificate from the NPTEL repository, <https://npTEL.ac.in/mvc/>

Roll No: NPTEL21CE03522400424

To: SWETHAA SM
N/A, THIRUVALETTUR, TAMIL NADU
THIRUVALETTUR
TAMIL NADU - 612004
PIN NO: 612004

Score	Type of Certificate
100	Elite+Gold
75-99	Elite+Silver
50-74	Elite
25-49	Successfully Completed
<25	No Certificate

No. of credits recommended by NPTEL: 1

As additional 1 credit may be awarded if the University deems it fit, based on the actual student effort involved

NPTEL Online Certification

(Funded by the Ministry of HRD, Govt. of India)

This certificate is awarded to
SWETHAA SM
for successfully completing the course

Electronic Waste Management - Issues and Challenges

with a consolidated score of **71 %**

Online Assignments: 23.33/25 | Proctored Exam: 47.99/75

Total number of candidates certified in this course: 1107

Prof. G. P. Raju Sankar
Head, Learning Ecosystem
of Swayam

Jan-Feb 2021
(4 week course)

Prof. Debasree Chakraborty
Coordinator, NPTEL
of Swayam

Roll No: NPTEL21CE03522400424 To validate and check status: <https://npTEL.ac.in/mvc/>

This certificate is computer generated and can be verified by scanning the QR code given below. This will display the certificate from the NPTEL repository, <https://npTEL.ac.in/mvc/>

Roll No: NPTEL21CE03522400328

To: PRIYANKA K
FIRST NO 230 NAGAR COLONY SUPRAMANIPURAM
MADRAS
PUDUCHERRY
TAMIL NADU - 605007
PIN NO: 605007

Score	Type of Certificate
100	Elite+Gold
75-99	Elite+Silver
50-74	Elite
25-49	Successfully Completed
<25	No Certificate

No. of credits recommended by NPTEL: 1

As additional 1 credit may be awarded if the University deems it fit, based on the actual student effort involved

NPTEL Online Certification

(Funded by the Ministry of HRD, Govt. of India)

This certificate is awarded to
PRIYANKA K
for successfully completing the course

Electronic Waste Management - Issues and Challenges

with a consolidated score of **54 %**

Online Assignments: 23.33/25 | Proctored Exam: 31.01/75

Total number of candidates certified in this course: 1107

Prof. G. P. Raju Sankar
Head, Learning Ecosystem
of Swayam

Jan-Feb 2021
(4 week course)

Prof. Debasree Chakraborty
Coordinator, NPTEL
of Swayam

Roll No: NPTEL21CE03522400328 To validate and check status: <https://npTEL.ac.in/mvc/>

This certificate is computer generated and can be verified by scanning the QR code given below. This will display the certificate from the NPTEL repository, <https://npTEL.ac.in/mvc/>

Roll No: NPTEL21CE03522400328

To: PRIYANKA K
FIRST NO 230 NAGAR COLONY SUPRAMANIPURAM
MADRAS
PUDUCHERRY
TAMIL NADU - 605007
PIN NO: 605007

Score	Type of Certificate
100	Elite+Gold
75-99	Elite+Silver
50-74	Elite
25-49	Successfully Completed
<25	No Certificate

No. of credits recommended by NPTEL: 1

As additional 1 credit may be awarded if the University deems it fit, based on the actual student effort involved

NPTEL Online Certification

(Funded by the Ministry of HRD, Govt. of India)

This certificate is awarded to
KARTHIKADEVI M
for successfully completing the course

Electronic Waste Management - Issues and Challenges

with a consolidated score of **54 %**

Online Assignments: 23.33/25 | Proctored Exam: 31.01/75

Total number of candidates certified in this course: 1107

Prof. G. P. Raju Sankar
Head, Learning Ecosystem
of Swayam

Jan-Feb 2021
(4 week course)

Prof. Debasree Chakraborty
Coordinator, NPTEL
of Swayam

Roll No: NPTEL21CE03522400328 To validate and check status: <https://npTEL.ac.in/mvc/>

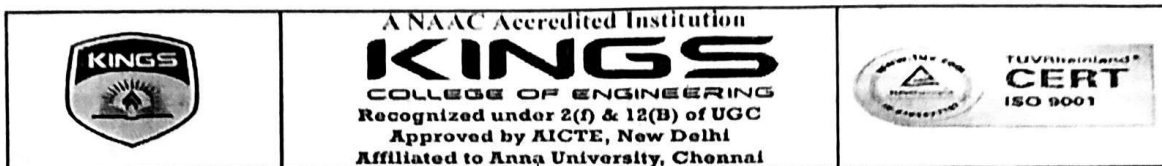
OUTCOME:

Among the 42 students 3 of them have attended the exam and received the certificates. Remaining students have successfully completed the course, but not applied for the Exam.

O. Venkatesh
30/3/21

*Very good .
1.2.2-ECE/58*

30/3/21



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Academic Year 2020-21 / EVEN Semester

Class: III ECE

Hall No: 123

Class Coordinator: Mr.R.Sathyaraj

Strength: 39

Roll No.	Register Number	Name of the student	Roll No.	Register Number	
01	821118106001	AARTHI M	21	8211181060	
02	821118106002	AASHA A	22	821118106029	NIVETHA T
03	821118106004	ABISHEIK P	23	821118106030	PRABHU G
04	821118106005	ANANTH ELA	24	821118106033	PRIYADHARSHINI S
05	821118106006	ANANTHAVALLI M	25	821118106034	RAMYA K
06	821118106007	ANITHA J	26	821118106036	SANTHIYA S
07	821118106008	ANIZ R K	27	821118106038	SARIKA A
08	821118106009	APARNAA S	28	821118106039	SHEELA T
09	821118106010	ARUNKUMAR R	29	821118106040	SHOBIGA P
10	821118106011	ANURAJ R	30	821118106041	SRIMATHI C
11	821118106014	DHIVYAKALKI M	31	821118106042	SURIYA R
12	821118106015	DIVAGAR K	32	821118106043	SUSHMA D
13	821118106016	DURGA DEVI S	33	821118106044	THAMILSELVAN B
14	821118106017	GANESH B	34	821118106045	THIRUMURUGAN S
15	821118106020	KAWYA A	35	821118106046	VAISHNAVI P V
16	821118106022	KEERTHIKA M	36	821118106048	VINOTHA M
17	821118106023	KIRUTHIKA B	37	821118106049	VINOTHINI G
18	821118106024	LATCHAYASRI G	38	821118106050	VISHWABHARATHY V
19	821118106026	MOUNISH RAJIAH D	39	821118106901	ARUNKUMAR K
20	821118106027	NAGESWARI R			

R. Sathyaraj
Class Coordinator

de sathyaraj
HoD / ECE

11/3/2021



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
ACADEMIC YEAR 2020-2021 (EVEN SEMESTER)**

ABOUT THE SWAYAM / NPTEL ONLINE COURSE:

As per the Instruction given by our HOD, it was planned to conduct swayam / NPTEL online course for **Third year ECE** students in 2020-2021 Even semester.

The Swayam / NPTEL online course list was taken from the swayam portal, and it was circulated to the students. Then they were asked to prefer any one course with four or six weeks duration.

All the 39 students have preferred the course named "**Awareness Program on Solar Water Pumping System**" with 4 weeks duration.

Course Start Date: **15th February 2021** and the Course End Date: **30th April 2021**.

1. COURSE NAME: AWARENESS PROGRAM ON SOLAR WATER PUMPING SYSTEM

This course was handled by Dr. Mukesh Kumar, from Indira Gandhi National Open University, India.

The course starting date was **15th February 2021**.

The course ending date was **30th April 2021**.

The duration of this course was 4 weeks.

The Course layout was scheduled as follows.

Week 1:

Module 1:

- ✓ Solar Energy and its Application
- ✓ Solar Energy and Irrigation Method

Week 2:

Module 2:

- ✓ Solar Water Pump and its components
- ✓ Components of solar pump and PV Module

Week 3:

Module 3:

- ✓ Operation Maintenance and Safety

Week 4:

- ✓ Tests

ASSIGNMENT SCORES

COURSE NAME : AWARENESS PROGRAM ON SOLAR WATER PUMPING SYSTEM
CLASS: III ECE

Duration: 4 Weeks
BATCH: 2018-2022

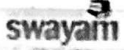





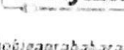





Roll No.	Register Number	Name of the student	Assignment-1	Assignment - 2	Assignment - 3
01	821118106001	AARTHI M	90	90	80
02	821118106002	AASHA A	90	90	80
03	821118106004	ABISHEIK P	80	60	80
04	821118106005	ANANTH ELA	90	90	70
05	821118106006	ANANTHAVALLI M	90	90	80
06	821118106007	ANITHA J	90	90	80
07	821118106008	ANIZ R K	80	80	70
08	821118106009	APARNAA S	90	90	80
09	821118106010	ARUNKUMAR R	80	80	70
10	821118106011	ANURAJ R	90	90	80
11	821118106014	DHIVYAKALKI M	80	80	80
12	821118106015	DIVAGAR K	90	90	80
13	821118106016	DURGA DEVI S	70	60	60
14	821118106017	GANESH B	90	90	70
15	821118106020	KAWYA A	90	90	80
16	821118106022	KEERTHIKA M	90	90	80
17	821118106023	KIRUTHIKA B	90	90	80
18	821118106024	LATCHAYASRI G	90	90	80
19	821118106026	MOUNISH RAJIAH D	90	90	90
20	821118106027	NAGESWARI R	90	90	70
21	821118106028	NIVETHA C	90	90	80
22	821118106029	NIVETHA T	90	90	70
23	821118106030	PRABHU G	90	90	80
24	821118106033	PRIYADHARSHINI S	90	90	70
25	821118106034	RAMYA K	90	90	70
26	821118106036	SANTHIYA S	90	90	80
27	821118106038	SARIKA A	90	90	70
28	821118106039	SHEELA T	90	90	80
29	821118106040	SHOBIGA P	90	80	70
30	821118106041	SRIMATHI C	70	80	80
31	821118106042	SURIYA R	80	80	70
32	821118106043	SUSHMA D	90	90	80

33	821118106044	THAMILSELVAN B	90	90	80
34	821118106045	THIRUMURUGAN S	90	90	70
35	821118106046	VAISHNAVI P V	90	90	80
36	821118106048	VINOTHA M	90	90	80
37	821118106049	VINOTHINI G	90	90	80
38	821118106050	VISHWABHARATHY V	90	90	80
39	821118106901	ARUNKUMAR K	-	-	-

Outcome:

- ✓ All the 39 students have enrolled in "Awareness program on Solar Water pumping system".
- ✓ 01 student not attended the course.
- ✓ Progress of each student was attached.
- ✓ Sample certificates are enclosed.

COURSE PROGRESS

  <p>swayam21124@gmail.com</p> <p>IGNOU » Awareness Programme on Solar Water Pumping System</p> <p>☰ Course Progress</p> <p>M.Aarthi</p> <p>Date enrolled: 2021-02-11</p> <p>Email: aarthimurugesan12@gmail.com</p> <p>Name: M Aarthi</p> <p>Assessment scores</p> <p>Module-1: 90.0</p> <p>Module-2: 90.0</p> <p>Module-3: 80.0</p>	  <p>swayam21124@gmail.com</p> <p>IGNOU » Awareness Programme on Solar Water Pumping System</p> <p>☰ Course Progress</p> <p>Priyadharshini S</p> <p>Date enrolled: 2021-02-11</p> <p>Email: spriya21734@gmail.com</p> <p>Name: Priyadharshini S</p> <p>Assessment scores</p> <p>Module-1: 90.0</p> <p>Module-2: 90.0</p> <p>Module-3: 70.0</p>	  <p>anurajrangam@gmail.com</p> <p>IGNOU » Awareness Programme on Solar Water Pumping System</p> <p>☰ Course Progress</p> <p>R. ANURAJ</p> <p>Date enrolled: 2021-02-11</p> <p>Email: anurajrangam@gmail.com</p> <p>Name: R. ANURAJ</p> <p>Assessment scores</p> <p>Module-1: 90.0</p> <p>Module-2: 90.0</p> <p>Module-3: 80.0</p>
  <p>shobigaprabakaran@gmail.com</p> <p>IGNOU » Awareness Programme on Solar Water Pumping System</p> <p>☰ Course Progress</p> <p>P. Shobiga</p> <p>Date enrolled: 2021-02-11</p> <p>Email: shobigaprabakaran@gmail.com</p> <p>Name: P. Shobiga</p> <p>Assessment scores</p> <p>Module-1: 90.0</p> <p>Module-2: 80.0</p> <p>Module-3: 70.0</p>	  <p>thirumurugan9152@gmail.com</p> <p>THIRUMURUGAN.S</p> <p>Date enrolled: 2021-02-11</p> <p>Email: thirumurugan9152@gmail.com</p> <p>Name: THIRUMURUGAN.S</p> <p>Assessment scores</p> <p>Module-1: 90.0</p> <p>Module-2: 90.0</p> <p>Module-3: 70.0</p>	  <p>pv.vaisu1525@gmail.com</p> <p>IGNOU » Awareness Programme on Solar Water Pumping System</p> <p>☰ Course Progress</p> <p>P.v.vaishnavi</p> <p>Date enrolled: 2021-02-11</p> <p>Email: pv.vaisu1525@gmail.com</p> <p>Name: P.v.vaishnavi</p> <p>Assessment scores</p> <p>Module-1: 90.0</p> <p>Module-2: 90.0</p> <p>Module-3: 80.0</p>



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
ACADEMIC YEAR 2020-21 / EVEN SEMESTER

Class: IV ECE

Hall No: 208

Class Coordinator: Mr.P.Rajapirian

Strength: 43

Roll No.	Register Number	Name of the student	Roll No.	Register Number	Name of the student
01	821117106002	AJITH K	22	82111	IV YEAR ECE
02	821117106003	AKASH S	23	82111	
03	821117106004	AMIRTHA V.G	24	82111	
04	821117106005	CHITRA SRI S	25	82111	
05	821117106007	DHARSINI B	26	821117106032	ROSHINI R
06	821117106008	ESWARI A	27	821117106033	SANTHOSHINI R
07	821117106009	EZHILARASI M	28	821117106034	SATHYA V
08	821117106012	HARISH B	29	821117106035	SENTHAMARAI M
09	821117106013	HEMAMALINI S	30	821117106036	SIVAKUMAR R
10	821117106015	ISWARYA M	31	821117106037	SIVANANTHAM Y
11	821117106016	JAYABHARATHI P	32	821117106038	SIVA SARANYA A
12	821117106017	JULIYAT J	33	821117106039	SOUNDARYA R
13	821117106018	KARNAN P	34	821117106040	SOUNDHARYA K
14	821117106019	LINCY FREEDA P	35	821117106042	SRITHALA M
15	821117106020	MANUSHYA M	36	821117106044	SURYA G
16	821117106021	MELVIN CHARLES B	37	821117106046	VEERALAKSHMI M
17	821117106022	MOHAMED JHASIM J	38	821117106047	VIGNESHWARAN M
18	821117106023	NANDHINI S	39	821117106048	VINITHA T
19	821117106024	NISHA T	40	821117106049	VISHWANATH R
20	821117106025	NITHISH KUMAR K	41	821117106050	YUVANKISHORE MA
21	821117106026	PILAVENDRAN NIRMAL B	42	821117106301	KEERTHANA SHRI.G
			43	821117106302	SARANKUMAR.R

Class Coordinator
(Mr.P.Rajapirian,AP/ECE)

HoD / ECE



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
ACADEMIC YEAR 2020-2021 (EVEN SEMESTER)**

ABOUT THE SWAYAM / NPTEL ONLINE COURSE:

As per the Instruction given by our HOD, it was planned to conduct swayam / NPTEL online course for **Final year ECE** students in 2020-2021 Even semester.

The Swayam / NPTEL online course list was taken from the swayam portal, and it was circulated to the students. Then they were asked to prefer any one course with four or six weeks duration.

All the final year students are insisted to attend any two courses compulsorily.

All the 42 students have preferred the course named

1. **“Smart materials and intelligent System Design”** with 4 weeks duration.
2. **“Awareness Program on Solar Water Pumping System”** with 4 weeks duration.

1. COURSE NAME: AWARENESS PROGRAM ON SOLAR WATER PUMPING SYSTEM

This course was handled by **Professor** Bishakh Bhattacharya from Indian Institute of Technology (IIT) Kanpur, India.

The course starting date was **15th February 2021**.

The course ending date was **12th March 2021**.

The duration of this course was 4 weeks.

The Course layout was scheduled as follows.

Week 1 : Introduction to Smart Materials

Week 2 : Mechanics of Composite Materials

Week 3 : Induced Strain Actuation Mechanisms

Week 4 : Intelligent System Design

2. COURSE NAME: AWARENESS PROGRAM ON SOLAR WATER PUMPING SYSTEM

This course was handled by Dr. Mukesh Kumar, from Indira Gandhi National Open University, India.

The course starting date was **15th February 2021**.

The course ending date was **30th April 2021**.

The duration of this course was 4 weeks.

The Course layout was scheduled as follows.

Week 1:

Module 1:

- ✓ Solar Energy and its Application
- ✓ Solar Energy and Irrigation Method

Week 2:

Module 2:

- ✓ Solar Water Pump and its components
- ✓ Components of solar pump and PV Module

Week 3:

Module 3:

- ✓ Operation Maintenance and Safety

Week 4:

- ✓ Tests

10

Outcome:**Course:1 "Smart materials and intelligent System Design"**

- ✓ Out of 42 students, 34 students have completed the course successfully.
- ✓ Among the 34 students, 33 have applied for the exam and received the certificate.

Course:2 "Awareness program on Solar Water pumping system"

- ✓ All the 42 students have completed their course successfully and they have submitted their course progress.
- ✓ No one have applied for the exam on this course.
- ✓ Progress of each student was attached.
- ✓ Sample certificates are enclosed.

10

Assignment Scores

COURSE NAME : SMART MATERIALS AND INTELLIGENT SYSTEM DESIGN
CLASS : IV ECE

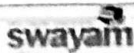



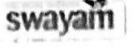

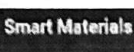

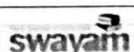



Duration: 4 Weeks
Batch : 2017-2021

Roll No.	Register Number	Name of the student	Assign-0	Assign-1	Assign-2	Assign-3	Assign-4
1.	821117106002	AJITH K	100	100	100	90	100
2.	821117106003	AKASH S	100	100	100	90	100
3.	821117106004	AMIRTHA V.G	90	80	-	-	-
4.	821117106005	CHITRA SRI S	100	100	100	90	100
5.	821117106007	DHARSINI B	100	100	100	90	100
6.	821117106008	ESWARI A	100	100	100	90	100
7.	821117106009	EZHILARASI M	100	100	100	90	100
8.	821117106012	HARISH B	80	70	-	-	-
9.	821117106013	HEMAMALINI S	100	100	100	90	100
10.	821117106015	ISWARYA M	100	100	100	90	100
11.	821117106016	JAYABHARATHI P	100	100	100	90	100
12.	821117106017	JULIYAT J	80	80	-	-	-
13.	821117106018	KARNAN P	100	100	100	90	100
14.	821117106019	LINCY FREEDA P	100	100	100	90	100
15.	821117106020	MANUSHYA M	100	100	100	90	100
16.	821117106021	MELVIN CHARLES B	100	100	100	90	100
17.	821117106022	MOHAMED JHASIM J	70	-	-	70	-
18.	821117106023	NANDHINI S	100	100	100	90	100
19.	821117106024	NISHA T	100	100	100	90	100
20.	821117106025	NITHISH KUMAR K	100	100	100	90	100
21.	821117106026	PILAVENDRAN NIRMAL B	100	100	100	90	100
22.	821117106027	PREETHIKA M	100	100	100	90	100
23.	821117106028	PRIYADHARSHINI R	60	-	40	-	-
24.	821117106029	RAJALAKSHMI K	60	--	-	-	-
25.	821117106030	ROCHELLA M	-	80	--	-	-
26.	821117106032	ROSHINI R	100	100	100	90	100
27.	821117106033	SANTHOSHINI R	100	100	100	90	100
28.	821117106034	SATHYA V	100	100	100	90	100
29.	821117106035	SENTHAMARAI M	100	100	100	90	100
30.	821117106036	SIVAKUMAR R	100	100	100	90	100
31.	821117106037	SIVANANTHAM Y	100	100	100	90	100
32.	821117106038	SIVA SARANYA A	100	100	100	90	100
33.	821117106040	SOUNDHARYA K	100	100	100	90	100
34.	821117106042	SRITHALA M	100	100	100	90	100
35.	821117106044	SURYA G	100	100	100	90	100
36.	821117106046	VEERALAKSHMI M	100	100	100	90	100
37.	821117106047	VIGNESHWARAN M	80	-	-	-	-
38.	821117106048	VINITHA T	100	100	100	90	100
39.	821117106049	VISHWANATH R	100	100	100	90	100
40.	821117106050	YUVANKISHORE MA	100	100	100	90	100
41.	821117106301	KEERTHANA SHRI.G	100	100	100	90	100
42.	821117106302	SARANKUMAR.R	100	100	100	90	100

Assignment Scores**COURSE NAME : AWARENESS PROGRAM ON SOLAR WATER PUMPING SYSTEM****Duration: 4 Weeks****CLASS : IV ECE****Batch : 2017-2021**

Roll No.	Register	Name of the student	Assign-1	Assign-2	Assign-3
1.	821117106002	AJITH K	90	90	80
2.	821117106003	AKASH S	90	90	80
3.	821117106004	AMIRTHA V.G	80	60	80
4.	821117106005	CHITRA SRI S	90	90	70
5.	821117106007	DHARSINI B	90	90	80
6.	821117106008	ESWARI A	90	90	80
7.	821117106009	EZHILARASI M	80	80	70
8.	821117106012	HARISH B	90	90	80
9.	821117106013	HEMAMALINI S	80	80	70
10.	821117106015	ISWARYA M	90	90	80
11.	821117106016	JAYABHARATHI P	80	80	80
12.	821117106017	JULIYAT J	90	90	80
13.	821117106018	KARNAN P	70	60	60
14.	821117106019	LINCY FREEDA P	90	90	70
15.	821117106020	MANUSHYA M	90	90	80
16.	821117106021	MELVIN CHARLES B	90	90	80
17.	821117106022	MOHAMED JHASIM J	90	90	80
18.	821117106023	NANDHINI S	90	90	80
19.	821117106024	NISHA T	90	90	90
20.	821117106025	NITHISH KUMAR K	90	90	70
21.	821117106026	PILAVENDRAN NIRMAL B	90	90	80
22.	821117106027	PREETHIKA M	90	90	70
23.	821117106028	PRIYADHARSHINI R	90	90	80
24.	821117106029	RAJALAKSHMI K	90	90	70
25.	821117106030	ROCHELLA M	90	90	70
26.	821117106032	ROSHINI R	90	90	80
27.	821117106033	SANTHOSHINI R	90	90	70
28.	821117106034	SATHYA V	90	90	80
29.	821117106035	SENTHAMARAI M	90	80	70
30.	821117106036	SIVAKUMAR R	70	80	80
31.	821117106037	SIVANANTHAM Y	80	80	70
32.	821117106038	SIVA SARANYA A	90	90	80
33.	821117106040	SOUNDHARYA K	90	90	80
34.	821117106042	SRITHALA M	90	90	70
35.	821117106044	SURYA G	90	90	80
36.	821117106046	VEERALAKSHMI M	90	90	80
37.	821117106047	VIGNESHWARAN M	90	90	80
38.	821117106048	VINITHA T	90	90	80
39.	821117106049	VISHWANATH R	90	90	80
40.	821117106050	YUVANKISHORE MA	90	90	80
41.	821117106301	KEERTHANA SHRI.G	80	60	80
42.	821117106302	SARANKUMAR.R	90	90	70

COURSE PROGRESS

<div>   </div> <div> NPTEL » Smart Materials and Intelligent System Design </div> <div> Course Progress </div> <div> Ajith k Date enrolled: 2020-12-28 Email: ajithkma75ak@gmail.com Name: Ajith k </div> <div> Assessment scores Assignment 0: - Assignment 1: 100.0 Assignment 2: 100.0 Assignment 3: 100.0 Assignment 4: 100.0 </div>	<div>   </div> <div> NPTEL » Smart Materials and Intelligent System Design </div> <div> Course Progress </div> <div> Chitra sri Date enrolled: 2021-01-04 Email: chitrasri812@gmail.com Name: Chitra sri </div> <div> Assessment scores Assignment 0: - Assignment 1: - Assignment 2: 100.0 Assignment 3: 100.0 Assignment 4: 100.0 </div>	<div>   </div> <div> NPTEL » Smart Materials and Intelligent System Design </div> <div> Course Progress </div> <div> Dharsini B Date enrolled: 2021-01-04 Email: dharsini28121999@gmail.com Name: Dharsini B </div> <div> Assessment scores Assignment 0: 100.0 Assignment 1: 100.0 Assignment 2: 100.0 Assignment 3: 100.0 Assignment 4: 100.0 </div>
<div>   </div> <div> NPTEL » Smart Materials and Intelligent System Design </div> <div> Course Progress </div> <div> Eswari Date enrolled: 2021-01-13 Email: eswananbuselvan82095@gmail.com Name: Eswari </div> <div> Assessment scores Assignment 0: 100.0 Assignment 1: 100.0 Assignment 2: 100.0 Assignment 3: 100.0 Assignment 4: 100.0 </div>	<div>   </div> <div> NPTEL » Smart Materials and Intelligent System Design </div> <div> Course Progress </div> <div> Karnan Date enrolled: 2021-01-04 Email: karnanaka567@gmail.com Name: Karnan </div> <div> Assessment scores Assignment 0: 100.0 Assignment 1: 100.0 Assignment 2: 100.0 Assignment 3: 100.0 Assignment 4: 100.0 </div>	<div>   </div> <div> NPTEL » Smart Materials and Intelligent System Design </div> <div> P Lincyfreeda Date enrolled: 2021-01-05 Email: lincyfreeda4@gmail.com Name: P Lincyfreeda </div> <div> Assessment scores Assignment 0: - Assignment 1: 100.0 Assignment 2: 90.0 Assignment 3: 100.0 Assignment 4: 100.0 </div>

Sample certificate

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Roll No: NPTEL21ME005110610

To: **AJITH K**
 IIT Madras
 Department of Mechanical Engineering
 Chennai - 600 075
 India
 Ph: 9840452000

No. of credits recommended by NPTEL: 1
 An additional credit may be awarded if the following criteria is met, based on the actual student effort involved.

NPTEL Online Certification
 (Funded by the Ministry of HRD, Govt. of India)

This certificate is awarded to
AJITH K
 for passing the course
Smart Materials and Intelligent System Design
 with Score* 100 %

Feb-Mar 2021
 (16 week course)

THIS MODIFIED CERTIFICATE IS APPLICABLE ONLY TO STUDENTS GRADUATING IN 2021

***Continuous online assessment score**

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Roll No: NPTEL21ME005110641

To: **AKASH S**
 IIT Madras
 Department of Mechanical Engineering
 Chennai - 600 075
 India
 Ph: 9840452000

No. of credits recommended by NPTEL: 1
 An additional credit may be awarded if the following criteria is met, based on the actual student effort involved.

NPTEL Online Certification
 (Funded by the Ministry of HRD, Govt. of India)

This certificate is awarded to
AKASH S
 for passing the course
Smart Materials and Intelligent System Design
 with Score* 100 %

Feb-Mar 2021
 (16 week course)

THIS MODIFIED CERTIFICATE IS APPLICABLE ONLY TO STUDENTS GRADUATING IN 2021

***Continuous online assessment score**

To validate and check scores: <https://npTEL.ac.in/verify>

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Roll No: NPTEL21ME005106217

To: **S CHITRA SRI**
 IIT Madras
 Department of Mechanical Engineering
 Chennai - 600 075
 India
 Ph: 9840452000

No. of credits recommended by NPTEL: 1
 An additional credit may be awarded if the following criteria is met, based on the actual student effort involved.

NPTEL Online Certification
 (Funded by the Ministry of HRD, Govt. of India)

This certificate is awarded to
S CHITRA SRI
 for passing the course
Smart Materials and Intelligent System Design
 with Score* 100 %

Feb-Mar 2021
 (16 week course)

THIS MODIFIED CERTIFICATE IS APPLICABLE ONLY TO STUDENTS GRADUATING IN 2021

***Continuous online assessment score**

To validate and check scores: <https://npTEL.ac.in/verify>

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Roll No: NPTEL21ME005104524

To: **R VISHWANATH**
 IIT Madras
 Department of Mechanical Engineering
 Chennai - 600 075
 India
 Ph: 9840452000

No. of credits recommended by NPTEL: 1
 An additional credit may be awarded if the following criteria is met, based on the actual student effort involved.

NPTEL Online Certification
 (Funded by the Ministry of HRD, Govt. of India)

This certificate is awarded to
R VISHWANATH
 for passing the course
Smart Materials and Intelligent System Design
 with Score* 97 %

Feb-Mar 2021
 (16 week course)

THIS MODIFIED CERTIFICATE IS APPLICABLE ONLY TO STUDENTS GRADUATING IN 2021

***Continuous online assessment score**

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Roll No: NPTEL21ME005105619

To: **T VINITHA**
 IIT Madras
 Department of Mechanical Engineering
 Chennai - 600 075
 India
 Ph: 9840452000

No. of credits recommended by NPTEL: 1
 An additional credit may be awarded if the following criteria is met, based on the actual student effort involved.

NPTEL Online Certification
 (Funded by the Ministry of HRD, Govt. of India)

This certificate is awarded to
T VINITHA
 for passing the course
Smart Materials and Intelligent System Design
 with Score* 100 %

Feb-Mar 2021
 (16 week course)

THIS MODIFIED CERTIFICATE IS APPLICABLE ONLY TO STUDENTS GRADUATING IN 2021

***Continuous online assessment score**

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Roll No: NPTEL21ME005106108

To: **M VIGNESHWARAN**
 IIT Madras
 Department of Mechanical Engineering
 Chennai - 600 075
 India
 Ph: 9840452000

No. of credits recommended by NPTEL: 1
 An additional credit may be awarded if the following criteria is met, based on the actual student effort involved.

NPTEL Online Certification
 (Funded by the Ministry of HRD, Govt. of India)

This certificate is awarded to
M VIGNESHWARAN
 for passing the course
Smart Materials and Intelligent System Design
 with Score* 97 %

Feb-Mar 2021
 (16 week course)

THIS MODIFIED CERTIFICATE IS APPLICABLE ONLY TO STUDENTS GRADUATING IN 2021

***Continuous online assessment score**

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Roll No: NPTEL21ME0051064136

To: **M VEERALAKSHMI**
 IIT Madras
 Department of Mechanical Engineering
 Chennai - 600 075
 India
 Ph: 9840452000

No. of credits recommended by NPTEL: 1
 An additional credit may be awarded if the following criteria is met, based on the actual student effort involved.

NPTEL Online Certification
 (Funded by the Ministry of HRD, Govt. of India)

This certificate is awarded to
M VEERALAKSHMI
 for passing the course
Smart Materials and Intelligent System Design
 with Score* 100 %

Feb-Mar 2021
 (16 week course)

THIS MODIFIED CERTIFICATE IS APPLICABLE ONLY TO STUDENTS GRADUATING IN 2021

***Continuous online assessment score**

To validate and check scores: <https://npTEL.ac.in/verify>

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Roll No: NPTEL21ME0051284270

To: **Y SIVANANTHAM**
 IIT Madras
 Department of Mechanical Engineering
 Chennai - 600 075
 India
 Ph: 9840452000

No. of credits recommended by NPTEL: 1
 An additional credit may be awarded if the following criteria is met, based on the actual student effort involved.

NPTEL Online Certification
 (Funded by the Ministry of HRD, Govt. of India)

This certificate is awarded to
Y SIVANANTHAM
 for passing the course
Smart Materials and Intelligent System Design
 with Score* 100 %

Feb-Mar 2021
 (16 week course)

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***Continuous online assessment score**

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Roll No: NPTEL21ME0051642626

To: **SOUNDHARYA K**
 IIT Madras
 Department of Mechanical Engineering
 Chennai - 600 075
 India
 Ph: 9840452000

No. of credits recommended by NPTEL: 1
 An additional credit may be awarded if the following criteria is met, based on the actual student effort involved.

NPTEL Online Certification
 (Funded by the Ministry of HRD, Govt. of India)

This certificate is awarded to
SOUNDHARYA K
 for passing the course
Smart Materials and Intelligent System Design
 with Score* 100 %

Feb-Mar 2021
 (16 week course)

THIS MODIFIED CERTIFICATE IS APPLICABLE ONLY TO STUDENTS GRADUATING IN 2021

***Continuous online assessment score**

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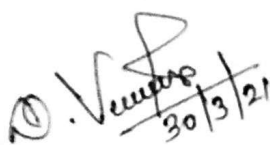


DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2020-2021 (EVEN SEMESTER)

SWAYAM EXECUTION STATUS

S.No	Class	SWAYAM Course Title	No. of students Completed the Course	No. of students Received Certificate
1.	II ECE	Electronic Waste Management Issues and Challenges	37/42	03/42
		Awareness Program on Solar Water Pumping System	5/42	NIL
2.	III ECE	Awareness Program on Solar Water Pumping System	38/39	NIL
3.	IV ECE	Smart Materials and Intelligent System Design	33/42	33/42
		Awareness Program on Solar Water Pumping System	42/42	NIL


 Department IQAC Member


 HOD/ECE

ACADEMIC YEAR

2019-2020

Dr. J. Arputha Vijaya Selvi, M.E., Ph.D.,

PRINCIPAL

Ref: KCE / PRL / VAC/125/18-19

10.06.2019

To
The Director
Center for Academic Courses
Anna University, Chennai

Respected Sir,

Sub: Submission of modified syllabus and course plan for the approval of
Value Added Course on "Real time Electronics System Design" for
the batch of 2017 - 2021 -reg

Ref. Letter No.2520/AU/CAC/FICE/2019

With reference to your letter dated 31.5.2019, the syllabus of Value added course titled
"Real Time Electronics System Design" has been modified and the practical session is
included in the course plan. Further it is planned to handle this course as practical
oriented course. Herewith the modified syllabus and course plan are enclosed for your
kind perusal and approval.

Thank You,

Yours faithfully,

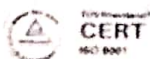
J. Arputha Vijaya Selvi
10/6/19

PRINCIPAL
Kings College of Engineering
Punakulam- 613 303.



Encl:

- i) Syllabus(modified)
- ii) Course Plan(modified)
- iii) Time Table



Punakulam, Gandarvakottai Taluk, Pudukkottai District, Tamil Nadu - 613 303 Ph : 04362 - 282474
Email : contact@kingsindia.net, Thanjavur Information Centre - 04352-279779



CENTRE FOR ACADEMIC COURSES
ANNA UNIVERSITY
CHENNAI - 600 025

Off: 22357077 / 73
22357074
Fax / Dir : 22352272



16.08.2019

Dr. R. RAJU
DIRECTOR
Letter No 2520/AU/VA/CAC/FICE/2019

To
The Controller of Examinations
Anna University
Chennai - 25.

Sir,

Sub: A.U. - CAC - Affiliated Institutions - Value Added Courses - Reg.
Ref: Letter No KCE/PRL/VAC/125/18-19.

With reference to the letter cited, the following Value Added Courses offered by Kings College of Engineering, Affiliated Institutions is allotted the course code as detailed below.

SI.NO	CODE ALLOTTED	TITLE	Credits			
			L	T	P	C
1.	IVA019	Real Time Electronics System Design	1	0	1	2

This is for your kind information and necessary action at your end.

Yours faithfully,


DIRECTOR



KINGS
COLLEGE OF ENGINEERING
(NAAC Accredited Institution)
(Approved by AICTE, New Delhi Affiliated to
Anna University, Chennai)



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CERT
ISO 9001

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

VALUE ADDED COURSE

SUBJECT: REAL TIME ELECTRONICS SYSTEM DESIGN

SEMESTER: V

COURSE PLAN (EC 851)

(Version: 1)

PREPARED BY

Mr. T. JEYASEELAN AP/ECE

SYLLABUS

EC851

REAL TIME ELECTRONICS SYSTEM DESIGN

L T P C
2 0 1 2

UNIT I REAL TIME ELECTRONICS SYSTEM COMPONENTS

6

Introduction-Functional components of real time electronics system-Analog IO devices-Digital IO devices-Processor -Memory devices -Communication modules.

UNIT II PROGRAMMING REAL TIME EMBEDDED COMPUTING SYSTEM

6

Integrated development environment(IDE) for 8051 micro controller- programming of 8051 microcontroller using keil software tools and IDE-Overview of embedded C programming- Constants, Variables and data types- Operators and expressions- Loops-arrays- Strings- User defined function-structures- pointers - Compiling, Assembling, Linking and Debugging.

UNIT III IO DEVICES -INTERFACING AND PROGRAMMING

6

8051 Microcontroller Architecture-Interfacing and programming of IO devices- LED, LCD, seven segment display, switch, Buzzer, Relay, ADC and DAC, Temperature sensor, Humidity sensor, Ultrasonic sensor, Infrared sensor, Accelerometer, stepper motor and dc motor.

UNIT IV PROGRAMMING OF WIRELESS COMMUNICATION MODULES

6


Wireless technology for industrial and control applications - Development and implementation of wireless communication using Zigbee, Bluetooth, LiFi, and Wi-Fi. Development and Implementation of wireless control using GSM and GPS.

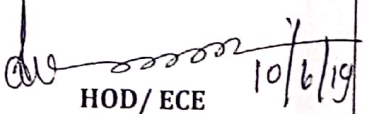
UNIT V REAL TIME SYSTEM APPLICATION EXAMPLES

6

Automatic Irrigation System -Real time air pollution monitoring system using GSM and GPS-LPG gas leakage and fire alert safety system-Camera based anti theft security system-Remote wireless control of electrical and electronics home appliances/industrial machines- Smart watch for heart rate and BP monitoring.

TOTAL: 30 PERIODS


Staff in-charge
JEYASEELAN.T


HOD/ ECE



KINGS
COLLEGE OF ENGINEERING
(NAAC Accredited Institution)
(Approved by AICTE, New Delhi Affiliated to
Anna University, Chennai)



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

COURSE PLAN

Sub. Code	: EC851	Branch / Year / Sem	: B.E ECE / III / V
Sub. Name	: Real Time electronics system design	Batch	: 2017-2021
Staff Name	: Mr.T.Jeyaseelan	Academic Year	: 2019 - 20 (ODD)

COURSE OBJECTIVE

- To make the students to apply fundamental concepts in Electronics systems for providing solutions for real-time system design.
- To provide practical experience to the students on interfacing of Input-Output devices, communication devices with the processor.
- To introduce the basic concepts in Hardware and software design.
- To practice the students in order to implement electronics system for the real time applications

TEXT BOOKS

- T1. "Real-Time Systems Design Principles for Distributed Embedded Applications", Hermann Kopetz, Kluwer Academic Publishers.
- T2. The 8051 Microcontroller Architecture, Programming and Applications", Kenneth J. Ayala, THOMSON Learning.

REFERENCE BOOKS

- R1. "Embedded C", Michael J. Pont, Pearson Education.
- R2. "Sensors and Transducers", Ian R. Sinclair, Third edition, Newnes.
- R3. "8051 Micro controller An applications based Introducton" David Calcutt, Fred Cowan Hassan Parchizadeh, Elsevier.
- R4. "C Programming for Embedded Systems", Kirk zurell, R&D books, CMP media, Inc, USA.

WEB RESOURCES

- W1. <https://nptel.ac.in/courses/Webcourse-contents/IIT%20Kharagpur/Embedded%20systems/Pdf/Lesson-3.pdf> (Topic No. 01, 05, 06)
- W2. http://www.eng.auburn.edu/~nelson/courses/elec3040_3050/C%20programming%20for%20embe-dded%20system%20applications.pdf (Topic No. 09, 10, 11)
- W3. <https://cs.wmich.edu/alfuqaha/spring15/cs6570/lectures/PHY-MAC-Bluetooth-ZigBee-rev2.pdf> (Topic No. 19)
- W4. https://www.electronics-tutorials.ws/io/io_7.html (Topic No. 18)
- W5. <https://www.engineersgarage.com/microcontroller/8051projects> (Topic No. 20-30)

Topic No	Topic	Books for Reference	Page No.	Teaching Methodology	No. of Hours Required	Cumulative No. of periods
UNIT I REAL TIME ELECTRONICS SYSTEM COMPONENTS (6)						
1.	Introduction	T1 W1	1-8	PPT	1	1
2.	Functional components of real time electronics system	T1	30-35	PPT	1	2
3.	Analog IO devices	R2	87-115	PPT	1	3
4.	Digital IO devices	R2	37-40	PPT	2	5
5.	Processor, Memory devices	W1,R3	10-11	PPT		
6.	Communication modules	W1		PPT	1	6
LEARNING OUTCOME At the end of unit, students will be able to <ul style="list-style-type: none"> Know the functional components of Real time electronic system. Understand the concept and architecture of real-time system. 						
UNIT II PROGRAMMING REAL TIME EMBEDDED COMPUTING SYSTEM (6)						
7.	Integrated development environment(IDE) for 8051 micro controller	R1	36-37	PPT	2	8
8.	Programming of 8051 microcontroller using keil software tools and IDE	R1	38-40	Practical		
9.	Overview of embedded C programming- Constants, Variables and data types- Operators and expressions	R4, W2	60-63	Practical	1	9
10.	Loops-arrays- Strings	R4, W2	64	Practical	1	10
11.	User defined function- structures- pointers	R4 W2	63,66	Practical	1	11
12.	Compiling, Assembling, Linking and Debugging.	R1	43-45	Practical	1	12
LEARNING OUTCOME At the end of unit, students will be able to <ul style="list-style-type: none"> Know the basics of embedded C programming and its use in application development. Develop an embedded C program for a typical electronic application. 						
UNIT III IO DEVICES -INTERFACING AND PROGRAMMING (6)						
13.	8051 Microcontroller Architecture	T2	11-22	PPT	1	13
14.	Interfacing and programming of LED, LCD, seven segment display, switch, Buzzer and Relay.	T2	22-28	Practical	1	14
15.	Interfacing and programming of ADC and DAC	T2	163-166	Practical	1	15
16.	Interfacing and programming of Temperature, humidity sensor.	R2	87-115	Practical	1	16

17.	Ultrasonic sensor, Infrared sensor and Accelerometer.	R2	116 - 155, 164-167	Practical	1	17
18.	Stepper motor and dc motor.	W4	-	Practical	1	18

LEARNING OUTCOME

At the end of unit, students should be able to

- Study the architectural features of 8051 microcontroller.
- Know the interfacing of I/O devices and sensors with 8051 microcontroller.

UNIT IV PROGRAMMING OF WIRELESS COMMUNICATION MODULES (6)

Topic No	Topic	Books for Reference	Page No.	Teaching Methodology	No. of Hours Required	Cumulative No. of periods
19.	Wireless technology for industrial and control applications.	W3	-	PPT	1	19
20.	Development and implementation of wireless communication using Zigbee.	W5	-	Practical	1	20
21.	Bluetooth.	W5	-	Practical	1	21
22.	LiFi, and Wi-Fi.	W5	-	Practical	1	22
23.	Development and Implementation of wireless control using GSM.	W5	-	Practical	1	23
24.	GPS	W5	-	Practical	1	24

LEARNING OUTCOME

At the end of unit, students will be able to

- Interface wireless communication module for real-time system.
- Implement wireless communication application.

UNIT V REAL TIME SYSTEM APPLICATION EXAMPLES (6)

25.	Automatic Irrigation System	W5	-	Practical	1	25
26.	Real time air pollution monitoring system using GSM and GPS	W5	-	Practical	1	26
27.	LPG gas leakage and fire alert safety system	W5	-	Practical	1	27
28.	Camera based anti theft security system	W5	-	Practical	1	28
29.	Remote wireless control of electrical and electronics home appliances/industrial machines	W5	-	Practical	1	29
30.	Smart watch for heart rate and BP monitoring	W5	-	Practical	1	30

LEARNING OUTCOME

At the end of unit, students will be able to

- Design Real-time Electronics systems.
- Implement Real-time Electronics applications.

COURSE OUTCOME

At the end of the course, the students will be able to

- Apply knowledge of basic Electronics for realizing real time electronics system
- Design applications based on sensors, IO devices, peripheral ICs and microcontroller.
- Formulate Hardware and software design of real-time system.
- Build real-time electronic applications.

INTERNAL ASSESSMENT DETAILS

ASST. NO.	I	II
Topic Nos.	1 - 15	16-30
Date		

Prepared by

Mr.T.Jeyaseelan

Verified by

HOD/ECE

Approved by

Principal



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2019-2020 / ODD SEMESTER

TIME TABLE for VALUE ADDED COURSES

III ECE

Class Strength: 48

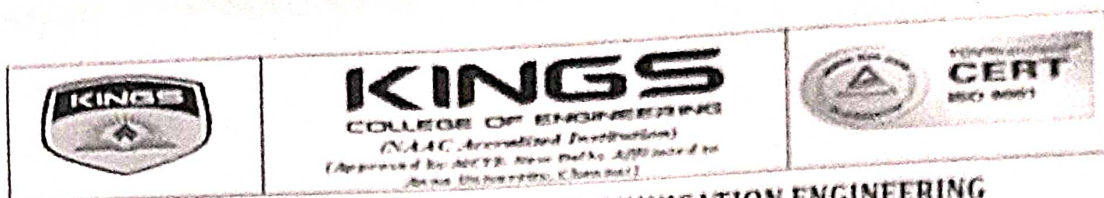
Session	1	2	10.45 am - 11.00 am	3	4	12.30 pm - 01.10 pm	5	6	7	3.25 am - 3.40 pm	8
Day	09.15am - 10.00am	10.00am - 10.45am		11.00am - 11.45am	11.45am - 12.30pm		01.10pm - 01.55pm	01.55pm - 02.40pm	02.40pm - 03.25pm		03.40pm - 04.35pm
SAT	EC 851 (Theory session)	EC 851 (Practical session)	BREAK	EC 851 (Practical session)		LUNCH BREAK				BREAK	

SUB. CODE	NAME OF THE SUBJECT	NAME OF THE STAFF	DEPT.	PERIODS/WEEK
EC 851	Real Time Electronics system design	Mr. T. Jeyaseelan	ECE	4

[Signature]
DEPT. VACC

[Signature]
10/6/19
HEAD OF THE DEPARTMENT

[Signature]
10/6/19
PRINCIPAL



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Academic Year 2020-21/ ODD Semester

VALUE ADDED COURSE

NAMelist

Hall No: 123

Class: III ECE

Subject Code/Name: IVA019- Real Time electronics system design

Strength: 46

Staff Name: JEYASEELAN.T

Roll No.	Register Number	Name of the student	Roll No.	Register Number	Name of the student
01	821117106001	ABIRAMI D	26	821117106029	RAJALAKSHMI K
02	821117106002	AJITH K	27	821117106030	ROCHELLA M
03	821117106003	AKASH S	28	821117106032	ROSHINI R
04	821117106004	AMIRTHA V G	29	821117106033	SANTHOSHINI R
05	821117106005	CHITRA SRI S	30	821117106034	SATHYA V
06	821117106007	DHARSINI B	31	821117106035	SENTHAMARAI
07	821117106008	ESWARI A	32	821117106036	SIVAKUMAR R
08	821117106009	EZHILARASI M	33	821117106037	SIVANANTHAM
09	821117106012	HARISH K B	34	821117106038	SIVA SARANYA
10	821117106013	HEMAMALINI S	35	821117106039	SOUNDARYA R
11	821117106014	ISHWARYA B	36	821117106040	SOUNDHARYA K
12	821117106015	ISWARYA M	37	821117106042	SRITHALA M
13	821117106016	JAYABHARATHI	38	821117106044	SURYA G
14	821117106017	JULIYAT J	39	821117106046	VEERALAKSHMI
15	821117106018	KARNAN P	40	821117106047	VIGNESHWARA
16	821117106019	LINCY FREEDA P	41	821117106048	VINITHA T
17	821117106020	MANUSHYA M	42	821117106049	VISHWANATH R
18	821117106021	MELVIN	43	821117106050	YUVANKISHORE
19	821117106022	MOHAMED	44	821117106301	KEERTHANA
20	821117106023	NANDHINI S	45	821117106302	SARANKUMAR R
21	821117106024	NISHA T	46	821117106701	VIJAY M
22	821117106025	NITHISHKUMAR			
23	821117106026	PILAVENDRAN			
24	821117106027	PREETHIKA M			
25	821117106028	PRIYADARSHINI			

Course Coordinator
JEYASEELAN.T, AP/ECE

HOD / ECE



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
ACADEMIC YEAR (2019-2020) ODD SEMESTER

VALUE ADDED COURESE "IVA019- Realtime Electronics System Design"
-REPORT

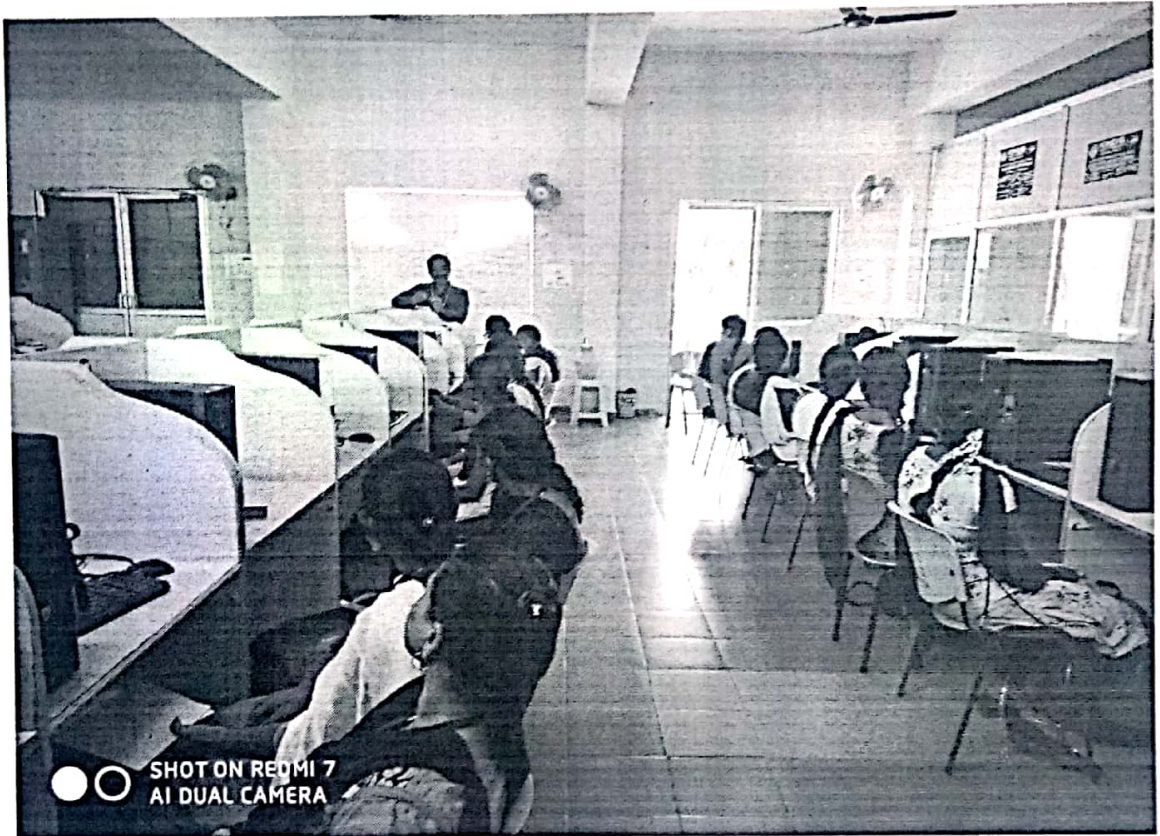
25.10.19

The Department of ECE, Kings College of Engineering, Punalkulam, Thanjavur conducted a Value added course titled "**IVA019- Realtime Electronics System Design**" from 1.7.2019 to 19.10.2019 for the third year (V semester) ECE students. Totally 46 students have enrolled for the course. Mr.T.Jeyaseelan AP/ECE coordinated the course.

The syllabus for the value added course IVA019- Realtime Electronics System Design was framed with five units covering the topics such as Realtime Electronics system components, Programming Reatime Embedded computing system, IO devices interfacing and Programming, Programming of Wireless communication modules ,Realtime system application Examples.

After getting approval from HOD/ECE and Principal of Kings College of Engineering, the syllabus of Value added course Realtime Electronics System Design was approved from The Director, Center for Academic Courses, Anna University, Chennai with the course code **IVA019**. 2 credits are assigned to the value added course by the Anna University. The course commences on 1.7.2019 and ends on 19.10.2019. The course was successfully completed for the batch 2017-2021.

After completing the value added course the student can design and build Real time electronics system based on sensors, IO devices, Peripheral ICs and microcontroller. By completing this value added course each student can earn 2 credits in their curriculum. The grade obtained for the value added course shall appear in their V semester Grade sheet.



Students attending the value added course on 5.10.2019



A batch of students developing Heart rate monitoring system using heart beat sensor.



A student getting ADC output of Temperature sensor during the Practical handson session

The students have actively participated in hands on session conducted for the value added course. Through this practical hands on session students learned about the interfacing and programming of sensors such as IR sensors, Temperature sensors and ultrasound sensors, etc., IO devices such as switches, Relays, LEDs and LCDs, etc., and wireless modules such as Zigbee, Bluetooth and GSM modules etc.,. Through this value added course students have trained to use μ vision Keil IDE(integrated Development Environment) to build hardware and software module of a Realtime Electronics System. The hands on session program were practical and the students were actively participated in the program and got technical knowledge and skills in Realtime Electronics System Design. The outcome of this value added course is that the students can build Electronics System for Realtime applications.


Course coordinator
T.Jeyaseelan, AP/ECE


HOD/ECE


PRINCIPAL



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2019-20/ EVEN SEMESTER

GATE Competitive Exam Coaching Class Name List

Batch : (2017-2021)

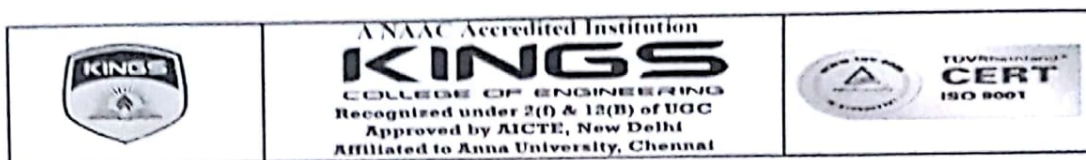
Class/Sem : III ECE/06

S.No	Reg No	Student Name
1.	821117106008	ESWARI A
2.	821117106009	EZHILARASI M
3.	821117106013	HEMAMALINI S
4.	821117106015	ISWARYA M
5.	821117106017	JULIYAT J
6.	821117106019	LINCY FREEDA P
7.	821117106020	MANUSHYA M
8.	821117106021	MELVIN CHARLES B
9.	821117106024	NISHA T
10.	821117106029	RAJALAKSHMI K
11.	821117106030	ROCHELLA M
12.	821117106033	SANTHOSHINI R
13.	821117106036	SIVAKUMAR R
14.	821117106038	SIVA SARANYA A
15.	821117106040	SOUNDHARYA K
16.	821117106046	VEERALAKSHMI M
17.	821117106048	VINITHA T

Total No. of Students : 17

W. Newton
19/12/2019
GATE CO-ORDINATOR
[Mr.W.Newton David Raj,AP/ECE]

[Signature]
19/12/2019
HOD/ECE



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2019-20 / EVEN SEMESTER

GATE Coaching-Curriculum

COURSE NAME : GATE Coaching
YEAR/CLASS : III ECE
BATCH : 2017-2021
DURATION : 30 Hours
STAFF INCHARGE : Mr.W.Newton David Raj
TOTAL NO OF STUDENTS : 17

Section 1: Engineering Mathematics

Linear Algebra: Vector space, basis, linear dependence and independence, matrix algebra, eigen values and eigen vectors, rank, solution of linear equations – existence and uniqueness.

Calculus: Mean value theorems, theorems of integral calculus, evaluation of definite and improper integrals, partial derivatives, maxima and minima, multiple integrals, line, surface and volume integrals, Taylor series.

Differential Equations: First order equations (linear and nonlinear), higher order linear differential equations, Cauchy's and Euler's equations, methods of solution using variation of parameters, complementary function and particular integral, partial differential equations, variable separable method, initial and boundary value problems.

Vector Analysis: Vectors in plane and space, vector operations, gradient, divergence and curl, Gauss's, Green's and Stoke's theorems.

Complex Analysis: Analytic functions, Cauchy's integral theorem, Cauchy's integral formula; Taylor's and Laurent's series, residue theorem.

Numerical Methods: Solution of nonlinear equations, single and multi-step methods for differential equations, convergence criteria.

Probability and Statistics: Mean, median, mode and standard deviation; combinatorial probability, probability distribution functions - binomial, Poisson, exponential and normal; Joint and conditional probability; Correlation and regression analysis.

Section 2: Networks, Signals and Systems

Network solution methods: nodal and mesh analysis; Network theorems: superposition, Thevenin and Norton's, maximum power transfer; Wye-Delta transformation; Steady state sinusoidal analysis using phasors; Time domain analysis of simple linear circuits; Solution of network equations using Laplace transform; Frequency domain analysis of RLC circuits; Linear 2-port network parameters: driving point and transfer functions; State equations for networks.

Continuous-time signals: Fourier series and Fourier transform representations, sampling theorem and applications; Discrete-time signals: discrete-time Fourier transform (DTFT), DFT, FFT, Z-transform,

interpolation of discrete-time signals; LTI systems: definition and properties, causality, stability, impulse response, convolution, poles and zeros, parallel and cascade structure, frequency response, group delay, phase delay, digital filter design techniques.

Section 3: Electronic Devices

Energy bands in intrinsic and extrinsic silicon; Carrier transport: diffusion current, drift current, mobility and resistivity; Generation and recombination of carriers; Poisson and continuity equations; P-N junction, Zener diode, BJT, MOS capacitor, MOSFET, LED, photo diode and solar cell; Integrated circuit fabrication process: oxidation, diffusion, ion implantation, photolithography and twin-tub CMOS process.

Section 4: Analog Circuits

Small signal equivalent circuits of diodes, BJTs and MOSFETs; Simple diode circuits: clipping, clamping and rectifiers; Single-stage BJT and MOSFET amplifiers: biasing, bias stability, mid-frequency small signal analysis and frequency response; BJT and MOSFET amplifiers: multi-stage, differential, feedback, power and operational; Simple op-amp circuits; Active filters; Sinusoidal oscillators: criterion for oscillation, single-transistor and op-amp configurations; Function generators, wave-shaping circuits and 555 timers; Voltage reference circuits; Power supplies: ripple removal and regulation.

Section 5: Digital Circuits

Number systems; Combinatorial circuits: Boolean algebra, minimization of functions using Boolean identities and Karnaugh map, logic gates and their static CMOS implementations, arithmetic circuits, code converters, multiplexers, decoders and PLAs; Sequential circuits: latches and flip-flops, counters, shift-registers and finite state machines; Data converters: sample and hold circuits, ADCs and DACs; Semiconductor memories: ROM, SRAM, DRAM; 8-bit microprocessor (8085): architecture, programming, memory and I/O interfacing.

Section 6: Control Systems

Basic control system components; Feedback principle; Transfer function; Block diagram representation; Signal flow graph; Transient and steady-state analysis of LTI systems; Frequency response; Routh-Hurwitz and Nyquist stability criteria; Bode and root-locus plots; Lag, lead and lag-lead compensation; State variable model and solution of state equation of LTI systems.

Section 7: Communications

Random processes: autocorrelation and power spectral density, properties of white noise, filtering of random signals through LTI systems; Analog communications: amplitude modulation and demodulation, angle modulation and demodulation, spectra of AM and FM, superheterodyne receivers, circuits for analog communications; Information theory: entropy, mutual information and channel capacity theorem; Digital communications: PCM, DPCM, digital modulation schemes, amplitude, phase and frequency shift keying (ASK, PSK, FSK), QAM, MAP and ML decoding, matched filter receiver, calculation of bandwidth, SNR and BER for digital modulation; Fundamentals of error correction, Hamming codes; Timing and frequency synchronization, inter-symbol interference and its mitigation; Basics of TDMA, FDMA and CDMA.

Section 8: Electromagnetics

Electrostatics; Maxwell's equations: differential and integral forms and their interpretation, boundary conditions, wave equation, Poynting vector; Plane waves and properties: reflection and refraction,

polarization, phase and group velocity, propagation through various media, skin depth; Transmission lines: equations, characteristic impedance, impedance matching, impedance transformation, S-parameters, Smith chart; Waveguides: modes, boundary conditions, cut-off frequencies, dispersion relations; Antennas: antenna types, radiation pattern, gain and directivity, return loss, antenna arrays; Basics of radar; Light propagation in optical fibers.

Assesment Procedure:

Students performance was assesed by conducting one assessments test.

- **Total Test Marks** :50
- **Test Duration** :1.30 Hours
- **Test Mode** :Offline
- **Question Pattern** :1)Part A Shall have 10 questions ($10 \times 1 = 10$ Marks)
2)Part B Shall have 10 questions($10 \times 2 = 20$ Marks)
3)Part C Shall have 05 questions($05 \times 4 = 20$ Marks)

K. Newton
16/12/2019
Staff In-charge

[Signature]
16/12/19
HOD/ECE

S. Ramesh
16/12/2019
PRINCIPAL



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2019-20 / EVEN SEMESTER

GATE Coaching-Summary and Outcome

Summary of the course :

Department of Electronics and Communication Engineering conducted a Gate Coaching Class for III ECE Students. The co-ordinator for the course was Mr.W.Newton David Raj, Assistant Professor, Department of Electronics and Communication Engineering, Kings College of Engineering, Pulakulam , Pudukkottai. As per the course plan the duration of the course were planned 30 hours. The course was started on 16.12.2019 and ended on 25.03.2020. 17 Students from III ECE were registered and participated, finally on 25.03.2020 exam was conducted for 50 marks. At the end of the day the feedback of the course was collected from the students.

Outcome of the Course :

- GATE qualified can apply for admission into IITs, NITs, GFTIs, IISc and many other institutes for higher studies. Also, they can avail some reserved seats at IIMs for doctoral programme. Based on the GATE score, Institutes like IIT Bombay offers admissions to PhD., PGDM and PGDIE programmes.
- GATE exam qualified candidates can apply for studies in other countries like Germany, Singapore also. So, India is not only the limit.
- By qualifying GATE exam, candidates will be eligible for PSUs Recruitment. Candidates must note that the number of PSUs participating in the recruitment process are increasing, moreover, top companies are also getting involved in it.
- GATE qualified candidates will also be able to apply for various jobs like a Professor or Asst. Professor in reputed institutes. Moreover, Scientists "C" grade jobs can also be acquired by candidates who have qualified GATE exam.
- Direct recruitment to Group A level posts in Central government will be done on the basis of GATE score. The posts include Senior Field Officer (Tele), Senior Research Officer (Crypto) and Senior Research Officer (S&T) in Cabinet Secretariat, Government of India.

W. Newton
25/03/2020
Staff In-charge

[Signature]
25/3/2020
HOD/ECE



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR (2019-2020) ODD SEMESTER

Name of the Course: Mini Project	
Duration :30 hrs	Beneficiaries : II & III ECE
Course commences on : 16.12.2019	Course in Charge: Mr.R.Thandayuthapani

Syllabus

UNIT 1 INTRODUCTION 08

Instruction to the students – Guide lines– Batch formation – Topic Identification – Area of Specialization

UNIT 2 HANDS ON PRACTICE 12

Topic Confirmation – Hardware and Software Identification - Soldering Practice – Integration

UNIT 3 PROJECT COMPLETION 10

Testing and Debugging - Project Submission

REFERENCE:

R1: Electronics for You
R2: Mini project Handbook

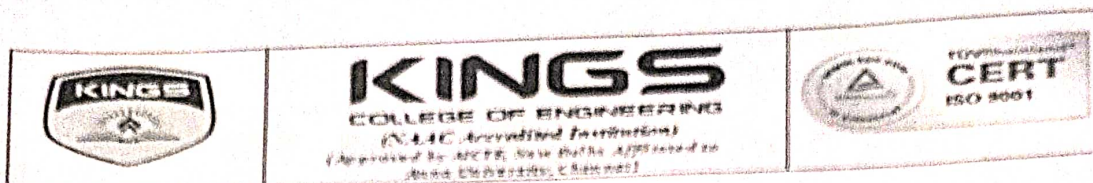
ASSESSMENT PROCEDURE:

- PPT Presentation
- Project Demo & Exhibition

R. S. Joo
12/12/19.
Mini Project Coordinator

[Signature]
12/12/19
HOD/ECE

J. R. R. R.
12/12/2019
Principal



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
(Academic Year 2019-2020/Even semester)

MINI PROJECT EXPO- 29th 08 2019

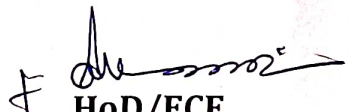
BATCH NO	NAME OF THE STUDENT	TITLE OF THE MINI PROJECT	YEAR	ID NUMBER
1	A.Kawya G.Latchyasri K.Ramya M.Vinotha P.V.Vaisjmani	Mobile phone detector using LM358	II	KCE/ECE/MP/201
2	P.Abisheik G.Prabhu S.Thirumurugan R.Arunkumar	Two Transistor Siren	II	KCE/ECE/MP/202
3	S.Aparna P.Shopiga V.Vishwabharathy C.Srimathi S.Priyadharsini	Garbage management using IOT	II	KCE/ECE/MP/203
4	D.Mounish Rajiah K.Divagar B.Ganesh	Security Alarm	II	KCE/ECE/MP/204
5	G.Keerthika M.Keerthika M.Aarthi J.Anitha A.Sarika	Touch ON & OFF Switch Circuit	II	KCE/ECE/MP/205
6	Senthamarai.M Lincy freedra.P Rochella.M Jayabharathi.P Keerthana Shai.G	Automatic Driving Pattern in RTO	III	KCE/ECE/MP/301
7	M.Iswarya R.Santhoshini R.Roshini S.Nandhini S.Chitrasri	Power theft indicating device	III	KCE/ECE/MP/302

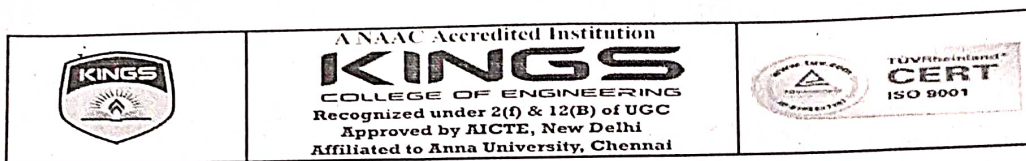
8	A.Eswari B.Dharsini M.Manushya T.Vinitha	Implementation of effective driver vigilance systems for frowziness detection	III	KCE/ECE/MP/303
9	A.Siva saranya K.Sowndharya K.Rajalakshmi M.Srithala	Bus speed control When detected in the steps	III	KCE/ECE/MP/304
10	Y.Sivanantham M.A.Yuvan kishore R.Viswanath R.Sivakumar	Wireless power transfer- Tesla	III	KCE/ECE/MP/305

Total no of projects: 10

Total no of students: 44


Mini Project In-Charge


HoD/ECE



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

(Academic Year 2019-2020/ODD semester)

About the Expo:

Mini project expo was organized and coordinated by the Dept. of ECE giving an opportunity for the students to exhibit their technical intellect and creativity. It was held at Kings College of Engineering, Punalkulam in the department of Electronics and Communication Engineering on 29th August 2019. The projects involved embedded based models of IOT such as Traffic Simulator, solar power, water supply for irrigation and many more using sensors. “MINI PROJECT EXPO-2019” was informative and a grand success.



A live demo of drone was presented by students

The Chief guest and the Jury

The Expo was inaugurated after a ribbon cutting ceremony in the LIC Lab at 12.05 P.M by Dr. T. Anita Jones Mary, Associate Professor of Karunya University. The event was conducted by Mr.K.Sudarsanan AP/ECE and Mr.T.Paupathi AP/ECE, there are 15 batches of students from various colleges actively present their projects and the projects were evaluated by Mr.A.Herald AP/ECE and Mr.S.Ramarajan AP/ECE. Finally 3 best projects were awarded with a cash prize of Rs.750, Rs.500 and a gift respectively.



A live demo of drone was presented by students

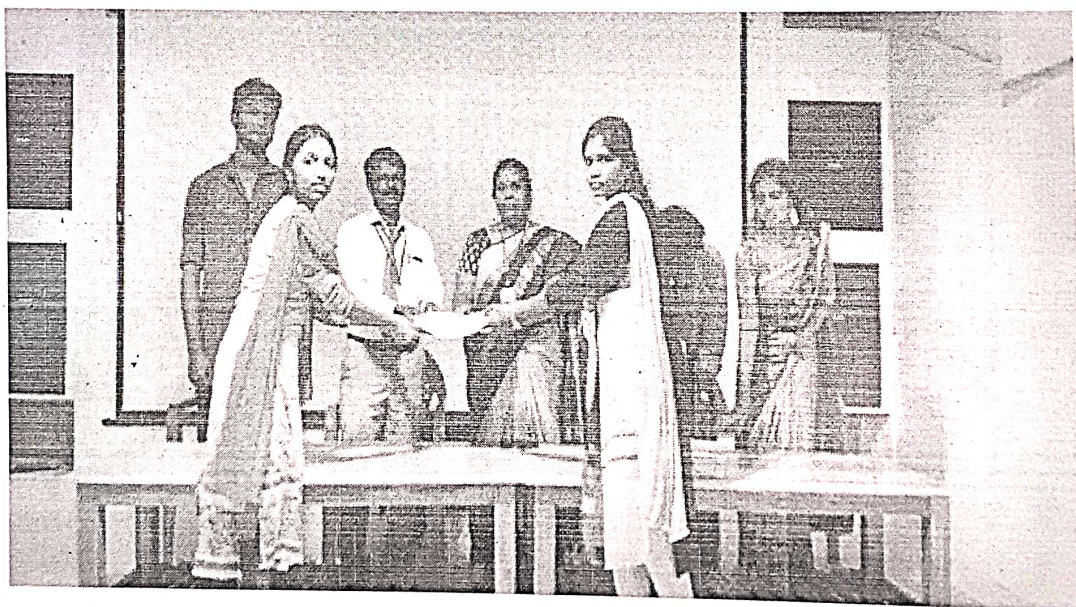
Participants

The participants are the second year and third year students of the Electronics and Communication Engineering department. About 55 students participated in the exposition and 15 projects were exhibited. The students explained the working principle of their projects and demonstrated their outputs. The best projects were selected based on their novelty.

The faculty and students from various departments visited the Expo and shown keen interest in knowing the working of the projects displayed by the students. They expressed that events of this kind may be conducted in future also. The participants felt pleasure in displaying the projects they made and they thank Mrs.N.Mangaiyarkarasi,HoD/ECE for taking immense effort in organizing such events.

Prize distributions:

Mrs.N.Mangaiyarkarasi HOD/ECE distributed the cash award and prizes for the winners and also issued the participation certificates for all the participants. Mr.R.Thandayuthapani, AP/ECE coordinates the entire EXPO.



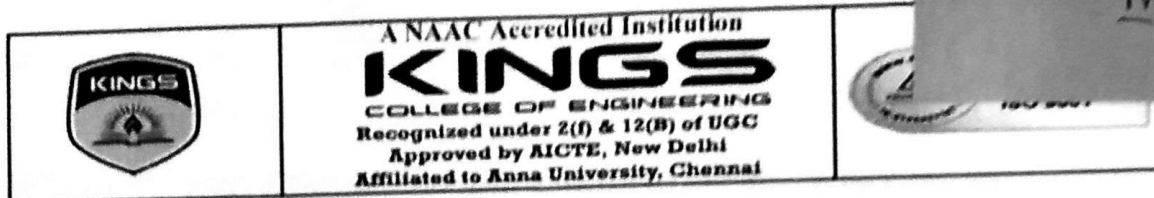
Awards & Prize distributions by Mrs.N.Mangaiyarkarasi HOD/ECE



Awards & Prize distributions by Mrs.N.Mangaiyarkarasi HOD/ECE

OUTCOME:

- Understand, plan and execute a Mini Project with team.
- Implement electronic hardware by learning PCB artwork design, soldering techniques, testing and troubleshooting etc.
- Prepare a technical report based on the Mini project.
- Deliver technical seminar based on the Mini Project work carried out.



A REPORT
FOR
MY CREDIT COURSE ON
“SWAYAM/NPTEL ONLINE COURSES”
FOR THE ACADEMIC YEAR 2019-2020 EVEN SEMESTER.



Organized by
Department of Electronics and Communication Engineering
KINGS COLLEGE OF ENGINEERING, PUNALKULAM

A NAAC Accredited Institution
Recognized under 2(f) & 12(B) of UGC
(Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai)

Phone : 04362-282474, 282395

Website : www.kingsindia.net

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
ACADEMIC YEAR 2019-20 (EVEN SEMESTER)

Branch / Year / Sem : B.E ECE / IV/ VIII

Batch : 2016-2020

SWAYAM DETAILS

Roll No	Name of the student	Name of the course enrolled	User name	password	signature
1.	ABARNA. P	E-waste management issues and challenges	abbu6591@gmail.com	ammaappa	P. Abarna
2.	ABARNA. R	E-waste management	raviabari19@gmail.com	raviselvi	R. Abarna
3.	ABINAYAKARTHIKA.T (MS)	E-waste management	abinayakarthika25@gmail.com	9176432711	T. Abinayakarthika
4.	AGALYA. S	E-waste management	agalsugan19@gmail.com	agal2468	Agalya S.
5.	AKALYA.K	E-waste management	akalyakannan115@gmail.com	ammuagal	K. Akalya
6.	ANTONY BERNAD. F	E-waste management	antonybernad00@gmail.com	antoberry	F. Antony Bernad
7.	ARCHANA.T	E-waste management	archanavij19@gmail.com	archu1999	T. Archana
8.	ARIYAVARSHINI.J	E-waste management	ariyavarshini998@gmail.com	yahwey20pheka	J. Ariyavarshini
9.	BALARAMAN. A.K	E-waste management	jpsbalramaj@gmail.com	Basketbala	A.K. Balaraman
10.	BALAJI.M	E-waste management	balaji.040499@gmail.com	Scoby007	S. Balaji
11.	DHANAHARSHINI. S	E-waste management	varshbe18@gmail.com	Dhanaharshini	S. Dhana Harshini
12.	DHANASEKARAN.S	E-waste management	vignesh115.12.1998@gmail.com	Dhanasekar007	S. Dhana Sekaran
13.	DHIVYA DHARSHINI. R	E-waste management	resdharshini123@gmail.com	Dhivagar123	R. Dhivya
14.	DHURKA. K	E-waste management	dhurkaburana25@gmail.com	991321425	K. Dhurka
15.	DIVAKAR.S	E-waste management	divakar12520@gmail.com	nivethitha	S. Divakar
16.	ELAKIYA KOWSHIKA. A	E-waste management	elakiya22399@gmail.com	9442358828	A. Elakiya Kowshika
17.	HARINI. M	E-waste management	hariniharish36@gmail.com	smileever	M. Harini
18.	ILANKHATIR.E (MS)	E-waste management	ilankhatir123@gmail.com	1410310512	E. Ilankhatir
19.	INDHUJA. J	E-waste management	indhu10399@gmail.com	Indhu@213#	J. Indhuja
20.	JAWAHAR.M	E-waste management	jawahardiwarar@gmail.com	jawaharKKI	M. Jawahar
21.	JEEVA. S	E-waste management	sjeeva0708@gmail.com	Vandaiyar0101	S. Jeeva
22.	JENIFER.X	E-waste management	jeniferxavierjoseph@gmail.com	jeni12111998	X. Jenifer
23.	KAYADEVI.G	E-waste management	kayaseleni7@gmail.com	Ganesan	G. Kayadevi
24.	KOWSALYA. M	E-waste management	kowsalyamurali16@gmail.com	Saravanan123	M. Kowsalya

25.	MEERA.K	E-waste management	meeramahad@ gmail .com	9655 704859	K.Meera
26.	MEGALA.M	E-waste management	megalamahad@ gmail .com	megala2628	H.Hyab
27.	MOHAMMED ASHIF KHAN S	E-waste management	mohmedashif198@ gmail .com	ashif183	S. Mohd fl
28.	POOVIZHI. A	E-waste management	Poovizhi1109@ gmail .com	Pooviammu	Ab. H. H. H.
29.	PRIYADHARSHINI. G	E-waste management	Priyaganeshan8211@ gmail .com	Priyaganeshan85	G. R. L.
30.	PRIYADHARSHINI.K (MS)	E-waste management	riyakalaiselvam@ gmail .com	Priya010	h. H. H.
31.	PRIYADHARSHINI. P	E-waste management	Priyakutty2626@ gmail .com	Priyakutty2610	S. D. H.
32.	RANJITHA.C	E-waste management	ammuchittu2891@ gmail .com	CRSranji	A. H. H.
33.	RANJITHA. D	E-waste management	ranjibharath9904@ gmail .com	Veeranji	S. H. H.
34.	RASIKA. M	E-waste management	rasika lovely.0307@ gmail .com	rasikalovely0307	M. R. H.
35.	SANTHAKUMARI. J	E-waste management	chazhagadees86@ gmail .com	Jagadees2027	J. H. H.
36.	SANTHIYA.R	E-waste management	SaiSanthiya22@ gmail .com	9791374241	R. Santi
37.	SASIREKHA. V (MS)	E-waste management	Varatharajan Sasirekha@ gmail .com	ChitraSasi71	V. H. H.
38.	SEDHUPATHI.M	E-waste management	Sedhu9047@ gmail .com	Sasikala	M. H. H.
39.	SOWMIYA.R	E-waste management	Sowmiyasamish999@ gmail .com	23061999	R. H. H.
40.	SRIPRIYA. M	E-waste management	Saipriyamuruganandham@ gmail .com	9384540844	M. Siniya
41.	SUTHA.M	E-waste management	Smathi2512@ gmail .com	Jack Sparrow	M. H. H.
42.	TAMILAZHAGI. T	E-waste management	azhagikabaddi@ gmail .com	tamilazhagi	T. H. H.
43.	VASUDEVAN.T	E-waste management	VasudevanKumar1998@ gmail .com	veegadeshwari	T. Vasudevan
44.	VEERAMANI. M	E-waste management	manichitra21999@ gmail .com	Veeramani14	M. H. H.
45.	VIDHYA. K	E-waste management	Vidhyapriya2505@ gmail .com	Vidhyapriya	K. Vidhya
46.	VINITHA. K	E-waste management	Vinitha1512@ gmail .com	mithunavini	V. H. H.
47.	VITHYASRI. U.K	E-waste management	Vithyakesavan183@ gmail .com	vallivalli	V. H. H.
48.	YASIK RAHMAN. B	E-waste management	Yasikaaliman1317@ gmail .com	Reverse987	B. H. H.
49.	HARIHARAN.M	E-waste management	hariharan154105@ gmail .com	15410553	M. H. H.
50.	PUGALENDHI.K	E-waste management	Pugalkavio1067@ gmail .com	904771875	P. H. H.
51.	ESWARI.L	LONG ABSENT			
52.	PAVITHRA.N	E-waste management	Pavinithi2218@ gmail .com	9994369588	N. Pavithra

D. Veerappan
27/1/2020
STAFF INCHARGE

J. H. H.
27/1/2020

f. H. H.
HOD / ECE 27/1/2020

Students Name List with Scores

R.No	Name of the Student	Scores	R.No	Name of the Student	Scores
1	Abarna. P	93	27	Mohammed Ashif	93
2	Abarna. R	98	28	Poovizhi. A	89
3	Abinayakarshika.T	95	29	Priyadharshini. G	95
4	Agalya. S	98	30	Priyadharshini.K	98
5	Akalya.K	87	31	Priyadharshini. P	98
6	Antony Bernad. F	91	32	Ranjitha.C	93
7	Archana.T	95	33	Ranjitha. D	95
8	Ariyavarshini.J	98	34	Rasika. M	95
9	Balaji.M	53	35	Santhakumari. J	95
10	Balaraman. A.K	89	36	Santhiya.R	95
11	Dhanaharshini. S	95	37	Sasirekha. V	98
12	Dhanasekaran.S	93	38	Sedhupathi.M	60
13	Dhivya Dharshini. R	95	39	Sowmiya.R	98
14	Dhurka. K	93	40	Sripriya. M	98
15	Divakar.S	93	41	Sutha.M	89
16	Elakiya Kowshika. A	95	42	Tamilazhagi. T	98
17	Harini. M	95	43	Vasudevan.T	93
18	Ilankhatir.E	A Grade	44	Veeramani. M	95
19	Indhuja. J	93	45	Vidhya. K	91
20	Jawahar.M	98	46	Vinitha. K	95
21	Jeeva. S	89	47	Vithyasri. U.K	98
22	Jenifer.X	95	48	Yasik Rahman. B	76
23	Kayadevi.G	58	49	Hariharan.M	58
24	Kowsalya. M	98	50	Pugalendhi.K	65
25	Meera.K	98	51	Pavithra.N	60
26	Megala.M	95			

Note:

- ✓ Roll.No. 18 – 1. Received the certificate from Stanford University for the Title
“Machine Learning”
2. Received the certificate from NYU Tandon School of Engineering
for the Title “Introduction to Cyber Attacks”
- ✓ Roll No.13,23,30,32,47 attended the course “A brief Introduction to Micro Sensors”
- ✓ Remaining Students attended the course “Electronic Waste Management – Issues and Challenges”
- ✓ All the 50 students received the certificate from Swayam – NPTEL.



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
ACADEMIC YEAR 2019-20 / EVEN SEMESTER











Year/Sem. : IV / VIII

Batch: 2016-2020

Staff Incharge: Mrs.D.VENNILA

SWAYAM DETAILS

R. No	Name of the Student	R. No	Name of the Student												
1	<div>ABARNA. P</div> <div>This certificate is computer generated and can be verified by scanning the QR code given below. This will display the certificate from the NPTEL repository, https://npTEL.ac.in/npTEL/</div> <div><div>Roll No: NPTEL20C125706754</div><div>To A. ABARNA 21, KANDAMANGALAM STREET, TANDANAGU TANDANAGU, TAMIL NADU - 610607 PIN: 610 607 (TANDANAGU)</div><div></div><div>No. of credits recommended by NPTEL: 1 <small>No additional credits may be awarded if the learner does not complete the course within the stipulated time.</small></div><div><div> NPTEL Online Certification (Funded by the Ministry of HRD, Govt. of India)</div><div>This certificate is awarded to P. ABARNA for passing the course Electronic Waste Management - Issues and Challenges with score* 93 %</div><div><div>A. Goswami Prof. Aditya Goswami Head, Continuing Education & NPTEL, TANDANAGU (T. Campus)</div><div>Jan-Feb 2020 (6 week course)</div></div><div><div> Indian Institute of Technology Bangalore</div><div></div></div><div>*Continuous online assessment score To validate and check scores: https://npTEL.ac.in/npTEL/</div></div></div>	27	<div>MOHAMMED ASHIF KHAN. S</div> <div>This certificate is computer generated and can be verified by scanning the QR code given below. This will display the certificate from the NPTEL repository, https://npTEL.ac.in/npTEL/</div> <div><div>Roll No: NPTEL20C1257147754</div><div>To S. MOHAMMED ASHIF KHAN 201, KANDAMANGALAM STREET, TANDANAGU TANDANAGU, TAMIL NADU - 610607 PIN: 610 607 (TANDANAGU)</div><div></div><div>No. of credits recommended by NPTEL: 1 <small>No additional credits may be awarded if the learner does not complete the course within the stipulated time.</small></div><div><div> NPTEL Online Certification (Funded by the Ministry of HRD, Govt. of India)</div><div>This certificate is awarded to S. MOHAMMED ASHIF KHAN for passing the course Electronic Waste Management - Issues and Challenges with score* 93 %</div><div><div>A. Goswami Prof. Aditya Goswami Head, Continuing Education & NPTEL, TANDANAGU (T. Campus)</div><div>Jan-Feb 2020 (6 week course)</div></div><div><div> Indian Institute of Technology Bangalore</div><div></div></div><div>*Continuous online assessment score To validate and check scores: https://npTEL.ac.in/npTEL/</div></div></div>												
2	<div>ABARNA. R</div> <div>This certificate is computer generated and can be verified by scanning the QR code given below. This will display the certificate from the NPTEL repository, https://npTEL.ac.in/npTEL/</div> <div><div>Roll No: NPTEL20C1251062074</div><div>To A. ABARNA 21, KANDAMANGALAM STREET, TANDANAGU TANDANAGU, TAMIL NADU - 610607 PIN: 610 607 (TANDANAGU)</div><div></div><div>No. of credits recommended by NPTEL: 1 <small>No additional credits may be awarded if the learner does not complete the course within the stipulated time.</small></div><div><div> NPTEL Online Certification (Funded by the Ministry of HRD, Govt. of India)</div><div>This certificate is awarded to ABARNA for passing the course Electronic Waste Management - Issues and Challenges with score* 98 %</div><div><div>A. Goswami Prof. Aditya Goswami Head, Continuing Education & NPTEL, TANDANAGU (T. Campus)</div><div>Jan-Feb 2020 (6 week course)</div></div><div><div> Indian Institute of Technology Bangalore</div><div></div></div><div>*Continuous online assessment score To validate and check scores: https://npTEL.ac.in/npTEL/</div></div></div>	28	<div>PRIYADHARSHINI. K</div> <div>NATIONAL PROGRAMME ON TECHNOLOGY ENHANCED LEARNING</div> <div></div> <div>Date: 15th June 2020</div> <div>To Whomsoever it may concern</div> <div>This is to confirm that PRIYADHARSHINI K (Email id: priyadharshini@gmail.com) had enrolled in the NPTEL course A brief introduction of Micro - Processors (4 Weeks) on the SWAYAM platform (swayam.gov.in), during the Jan-Apr 2020 semester.</div> <div>The scores obtained by the learner in the unsupervised online assignments are as follows and maybe used as deemed appropriate. (Every assignment score shown below is out of 100 marks.)</div> <table><tr><th>Week 1</th><th>Week 2</th><th>Week 3</th><th>Week 4</th><th>Week 5</th><th>Week 6</th></tr><tr><td>AI - 58</td><td>AI - 70</td><td>AI - 15</td><td>AI - 25</td><td>AI - NA</td><td>AI - NA</td></tr></table> <div>*NA - Not Attempted</div> <div></div> <div></div> <div>Prof. Anand Thangaraj</div>	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	AI - 58	AI - 70	AI - 15	AI - 25	AI - NA	AI - NA
Week 1	Week 2	Week 3	Week 4	Week 5	Week 6										
AI - 58	AI - 70	AI - 15	AI - 25	AI - NA	AI - NA										
3	ABINAYAKARTHIKA.T	29	PRIYADHARSHINI. P												

<p>MEERA.K</p> <p>This certificate is computer generated and can be verified by scanning the QR code given below. This will display the certificate from the NPTEL repository. https://npTEL.ac.in/npTEL/</p> <div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: 150px;"> <p>Roll No: NPTEL20CE1201470848</p> <p>To:</p> <p>MEERA K</p> <p>Department of Electronics and Communication Engineering</p> <p>Government Engineering College, Kottayam</p> <p>Kottayam, Kerala</p> <p>Pin: 686 012</p> </div>  <p>No. of credits recommended by NPTEL: 1</p> <p>No additional credits may be awarded if the following details of the candidate are not entered correctly.</p> <hr/> <div style="display: flex; justify-content: space-between; align-items: center;">  <div> <p>NPTEL Online Certification</p> <p>(Funded by the Ministry of HRD, Govt. of India)</p> </div>  </div> <p>This certificate is awarded to</p> <p>MEERA K</p> <p>for passing the course</p> <p>Electronic Waste Management - Issues and Challenges</p> <p>with score: 98 %</p> <div style="display: flex; justify-content: space-between; align-items: center; margin-top: 20px;"> <div> <p>Jan-Feb 2020</p> <p>(18 weeks duration)</p> </div> <div style="text-align: right;"> <p>A. Goswami</p> <p>Prof. Aditya Sarma</p> <p>Dean, Continuing Education & NPTEL, Coordinator</p> <p>of Bangalore</p> </div> </div> <div style="display: flex; justify-content: space-between; align-items: center; margin-top: 10px;">  <p>Indian Institute of Technology Bangalore</p>  </div> <p>*Continuous online assessment score To validate and check scores: https://npTEL.ac.in/npTEL/</p>	<p>MEGALA.M</p> <p>This certificate is computer generated and can be verified by scanning the QR code given below. This will display the certificate from the NPTEL repository. https://npTEL.ac.in/npTEL/</p> <div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: 150px;"> <p>Roll No: NPTEL20CE1201470848</p> <p>To:</p> <p>MEGALA M</p> <p>Department of Electronics and Communication Engineering</p> <p>Government Engineering College, Kottayam</p> <p>Kottayam, Kerala</p> <p>Pin: 686 012</p> </div>  <p>No. of credits recommended by NPTEL: 1</p> <p>No additional credits may be awarded if the following details of the candidate are not entered correctly.</p> <hr/> <div style="display: flex; justify-content: space-between; align-items: center;">  <div> <p>NPTEL Online Certification</p> <p>(Funded by the Ministry of HRD, Govt. of India)</p> </div>  </div> <p>This certificate is awarded to</p> <p>MEGALA MANOKARAN</p> <p>for passing the course</p> <p>Electronic Waste Management - Issues and Challenges</p> <p>with score: 95 %</p> <div style="display: flex; justify-content: space-between; align-items: center; margin-top: 20px;"> <div> <p>Jan-Feb 2020</p> <p>(18 weeks duration)</p> </div> <div style="text-align: right;"> <p>A. Goswami</p> <p>Prof. Aditya Sarma</p> <p>Dean, Continuing Education & NPTEL, Coordinator</p> <p>of Bangalore</p> </div> </div> <div style="display: flex; justify-content: space-between; align-items: center; margin-top: 10px;">  <p>Indian Institute of Technology Bangalore</p>  </div> <p>*Continuous online assessment score To validate and check scores: https://npTEL.ac.in/npTEL/</p>
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D. Veerappan
Staff Incharge

du sanni
14/12/2020
HoD / ECE

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

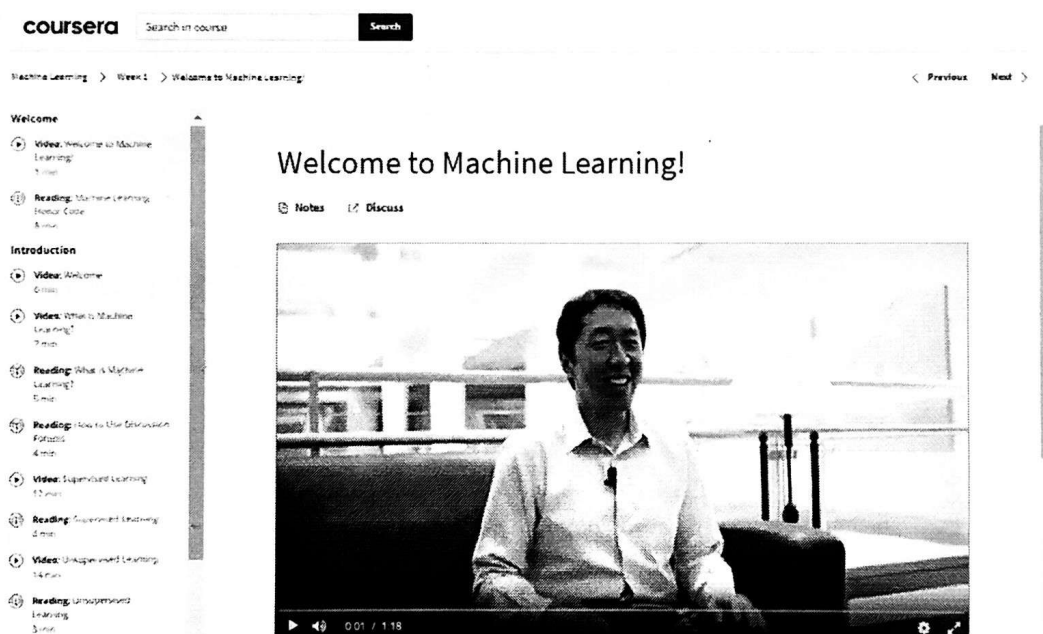
ACADEMIC YEAR 2019-2020 (EVEN SEMESTER)

ABOUT THE ONLINE COURSE:

- ✓ Stanford University have offered an online course titled “Machine Learning”
- ✓ One student from final year ECE have attended and completed the course and also he attended the exam and received Certificate.
- ✓ The duration of the course was 2 Months.
- ✓ Course Start Date: 03rd December 2019 and the Course End Date: 29th January 2020.
- ✓ Exam Date: 15-02-2020

1. COURSE NAME: Machine Learning

This course was handled by Andrew. Ng



The Course layout was scheduled as follows.

- ✓ WEEK-1 Introduction to Machine Learning
- ✓ WEEK-2 Linear Regression with Multiple Variables
- ✓ WEEK-3 Classification and Representation
- ✓ WEEK-4 Neural Networks: Representation
- ✓ WEEK-5 Cost Function and Backpropagation

- ✓ WEEK-6 Evaluating a Learning Algorithm
- ✓ WEEK-7 Support Vector Machines
- ✓ WEEK-8 Unsupervised Learning
- ✓ WEEK-9 Anomaly Detection
- ✓ WEEK-10 Large Scale Machine Learning
- ✓ WEEK-11 Application Example: Photo OCR



D. Venkatesh
 IQAC Member 14/12/20

[Signature]
 HOD/ECE 14/12/2020



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2019-2020 (EVEN SEMESTER)

SWAYAM EXECUTION STATUS

S.No	Class	SWAYAM Course Title	No. of students Completed the Course	No. of students Received Certificate
1.	IV ECE	A brief Introduction to Micro Sensors	05/51	05
		Electronic Waste Management - Issues and Challenges	45/51	45
		Machine Learning	01/51	01
		Introduction to Cyber Attacks	01/51	01

D. V. V. V.
14/12/20
Department IQAC Member

[Signature]
14/12/2020
HOD/ECE

ACADEMIC YEAR

2018-2019



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2018-19 / ODD SEMESTER

Competency Development Class(CDC)-C,C++ Programming-Name List

CDC NAME : C,C++ Programming
YEAR/CLASS : IV ECE A&B
BATCH : 2015-2019
DURATION : 30 Hours
TOTAL NO OF STUDENTS : 35

S.No	Register Number	Name of the Student	Signature of the Student
1.	821115106003	ANBUSELVI. P	Anbuselvi . P
2.	821115106004	ANITHA.G	M. ANITHA .
3.	821115106010	BAVADHARINI.M	BAVADHARINI . M .
4.	821115106018	DURGA.S(10.06.1998)	DURGA . S .
5.	821115106021	ELAKIYA. P	Elakya . P .
6.	821115106025	GAYATHRI. J.S	Gayathri . J . S .
7.	821115106026	GAYATHRY.K	Gayathri . K .
8.	821115106028	HARITHA. S	Haritha . S .
9.	821115106036	KAVI BALA. S	KAVI BALA . S .
10.	821115106042	MAHALAKSHMI.K	Mahalakshmi . K .
11.	821115106044	MAHESHWARI. G	Maheshwari . G .
12.	821115106045	MALATHI. P	Malathi . P .
13.	821115106046	MANISHA. S	MANISHA . S .
14.	821115106050	MONISHA. A	Monisha . A .
15.	821115106051	MONISHA REETA. B	M. Reeta .
16.	821115106052	MOWLI.L	Mowli . L .
17.	821115106053	NANDHINI. V	N. V .
18.	821115106054	NARENDRAN. C	N. C .
19.	821115106307	NANDHINI.G	N. G .
20.	821115106056	NIRANJANI C.S	N. C . S .
21.	821115106059	OVIYA. B	Oviya . B .
22.	821115106066	PAVITHRA. S	P. S .
23.	821115106068	PRAGADEESWARI. J	P. J .
24.	821115106074	PRIYANKA. K	Priyanka . K .
25.	821115106077	RANGEELA SUBRAJA. S	R. S .
26.	821115106082	SANTHIYA. S	S. S .
27.	821115106084	SARAN KUMAR. S	S. S .

S.No	Register Number	Name of the Student	Signature of the Student
28.	821115106086	SHANMUGA PRIYA. R	Shanmuga Priya. R
29.	821115106087	SHENBAGAVENI. S	Shenbagaveni. S
30.	821115106092	SUBASHINI. C	Subashini. C
31.	821115106096	SWETHA. T	Swetha. T
32.	821115106097	TAMILSELVAN. J	Tamilselvan. J
33.	821115106103	VIMALA. S	Vimala. S
34.	821115106104	VINITHA. P	Vinitha. P
35.	821115106105	VINITHA. R	Vinitha. R

W. Natar
09/01/2018
CDC In-charge

du
9/1/18
HOD/ECE

J. Natar
09/1/2018
PRINCIPAL



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2018-19 / ODD SEMESTER

Competency Development Class(CDC)-C,C++ Programming- Curriculum

CDC NAME : C,C++ Programming
YEAR/CLASS : IV ECE A&B
BATCH : 2015-2019
DURATION : 30 Hours
RESOURCE PERSON : Mr.R.Sriram Kumar

Introduction of Programming Languages :Types of Languages, Evolution of 'C' Language ,Structure of a 'C' Program, 'C' Program development life cycle, Executing and Debugging a 'C' Program.

'C' Tokens: Keywords and Identifiers, Operators ,Constants ,Variables ,Data Types, Precedence of Operators Scope and Lifetime of Variables.

Control Statement and Expressions: Decision Making using if statement, Types of if ...else block, Switch case Block ,Arithmetic Expressions, Evaluation of Expressions, GOTO statement.

Looping:Concept of Loop ,For loop, While loop Do while loop Jumping in Loop break and continue statement

Do while loop, Jumping in Loop, Break and continue statement.

Arrays and String :Introduction of Array, One - D Array, Two - D Array ,Multidimensional Array ,Dynamic Arrays, Implementing String Variables, String handling Functions.

Assesment Procedure:

Students performance was assessed by conducting one assessments test.

- **Total Test Marks** :50
- **Test Duration** :1.30 Hours
- **Test Mode** :Offline
- **Question Pattern** :1)Part A Shall have 30 MCQ.(30*1 = 30 Marks)
 2)Part B Shall have 10 questions(10 * 2 = 20 Marks)

W. Newton
 09/01/2018
CDC In-charge

[Signature]
 09/01/18
HOD/ECE

[Signature]
 09/01/2018
PRINCIPAL



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2018-19 /ODD SEMESTER

Competency Development Class(CDC)-C,C++ Programming: Summary and Outcome

Summary of the Course:

Department of Electronics and Communication Engineering conducted a Competency Development Class(CDC) in C,C++ Programming. The resource person for the course was Mr.R.Sriram Kumar, Assistant Professor, Department of Computer Science Engineering, Kings College of Engineering, Palakulam , Pudukkottai. As per the course plan the duration of the course were planned 30 hours. The course was started on 09.07.2018 and ended on 27.08.2018. 35 Students from IV ECE were registered and participated, finally on 27.08.2018 exam was conducted for 50 marks. At the end of the day the feedback of the course was collected from the students.

Outcome of the course :

After the completion of this course,

- the students will be able to develop applications in C & C++.
- students will be able to learn the fundamental programming concepts and methodologies which are essential to building good C/C++ programs.
- the students will be able to practice the fundamental programming methodologies in the C/C++ programming language via laboratory experiences. Microsoft Visual Studio is the programming environment that will used.
- the students will be able to code, document, test, and implement a well-structured, robust computer program using the C/C++ programming language.
- the students will be able to write reusable modules (collections of functions).

W. Newton
27/08/2018
CDC In-charge

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HOD/ECE



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2018-19 / ODD SEMESTER

Competency Development Class(CDC)-Interview Skills-Name List

CDC NAME : Interview Skills
 YEAR/CLASS : IV ECE A&B
 BATCH : 2015-2019
 DURATION : 30 Hours
 TOTAL NO OF STUDENTS : 35

S.No	Register Number	Name of the Student	Signature of the Student
1.	821115106003	ANBUSELVI. P	P. Anbuselvi
2.	821115106004	ANITHA.G	Anitha.G
3.	821115106010	BAVADHARINI.M	M. Bavi
4.	821115106018	DURGA.S(10.06.1998)	D. Durga
5.	821115106021	ELAKIYA. P	P. Elakiya
6.	821115106025	GAYATHRI. J.S	J.S. Gayathri
7.	821115106026	GAYATHRY.K	K. Gayathry
8.	821115106028	HARITHA. S	S. Haritha
9.	821115106036	KAVI BALA. S	S. Kavi Bala
10.	821115106042	MAHALAKSHMI.K	K. Mahalakshmi
11.	821115106044	MAHESHWARI. G	G. Maheshwari
12.	821115106045	MALATHI. P	P. Malathi
13.	821115106046	MANISHA. S	S. Manisha
14.	821115106050	MONISHA. A	A. Monisha
15.	821115106051	MONISHA REETA. B	B. Monisha Reeta
16.	821115106052	MOWLI.L	L. Mowli
17.	821115106053	NANDHINI. V	V. Nandhini
18.	821115106054	NARENDRA.N. C	C. Narendran
19.	821115106307	NANDHINI.G	G. Nandhini
20.	821115106056	NIRANJANI C.S	S. Niranjani
21.	821115106059	OVIYA. B	B. Oviya
22.	821115106066	PAVITHRA. S	S. Pavithra
23.	821115106068	PRAGADEESWARI. J	J. Pragadeeswari
24.	821115106074	PRIYANKA. K	K. Priyanka
25.	821115106077	RANGEELA SUBRAJA. S	S. Rangeela Subraja
26.	821115106082	SANTHIYA. S	S. Santhiya
27.	821115106084	SARAN KUMAR. S	S. Saran Kumar

S.No	Register Number	Name of the Student	Signature of the Student
28.	821115106086	SHANMUGA PRIYA. R	Shanmuga Priya. R
29.	821115106087	SHENBAGAVENI.S	SHENBAGAVENI. S
30.	821115106092	SUBASHINI. C	Subashini. C
31.	821115106096	SWETHA .T	Swetha. T
32.	821115106097	TAMILSELVAN. J	J. Tamilselvan
33.	821115106103	VIMALA. S	Vimala. S
34.	821115106104	VINITHA. P	VINITHA. P
35.	821115106105	VINITHA. R	Vinitha. R

W. Newton
10/07/2018
CDC In-charge

W. Newton
10/07/18
HOD/ECE



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2018-19 / ODD SEMESTER

Competency Development Class(CDC)-Interview Skills- Curriculum

CDC NAME : Interview Skills
YEAR/CLASS : IV ECE A&B
BATCH : 2015-2019
DURATION : 30 Hours
RESOURCE PERSON : Mr.P.Sureshbabu

Common Interview Questions, What Employers Want, Attitude and Effort, Body Language, Research, The Mock Interview, Phone Interviews, Behavioral Interviews, Closing the Interview, Thank You Notes Curriculum Vitae, When Should a CV be Used. What Information Should a CV Include. What Makes a Good CV. How Long Should a CV Be, Tips on Presentation, Different Types of CV. Mock Interview, Mock Interview Evaluation.

Assesment Procedure:

Students performance was assessed by conducting one assessments test.

- **Total Test Marks** :50
- **Test Duration** :1.30 Hours
- **Test Mode** :Offline
- **Question Pattern** :1)Part A Shall have 30 MCQ.(30*1 = 30 Marks)
2)Part B Shall have 10 questions(10 * 2 = 20 Marks)

W. Nautan
10/07/2018
CDC In-charge

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10/7/2018
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10/7/2018
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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2018-19 /ODD SEMESTER

Competency Development Class(CDC)-Interview Skills- Summary and Outcome

Summary of the Course:

Department of Electronics and Communication Engineering conducted a Competency Development Class(CDC) in Interview Skills. The resource person for the course was Mr.P.Sureshbabu, Assistant Professor, Department of Training and Placement , Kings College of Engineering, Pulakulam , Pudukkottai. As per the course plan the duration of the course were planned 30 hours. The course was started on 10.07.2018 and ended on 28.08.2018. 35 Students from IV ECE were registered and participated, finally on 28.08.2018 exam was conducted for 50 marks. At the end of the day the feedback of the course was collected from the students.

Outcome of the Course:

At the end of the course, the students will be able to

- Awareness about importance of interview skills.
- Gained knowledge on the basics of interview skills.
- Able answer the question asked in interviews.
- Proper usage of body language and attitude while attending the interview.

K. Newton
28/08/2018
CDC In-charge

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28/8/18
HOD/ECE



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2018-19 / ODD SEMESTER

Competency Development Class(CDC)-PCB Layout-Name List

CDC NAME : PCB Layout

YEAR/CLASS : IV ECE A&B

BATCH : 2015-2019

DURATION : 30 Hours

TOTAL NO OF STUDENTS : 35

S.No	Register Number	Name of the Student	Signature of the Student
1.	821115106003	ANBUSELVI. P	P. Anbuse
2.	821115106004	ANITHA.G	Anitha
3.	821115106010	BAVADHARIN.M	M. Bava
4.	821115106018	DURGA.S(10.06.1998)	S. Durga
5.	821115106021	ELAKIYA. P	P. Elakiya
6.	821115106025	GAYATHRI. J.S	J.S. Gayathri
7.	821115106026	GAYATHRY.K	K. Gayathri
8.	821115106028	HARITHA. S	S. Haritha
9.	821115106036	KAVI BALA. S	S. Kavi Bal
10.	821115106042	MAHALAKSHMI.K	K. Mahalakshmi
11.	821115106044	MAHESHWARI. G	G. Maheswari
12.	821115106045	MALATHI. P	P. Malathi
13.	821115106046	MANISHA. S	S. Manisha
14.	821115106050	MONISHA. A	A. Monisha
15.	821115106051	MONISHA REETA. B	B. Monisha
16.	821115106052	MOWLI.L	L. Mowli
17.	821115106053	NANDHINI. V	V. Nandhini
18.	821115106054	NARENDRAN. C	C. Narendran
19.	821115106307	NANDHINI.G	G. Nandhini
20.	821115106056	NIRANJANI C.S	C.S. Niranjan
21.	821115106059	OVIYA. B	B. Oviya
22.	821115106066	PAVITHRA. S	S. Pavithra
23.	821115106068	PRAGADEESWARI. J	J. Pragadeeswari
24.	821115106074	PRIYANKA. K	K. Priyanka
25.	821115106077	RANGEELA SUBRAJA. S	S. Rangeela
26.	821115106082	SANTHIYA. S	S. Santhiya
27.	821115106084	SARAN KUMAR. S	S. Saran Kumar

S.No	Register Number	Name of the Student	Signature of the Student
28.	821115106086	SHANMUGA PRIYA. R	Shanmuga Priya R.
29.	821115106087	SHENBAGAVENI.S	SHENBAGAVENI
30.	821115106092	SUBASHINI. C	Subashini S
31.	821115106096	SWETHA .T	Swetha.T
32.	821115106097	TAMILSELVAN. J	J. Tamilselvan
33.	821115106103	VIMALA. S	Vimala S.
34.	821115106104	VINITHA. P	Vinitha P.
35.	821115106105	VINITHA. R	Vinitha R.

Kr. Newkar
11/07/2018
CDC In-charge

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2018-19 / ODD SEMESTER

Competency Development Class(CDC)-PCB Layout- Curriculum

CDC NAME	: PCB Layout
YEAR/CLASS	: IV ECE A&B
BATCH	: 2015-2019
DURATION	: 30 Hours
RESOURCE PERSON'S	: Mr.P.Rajapirian & Mr.R.Sathyaraj

Module I: Introduction to Printed circuit board: fundamental of electronic components, basic electronic circuits, Basics of printed circuit board designing: Layout planning, general rules and parameters, ground conductor considerations, thermal issues, check and inspection of artwork.

Module II: Design rules for PCB: Design rules for Digital circuit PCBs, Analog circuit PCBs, high frequency and fast pulse applications, Power electronic applications, Microwave applications,

Module III: Introduction to Electronic design automation(EDA) tools for PCB designing: Brief Introduction of various simulators, SPICE and PSpice Environment, Selecting the Components Footprints as per design, Making New Footprints, Assigning Footprint to components, Net listing, PCB Layout Designing, Auto routing and manual routing. Assigning specific text (silk screen) to design, Creating report of design, creating manufacturing data (GERBER) for design.

Module IV: Introduction printed circuit board production techniques: Module IV: (6 hrs): Photo printing, film master production, reprographic camera, basic process for double sided PCBs photo resists, Screen printing process, plating, relative performance and quality control, Etching machines, Solders alloys, fluxes, soldering techniques, Mechanical operations.

Module V: PCB Technology Trends: Multilayer PCBs. Multiwire PCB, Flexible PCBs, Surface mount PCBs, Reflow soldering, Introduction to High-Density Interconnection (HDI) Technology.

Assesment Procedure:

Students performance was assessed by conducting one assessments test.

➤ Total Test Marks	:50
➤ Test Duration	:1.30 Hours
➤ Test Mode	:Offline
➤ Question Pattern	:1)Part A Shall have 30 MCQ.(30*1 = 30 Marks) 2)Part B Shall have 10 questions(10 * 2 = 20 Marks)

W. Newton
11/07/2018
CDC In-charge

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11/7/2018
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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2018-19 / ODD SEMESTER

Competency Development Class(CDC)-PCB Layout- Summary and Outcome

Summary of the Course:

Department of Electronics and Communication Engineering conducted a Competency Development Class(CDC) in PCB Layout. The resource person's for the course were Mr.P.Rajapirian and Mr.R.Sathyaraj, Assistant Professor, Department of Electronics and Communication Engineering, Kings College of Engineering, Pulakulam , Pudukkottai. As per the course plan the duration of the course were planned 30 hours. The course was started on 11.07.2018 and ended on 30.08.2018. 35 Students from IV ECE were registered and participated, finally on 30.08.2018 exam was conducted for 50 marks. At the end of the day the feedback of the course was collected from the students.

Outcome of the Course :

On completion of the Course,

- Students can explore different aspect of Printed Circuit Board Design and fabrication.
- Students can learn various types of PCBs. Schematic Design. entry Rules for Schematic Entry, Component Layout methods
- Placement Rules, Routing Techniques for Single Sided Board.
- Post Processing of design and Fabrication documents.
- After completing this course students can design and fabricate their own PCB for their Project and can also work in PCB Designing and Fabrication area.

K. Newton
30/08/2018
CDC In-charge

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
ACADEMIC YEAR 2018-19 /ODD SEMESTER
Competency Development Class(CDC) - SWAYAM Online course

YEAR/CLASS: IV ECE A&B

BATCH : 2015-2019

TOTAL NO OF STUDENTS : 35

DURATION : 15 Hours

S.No	Register Number	Name of the Student
1.	821115106003	ANBUSELVI. P
2.	821115106004	ANITHA.G
3.	821115106010	BAVADHARINI.M
4.	821115106018	DURGA.S(10.06.1998)
5.	821115106021	ELAKIYA. P
6.	821115106025	GAYATHRI. J.S
7.	821115106026	GAYATHRY.K
8.	821115106028	HARITHA. S
9.	821115106036	KAVI BALA. S
10.	821115106042	MAHALAKSHMI.K
11.	821115106044	MAHESHWARI. G
12.	821115106045	MALATHI. P
13.	821115106046	MANISHA. S
14.	821115106050	MONISHA. A
15.	821115106051	MONISHA REETA. B
16.	821115106052	MOWLIL
17.	821115106053	NANDHINI. V
18.	821115106054	NARENDRAN. C
19.	821115106307	NANDHINI.G
20.	821115106056	NIRANJANI C.S
21.	821115106059	OVIYA. B
22.	821115106066	PAVITHRA. S
23.	821115106068	PRAGADEESWARI. J
24.	821115106074	PRIYANKA. K
25.	821115106077	RANGEELA SUBRAJA. S
26.	821115106082	SANTHIYA. S
27.	821115106084	SARAN KUMAR. S
28.	821115106086	SHANMUGA PRIYA. R
29.	821115106087	SHENBAGAVENI.S
30.	821115106092	SUBASHINI. C
31.	821115106096	SWETHA .T
32.	821115106097	TAMILSELVAN. J
33.	821115106103	VIMALA. S
34.	821115106104	VINITHA. P
35.	821115106105	VINITHA. R

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
ACADEMIC YEAR 2018-2019 (ODD SEMESTER)

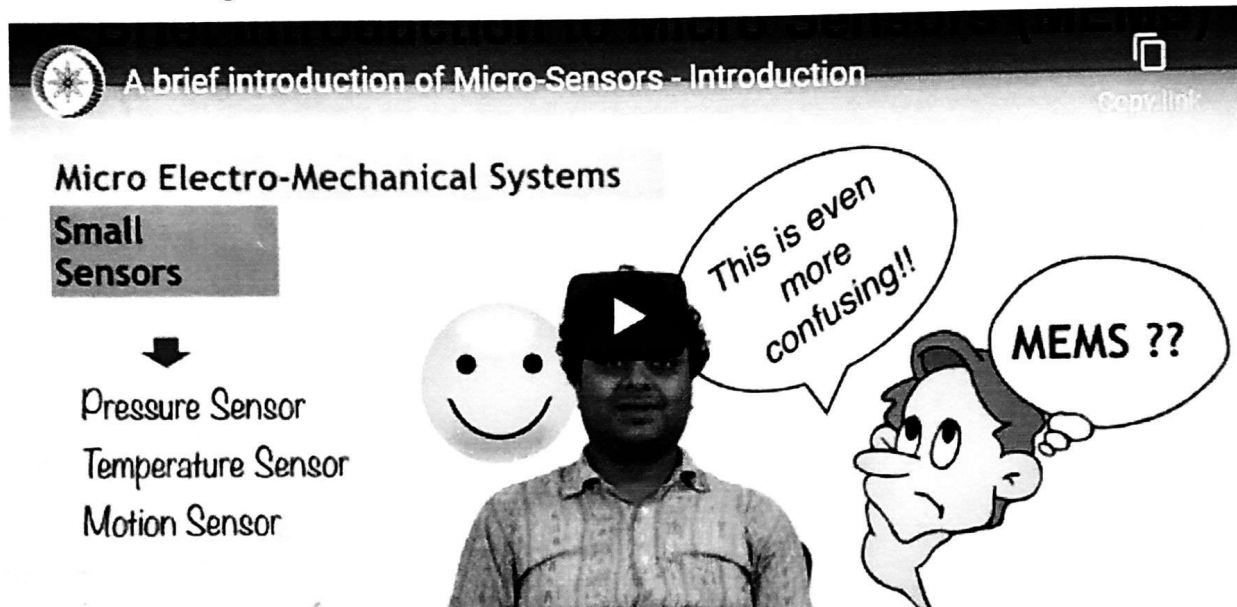
COURSE NAME: A brief Introduction of Micro-Sensors

This course was handled by By Prof. Santanu Talukder, from faculty member in Electrical Engineering department of IISER Bhopal, India.

The duration of this course was 4 weeks.

The course starting date was 27th Jan 2019.

The course ending date was 21th Feb 2019.



The Course layout was scheduled as follows.

Week 1:

Module 1:

- ✓ What is small! From millimeter to angstrom; MEMS sensors introduction and application

Week 2:

Module 2:

- ✓ Fundamentals of stress-strain, electrostatics and energy dissipation

Week 3:

Module 3:

- ✓ Si and its properties; Microfabrication and lithography

Week 4:

- ✓ Design and analysis of Micro Sensors; Case study: Accelerometer, Pressure sensor



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
ACADEMIC YEAR 2018-2019 (ODD SEMESTER)

COURSE NAME: An Introduction to linear Block Codes

This course was handled by Prof. Andrew Thangaraj, from Electronics and Communication Engineering department of IIT Madras, India.

The duration of this course was 4 weeks.

The course starting date was 27th Jan 2019.

The course ending date was 21th Feb 2019.

Coding Theory

Lecture 1

Introduction to Linear Block Codes

Dr. Andrew Thangaraj

Dept. of Electronics & Communication Engineering
Indian Institute of Technology Madras

The Course layout was scheduled as follows.

Syllabus

Week 1:

Lecture 1: Introduction to error control coding

Lecture 2: Introduction to linear block codes, generator matrix and parity check matrix

Lecture 3: Properties of linear block codes: syndrome, error detection, error correction

Week 2:

Lecture 4: Decoding of linear block codes

Lecture 5: Distance properties of linear block codes

Week 3:

Lecture 6: Some simple linear block codes: Repetition codes, Single parity check codes, Hamming codes, Reed Muller codes

Lecture 7: Bounds on size of codes: Hamming bound, Singleton bound, Plotkin bound, Gilbert-Varshamov bound

Week 4:

Lecture 8: Low density parity check codes

Lecture 9: Decoding of low density parity check codes: Belief propagation algorithm

Lecture 10: Applications of linear block codes



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2018-19 / ODD SEMESTER

Competency Development Class(CDC)-GATE Coaching-Curriculum

CDC NAME	: GATE Coaching
YEAR/CLASS	: III ECE & IVECE
BATCH	: (2015-2019)&(2016-2020)
DURATION	: 30 Hours
RESOURCE PERSON	: Mr.W.Newton David Raj

Section 1&2: Networks & Signals and Systems

Network solution methods: nodal and mesh analysis; Network theorems: superposition, Thevenin and Norton's, maximum power transfer; Wye-Delta transformation; Steady state sinusoidal analysis using phasors; Time domain analysis of simple linear circuits; Solution of network equations using Laplace transform; Frequency domain analysis of RLC circuits; Linear 2-port network parameters: driving point and transfer functions; State equations for networks.

Continuous-time signals: Fourier series and Fourier transform representations, sampling theorem and applications; Discrete-time signals: discrete-time Fourier transform (DTFT), DFT, FFT, Z-transform, interpolation of discrete-time signals; LTI systems: definition and properties, causality, stability, impulse response, convolution, poles and zeros, parallel and cascade structure, frequency response, group delay, phase delay, digital filter design techniques.

Section 3: Electronic Devices

Energy bands in intrinsic and extrinsic silicon; Carrier transport: diffusion current, drift current, mobility and resistivity; Generation and recombination of carriers; Poisson and continuity equations; P-N junction, Zener diode, BJT, MOS capacitor, MOSFET, LED, photo diode and solar cell; Integrated circuit fabrication process: oxidation, diffusion, ion implantation, photolithography and twin-tub CMOS process.

Section 4: Analog Circuits

Small signal equivalent circuits of diodes, BJTs and MOSFETs; Simple diode circuits: clipping, clamping and rectifiers; Single-stage BJT and MOSFET amplifiers: biasing, bias stability, mid-frequency small signal analysis and frequency response; BJT and MOSFET amplifiers: multi-stage, differential, feedback, power and operational; Simple op-amp circuits; Active filters; Sinusoidal oscillators: criterion for oscillation, single-transistor and op-amp configurations; Function generators, wave-shaping circuits and 555 timers; Voltage reference circuits; Power supplies: ripple removal and regulation.

Section 5: Digital Circuits

Number systems; Combinatorial circuits: Boolean algebra, minimization of functions using Boolean identities and Karnaugh map, logic gates and their static CMOS implementations, arithmetic circuits, code converters, multiplexers, decoders and PLAs; Sequential circuits: latches and flip-flops, counters, shift-registers and finite state machines; Data converters: sample and hold circuits, ADCs and DACs; Semiconductor memories: ROM, SRAM, DRAM; 8-bit microprocessor (8085): architecture, programming, memory and I/O interfacing.

Section 6: Control Systems

Basic control system components; Feedback principle; Transfer function; Block diagram representation; Signal flow graph; Transient and steady-state analysis of LTI systems; Frequency response; Routh-Hurwitz and Nyquist stability criteria; Bode and root-locus plots; Lag, lead and lag-lead compensation; State variable model and solution of state equation of LTI systems.

Section 7: Communications

Random processes: autocorrelation and power spectral density, properties of white noise, filtering of random signals through LTI systems; Analog communications: amplitude modulation and demodulation, angle modulation and demodulation, spectra of AM and FM, super heterodyne receivers, circuits for analog communications; Information theory: entropy, mutual information and channel capacity theorem; Digital communications: PCM, DPCM, digital modulation schemes, amplitude, phase and frequency shift keying (ASK, PSK, FSK), QAM, MAP and ML decoding, matched filter receiver, calculation of bandwidth, SNR and BER for digital modulation; Fundamentals of error correction, Hamming codes; Timing and frequency synchronization, inter-symbol interference and its mitigation; Basics of TDMA, FDMA and CDMA.

Section 8: Electromagnetics

Electrostatics; Maxwell's equations: differential and integral forms and their interpretation, boundary conditions, wave equation, Poynting vector; Plane waves and properties: reflection and refraction, polarization, phase and group velocity, propagation through various media, skin depth; Transmission lines: equations, characteristic impedance, impedance matching, impedance transformation, S-parameters, Smith chart; Waveguides: modes, boundary conditions, cut-off frequencies, dispersion relations; Antennas: antenna types, radiation pattern, gain and directivity, return loss, antenna arrays; Basics of radar; Light propagation in optical fibers.

Assesment Procedure:

Students performance was assesed by conducting one assessments test.

- | | |
|--------------------|--|
| ➤ Total Test Marks | :50 |
| ➤ Test Duration | :1.30 Hours |
| ➤ Test Mode | :Offline |
| ➤ Question Pattern | :1)Part A Shall have 30 MCQ.(30*1 = 30 Marks)
2)Part B Shall have 10 questions(10 * 2 = 20 Marks) |

W Newton
29/01/2018
CDC In-charge

[Signature]
9/7/18
HOD/ECE

J. Praveen
09/7/2018
PRINCIPAL



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2018-19 / ODD SEMESTER

Competency Development Class(CDC)-GATE Coaching-Name List

CDC NAME : GATE Coaching
 YEAR/CLASS : IV ECE A&B
 BATCH : 2015-2019
 DURATION : 30 Hours
 TOTAL NO OF STUDENTS : 35

S.No	Register Number	Name of the Student	Signature of the Student
1.	821115106003	ANBUSELVI. P	P. Anbuselvi
2.	821115106004	ANITHA.G	Anitha.G
3.	821115106010	BAVADHARINI.M	M. Bavadhara
4.	821115106018	DURGA.S(10.06.1998)	Durga.S
5.	821115106021	ELAKIYA. P	Elakia.P
6.	821115106025	GAYATHRI. J.S	Gayathri.J.S
7.	821115106026	GAYATHRY.K	Gayathri.K
8.	821115106028	HARITHA. S	Haritha.S
9.	821115106036	KAVI BALA. S	Kavi Bala.S
10.	821115106042	MAHALAKSHMI.K	Mahalakshmi.K
11.	821115106044	MAHESHWARI. G	Maheshwari.G
12.	821115106045	MALATHI. P	Malathi.P
13.	821115106046	MANISHA. S	Manisha.S
14.	821115106050	MONISHA. A	Monisha.A
15.	821115106051	MONISHA REETA. B	Monisha Reeta.B
16.	821115106052	MOWLLI.L	Mowli.L
17.	821115106053	NANDHINI. V	Nandhini.V
18.	821115106054	NARENDRA.N. C	Narendra.N.C
19.	821115106307	NANDHINI.G	Nandhini.G
20.	821115106056	NIRANJANI C.S	Niranjani.C.S
21.	821115106059	OVIYA. B	Oviya.B
22.	821115106066	PAVITHRA. S	Pavithra.S
23.	821115106068	PRAGADEESWARI. J	Pragadeeswari.J
24.	821115106074	PRIYANKA. K	Priyanka.K
25.	821115106077	RANGEELA SUBRAJA. S	Rangeela Subraja.S
26.	821115106082	SANTHIYA. S	Santhiya.S
27.	821115106084	SARAN KUMAR. S	Saran Kumar.S



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2018-19 / ODD SEMESTER

Competency Development Class(CDC)-GATE Coaching- Summary and Outcome

Summary of the Course:

Department of Electronics and Communication Engineering conducted a Competency Development Class(CDC) in Gate Coaching. The resource person for the course was Mr.W.Newton David Raj, Assistant Professor, Department of Electronics and Communication Engineering, Kings College of Engineering, Pulakulam , Pudukkottai. As per the course plan the duration of the course were planned 30 hours. The course was started on 14.07.2018 and ended on 25.08.2018. 35 Students from IV ECE were registered and participated, finally on 25.08.2018 exam was conducted for 50 marks. At the end of the day the feedback of the course was collected from the students.

Outcome of the Course :

- GATE qualified can apply for admission into IITs, NITs, GFTIs, IISc and many other institutes for higher studies. Also, they can avail some reserved seats at IIMs for doctoral programme. Based on the GATE score, Institutes like IIT Bombay offers admissions to PhD., PGDM and PGDIE programmes.
- GATE exam qualified candidates can apply for studies in other countries like Germany, Singapore also. So, India is not only the limit.
- By qualifying GATE exam, candidates will be eligible for PSUs Recruitment. Candidates must note that the number of PSUs participating in the recruitment process are increasing, moreover, top companies are also getting involved in it.
- GATE qualified candidates will also be able to apply for various jobs like a Professor or Asst. Professor in reputed institutes. Moreover, Scientists "C" grade jobs can also be acquired by candidates who have qualified GATE exam.
- Direct recruitment to Group A level posts in Central government will be done on the basis of GATE score. The posts include Senior Field Officer (Tele), Senior Research Officer (Crypto) and Senior Research Officer (S&T) in Cabinet Secretariat, Government of India.

W/Newton
25/08/2018
CDC In-charge

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HOD/ECE 25/8/18

S.No	Register Number	Name of the Student	Signature of the Student
28.	821115106086	SHANMUGA PRIYA. R	Shanmuga Priya. R
29.	821115106087	SHENBAGAVENI. S	S. SHENBAGAVENI
30.	821115106092	SUBASHINI. C	Subashini. C
31.	821115106096	SWETHA. T	Swetha. T
32.	821115106097	TAMILSELVAN. J	J. Tamilselvan
33.	821115106103	VIMALA. S	Vimala. S
34.	821115106104	VINITHA. P	P. Vinitha
35.	821115106105	VINITHA. R	R. Vinitha

W. Newton
14/07/2018
CDC In-charge

10/7/18
HOD/ECE



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2018-19/ODD SEMESTER

Competency Development Class(CDC)-GATE Coaching -Name List

CDC NAME : GATE Coaching
 YEAR/CLASS : III ECE
 BATCH : 2016-2020
 DURATION : 30 Hours
 TOTAL NO OF STUDENTS : 13

S.No	Register Number	Name of the Student	Signature of the Student
1.	821116106001	ABARNA. P	P. Abarna
2.	821116106004	AGALYA. S	S. Agalya
3.	821116106008	ARCHANA.T	T. Archana
4.	821116106012	DHANAHARSHINI. S	S. Dhana
5.	821116106013	DHANASEKARAN.S	S. Dhana
6.	821116106014	DHIVYA DHARSHINI. R	R. Dhivya
7.	821116106020	INDHUJA. J	J. Indhuja
8.	821116106025	KAYADEVI.G	G. Kayadevi
9.	821116106029	MEERA.K	K. Meera
10.	821116106036	PRIYADHARSHINI.K	K. Priyadharshini
11.	821116106038	RANJITHA.C	C. Ranjitha
12.	821116106040	RASIKA. M	M. Rasika
13.	821116106901	PAVITHRA.N	N. Pavithra

K. Newton
 09/07/2018
 CDC In-charge

[Signature]
 9/7/18
 HOD/ECE



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2018-19 /ODD SEMESTER

Competency Development Class(CDC)-GATE Coaching-Curriculum

CDC NAME	: GATE Coaching
YEAR/CLASS	: III ECE & IVECE
BATCH	: (2015-2019)&(2016-2020)
DURATION	: 30 Hours
RESOURCE PERSON	: Mr.W.Newton David Raj

Section 1&2: Networks & Signals and Systems

Network solution methods: nodal and mesh analysis; Network theorems: superposition, Thevenin and Norton's, maximum power transfer; Wye-Delta transformation; Steady state sinusoidal analysis using phasors; Time domain analysis of simple linear circuits; Solution of network equations using Laplace transform; Frequency domain analysis of RLC circuits; Linear 2-port network parameters: driving point and transfer functions; State equations for networks.

Continuous-time signals: Fourier series and Fourier transform representations, sampling theorem and applications; Discrete-time signals: discrete-time Fourier transform (DTFT), DFT, FFT, Z-transform, interpolation of discrete-time signals; LTI systems: definition and properties, causality, stability, impulse response, convolution, poles and zeros, parallel and cascade structure, frequency response, group delay, phase delay, digital filter design techniques.

Section 3: Electronic Devices

Energy bands in intrinsic and extrinsic silicon; Carrier transport: diffusion current, drift current, mobility and resistivity; Generation and recombination of carriers; Poisson and continuity equations; P-N junction, Zener diode, BJT, MOS capacitor, MOSFET, LED, photo diode and solar cell; Integrated circuit fabrication process: oxidation, diffusion, ion implantation, photolithography and twin-tub CMOS process.

Section 4: Analog Circuits

Small signal equivalent circuits of diodes, BJTs and MOSFETs; Simple diode circuits: clipping, clamping and rectifiers; Single-stage BJT and MOSFET amplifiers: biasing, bias stability, mid-frequency small signal analysis and frequency response; BJT and MOSFET amplifiers: multi-stage, differential, feedback, power and operational; Simple op-amp circuits; Active filters; Sinusoidal oscillators: criterion for oscillation, single-transistor and op-amp configurations; Function generators, wave-shaping circuits and 555 timers; Voltage reference circuits; Power supplies: ripple removal and regulation.

Section 5: Digital Circuits

Number systems; Combinatorial circuits: Boolean algebra, minimization of functions using Boolean identities and Karnaugh map, logic gates and their static CMOS implementations, arithmetic circuits, code converters, multiplexers, decoders and PLAs; Sequential circuits: latches and flip-flops, counters, shift-registers and finite state machines; Data converters: sample and hold circuits, ADCs and DACs; Semiconductor memories: ROM, SRAM, DRAM; 8-bit microprocessor (8085): architecture, programming, memory and I/O interfacing.

Section 6: Control Systems

Basic control system components; Feedback principle; Transfer function; Block diagram representation; Signal flow graph; Transient and steady-state analysis of LTI systems; Frequency response; Routh-Hurwitz and Nyquist stability criteria; Bode and root-locus plots; Lag, lead and lag-lead compensation; State variable model and solution of state equation of LTI systems.

Section 7: Communications

Random processes: autocorrelation and power spectral density, properties of white noise, filtering of random signals through LTI systems; Analog communications: amplitude modulation and demodulation, angle modulation and demodulation, spectra of AM and FM, super heterodyne receivers, circuits for analog communications; Information theory: entropy, mutual information and channel capacity theorem; Digital communications: PCM, DPCM, digital modulation schemes, amplitude, phase and frequency shift keying (ASK, PSK, FSK), QAM, MAP and ML decoding, matched filter receiver, calculation of bandwidth, SNR and BER for digital modulation; Fundamentals of error correction, Hamming codes; Timing and frequency synchronization, inter-symbol interference and its mitigation; Basics of TDMA, FDMA and CDMA.

Section 8: Electromagnetics

Electrostatics; Maxwell's equations: differential and integral forms and their interpretation, boundary conditions, wave equation, Poynting vector; Plane waves and properties: reflection and refraction, polarization, phase and group velocity, propagation through various media, skin depth; Transmission lines: equations, characteristic impedance, impedance matching, impedance transformation, S-parameters, Smith chart; Waveguides: modes, boundary conditions, cut-off frequencies, dispersion relations; Antennas: antenna types, radiation pattern, gain and directivity, return loss, antenna arrays; Basics of radar; Light propagation in optical fibers.

Assesment Procedure:

Students performance was assesed by conducting one assessments test.

- | | |
|--------------------|--|
| ➤ Total Test Marks | :50 |
| ➤ Test Duration | :1.30 Hours |
| ➤ Test Mode | :Offline |
| ➤ Question Pattern | :1)Part A Shall have 30 MCQ.(30*1 = 30 Marks)
2)Part B Shall have 10 questions(10 * 2 = 20 Marks) |

W Newton
29/01/2018
CDC In-charge

[Signature]
9/7/18
HOD/ECE

J. Praveen
09/7/2018
PRINCIPAL



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2018-19 / ODD SEMESTER

Competency Development Class(CDC)-GATE Coaching- Summary and Outcome

Summary of the Course:

Department of Electronics and Communication Engineering conducted a Competency Development Class(CDC) in Gate Coaching. The resource person for the course was Mr.W.Newton David Raj, Assistant Professor, Department of Electronics and Communication Engineering, Kings College of Engineering, Pulakulam , Pudukkottai. As per the course plan the duration of the course were planned 30 hours. The course was started on 09.07.2018 and ended on 27.08.2018. 13 Students from III ECE were registered and participated, finally on 27.08.2018 exam was conducted for 50 marks. At the end of the day the feedback of the course was collected from the students.

Outcome of the Course :

- GATE qualified can apply for admission into IITs, NITs, GFTIs, IISc and many other institutes for higher studies. Also, they can avail some reserved seats at IIMs for doctoral programme. Based on the GATE score, Institutes like IIT Bombay offers admissions to PhD, PGDM and PGDIE programmes.
- GATE exam qualified candidates can apply for studies in other countries like Germany, Singapore also. So, India is not only the limit.
- By qualifying GATE exam, candidates will be eligible for PSUs Recruitment. Candidates must note that the number of PSUs participating in the recruitment process are increasing, moreover, top companies are also getting involved in it.
- GATE qualified candidates will also be able to apply for various jobs like a Professor or Asst. Professor in reputed institutes. Moreover, Scientists "C" grade jobs can also be acquired by candidates who have qualified GATE exam.
- Direct recruitment to Group A level posts in Central government will be done on the basis of GATE score. The posts include Senior Field Officer (Tele), Senior Research Officer (Crypto) and Senior Research Officer (S&T) in Cabinet Secretariat, Government of India.

W Newton
27/08/2018
CDC In-charge

cdh
27/8/18
HOD/ECE



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2018-19/ODD SEMESTER

Competency Development Class(CDC)-Labview -Name List

CDC NAME : Labview
 YEAR/CLASS : III ECE
 BATCH : 2016-2020
 DURATION : 30 Hours
 TOTAL NO OF STUDENTS : 12

S.No	Register Number	Name of the Student	Signature of the Student
1.	821116106001	ABARNA. P	P. Abarna
2.	821116106004	AGALYA. S	S. Agalya
3.	821116106008	ARCHANA.T	T. Archana
4.	821116106012	DHANAHARSHINI. S	S. Dhana
5.	821116106013	DHANASEKARAN.S	S. Dhana
6.	821116106014	DHIVYA DHARSHINI. R	R. Dhivya
7.	821116106020	INDHUJA. J	J. Indhuja
8.	821116106025	KAYADEVI.G	G. Kayadevi
9.	821116106029	MEERA.K	K. Meera
10.	821116106036	PRIYADHARSHINI.K	K. Priyadharshini
11.	821116106038	RANJITHA.C	C. Ranjitha
12.	821116106040	RASIKA. M	M. Rasika

K. N. N. N.
 12/07/2018
 CDC In-charge

[Signature]
 12/7/18
 HOD/ECE



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2018-19/ODD SEMESTER

Competency Development Class(CDC)-Labview - Curriculum

CDC NAME : Labview
YEAR/CLASS : III ECE
BATCH : 2016-2020
DURATION : 30 Hours
RESOURCE PERSON'S : Mrs.U.Jeyamalar & Mr.T.Jeyaseelan

- **Basics of LabVIEW:** Numericals, Booleans and comparators.
- **Loops :**For loops while loops Flat sequence.
- **Structures:**Case structure, Event structure, Formula node, Local and global variable
- **Data handling instruction:** Strings, Matrix, File IO, Clusters, Waveform and wavechart
- **Embedded device with labVIEW :**Matrix, Introduction about embedded system, Familier Micro-Controller family Basic of embedded-c program,Digital devices,Analog devices.
- **PLC interface with LabVIEW:** Introduction of PLC, Introduction of ladder programming ,OPC,OPC with PLC,PLC-OPC- LabVIEW, Programming application, Sub VI creation, Stand alone file and installer development, web server, Remote panel creation and testing
- **Webserver monitoring with LabVIEW:** Hardware interfacing with LabVIEW, UART- Communcation Simplex,Half Duplex,Full Duplex,Led with switch,Lm35 sensor, RFID, Bluetooth, Zigbee, Final LabVIEW Project

Assesment Procedure:

Students performance was assessed by conducting one assessments test.

- **Total Test Marks** :50
- **Test Duration** :1.30 Hours
- **Test Mode** :Offline
- **Question Pattern** :1)Part A Shall have 30 MCQ.(30*1 = 30 Marks)
2)Part B Shall have 10 questions(10 * 2 = 20 Marks)

W. Newton
 12/01/2018
CDC In-charge

[Signature]
HOD/ECE 12/1/18

[Signature]
 12/1/2018
PRINCIPAL



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2018-19/ODD SEMESTER

Competency Development Class(CDC)-Labview - Summary and Outcome

Summary of the Course:

Department of Electronics and Communication Engineering conducted a Competency Development Class(CDC) in Labview. The resource person's for the course were Mrs.U.jeyamalar & Mr.T.jeyaseelan, Assistant Professor, Department of Electronics and Communication Engineering, Kings College of Engineering, Pulakulam, Pudukkottai. As per the course plan the duration of the course were planned 30 hours. The course was started on 12.07.2018 and ended on 30.08.2018. 12 Students from III ECE were registered and participated, finally on 30.08.2018 exam was conducted for 50 marks. At the end of the day the feedback of the course was collected from the students.

Outcome of the Course:

After attending this course, students will be able to:

- Interactively acquire and analyze data from NI hardware (NI DAQ devices) and non-NI instruments (GPIB instruments)
- Create and program a LabVIEW application that acquires, analyzes, and visualizes data
- Create user interfaces with charts, graphs, and buttons
- Use programming structures, data types, and the analysis and signal processing algorithms in LabVIEW
- Debug and troubleshoot applications
- Work with sets of single-channel and multi-channel data
- Log data to file
- Use best programming practices for code reuse and readability
- Implement a sequencer using a state machine design pattern

W. Jeyaseelan
30/08/2018
CDC In-charge

U. Jeyamalar
30/8/18
HOD/ECE



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR (2018-2019) ODD SEMESTER

Name of the Course: Mini Project	
Duration :30 hrs	Beneficiaries : II & III ECE
Course commences on : 02.7.2018	Course in Charge: Mr.R.Thandayuthapani

Syllabus

UNIT 1 INTRODUCTION 08

Instruction to the students – Guide lines– Batch formation – Topic Identification – Area of Specialization

UNIT 2 HANDS ON PRACTICE 12

Topic Confirmation – Hardware and Software Identification - Soldering Practice – Integration

UNIT 3 PROJECT COMPLETION 10

Testing and Debugging - Project Submission

REFERENCE:

R1: Electronics for You
R2: Mini project Handbook

ASSESSMENT PROCEDURE:

- PPT Presentation
- Project Demo & Exhibition


Mini Project Coordinator


HOD/ECE


Principal



NAC Accredited Institution
(Approved by NAC, New Delhi Affiliated to Anna University, Chennai)

ISO 9001

E-BLAST SLV2K18 REGISTRATION FORM

MINI PROJECT EXPO

BATCH NO	PROJECT TITLE	BATCH MEMBERS NAME	YEAR & DEPT	INSTITUTION NAME
6	Gate Security Alarm With Automatic Light Switch On	B. Melvin Charles M.Vijay R.Saran Kumar	II-ECE	Kings College of Engineering
7	Automatic Human And Metal Detector System	V.G.Amirtha T.Sowmiya J.Juliyat	II-ECE	Kings College of Engineering
8	Automatic Dustbin Management System	G.Keerthana Shri B.Ishwarya T.Nisha M.Manushiya	II-ECE	Kings College of Engineering
9	Demonstration of Laser Communication System	R.Vishwanath M.A.Yuvankishore Y. Sivanantham	II-ECE	Kings College of Engineering
10	Automated smoking zone monitoring & alerting system	G. Surya S Akash B. Pilavendian Nirmal	II-ECE	Kings College of Engineering



KINGS
COLLEGE OF ENGINEERING
(N.M.C. Accredited Institution)
(Approved by AICTE, New Delhi, affiliated to Anna University, Chennai)



E-BLAST SLV2K18 REGISTRATION FORM

MINI PROJECT EXPO

BATCH NO	PROJECT TITLE	BATCH MEMBERS NAME	YEAR & DEPT	INSTITUTION NAME
1	Wireless Power Transmission	S.Agalya G.Kayadevi T.Archana S.Dhanaharshini	III-ECE	Kings College of Engineering
2	Smart Menu Ordering Control System	V.Sasirekha J.Santhakumari U.K.Vithyasri K. Priyadharshini	III-ECE	Kings College of Engineering
3	Panic Alarm	R.Dhivyadharshini C.Ranjitha D.Ranjitha	III-ECE	Kings College of Engineering
4	Temperature Monitoring System	M.Rasika A.Elakiyakowshika P.Priyadharshini K.Vinitha	III-ECE	Kings College of Engineering
5	Wireless Communication	R.Sowmiya M.Kowsalya K.Meera J.Induja	III-ECE	Kings College of Engineering

E-BLAST SLV2K18 REGISTRATION FORM

MINI PROJECT EXPO

BATCH NO	PROJECT TITLE	BATCH MEMBERS NAME	YEAR & DEPT	INSTITUTION NAME
11	Highway Accident Prevention & Alert System	M.Iswarya <i>M. Iswarya</i> R. Santhoshini <i>R. Santhoshini</i> R.Roshini <i>R. Roshini</i>	II-ECE	Kings College of Engineering
12	Home Appliances Control Using Sensor For Physically Challenged People	P.Gokul <i>P. Gokul</i> K.B.Harish <i>K.B. Harish</i> K.Ajith <i>K. Ajith</i>	II-ECE	Kings College of Engineering
13	Data Transmission using Li-Fi	M.Srithala <i>M. Srithala</i> B.Dharshini <i>B. Dharshini</i>	II-ECE	Kings College of Engineering
14	Automatic Solar Tracking System	S.Nandhini <i>S. Nandhini</i> S.Chitrasri <i>S. Chitrasri</i> M.Ezhilarasi <i>M. Ezhilarasi</i>	II-ECE	Kings College of Engineering
15	Blind Helper Machine	S.Deepika Sri <i>S. Deepika Sri</i> R.Pooja <i>R. Pooja</i>	III-ECE	Anjalai Ammal Mahalingam Engineering College

E-BLAST SLV2K18 REGISTRATION FORM

MINI PROJECT EXPO

BATCH NO	PROJECT TITLE	BATCH MEMBERS NAME	YEAR & DEPT	INSTITUTION NAME
16	Smart Transmission Line Breakage Detection Using IOT	A.Ashock kumar	IV-ECE	Rathinam Technical Campus
		M.Arawinth kumar		
		M.Surya		
17	IOT Based Home Automation	R.Karthik Raj	IV-ECE	Rathinam Technical Campus
		S.Kumaran		
		G.Balamurali		


 Mini project coordinator


 HOD/ECE



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
(Academic Year 2018-2019/ODD semester)

MINI PROJECT EXPO- 20th sep' 2018

About the Expo:

The Mini Project is a mechanism to demonstrate the student abilities and specialization. It provides the opportunity for the student to demonstrate originality, teamwork, inspiration, planning and organization in a project, and to put into practice some of the techniques the student has been taught throughout the previous courses.

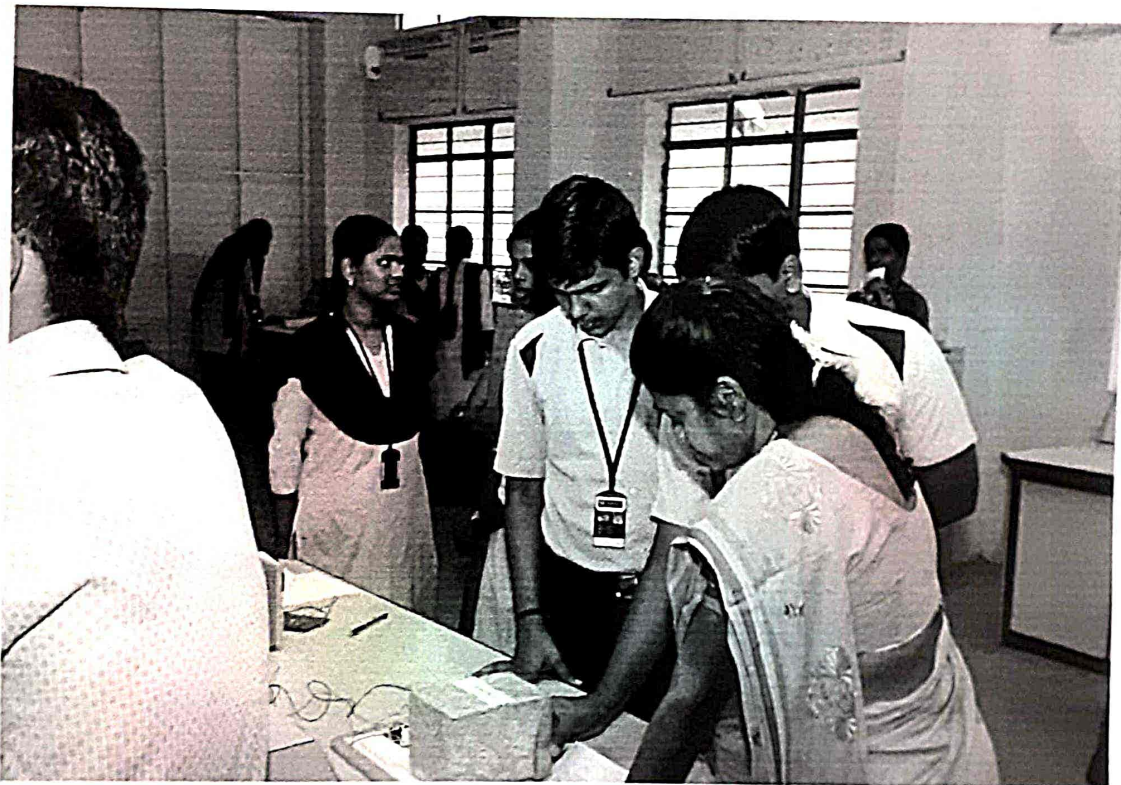
"MINI PROJECT EXPO-2018" was held at Kings College of Engineering, Punalkulam in the department of Electronics and Communication Engineering on 20th September 2018. The projects involved embedded based models of IOT such as Traffic Simulator, solar power, water supply for irrigation and many more using sensors.

The Chief Guest

The Expo was inaugurated after a ribbon cutting ceremony in the Digital Electronics Lab at 12.05 P.M by **Dr.R.Rajendran**, Secretary, Kings College of Engineering. The projects were judged by **Mr.A.Athiraja (Alumni)**, and **Mr.T.Pasupathi**, Assistant Professor, Kings College of Engineering.

Participants

The participants are the second year and third year students of the Electronics and Communication Engineering department. About **53 students** participated in the exposition and **17 projects** were exhibited. Students exhibited their projects related to IOT, Li-Fi system and Blind helper system. The best projects were selected based on their novelty.

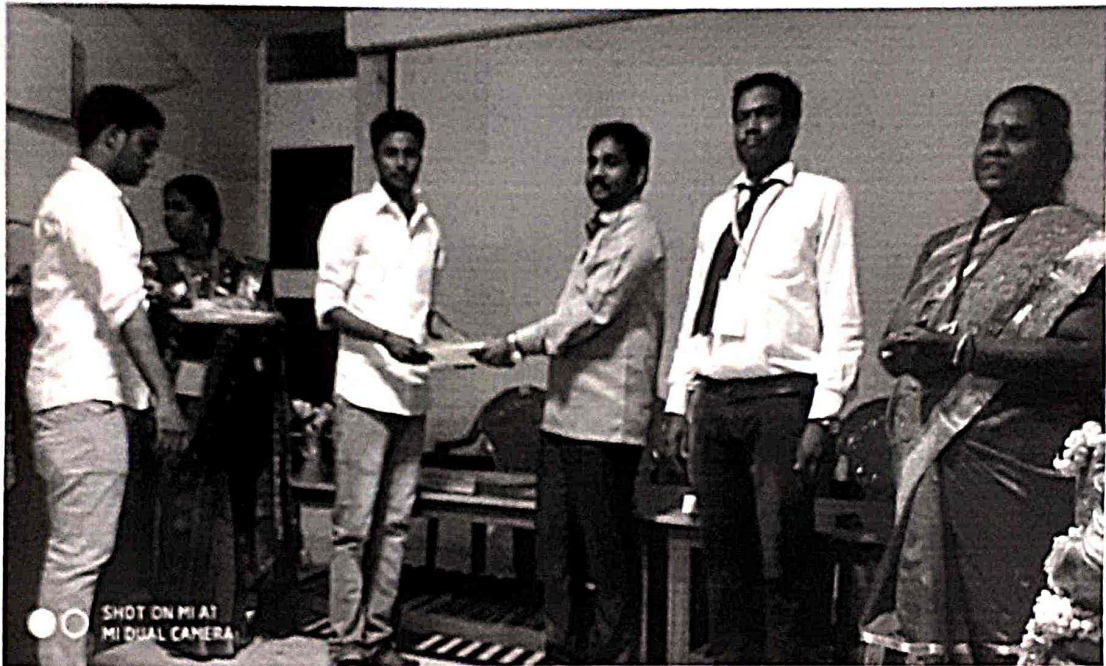


A live demo of drone was presented by students

The faculty and students from various departments visited the Expo and shown keen interest in knowing the working of the projects displayed by the students. They expressed that events of this kind may be conducted in future also.

Prize distributions:

Mrs.N.Mangalyarkarasi HOD/ECE distributed the cash award and prizes for the winners and also issued the participation certificates for all the participants. Mr.R.Thandayuthapani, AP/ECE coordinates the entire EXPO.



Awards & Prize distributions by Mrs.N.Mangalyarkarasi HOD/ECE

OUTCOME:

- Understand, plan and execute a Mini Project with team.
- Implement electronic hardware by learning PCB artwork design, soldering techniques, testing and troubleshooting etc.
- Prepare a technical report based on the Mini project.
- Deliver technical seminar based on the Mini Project work carried out.



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
ACADEMIC YEAR (2018-2019) ODD SEMESTER

Date: 20/09/2017

TITLE OF THE MINI PROJECT WITH STUDENT NAME

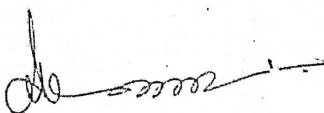
Sl. No	Name of the Student	Year	Name of the college	Name of the Project
1	S.Agalya G.Kayadevi T.Archana S.Dhanaharshini	III	Kings College of Engineering	Wireless Power Transmission
2	V.Sasirekha J.Santhakumari U.K.Vithyasri K.Priyadharshini	III		Smart Menu Ordering Control System
3	R.Dhivyadharshini C.Ranjitha D.Ranjitha	III		Panic Alarm
4	M.Rasika A.Elakiyakowshika P.Priyadarshini K.Vinitha	III		Temperature Monitoring System
5	R.Sowmiya M.Kowsalya K.Meera J.Indhuja	III		Wireless Communication
6	B.Melvin Charles M.Vijay R.Sarankumar	II		Gate Security Alarm with Automatic Light Switch On
7	V.G.Amirtha T.Sowmiya J.Julivat	II		Automatic Human and Metal Detector System
8	G.Keerthana Shri B.Ishwarya T.Nisha M.Manushiya	II		Automatic Dustbin Management System
9	R.Vishwanath M.A.Yuvankishore Y.Sivanantham	II		Demonstration of Laser Communication System
10	G.Surya S.Akash B.Pilavendran Nirmal	II		Automatic Smoking Zone Monitoring & Alerting system
11	M. Iswarya R.Santhoshini R.Roshini	II		Highway Accident Prevention & Alert System
12	P.Gokul K.K.Harish K. Ajith	II		Home Appliances Control Using Sensor For Physically Challenged People
13	M.Srithala B.Dharshini	II		Data Transmission using Li-Fi

14	S.Nandhini S.Chitrsri M.Ezhilarasi	II	Kings College of Engineering	Automatic Solar Tracking System
15	S.Deepika Sri R.Pooja	II	Anjalai Ammal Mahalingam Engineering College	Blind Helper Machine
16	A.Ashok kumar A.Arawinth kumar M.Surya	II	Rathinam Technical Campus	Smart Transmission Line Breakage Detection Ugin
17	R.Karthik Raj S.Kumaran G.Balamurali	II	Rathinam Technical Campus	IOT Based Home Automation

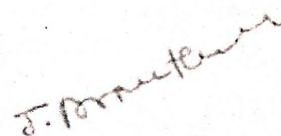
Total no of projects: 17 / Total no of students: 53



Mini Project In-Charge



HoD/ECE



PRINCIPAL



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2018-19/ODD SEMESTER

Competency Development Class(CDC)-IEI/IETE -Name List

CDC NAME : IEI/IETE
 YEAR/CLASS : III ECE
 BATCH : 2016-2020
 DURATION : 30 Hours
 TOTAL NO OF STUDENTS : 12

S.No	Register Number	Name of the Student	Signature of the Student
1.	821116106001	ABARNA. P	P. Abarna
2.	821116106004	AGALYA. S	S. Agalya
3.	821116106008	ARCHANA.T	A. Archana
4.	821116106012	DHANAHARSHINI. S	Dhanaharshini. S
5.	821116106013	DHANASEKARAN.S	Dhanasekaran. S
6.	821116106014	DHIVYA DHARSHINI. R	Dhivy Dharsini. R
7.	821116106020	INDHUJA. J	J. Indhuja
8.	821116106025	KAYADEVI.G	G. Kayadevi
9.	821116106029	MEERA.K	K. Meera
10.	821116106036	PRIYADHARSHINI.K	P. Priyadharsini
11.	821116106038	RANJITHA.C	C. Ranjitha
12.	821116106040	RASIKA. M	M. Rasika

K. Neelima
 14/01/2018
 CDC In-charge

[Signature]
 14/1/18
 HOD/ECE



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
ACADEMIC YEAR 2018-19/ODD SEMESTER

Competency Development Class(CDC)-IEI/IETE - Summary and Outcome

Summary of the Course:

Department of Electronics and Communication Engineering conducted a Competency Development Class(CDC) in IEI/IETE. The resource person for the course was Mr.T.Jeyaseelan, Assistant Professor, Department of Electronics and Communication Engineering, Kings College of Engineering, Pulakulam , Pudukkottai. As per the course plan the duration of the course were planned 30 hours. The course was started on 14.07.2018. 56 Students from III ECE were registered and participated, finally exam was conducted for 50 marks and the feedback of the course was collected from the students.

Outcome of the Course :

Students can be achieved the following benefits:

- Networking among all Centres and Overseas Chapters of IEI through cutting edge technology.
- Nurture professional experience, Domain Knowledge, Technical Skills and Expertise.
- Latest news feed from the contemporary world of technology.

K.N. Newton
28/07/2018
CDC In-charge

[Signature]
28/7/18
HOD/ECE



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2018-19/ODD SEMESTER

Competency Development Class(CDC)-IEI/IETE - Curriculum

CDC NAME : IEI/IETE
YEAR/CLASS : III ECE
BATCH : 2016-2020
DURATION : 30 Hours
RESOURCE PERSON : Mr.T.Jeyaseelan

ANALOG AND DIGITAL ELECTRONICS

P-N Junctions: Diode theory, forward and reverse-biased junctions, reverse-bias breakdown, load line analysis, diode applications - Limiters, clippers, clampers, voltage multipliers, half wave & full wave rectification, Special purpose diodes - Zener diode, Varactor, light emitting diodes, Laser diodes.

Bipolar Junction Transistors (BJT): Transistor fundamentals, transistor Syllabus for Analog Electronics configurations, DC operating point, BJT characteristics & parameters, fixed bias, emitter bias with and without emitter resistance, analysis of above circuits and their design, variation of operating point and its stability.

Number Systems: Decimal, binary, octal, hexadecimal number system and conversion , binary weighted codes, signed numbers, 1s and 2s complement codes, Binary arithmetic.

Analysis & design of Combinational Logic: Introduction to combinational circuits, code conversions, decoder, encoder, priority encoder, multiplexers as function generators, binary adder, subtractor, BCD adder, Binary comparator, arithmetic logic units.

Programmable Logic: Programmable logic devices, programmable read only memory, programmable logic arrays and programmable array logic, Design using PLA, field programmable gate arrays.

Assesment Procedure:

Students performance was assessed by conducting one assessments test.

- **Total Test Marks** :50
- **Test Duration** :1.30 Hours
- **Test Mode** :Offline
- **Question Pattern** :1)Part A Shall have 30 MCQ.(30*1 = 30 Marks)
 2)Part B Shall have 10 questions(10 * 2 = 20 Marks)

W. N. Senthil
 14/07/2018
CDC In-charge

[Signature]
 14/7/2018
HOD/ECE

[Signature]
 14/7/2018
PRINCIPAL



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2018-19 /EVEN SEMESTER

Competency Development Class(CDC)-GATE Coaching-Name List

CDC NAME : GATE Coaching

YEAR/CLASS : III ECE

BATCH : 2016-2020

DURATION : 30 Hours

TOTAL NO OF STUDENTS : 15

S.No	Register Number	Name of the Student	Signature of the Student
1.	821116106001	ABARNA.P	P. Aruna
2.	821116106004	AGALYA.S	A. Galia
3.	821116106008	ARCHANA.T	P. Archana
4.	821116106012	DHANAHARSHINI.S	S. Dhana
5.	821116106013	DHANASEKARAN.S	R. Dhana
6.	821116106014	DHIVYA DHARSHINI.R	J. Indhuja
7.	821116106020	INDHUJA.J	J. Indhuja
8.	821116106025	KAYADEVI.G	C. Kayadevi
9.	821116106029	MEERA.K	K. Meera
10.	821116106036	PRIYADHARSHINI.K	K. Priya
11.	821116106038	RANJITHA.C	A. Ranjitha
12.	821116106040	RASIKA.M	M. Rasika
13.	821116106043	SASIREKHA.V	V. Sasirekha
14.	821116106056	VINITHA.K	K. Vinitha
15.	821116106901	PAVITHRA.N	N. Pavithra

K. Newton
21/01/2019
CDC In-charge

[Signature]
21/1/19
HOD/ECE



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2018-19 /EVEN SEMESTER

Competency Development Class(CDC)-GATE Coaching-Curriculum

CDC NAME	: GATE Coaching
YEAR/CLASS	: III ECE & IVECE
BATCH	: (2015-2019)&(2016-2020)
DURATION	: 30 Hours
RESOURCE PERSON	: Mr.W.Newton David Raj

Section 1&2: Networks & Signals and Systems

Network solution methods: nodal and mesh analysis; Network theorems: superposition, Thevenin and Norton's, maximum power transfer; Wye-Delta transformation; Steady state sinusoidal analysis using phasors; Time domain analysis of simple linear circuits; Solution of network equations using Laplace transform; Frequency domain analysis of RLC circuits; Linear 2-port network parameters: driving point and transfer functions; State equations for networks.

Continuous-time signals: Fourier series and Fourier transform representations, sampling theorem and applications; Discrete-time signals: discrete-time Fourier transform (DTFT), DFT, FFT, Z-transform, interpolation of discrete-time signals; LTI systems: definition and properties, causality, stability, impulse response, convolution, poles and zeros, parallel and cascade structure, frequency response, group delay, phase delay, digital filter design techniques.

Section 3: Electronic Devices

Energy bands in intrinsic and extrinsic silicon; Carrier transport: diffusion current, drift current, mobility and resistivity; Generation and recombination of carriers; Poisson and continuity equations; P-N junction, Zener diode, BJT, MOS capacitor, MOSFET, LED, photo diode and solar cell; Integrated circuit fabrication process: oxidation, diffusion, ion implantation, photolithography and twin-tub CMOS process.

Section 4: Analog Circuits

Small signal equivalent circuits of diodes, BJTs and MOSFETs; Simple diode circuits: clipping, clamping and rectifiers; Single-stage BJT and MOSFET amplifiers: biasing, bias stability, mid-frequency small signal analysis and frequency response; BJT and MOSFET amplifiers: multi-stage, differential, feedback, power and operational; Simple op-amp circuits; Active filters; Sinusoidal oscillators: criterion for oscillation, single-transistor and op-amp configurations; Function generators, wave-shaping circuits and 555 timers; Voltage reference circuits; Power supplies: ripple removal and regulation.

Section 5: Digital Circuits

Number systems; Combinatorial circuits: Boolean algebra, minimization of functions using Boolean identities and Karnaugh map, logic gates and their static CMOS implementations, arithmetic circuits, code converters, multiplexers, decoders and PLAs; Sequential circuits: latches and flip-flops, counters, shift-registers and finite state machines; Data converters: sample and hold circuits, ADCs and DACs; Semiconductor memories: ROM, SRAM, DRAM; 8-bit microprocessor (8085): architecture, programming, memory and I/O interfacing.

Section 6: Control Systems

Basic control system components; Feedback principle; Transfer function; Block diagram representation; Signal flow graph; Transient and steady-state analysis of LTI systems; Frequency response; Routh-Hurwitz and Nyquist stability criteria; Bode and root-locus plots; Lag, lead and lag-lead compensation; State variable model and solution of state equation of LTI systems.

Section 7: Communications

Random processes: autocorrelation and power spectral density, properties of white noise, filtering of random signals through LTI systems; Analog communications: amplitude modulation and demodulation, angle modulation and demodulation, spectra of AM and FM, superheterodyne receivers, circuits for analog communications; Information theory: entropy, mutual information and channel capacity theorem; Digital communications: PCM, DPCM, digital modulation schemes, amplitude, phase and frequency shift keying (ASK, PSK, FSK), QAM, MAP and ML decoding, matched filter receiver, calculation of bandwidth, SNR and BER for digital modulation; Fundamentals of error correction, Hamming codes; Timing and frequency synchronization, inter-symbol interference and its mitigation; Basics of TDMA, FDMA and CDMA.

Section 8: Electromagnetics

Electrostatics; Maxwell's equations: differential and integral forms and their interpretation, boundary conditions, wave equation, Poynting vector; Plane waves and properties: reflection and refraction, polarization, phase and group velocity, propagation through various media, skin depth; Transmission lines: equations, characteristic impedance, impedance matching, impedance transformation, S-parameters, Smith chart; Waveguides: modes, boundary conditions, cut-off frequencies, dispersion relations; Antennas: antenna types, radiation pattern, gain and directivity, return loss, antenna arrays; Basics of radar; Light propagation in optical fibers.

Assesment Procedure:

Students performance was assesed by conducting one assessments test.

- | | |
|--------------------|--|
| ➤ Total Test Marks | :50 |
| ➤ Test Duration | :1.30 Hours |
| ➤ Test Mode | :Offline |
| ➤ Question Pattern | :1)Part A Shall have 30 MCQ.(30*1 = 30 Marks)
2)Part B Shall have 10 questions(10 * 2 = 20 Marks) |

W. Newton
24/12/2018
CDC In-charge

due son
24/12/18
HOD/ECE

S. Praveen
24/12/2018
PRINCIPAL



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2018-19 /EVEN SEMESTER

Competency Development Class(CDC)-GATE Coaching-Summary and Outcome


Summary of the course :

Department of Electronics and Communication Engineering conducted a Competency Development Class(CDC) in Gate Coaching. The resource person for the course was Mr.W.Newton David Raj,Assistant Professor, Department of Electronics and Communication Engineering, Kings College of Engineering, Pulakulam , Pudukkottai. As per the course plan the duration of the course were planned 30 hours. The course was started on 21.01.2019 and ended on 11.02.2019. 15 Students from III ECE were registered and participated, finally on 11.02.2019 exam was conducted for 50 marks. At the end of the day the feedback of the course was collected from the students.

Outcome of the Course :

- GATE qualified can apply for admission into IITs, NITs, GFTIs, IISc and many other institutes for higher studies. Also, they can avail some reserved seats at IIMs for doctoral programme. Based on the GATE score, Institutes like IIT Bombay offers admissions to PhD., PGDM and PGDIE programmes.
- GATE exam qualified candidates can apply for studies in other countries like Germany, Singapore also. So, India is not only the limit.
- By qualifying GATE exam, candidates will be eligible for PSUs Recruitment. Candidates must note that the number of PSUs participating in the recruitment process are increasing, moreover, top companies are also getting involved in it.
- GATE qualified candidates will also be able to apply for various jobs like a Professor or Asst. Professor in reputed institutes. Moreover, Scientists "C" grade jobs can also be acquired by candidates who have qualified GATE exam.
- Direct recruitment to Group A level posts in Central government will be done on the basis of GATE score. The posts include Senior Field Officer (Tele), Senior Research Officer (Crypto) and Senior Research Officer (S&T) in Cabinet Secretariat, Government of India.

W. Newton
11/02/2019
CDC In-charge


11/2/2019
HOD/ECE



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2018-19 /EVEN SEMESTER

Competency Development Class(CDC)-GATE Coaching-Curriculum

CDC NAME	: GATE Coaching
YEAR/CLASS	: III ECE & IVECE
BATCH	: (2015-2019)&(2016-2020)
DURATION	: 30 Hours
RESOURCE PERSON	: Mr.W.Newton David Raj

Section 1&2: Networks & Signals and Systems

Network solution methods: nodal and mesh analysis; Network theorems: superposition, Thevenin and Norton's, maximum power transfer; Wye-Delta transformation; Steady state sinusoidal analysis using phasors; Time domain analysis of simple linear circuits; Solution of network equations using Laplace transform; Frequency domain analysis of RLC circuits; Linear 2-port network parameters: driving point and transfer functions; State equations for networks.

Continuous-time signals: Fourier series and Fourier transform representations, sampling theorem and applications; Discrete-time signals: discrete-time Fourier transform (DTFT), DFT, FFT, Z-transform, interpolation of discrete-time signals; LTI systems: definition and properties, causality, stability, impulse response, convolution, poles and zeros, parallel and cascade structure, frequency response, group delay, phase delay, digital filter design techniques.

Section 3: Electronic Devices

Energy bands in intrinsic and extrinsic silicon; Carrier transport: diffusion current, drift current, mobility and resistivity; Generation and recombination of carriers; Poisson and continuity equations; P-N junction, Zener diode, BJT, MOS capacitor, MOSFET, LED, photo diode and solar cell; Integrated circuit fabrication process: oxidation, diffusion, ion implantation, photolithography and twin-tub CMOS process.

Section 4: Analog Circuits

Small signal equivalent circuits of diodes, BJTs and MOSFETs; Simple diode circuits: clipping, clamping and rectifiers; Single-stage BJT and MOSFET amplifiers: biasing, bias stability, mid-frequency small signal analysis and frequency response; BJT and MOSFET amplifiers: multi-stage, differential, feedback, power and operational; Simple op-amp circuits; Active filters; Sinusoidal oscillators: criterion for oscillation, single-transistor and op-amp configurations; Function generators, wave-shaping circuits and 555 timers; Voltage reference circuits; Power supplies: ripple removal and regulation.

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Number systems; Combinatorial circuits: Boolean algebra, minimization of functions using Boolean identities and Karnaugh map, logic gates and their static CMOS implementations, arithmetic circuits, code converters, multiplexers, decoders and PLAs; Sequential circuits: latches and flip-flops, counters, shift-registers and finite state machines; Data converters: sample and hold circuits, ADCs and DACs; Semiconductor memories: ROM, SRAM, DRAM; 8-bit microprocessor (8085): architecture, programming, memory and I/O interfacing.

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Section 7: Communications

Random processes: autocorrelation and power spectral density, properties of white noise, filtering of random signals through LTI systems; Analog communications: amplitude modulation and demodulation, angle modulation and demodulation, spectra of AM and FM, superheterodyne receivers, circuits for analog communications; Information theory: entropy, mutual information and channel capacity theorem; Digital communications: PCM, DPCM, digital modulation schemes, amplitude, phase and frequency shift keying (ASK, PSK, FSK), QAM, MAP and ML decoding, matched filter receiver, calculation of bandwidth, SNR and BER for digital modulation; Fundamentals of error correction, Hamming codes; Timing and frequency synchronization, inter-symbol interference and its mitigation; Basics of TDMA, FDMA and CDMA.

Section 8: Electromagnetics

Electrostatics; Maxwell's equations: differential and integral forms and their interpretation, boundary conditions, wave equation, Poynting vector; Plane waves and properties: reflection and refraction, polarization, phase and group velocity, propagation through various media, skin depth; Transmission lines: equations, characteristic impedance, impedance matching, impedance transformation, S-parameters, Smith chart; Waveguides: modes, boundary conditions, cut-off frequencies, dispersion relations; Antennas: antenna types, radiation pattern, gain and directivity, return loss, antenna arrays; Basics of radar; Light propagation in optical fibers.

Assesment Procedure:

Students performance was assesed by conducting one assessments test.

- | | |
|--------------------|--|
| ➤ Total Test Marks | :50 |
| ➤ Test Duration | :1.30 Hours |
| ➤ Test Mode | :Offline |
| ➤ Question Pattern | :1)Part A Shall have 30 MCQ.(30*1 = 30 Marks)
2)Part B Shall have 10 questions(10 * 2 = 20 Marks) |

W. Newton
24/12/2018
CDC In-charge

due son
24/12/18
HOD/ECE

S. Praveen
24/12/2018
PRINCIPAL



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2018-19 /EVEN SEMESTER

Competency Development Class(CDC)-GATE Coaching-Name List

CDC NAME : GATE Coaching
 YEAR/CLASS : IV ECE A&B
 BATCH : 2015-2019
 DURATION : 30 Hours
 TOTAL NO OF STUDENTS : 22

S.No	Register Number	Name of the Student	Signature of the Student
1.	821115106016	J.DHIVYA DARSHINI	J. Dhivya Darshini
2.	821115106018	S.DURGA	S. Durga
3.	821115106025	J.S.GAYATHRI	J.S. Gayathri
4.	821115106026	K.GAYATHRY	K. Gayathri
5.	821115106029	K.JAISHREE	K. Jaishree
6.	821115106042	K.MAHALAKSHMI	K. Mahalakshmi
7.	821115106051	B.MONISHA REETA	B. Monisha Reeta
8.	821115106052	L.MOWLI	L. Mowli
9.	821115106053	V.NANDHINI	V. Nandhini
10.	821115106056	C.S.NIRANJANI	C.S. Niranjani
11.	821115106059	B.OVIYA	B. Oviya
12.	821115106066	S.PAVITHRA	S. Pavithra
13.	821115106074	K.PRIYANKA	K. Priyanka
14.	821115106077	S.RANGEELA SUBRAJA	S. Rangeela Subraja
15.	821115106086	R.SHANMUGA PRIYA	R. Shanmuga Priya
16.	821115106087	S.SHENBAGAVENI	S. Shenbagaveni
17.	821115106095	S.SURRIYA	S. Surriya
18.	821115106096	T.SWETHA	T. Swetha
19.	821115106097	J.TAMILSELVAN	J. Tamilselvan
20.	821115106102	N.VIGNESHWAR	N. Vigneshwar
21.	821115106103	S.VIMALA	S. Vimala
22.	821115106105	R.VINITHA	R. Vinitha

W. Nautan
 24/12/2018
 CDC In-charge

[Signature]
 HOD/ECE 24/12/18



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
ACADEMIC YEAR 2018-19 /EVEN SEMESTER

Competency Development Class(CDC)-GATE Coaching-Summary and Outcome

Summary of the course :

Department of Electronics and Communication Engineering conducted a Competency Development Class(CDC) in Gate Coaching. The resource person for the course was Mr.W.Newton David Raj,Assistant Professor, Department of Electronics and Communication Engineering, Kings College of Engineering, Pulakulam , Pudukkottai. As per the course plan the duration of the course were planned 30 hours. The course was started on 24.12.2018 and ended on 04.02.2019. 22 Students from IV ECE were registered and participated, finally on 04.02.2019 exam was conducted for 50 marks. At the end of the day the feedback of the course was collected from the students.

Outcome of the Course :

- GATE qualified can apply for admission into IITs, NITs, GFTIs, IISc and many other institutes for higher studies. Also, they can avail some reserved seats at IIMs for doctoral programme. Based on the GATE score, Institutes like IIT Bombay offers admissions to PhD., PGDM and PGDIE programmes.
- GATE exam qualified candidates can apply for studies in other countries like Germany, Singapore also. So, India is not only the limit.
- By qualifying GATE exam, candidates will be eligible for PSUs Recruitment. Candidates must note that the number of PSUs participating in the recruitment process are increasing, moreover, top companies are also getting involved in it.
- GATE qualified candidates will also be able to apply for various jobs like a Professor or Asst. Professor in reputed institutes. Moreover, Scientists "C" grade jobs can also be acquired by candidates who have qualified GATE exam.
- Direct recruitment to Group A level posts in Central government will be done on the basis of GATE score. The posts include Senior Field Officer (Tele), Senior Research Officer (Crypto) and Senior Research Officer (S&T) in Cabinet Secretariat, Government of India.

W. Newton
04/02/2019
CDC In-charge


de ...
HOD/ECE 4/2/19



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
ACADEMIC YEAR 2018-2019 (EVEN SEMESTER)
MY CREDIT COURSE
NAME LIST FOR SYSTEM DESIGN USING EMBEDDED C PROGRAMMING

S.NO.	NAME OF THE STUDENT	S. NO.	NAME OF THE STUDENT
1	AJAY.M	26	MAHESWARIG
2	ANBUSELVI. P	27	MANISHA. S
3	ANITHA.G	28	MONISHA. A
4	ARTHIKA.B	29	MONISHA REETA. B
5	ASHIGA. S	30	NANDHINI. V
6	BAVADHARINLM	31	NARENDRAN. C
7	DHANALAKSHMI. M	32	NATHIYA. K
8	DHIVYA DARSHINI. J	33	NANDHINI.G
9	DIVYA. K	34	PRIYATHARINI.R
10	DURGA. S(08.03.1998)	35	PREETHI.G
11	DURGA.S(10.06.1998)	36	RANGEELA SUBRAJA. S
12	ELAKIYA. P	37	SHENBAGAVENI. S
13	EZHILARASI. R	38	SHRISURUTHI. G
14	GAYATHRI. J.S	39	SIVABHARATHI. T
15	GAYATHRY.K	40	SURRIYA.S
16	HARITHA. S	41	TAMILSELVAN. J
17	JAISHREE. K	42	VIGNESHWAR. N
18	JANAKI RAMAN. M	43	VIMALA. S
19	JANANI. G	44	VINITHA. R
20	KAVI BALA. S		
21	KAVIBHARATHI. K		
22	KRITHICA.M		
23	LANJER NISHA.S		
24	LAVANYA. J		
25	MAHALAKSHMI. K	TOTAL	44


MCC COORDINATOR


HOD/ECE



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

COURSE PLAN

Sub. Code : MCC	Branch / Year / Sem : B.E ECE / IV /VIII
Sub.Name : System Design using Embedded C	Batch : 2015-2019
Staff Name : Mr. T. Pasupathi	Academic Year : 2018-19 (Even)

COURSE OBJECTIVE

The student should be made to:

- Understand the building blocks of Embedded Systems and architecture of 8051/PIC/ARM Processor
- Understand the embedded software programming and real-time programming
- Understand the concept of real-time development tools and its interfacing

Syllabus:

Module-I INTRODUCTION TO EMBEDDED COMPUTING DESIGN 09

Introduction to 8085/8051/ARM/PIC microprocessor and Microcontrollers-Architecture-Instruction set- Addressing modes- Embedded system design process- Recent trends in Embedded Design and computing platform - programming-Compiling, Linking, and Locating-Downloading and Debugging

Module-II INTRODUCTION TO EMBEDDED C PROGRAMMING 09

Overview of C- Constants, Variables and datatypes- Operators and expressions- Loops-arrays-Strings- User defined function-structures- pointers

Module-III GETTING TO KNOW THE HARDWARE 09

I/O pins-LED's-switches-Keypad-LCD-seven segment display-Timers-Interrupts-UART-RTC-Analog to Digital converter-Digital to analog converter-Memory-stepper motor-DC motor-Zigbee-GSM

Module-IV PROGRAMMING-I/O DEVICES 09

I/O pins-LED's-switches-Keypad-LCD-seven segment display-UART-RTC-Analog to Digital converter-Digital to analog converter- stepper motor-DC motor-PWM-Memory-Timers-Interrupts

Module-V PROGRAMMING-COMMUNICATION PROTOCOLS 09

RF-I²C Interfacing- Zigbee-GSM- Real Time data logging

Total: 45 Periods

TEXT BOOKS:

T1. Marilyn Wolf, "Computers as Components - Principles of Embedded Computing System Design", Third Edition "Morgan Kaufmann Publisher (An imprint from Elsevier), 2012.

T2. E.Balagurusamy, "Programming in ANSI C" Third Edition, Tata Mcgraw Hill, 2005

T3. The 8051 Microcontroller & Embedded systems Using Assembly and C" Second Edition, Pearson Edition.

T4. Muhammad Ali Mazidi, The 8051 Microcontroller and Embedded Systems, Prentice Hall, 2007.

W1. <http://homemaderobo.blogspot.in/2014/02/how-to-configure-zigbee-tarang-f4.html>

W2. <https://www.efxkits.co.uk/wp-content/uploads/2014/11/chapter-10.pdf>

W3. http://www.dauniv.ac.in/downloads/EmbsysRevEd_PPTs/Chap_3Lesson18EmsysN

W4. <https://www.efxkits.co.uk/wp-content/uploads/2014/11/chapter-11.pdf>

Topic No	Topic	Books for Reference	Page No.	Teaching Methodology	No. of Hours Reqd.	Cumulative No. of periods
Module-I INTRODUCTION TO EMBEDDED COMPUTING DESIGN						
1.	Introduction to 8085/8051/ARM/PIC microprocessor and Microcontrollers-Architecture	T3	23-28	PPT	2	2
2.	Instruction set- Addressing modes	T3	109-112 139-161	PPT	2	4
3.	Embedded system design process- Recent trends in Embedded Design and computing platform	T1	10-25, 44	PPT	2	6
4.	programming ,Compiling, Linking, and Locating	T1	57-72, 233, 228-235	PPT	1	7
5.	Downloading and Debugging	T1	181-183	PPT	2	9
Module-II INTRODUCTION TO EMBEDDED C PROGRAMMING						
6.	Overview of C	T2	1-18	PPT	2	11
7.	Constants, Variables and data types	T2	22-33	PPT	2	13
8.	Operators and expressions-	T2	51-62	PPT	1	14
9.	Loops-arrays	T2	145-159 180-199	PPT	1	15
10.	Strings- User defined function	T2	218-230	PPT	1	16
11.	structures	T2	301-313	PPT	1	17
12.	pointers	T2	333-344	PPT	1	18
Module-III GETTING TO KNOW THE HARDWARE						
13.	I/O pins-LED's-switches	T3	181-188	HANDS-ON SESSION	1	19
14.	Keypad-LCD-SSD	T3	351-363		1	20
15.	Timers-Interrupts-UART	T3	239-260 277-306 317-340		1	21
16.	RTC-Analog to Digital converter-Digital to analog converter	T3	373-403 467-479		2	23
17.	Memory-stepper motor-DC motor	T3	491-507 411-430		2	25
18.	Zigbee-GSM	W1			2	27

Topic No	Topic	Books for Reference	Page No.	Teaching Methodology	No. of Hours Reqd.	Cumulative No. of periods
Module-IV PROGRAMMING-I/O DEVICES						
19.	I/O pins-LED's-switches Interfacing	T3	181-188	HANDS-ON SESSION	1	28
20.	Keypad-LCD-seven segment display Interfacing	T3	351-363		1	29
21.	UART-RTC Interfacing	T3	277-306 467-479		1	30
22.	Analog to Digital converter-Digital to analog converter Interfacing	T3	373-403		2	32
23.	stepper motor-DC motor Interfacing	T3	491-507		2	34
24.	PWM-Memory Interfacing	T3	411-440		1	35
25.	Timers-Interrupts Interfacing	T3	317-340 239-260		1	36
Module-V PROGRAMMING-COMMUNICATION PROTOCOLS						
26.	RF Interfacing	W2	-	HANDS-ON SESSION	1	37
27.	I ² C Interfacing	W3	-		2	39
28.	Zigbee Interfacing	W4	-		2	41
29.	GSM Interfacing	W5	-		2	43
30.	Real Time data logging	T4	256-266		2	45

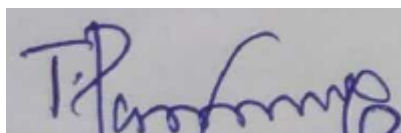
INTERNAL ASSESSMENT DETAILS

ASST. NO.	I	II
Topic Nos.	1 - 15	16-30
Date		

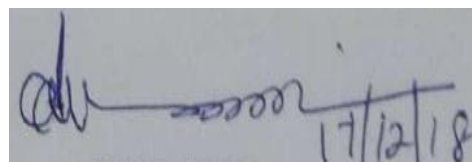
Assesment Procedure:

Students performance was assesed by conducting two assessments test.

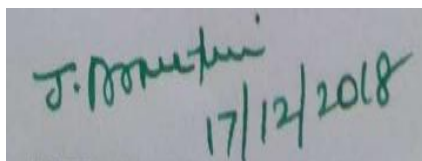
- **Total Test Marks** :50
- **Test Duration** :1.30 Hours
- **Test Mode** :Offline
- **Question Pattern** :1)Part A Shall have 5 questions(05 * 02 = 10 Marks)
2)Part B Shall have 4 questions(04 * 10 = 40 Marks)



Prepared by
Mr. T. PASUPATHI



Verified By
HOD/ECE




Approved by
PRINCIPAL

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
ACADEMIC YEAR 2018-2019 (EVEN SEMESTER)
MY CREDIT COURSE
NAME LIST FOR CCTV INSTALLATION AND SERVICING

S.NO.	NAME OF THE STUDENT	S.NO.	NAME OF THE STUDENT
1	ARAVINDH KUMAR.S	26	RASIKA.K
2	BERKMAANZ. S	27	RATHEESWARAN. M
3	BHARATHI. T	28	ROSLIN MARY. S
4	HARIPRAKASH. RA	29	SANTHIYA. S
5	KANISHKA HARINI. P.S	30	SARA MARIYAM. U
6	MAHALAKSHMI BAL. R	31	SARANKUMAR. S
7	MALATHI. P	32	SHANMUGAPRIYA. S
8	MOWLIL	33	SHANMUGA PRIYA. R
9	IYYAPPAN.J	34	SRIVITHYA. G
10	NIRANJANI C.S	35	SUBASH. K
11	NITHIYA. M	36	SUBASHINI. C
12	NIVETHITHA. D	37	SUGANYA. C
13	OVIYA. B	38	SWETHA. T
14	PADMADHARANI. M	39	UTHRA SRI.V
15	PAVITHRA. B	40	VAINIYA.S
16	PAVITHRA. C	41	VASANTHI. R
17	PAVITHRA. P	42	VINITHA. P
18	PAVITHRA. S	43	ARUNTHAVASELVAN. S
19	PRAGADEESWARI. J	44	ELUMALAI.J
20	PREETHI. S	45	KARTHIKEYAN. K
21	PREETHI. S	46	VIGNESH. M
22	PRIYA .P	47	VINOTHINI. T
23	PRIYANKA. K		
24	PRIYANKA. K		
25	PUNITHA. R	TOTAL	47


MCC COORDINATOR


+ HOD/ECE



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Course : CCTV Installation Technician

Pradhan Mantri Kaushal Vikas Yojana(PMKVY)

COURSE PLAN

PREPARED BY

Mr. P.Raja Pirian, AP/ECE

Mr.T.Jeyaseelan , AP/ECE

NAME OF THE COURSE : CCTV Installation Technician
 YEAR/CLASS : IV ECE
 BATCH : 2018-2019
 RESOURCE PERSON'S : Mr. P.Raja Pirian & Mr.T.Jeyaseelan
 DURATION : 30 Hours

Topic No	Topic	Theory Hours
1.	Basics of Security Surveillance	1
2.	Functions of Video Surveillance	2
3.	Types of cameras and their functions	2
4.	Sensors, Light, Lens and Zoom	2
5.	DVR and switcher	2
6.	Principles of network Remote accessing	2
7.	Install the CCTV camera	2
8.	Setup up the CCTV surveillance system	2
9.	Cables	2
10.	Survey planning and maintenance	2
11.	Assessment 1&2 = 3 Hrs Hands on Training = 8Hrs	

Assesment Procedure:

Students performance was assesed by conducting two assessments test.

- Total Test Marks :50
- Test Duration :1.30 Hours
- Test Mode :Offline
- Question Pattern :1)Part A Shall have 5 questions(05 * 02 = 10 Marks)
2)Part B Shall have 4 questions(04 * 10 = 40 Marks)

Prepared by

Mr.P.Raja Pirian
Mr.T.Jeyaseelan

HOD/ECE

PRINCIPAL



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

MY CREDIT COURSE

ACADEMIC YEAR 2018-19 (EVEN SEM)

SUMMARY AND OUTCOME REPORT FOR MYCREDIT COURSE INITIATIVE

SL.NO	NAME OF THE COURSE	NO OF STUDENTS	TOTAL
1	System Design Using Embedded C	44	91
2	CCTV Installation and Servicing	47	
Total no of Beneficiaries			91

FEEDBACK FROM STUDENTS:

NAME OF THE COURSE	OVERALL FEEDBACK IN %			
	SATISFACTORY	GOOD	VERY GOOD	EXCELLENT
System Design Using Embedded C	NIL	09%	36%	55%
CCTV Installation and Servicing	10%	NIL	08%	82%

CERTIFICATE ISSUED STATUS:

SL. NO	NAME OF THE COURSE	NO.OF STUDENTS	CERTIFICATE ISSUED
1	System Design Using Embedded C	44	TO BE ISSUE
2	CCTV Installation and Servicing	47	
TOTAL		91	NIL

OUTCOMES OF CCTV INSTALLATION AND SERVICING

Interact with the customer in order to identify and understand their requirements.

- Students can ensure customer satisfaction.
- Students can Install and Repair dysfunctional system.
- Students can identify dysfunctional components through visual inspection and by use of multi meter.
- Students can understand CCTV camera installation requirement in terms of equipment, system, tools, and applications appropriate for a particular site.
- Students can select Suitable cameras & DVR to provide the better solution to the customers.
- Students can read and comprehend signs, labels and warning.
- Students can communicate effectively.

- Students can follow behavior etiquettes while interacting with others
- Students can establishing good working relationships with colleagues within and outside the department by coordinating

OUTCOMES OF OUTCOMES OF CCTV INSTALLATION AND SERVICING

- Students can understand the general process of embedded system development.
- Comprehend important embedded system terminology
- Students can experience common aspects of embedded system development
- Understanding of what an embedded system R&D project is, and the activities it involves.
- Experience of embedded system product conceptualization methods and think tanks
- Suggestion of own product concepts.
- Understanding of a concept presentation.
- Interface to peripherals, knowledge of typical interfacing standards*
- Development of prototype circuit on breadboard (including interfacing to microcontroller, and control from software)
- Use of RT UML for system level, hardware, and software modeling, used to: refine concepts, produce system designs, and express ideas.

P. Ph
28/3/19

MCC CO ORDINATOR

de 28/3/19

HEAD OF THE DEPARTMENT

S. Ramesh
28/3/2019

ACADEMIC YEAR

2017-2018

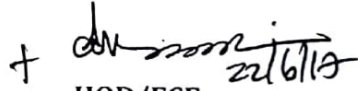
**KINGS****DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING****ACADEMIC YEAR 2017-18/ODD SEMESTER****GATE Competitive Exam Coaching Class Name List****Batch : (2015-2019)****Class/Sem/Sec : III ECE/05/A&B**

S.No	Reg No	Student Name
1.	821115106003	ANBUSELVI. P
2.	821115106004	ANITHA. G
3.	821115106007	ARTHIKA. B
4.	821115106010	BAVADHARINI. M
5.	821115106015	DHINESH PRIYA. C
6.	821115106016	DHIVYA DARSHINI. J
7.	821115106021	ELAKIYA. P
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13.	821115106036	KAVI BALA. S
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15.	821115106041	LAVANYA. J
16.	821115106042	MAHALAKSHMI. K
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21.	821115106051	MONISHA REETA. B
22.	821115106052	MOWLI. L
23.	821115106053	NANDHINI. V
24.	821115106054	NARENDRAN. C
25.	821115106307	NANDHINI. G
26.	821115106059	OVIYA. B

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28.	821115106068	PRAGADEESWARI. J
29.	821115106074	PRIYANKA. K
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33.	821115106087	SHENBAGAVENI. S
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35.	821115106097	TAMILSELVAN. J
36.	821115106099	VAINIYA. S
37.	821115106103	VIMALA. S
38.	821115106105	VINITHA. R

Total No of Enrolled Students : 38

W. Newton
22/06/2017
GATE-CO-ORDINATOR
[Mr.W.Newton David Raj,AP/ECE]

+ 
HOD/ECE



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2017-18 /ODD SEMESTER

GATE Coaching-Curriculum

COURSE NAME : GATE Coaching
YEAR/CLASS : III ECE A&B
BATCH : 2015-2019
DURATION : 30 Hours
STAFF INCHARGE : Mr.W.Newton David Raj
TOTAL NO OF STUDENTS : 38

Section 1: Networks, Signals and Systems

Network solution methods: nodal and mesh analysis; Network theorems: superposition, Thevenin and Norton's, maximum power transfer; Wye-Delta transformation; Steady state sinusoidal analysis using phasors; Time domain analysis of simple linear circuits; Solution of network equations using Laplace transform; Frequency domain analysis of RLC circuits; Linear 2-port network parameters: driving point and transfer functions; State equations for networks.

Continuous-time signals: Fourier series and Fourier transform representations, sampling theorem and applications; Discrete-time signals: discrete-time Fourier transform (DTFT), DFT, FFT, Z-transform, interpolation of discrete-time signals; LTI systems: definition and properties, causality, stability, impulse response, convolution, poles and zeros, parallel and cascade structure, frequency response, group delay, phase delay, digital filter design techniques.

Section 2: Electronic Devices

Energy bands in intrinsic and extrinsic silicon; Carrier transport: diffusion current, drift current, mobility and resistivity; Generation and recombination of carriers; Poisson and continuity equations; P-N junction, Zener diode, BJT, MOS capacitor, MOSFET, LED, photo diode and solar cell; Integrated circuit fabrication process: oxidation, diffusion, ion implantation, photolithography and twin-tub CMOS process.

Section 3: Analog Circuits

Small signal equivalent circuits of diodes, BJTs and MOSFETs; Simple diode circuits: clipping, clamping and rectifiers; Single-stage BJT and MOSFET amplifiers: biasing, bias stability, mid-frequency small signal analysis and frequency response; BJT and MOSFET amplifiers: multi-stage, differential, feedback, power and operational; Simple op-amp circuits; Active filters; Sinusoidal oscillators: criterion for oscillation, single-transistor and opamp configurations; Function generators, wave-shaping circuits and 555 timers; Voltage reference circuits; Power supplies: ripple removal and regulation.

Section 4: Digital Circuits

Number systems; Combinatorial circuits: Boolean algebra, minimization of functions using Boolean identities and Karnaugh map, logic gates and their static CMOS implementations, arithmetic circuits, code converters, multiplexers, decoders and PLAs; Sequential circuits: latches and flip-flops, counters, shift-registers and finite state machines; Data converters: sample and hold circuits, ADCs and DACs; Semiconductor memories: ROM, SRAM, DRAM; 8-bit microprocessor (8085): architecture, programming, memory and I/O interfacing.

Section 5: Control Systems

Basic control system components; Feedback principle; Transfer function; Block diagram representation; Signal flow graph; Transient and steady-state analysis of LTI systems; Frequency response; Routh-Hurwitz and Nyquist stability criteria; Bode and root-locus plots; Lag, lead and lag-lead compensation; State variable model and solution of state equation of LTI systems.

Section 6: Communications

Random processes: autocorrelation and power spectral density, properties of white noise, filtering of random signals through LTI systems; Analog communications: amplitude modulation and demodulation, angle modulation and demodulation, spectra of AM and FM, superheterodyne receivers, circuits for analog communications; Information theory: entropy, mutual information and channel capacity theorem; Digital communications: PCM, DPCM, digital modulation schemes, amplitude, phase and frequency shift keying (ASK, PSK, FSK), QAM, MAP and ML decoding, matched filter receiver, calculation of bandwidth, SNR and BER for digital modulation; Fundamentals of error correction, Hamming codes; Timing and frequency synchronization, inter-symbol interference and its mitigation; Basics of TDMA, FDMA and CDMA.

Section 7: Electromagnetics

Electrostatics; Maxwell's equations: differential and integral forms and their interpretation, boundary conditions, wave equation, Poynting vector; Plane waves and properties: reflection and refraction, polarization, phase and group velocity, propagation through various media, skin depth; Transmission lines: equations, characteristic impedance, impedance matching, impedance transformation, S-parameters, Smith chart; Waveguides: modes, boundary conditions, cut-off frequencies, dispersion relations; Antennas: antenna types, radiation pattern, gain and directivity, return loss, antenna arrays; Basics of radar; Light propagation in optical fibers.

Assesment Procedure:

Students performance was assessed by conducting one assessments test.

- **Total Test Marks** :50
- **Test Duration** :1.30 Hours
- **Test Mode** :Offline
- **Question Pattern**
 - :1)Part A Shall have 10 questions (10*1 = 10 Marks)
 - 2)Part B Shall have 10 questions(10*2 = 20 Marks)
 - 3)Part C Shall have 05 questions(05*4 = 20 Marks)

W. Nautan
23/06/2017
Staff In-charge

[Signature]
23/6/17
HOD/ECE

J. Praveen
23/6/2017
PRINCIPAL



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2017-18 / ODD SEMESTER

GATE Coaching-Summary and Outcome

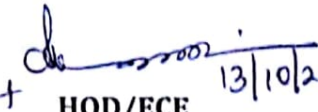
Summary of the course :

Department of Electronics and Communication Engineering conducted a Gate Coaching Class for III ECE Students. The co-ordinator for the course was Mr.W.Newton David Raj, Assistant Professor, Department of Electronics and Communication Engineering, Kings College of Engineering, Pulakulam , Pudukkottai. As per the course plan the duration of the course were planned 30 hours. The course was started on 23.06.2017 and ended on 13.10.2017. 38 Students from III ECE were registered and participated, finally on 13.10.2017 exam was conducted for 50 marks. At the end of the day the feedback of the course was collected from the students.

Outcome of the Course :

- GATE qualified can apply for admission into IITs, NITs, GFTIs, IISc and many other institutes for higher studies. Also, they can avail some reserved seats at IIMs for doctoral programme. Based on the GATE score, Institutes like IIT Bombay offers admissions to PhD., PGDM and PGDIE programmes.
- GATE exam qualified candidates can apply for studies in other countries like Germany, Singapore also. So, India is not only the limit.
- By qualifying GATE exam, candidates will be eligible for PSUs Recruitment. Candidates must note that the number of PSUs participating in the recruitment process are increasing, moreover, top companies are also getting involved in it.
- GATE qualified candidates will also be able to apply for various jobs like a Professor or Asst. Professor in reputed institutes. Moreover, Scientists "C" grade jobs can also be acquired by candidates who have qualified GATE exam.
- Direct recruitment to Group A level posts in Central government will be done on the basis of GATE score. The posts include Senior Field Officer (Tele), Senior Research Officer (Crypto) and Senior Research Officer (S&T) in Cabinet Secretariat, Government of India.

W. Newton
13/10/2017
Staff In-charge

+ 
13/10/2017
HOD/ECE



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR (2017-2018) ODD SEMESTER

Name of the Course: Mini Project	
Duration :30 hrs	Beneficiaries : II & III ECE
Course commences on : 5.7.2017	Course in Charge: Mr.R.Thandayuthapani

Syllabus

UNIT 1 INTRODUCTION 08

Instruction to the students – Guide lines– Batch formation – Topic Identification – Area of Specialization

UNIT 2 HANDS ON PRACTICE 12

Topic Confirmation – Hardware and Software Identification - Soldering Practice – Integration

UNIT 3 PROJECT COMPLETION 10

Testing and Debugging - Project Submission

REFERENCE:

- R1: Electronics for You
- R2: Mini project Handbook

ASSESSMENT PROCEDURE:

- PPT Presentation
- Project Demo & Exhibition

R. S. S. S. S.
Mini Project Coordinator

[Signature]
HOD/ECE

J. R. R. R. R.
05/7/2017
Principal



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
ACADEMIC YEAR 2017 - 2018 / ODD SEMESTER

MINIPROJECT REGISTRATION FORM

DATE: 01.09.2017

Sl. No.	Project Name	Name of the Student	Year/sec	Name of College	Signature
1	Automatic street light control	DHURKA . K ABARNA . P	II - A	KCE	Dhruka P. Arna
2	Automatic plant Irrigation	AKALYA . K MEGHALA . M	II - A	KCE	Akalya Meghala
3	Electronic Letter Box	G. KAYADEVI A-ELAKIYA KOWSHIKA	II - A	KCE	G. Kayadevi A. Elakiya Kowshika
4	Home Automation	DHANAHARSHINI . S ADIALYA . S ADLINE PREETHI INFANTA . J	II - A	KCE	S. Dhana S. Adialya S. Adline
5	Human Sensor Alarm	SANTHIYA . R SOWMIYA . R	II - B	ECE	R. Santhi S. Sowmiya
6	Mobile Jammer Circuit	ARIYAVARSHINI . J ARCHANA . T	II - A	KCE	J. Ariyavarshini T. Archana

7	GI Priyadharshini Electronic eye controlled security system	U.K. VITHYASRI PRIYADHARSHINI V. SASIREKHA	II - B	ECE	G. S. G. S. B. M. S. S. V. S. S. S.
8	Temperature Controller	GI Priyadharshini K. VINITHA	II - B	ECE	G. S. G. S.
9	TV Remote Jammer	R. DHIVYA DHARSHINI M. HARINI	II - A	ECE	R. S. S. S. M. S. S. S.
10	Clap Switch	P. VARSHA M. RAJKA P. PRIYADHARSHINI	II - B	ECE	P. S. S. S. R. S. S. S. P. S. S. S.
11	Vehicle loaded unloaded Monitoring System by using an. Mobile application	A. SYED SHAIK DAWOOD G. HARI HARAN.	IV IV	Arasu Engineering College	A. S. S. S.
12	Intruder alarm	K. MEERA M. KOWSALYA	II - A	ECE	K. Meera M. Kowsalya
13	Water level Alarm	C. RANJITHA D. RANJITHA J. SANTHAKUMARI	II - B	ECE	A. S. S. S. D. S. S. S. J. S. S. S.
14	Ultra Sonic distance Measuring system	GI G. Harini K. Imaya	III year	Arasu Engineering college ECE dept	G. S. S. S. K. Imaya
15		S. Suresha J. Tamil Selvan	III - year	ECE	S. Suresha J. Tamil Selvan

MINI PROJECT INCHARGE

HOD/ECE



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION
ENGINEERING**

REPORT

MINI PROJECT EXPO – 2017

on

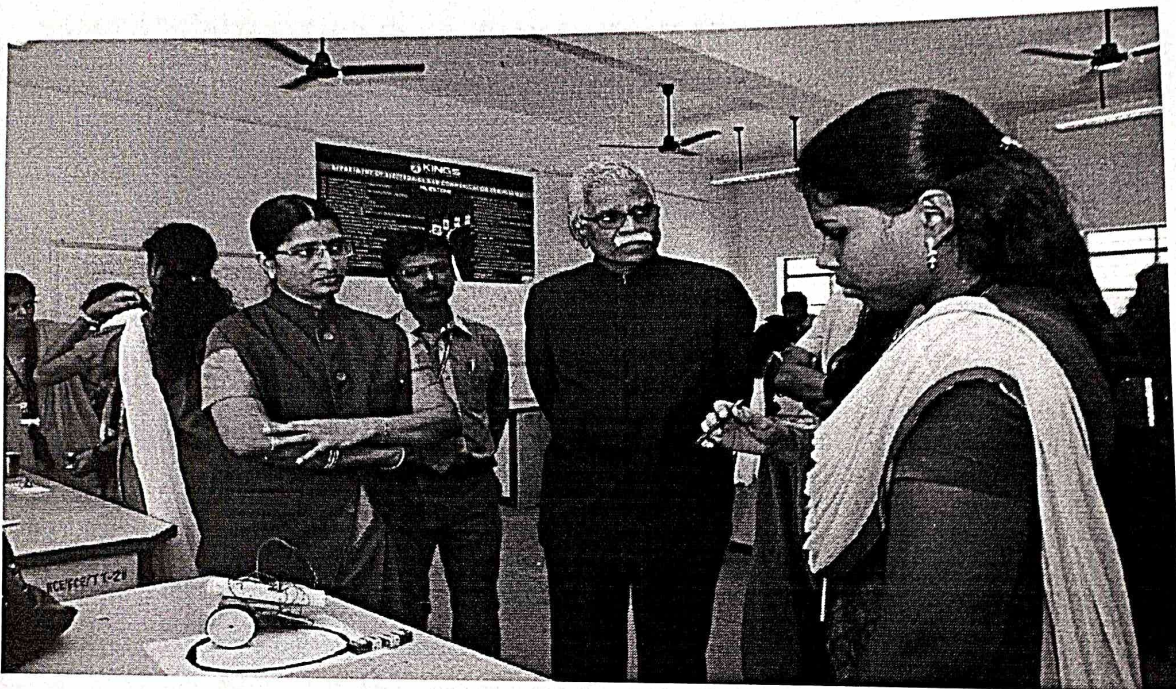
01st September 2017

Coordinator

Mr.R.Thandayuthapani, AP/ECE

About the Expo:

A Mini Project Exposition was held at Kings College of Engineering, Punalkulam in the department of Electronics and Communication Engineering on 01st September 2017. The aim of the Expo is to reveal the practical knowledge of the students obtained from their curriculum.



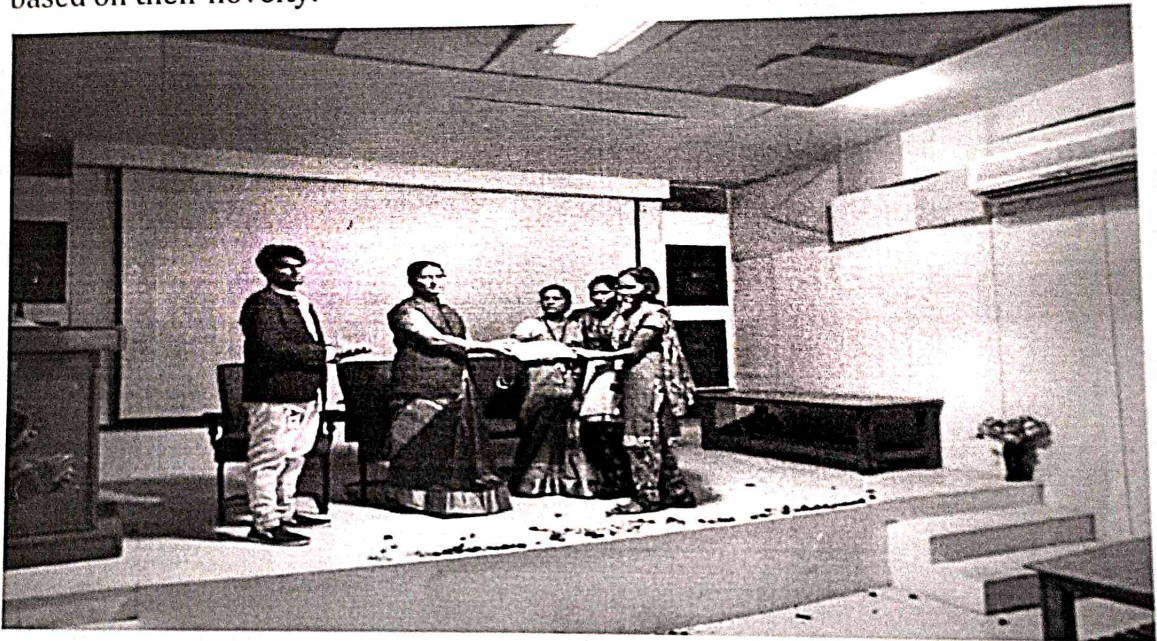
Dr.R.Rajendran ,Secretary , Kings college of Engg and Dr.J.Arputha Vijaya Selvi , Principal, Kings College of Engg viewing the project exhibition

The Chief Guest

The Expo was inaugurated after a ribbon cutting ceremony in the Digital Electronics Lab at 12.05 P.M by **Dr.R.Rajendran**, Secretary, Kings College of Engineering in the presence of **Dr.J.Arputha Vijaya Selvi** , Principal, Kings College of Engineering. The projects were judged by **Mr.J.Arokiyaraj**, AP/EEE and **Mr.T.Jayasankar**, Assistant Professor, BIT Campus, Anna University, Trichy.

Participants

The participants are the second year and third year students of the Electronics and Communication Engineering department. About **37 students** participated in the exposition and **16 projects** were exhibited. Students exhibited their projects related to Water level alarm, Automatic plant irrigation system and Electronic Eye controlled security system. The best projects were selected based on their novelty.



Prize and certificates distribution to the participants

OUTCOME

The faculty and students from various departments visited the Expo and shown keen interest in knowing the working of the projects displayed by the students. They expressed that events of this kind may be conducted in future also. The participants felt pleasure in displaying the projects.

MINIPROJECT TOPICS WITH NAME LIST

Sl. No	Name of the Student	Year	Name of the college	Name of the Project
1	A.Syed Sheik Dawood G.Hari Haran	IV	Arasu Engineering College	Vehicle loaded & unloaded monitoring systems by using and mobile application
2	G.G.Harini G.HariHaran	IV		Vehicle for physically challenged person
3	S.Anitha K.Imaya	IV		Line following robot
4	K.Akalya M.Megala	II	Kings College of Engineering	Automatic plant irrigation system
5	C.Ranjitha D.Ranjitha J.Shanthakumari	II		Water level alarm
6	U.K.Vithyasri K.Priyadharshini V.Sasirekha	II		Electronic eye controlled security system
7	G.Kayadevi A.Elakiyakowshika	II		Electronic letter box
8	R.Sowmiya R.Santhiya	II		Patient Emergency Address systems
9	Adline Preethi Infanta.J S.Agalya Dhanaharshini.S	II		Home Automation
10	K.Meera M.Kowsalya	II		Super sensitive intruder Alarm
11	G.Priyadharshini K.Vinitha	II		Temperature controller
12	Dhurka.K Abarna.P	II		Automatic Street Light control system
13	Rasika.M Varsha.P Priyadharshni.P	II		Clap switch
14	T.Archana J.Ariyavarshini	II		Mobile jammer circuit
15	M.Ilarini R.Dhivyadarshini	II		TV Remote jammer
16	J.Tamilselvan M.Janakiraman S.Surriya	III		Automatic electric lamp

Total no of projects: 16 / Total no of students: 37

R. [Signature]
10/09/17

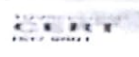
[Signature]

J. [Signature]
10/9/17

Mini Project In-Charge

HoD/ECE

PRINCIPAL

**KINGS****DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING****ACADEMIC YEAR 2017-18/EVEN SEMESTER****GATE Competitive Exam Coaching Class Name List**

Batch : (2015-2019)

Class/Sem/Sec : III ECE/06/A&B

S.No	Reg No	Student Name
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38.	821115106105	VINITHA. R

Total No of Enrolled Students : 38

W. Newton
16/12/2017
GATE CO-ORDINATOR
[Mr.W.Newton David Raj,AP/ECE]

+ [Signature]
HOD/ECE 16/12/17



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2017-18/EVEN SEMESTER

GATE Coaching-Curriculum

COURSE NAME : GATE Coaching
YEAR/CLASS : III ECE A&B
BATCH : 2015-2019
DURATION : 30 Hours
STAFF INCHARGE : Mr.W.Newton David Raj
TOTAL NO OF STUDENTS : 38

Section 1: Networks, Signals and Systems

Network solution methods: nodal and mesh analysis; Network theorems: superposition, Thevenin and Norton's, maximum power transfer; Wye-Delta transformation; Steady state sinusoidal analysis using phasors; Time domain analysis of simple linear circuits; Solution of network equations using Laplace transform; Frequency domain analysis of RLC circuits; Linear 2-port network parameters: driving point and transfer functions; State equations for networks.

Continuous-time signals: Fourier series and Fourier transform representations, sampling theorem and applications; Discrete-time signals: discrete-time Fourier transform (DTFT), DFT, FFT, Z-transform, interpolation of discrete-time signals; LTI systems: definition and properties, causality, stability, impulse response, convolution, poles and zeros, parallel and cascade structure, frequency response, group delay, phase delay, digital filter design techniques.

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Energy bands in intrinsic and extrinsic silicon; Carrier transport: diffusion current, drift current, mobility and resistivity; Generation and recombination of carriers; Poisson and continuity equations; P-N junction, Zener diode, BJT, MOS capacitor, MOSFET, LED, photo diode and solar cell; Integrated circuit fabrication process: oxidation, diffusion, ion implantation, photolithography and twin-tub CMOS process.

Section 3: Analog Circuits

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Assesment Procedure:

Students performance was assesed by conducting one assessments test.

- | | |
|--------------------|---|
| ➤ Total Test Marks | :50 |
| ➤ Test Duration | :1.30 Hours |
| ➤ Test Mode | :Offline |
| ➤ Question Pattern | :1)Part A Shall have 10 questions (10*1 = 10 Marks)
2)Part B Shall have 10 questions(10*2 = 20 Marks)
3)Part C Shall have 05 questions(05*4 = 20 Marks) |

W. Newber
20/12/2017
Staff In-charge

1
HOD/ECE
20/12/17

J. Praveen
20/12/2017
PRINCIPAL



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2017-18/EVEN SEMESTER

GATE Coaching-Summary and Outcome

Summary of the course:

Department of Electronics and Communication Engineering conducted a Gate Coaching Class for III ECE Students. The co-ordinator for the course was Mr.W.Newton David Raj, Assistant Professor, Department of Electronics and Communication Engineering, Kings College of Engineering, Pulakulam , Pudukkottai. As per the course plan the duration of the course were planned 30 hours. The course was started on 20.12.2017 and ended on 13.04.2018. 38 Students from III ECE were registered and participated, finally on 13.04.2018 exam was conducted for 50 marks. At the end of the day the feedback of the course was collected from the students.

Outcome of the Course :

- GATE qualified can apply for admission into IITs, NITs, GFTIs, IISc and many other institutes for higher studies. Also, they can avail some reserved seats at IIMs for doctoral programme. Based on the GATE score, Institutes like IIT Bombay offers admissions to PhD., PGDM and PGDIE programmes.
- GATE exam qualified candidates can apply for studies in other countries like Germany, Singapore also. So, India is not only the limit.
- By qualifying GATE exam, candidates will be eligible for PSUs Recruitment. Candidates must note that the number of PSUs participating in the recruitment process are increasing, moreover, top companies are also getting involved in it.
- GATE qualified candidates will also be able to apply for various jobs like a Professor or Asst. Professor in reputed institutes. Moreover, Scientists "C" grade jobs can also be acquired by candidates who have qualified GATE exam.
- Direct recruitment to Group A level posts in Central government will be done on the basis of GATE score. The posts include Senior Field Officer (Tele), Senior Research Officer (Crypto) and Senior Research Officer (S&T) in Cabinet Secretariat, Government of India.

W. Newton
13/04/2018
Staff In-charge

de
13/4/2018
HOD/ECE



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

COURSE PLAN

Name of the Course : Internet of Things			
Duration	: 45 hrs.	Beneficiaries	: IV ECE
Course Commences on	: 8/12/2017	Course In charge	: P.Raja Pirian

COURSE OBJECTIVE

1. To know the basics of algorithmic problem solving
2. To write Python programs.
3. To understand the fundamentals of Internet of Things.
4. To learn about the basics of IOT protocols.
5. To build a small low cost embedded system using Raspberry Pi.

TEXT BOOKS

- T1.** Allen B. Downey, "Think Python: How to Think Like a Computer Scientist", 2nd edition, Updated for Python 3, Shroff/O'Reilly Publishers, 2016 (<http://greenteapress.com/wp/think-python/>)

REFERENCE BOOKS

- R1.** John V Guttag, "Introduction to Computation and Programming Using Python", Revised and expanded Edition, MIT Press, 2013
- R2.** Timothy A. Budd, "Exploring Python", Mc-Graw Hill Education (India) Private Ltd., 2015.
- R3.** Kenneth A. Lambert, "Fundamentals of Python: First Programs", CENGAGE Learning, 2012.
- R4.** Charles Dierbach, "Introduction to Computer Science using Python: A Computational Problem-Solving Focus, Wiley India Edition, 2013.
- R5.** Arshdeep Bahga, Vijay Madisetti, "Internet of Things – A hands-on approach", Universities Press, 2015.
- R6.** Honbo Zhou, "The Internet of Things in the Cloud: A Middleware Perspective", CRC Press, 2012.
- R7.** Olivier Hersent, David Boswarthick, Omar Elloumi, "The Internet of Things – Key applications and protocols", Wiley, 2012.

WEB RESOURCES

- W1.** https://www.tutorialspoint.com/design_and_analysis_of_algorithms/design_and_analysis_of_algorithms_introduction.htm (**Topic.No:1**)
- W2.** https://en.wikibooks.org/wiki/Foundations_of_Computer_Science/Algorithm_Design (**Topic.No:2**)
- W3.** <http://www.dcs.bbk.ac.uk/~gr/itapps/PBB.pdf> (**Topic.No:2**)
- W4.** <https://books.google.co.in/books?isbn=1107546737> (**Topic.No:6**)
- W5.** <http://ps-iiiith.vlabs.ac.in/> (**Sorting & Searching**)
- W6.** <https://www.youtube.com/watch?v=KrjWloKRE2U> (**Topic.No:18**)
- W7.** <https://docs.python.org/3/tutorial/index.html> (**Complete Python Tutorial**)
- W8.** <https://www.diva-portal.org/smash/get/diva2:565499/FULLTEXT02.pdf> (**Topic.No:30**)

Topic No	Topic	Books for Reference	Page No.	Teaching Methodology	No. of Hours Required	Cumulative No. of periods
UNIT I ALGORITHMIC PROBLEM SOLVING (9)						
1.	Algorithms, Building blocks of algorithms	R5 W1,W2, W3	6-8	BB	1	1
2.	Algorithmic problem solving	R5	17-22	BB	1	6
3.	Simple strategies for developing algorithms	R5	17-22	BB	1	7
4.	Illustrative problems	W4 R5	477-481	Demo	2	9
5.	Python interpreter and interactive mode	T1 R4 R5	1-2 23-24 22-23	Demo	1	10
6.	Values and Types	T1 R1 R4	11 13-16 47-50	BB	1	11
7.	Variables Expressions Statements Tuple Assignment	T1 R1 R4 R5	12-15 9-12 51-62 51-55,61	BB	1	12
8.	Modules and functions Function def and use ,Flow of execution Parameters& arguments	T1 R4 R3 R5	151-155 63-66 220-225 165-186	Demo	2	16
9.	Illustrative programs	R5	95-99	BB	2	18
LEARNING OUTCOME						
At the end of unit, students should be able to						
<ul style="list-style-type: none"> • Write simple python programs and execute to get results • Use expressions applying operators to solve mathematical problems • Apply different python programming constructs and run python programs 						
UNIT II CONTROL FLOW, FUNCTIONS, LISTS, TUPLES (9)						
10.	Boolean values and operators,Conditional (if,if-else,if-elif-else), Iteration:State, While, For,Break,Continue,Pass	T1 R4	41-45 63-67 96-102	BB	1	19
11.	Fruitful functions: Return values, Parameters,Local & global scope,	T1 R5	45-46 51-60 169-189 461-476	BB	2	23
12.	Strings: String slices, Immutability, String functions and methods	T1	71-77	BB	1	24
13.	Lists as arrays	R4	47-50	BB	1	25
14.	Lists: List of operations Mutability,Aliasing, Cloning lists, List parameters	T1 R4 R5	87-93 179-192 124-131	BB	2	29

Topic No	Topic	Books for Reference	Page No.	Teaching Methodology	No. of Hours Required	Cumulative No. of periods
15.	Tuples: Tuple assignment Tuple as return value	T1 R5	113-119 192 131-132	BB	2	31
16.	Dictionaries: Operations and methods	T1 R5	101-107 338-345	BB	1	32
17.	Advanced list processing – List comprehension	R5	128-131	BB	1	33
18.	Illustrative programs:	W5 W6		Demo NPTEL	3	36

LEARNING OUTCOME

At the end of unit, students should be able to

- Utilize different conditional and iterative statements and write python programs to solve problems.
- Design appropriate functions to solve problems using python program
- Apply different built-in functions in program

UNIT III**INTRODUCTION TO IoT****(9)**

19.	Internet of Things	R5	19	BB	1	1
20.	Physical Design	R5	23	BB	1	2
21.	Logical Design	R5	29	BB	1	3
22.	IoT Enabling Technologies	R5	35	BB	1	4
23.	IoT Levels and Deployment Templates	R5	38	BB	1	5
24.	Domain Specific IoTs	R5	47	PPT	1	6
25.	IoT and M2M	R5	65	BB	1	7
26.	IoT System management with NETCONF, YANG	R5	79	PPT	1	8
27.	IoT Platforms Design Methodology	R5	99	BB	1	9

LEARNING OUTCOME

At the end of this subject, Students be able to:

- Interpret the vision of IoT from a global context.
- Learn about IoT Platforms and domain specific IoT

UNIT IV**IoT PROTOCOLS****(9)**

28.	Protocol Standardization for IoT, Efforts	R6	169	BB	1	19
29.	M2M and WSN protocols	R6	182	PPT	1	20
30.	SCADA and RFID protocols	R6,W8	187	PPT	1	21
31.	Unified Data Standards Protocols	R6	194	BB	1	22
32.	IEEE 802.15.4, BACNet Protocol	R7	45	BB	1	23
33.	Modbus	R7	79	PPT	1	24
34.	Zigbee Architecture Network layer	R7	99	BB	1	25
35.	6LowPAN,CoAP	R7	195	BB	1	26

Topic No	Topic	Books for Reference	Page No.	Teaching Methodology	No. of Hours Required	Cumulative No. of periods
36.	Security	R7	208	BB	1	27
LEARNING OUTCOME At the end of unit, students should be able to <ul style="list-style-type: none"> Analyze various protocols for IoT Protocols for local & global connectivity 						
UNIT V BUILDING IoT WITH RASPBERRY PI & ARDUINO (9)						
37.	Building IoT with RASPBERRY PI IoT Systems	R5	154	BB	1	28
38.	Logical Design using Python	R5	121	BB	1	29
39.	IoT Physical Devices and Endpoints	R5	153	PPT	1	30
40.	IoT Device Building blocks	R5	154	BB	1	31
41.	Raspberry Pi Board	R5	155	BB	1	32
42.	Linux on Raspberry Pi	R5	156	BB	1	33
43.	Raspberry Pi Interfaces	R5	162	BB	1	34
44.	Programming Raspberry Pi with Python	R5	162	BB	1	35
45.	Other IoT Platforms - Arduino	R5	167	BB	1	36

Assesment Procedure:

Students performance was assesed by conducting one assessments test.

- **Total Test Marks** :50
- **Test Duration** :1.30 Hours
- **Test Mode** :Offline
- **Question Pattern** :1)Part A Shall have 5 questions(05 * 02 = 10 Marks)
2)Part B Shall have 4 questions(04 * 10 = 40 Marks)

Mr. P. Raja Pirian

Prepared by
Mr.P.Raja Pirian

J. Ramesh
08/12/2017
PRINCIPAL

Dr. S. S. S. S.
8/12/17

Verified By
HOD/ECE



My Credit Course

Name of the Course : DIGITAL SYSTEM DESIGN & VERIFICATION USING EDA TOOLS	
Duration : 45 hrs.	Course In charge : Mr. T.Pasupathi
Beneficiaries : IV ECE	
Course Commences on : 22/12/2017	

OBJECTIVES:

- To learn front end and back end design of VLSI tools
- To learn the fundamental principles of VLSI circuit design in digital and analog domain
- To familiarize fusing of logical modules on FPGAs
- To provide hands on design experience with professional design (EDA) platforms.

Module 1:VLSI Design flow & Integrated circuit design

T:09

Introduction, VLSI circuit design process-Design flow-Design integrity issues-Role of EDA tools in IC design-Design strategies, PLD-PLA-PAL, Implementation approaches in VLSI design-CPLD-standard cells- FPGA-Design issues.

Module 2: Introduction to HDL basic language elements

T:03+ L:06

HDL Description of combinational and sequential networks-Behavioral-dataflow-structural modeling- Signals-constants-operators, functions-procedures-State machines-Concurrent code, Sequential code-Adders, multipliers, flip-flops-sequential machine-variables-Barrel Shifter - Signed and Unsigned Comparators - Carry Ripple and Carry Look Ahead Adders-Fixed-Point Division

Module 3: Hardware modeling examples

T:03+ L:06

Vending-Machine Controller - Serial Data Receiver - Parallel-to-Serial Converter-Playing with a Seven-Segment Display - Signal Generators - Memory Design-Interfacings of LED, ADC-DAC-Pulse counter-keypad scanner-Multipliers-frequency divider-LCD-buzzer-relay-RS232-Zigbee-Sensor interfacing.

Module 4: Back-end EDA Tools

T:05+ L:04

EDA tool design flow-Design and Implementation of combinational circuits using EDA tools-Design and Implementation of sequential circuit using EDA tools

Module 5: Design examples

T:03+ L:06

Design and simulation of adders, inverters using EDA tools -CMOS SRAM Design, DRC -LVS & Parasitic Extraction

TOTAL: 45 PERIODS

Text book:

- T1. K.Lal kishire, V.S.V Prabhakar, VLSI Design, I.K International publishing house private limited, 2009
- T2.Volnei A. Pedroni, Circuit Design with VHDL, MIT Press Cambridge, First edition, 2004.
- T2. Bhasker J., VHDL Primer, Englewood Cliffs, NJ: Prentice Hall, 3rd Edition, 1999.

Web resources:

- W1. http://www.pld.ttu.ee/~alsu/EK_2_Comb&Seq.PDF **(Topic No:8)**
- W2. ewh.ieee.org/sb/delhi/ggsipu/docs/piyush/3/DSD.../L4_modeling%20styles.ppt **(Topic No:9)**
- W3. <http://www.engr.uconn.edu/~tehrani/teaching/ece3401/lec05.pdf> **(Topic No:13)**
- W4. <http://www.rfwireless-world.com/source-code/VHDL/ADC-DAC-interfacing-with-FPGA-vhdl-code.html> **(Topic No:18)**

W5. <http://208.254.74.112/books/details/9781498796750/> (**Topic No:20-24**)
W6. <http://www.cs.unc.edu/~montek/teaching/spring-05/lab1.pdf> (**Topic No:28**)
W7. <http://www.egr.msu.edu/classes/ece410/mason/files/TutorialB.pdf> (**Topic No:29-30**)
W8. http://ens.ewi.tudelft.nl/Education/courses/et4351/ug_asic_14.pdf (**Topic No:25**)
W9. https://www.google.co.in/url/Asynchronous_Circuits_using_Conventional_EDA_Tool-Flow.pdf.gz&usg=AOvVaw2OH5rWx3RBbkZieUVeFNxJ (**Topic No:26-27**)

OUTCOMES:

At the end of the course, the student should be able to

- Write HDL code for basic as well as advanced digital integrated circuits.
- Import the logic modules into FPGA Boards.
- Synthesize, Place and Route the digital IPs.
- Design, Simulate and Extract the layouts of Analog IC Blocks using EDA tools.

Topic No	Topic	Books for Reference	Page No.	Teaching Methodology	No. of Hours Required	Cumulative No. of periods
Module-I Review of logic design fundamentals						
1.	Introduction, VLSI circuit design process	T1	79-80	BB	2	2
2.	Design flow-Design integrity issues	T1	82-100	BB	2	4
3.	Role of EDA tools in IC design-Design strategies,	T1	102-106	BB	1	5
4.	PLD-PLA-PAL	T1	171-178	BB	1	6
5.	Implementation approaches in VLSI design, CPLD	T1	179-180 182-184	BB	1	7
6.	Standard cells- FPGA	T1	185 190-201	BB	1	8
7.	Design issues.	T1	201		1	9
Module-II Introduction to HDL basic language elements						
8.	HDL Description of combinational and sequential networks	W1	-	BB	1	10
9.	Behavioral-dataflow-structural modeling-	W2	-	Hands-on training	1	11
10.	Signals-constants-operators, functions-procedures	T2	129-131, 253-256, 265		1	12
11.	State machines	T2	159-181		1	13
12.	Concurrent code, Sequential code	T2	65-81 91-112		2	15
13.	Adders, multipliers, flip-flops-sequential machine-variables	W3	-		1	16
14.	Barrel Shifter - Signed and Unsigned Comparators - Carry Ripple and Carry Look Ahead Adders	T2	187-194		1	17
15.	Fixed-Point Division	T2	198		1	18
Module-III Hardware modeling examples						
16.	Vending-Machine Controller - Serial Data Receiver - Parallel-to-Serial Converter	T2	202-211	BB+Hands-on training	1	19
17.	Playing with a Seven-Segment Display - Signal Generators - Memory Design	T2	212-220		1	20
18.	Interfacings of LED, ADC-DAC	W4	-		1	21
19.	Pulse counter	T2	229-232		1	22

Topic No	Topic	Books for Reference	Page No.	Teaching Methodology	No. of Hours Required	Cumulative No. of periods
20.	keypad scanner	W5	-	BB+Hands-on training	1	23
21.	Multipliers-frequency divider	W5	-		1	24
22.	LCD-buzzer-relay	W5	-		1	25
23.	RS232-Zigbee	W5	-		1	26
24.	Sensor interfacing.	W5	-		1	27
Module-IV Back-end EDA Tools						
25.	EDA tool design flow	W8	-	BB	3	30
26.	Design and Implementation of combinational circuits using EDA tools	W9	-	BB	3	33
27.	Design and Implementation of sequential circuit using EDA tools	W9	-	Hands-on training	3	36
Module-V Design examples						
28.	Design and simulation of adders, inverters using EDA tools	W6	-	BB+Hands-on training	3	39
29.	CMOS SRAM Design, DRC	W7	-		3	42
30.	LVS & Parasitic Extraction	W7	-		3	45

Assesment Procedure:

Students performance was assesed by conducting one assessments test.

- **Total Test Marks** :50
- **Test Duration** :1.30 Hours
- **Test Mode** :Offline
- **Question Pattern** :1)Part A Shall have 5 questions(05 * 02 = 10 Marks)
2)Part B Shall have 4 questions(04 * 10 = 40 Marks)

T. P. Kumar
Course in charge

Dr. S. S. S. S.
HOD/ECE 22/12/17

J. P. Kumar
22/12/2017
PRINCIPAL



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

REPORT ON MY CREDIT COURSE

06/02/18

Summary :

Sl.No	Name of the Course	Planned Hrs	Handled Hrs	Hrs Required	Date of Workshop
1	Internet of Things	45	26	19	22/02/18
2	Digital System Design and Verification using EDA tools.	45	26	19	22/02/18

- Remaining Portions will be covered by : 1day workshop + 11Hrs class

OUTCOMES:

At the end of the course, the student should be able to

- Write HDL code for basic as well as advanced digital integrated circuits.
- Import the logic modules into FPGA Boards.
- Synthesize, Place and Route the digital IPs.
- Design, Simulate and Extract the layouts of Analog IC Blocks using EDA tools.
- Utilize different conditional and iterative statements and write python programs to solve problems.
- Design appropriate functions to solve problems using python program
- Apply different built-in functions in program

P. S. S.
6/2/18

Course in charge

de
6/2/18
HOD/ECE

J. R. R.
06/2/2018

ACADEMIC YEAR

2016-2017



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2016-17/ODD SEMESTER

GATE Competitive Exam Coaching Class Name List

Batch : (2014-2018)

Class/Sem : III ECE/05

S.No	Reg No	Student Name
1.	821114106001	ABENAYAVARSHANDENI. N
2.	821114106002	ABINAYA. G
3.	821114106003	ABINAYA. G
4.	821114106004	ABINAYA.M
5.	821114106005	ABIRAMI. K
6.	821114106006	AKALYA. A
7.	821114106009	ARAVINTH.M
8.	821114106011	DEVAYANI.S
9.	821114106012	DHARANEESWARI.P
10.	821114106013	DHIVYALAKSHMI. S
11.	821114106014	DIVYA BHARATHI. K
12.	821114106016	INDHUMATHI.S
13.	821114106018	JEFRI ROBINSON.M
14.	821114106021	KIRUTHIKA.K
15.	821114106024	MANIKANDAN.S
16.	821114106025	MOHANALALITHA. S
17.	821114106031	RAVICHANDRAN.A
18.	821114106033	SARANYA. R
19.	821114106036	SEETHA. S
20.	821114106037	SHANTHINI. T.R
21.	821114106038	SUGAPRIYA. K
22.	821114106039	SWATHIPRIYA. R
23.	821114106040	SWATHI PRIYA. K
24.	821114106041	VALARMATHI.A
25.	821114106042	VENKATESH.K

Total No of Enrolled Students : 25

GATE CO-ORDINATOR

[Mr.W.Newton David Raj,AP/ECE]

HOD/ECE



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2016-17/ODD SEMESTER

GATE Coaching-Curriculum

COURSE NAME : GATE Coaching
YEAR/CLASS : III ECE
BATCH : 2014-2018
DURATION : 30 Hours
STAFF INCHARGE : Mr.W.Newton David Raj
TOTAL NO OF STUDENTS : 25

Section 1: Networks, Signals and Systems

Network solution methods: nodal and mesh analysis; Network theorems: superposition, Thevenin and Norton's, maximum power transfer; Wye-Delta transformation; Steady state sinusoidal analysis using phasors; Time domain analysis of simple linear circuits; Solution of network equations using Laplace transform; Frequency domain analysis of RLC circuits; Linear 2-port network parameters: driving point and transfer functions; State equations for networks.

Continuous-time signals: Fourier series and Fourier transform representations, sampling theorem and applications; Discrete-time signals: discrete-time Fourier transform (DTFT), DFT, FFT, Z-transform, interpolation of discrete-time signals; LTI systems: definition and properties, causality, stability, impulse response, convolution, poles and zeros, parallel and cascade structure, frequency response, group delay, phase delay, digital filter design techniques.

Section 2: Electronic Devices

Energy bands in intrinsic and extrinsic silicon; Carrier transport: diffusion current, drift current, mobility and resistivity; Generation and recombination of carriers; Poisson and continuity equations; P-N junction, Zener diode, BJT, MOS capacitor, MOSFET, LED, photo diode and solar cell; Integrated circuit fabrication process: oxidation, diffusion, ion implantation, photolithography and twin-tub CMOS process.

Section 3: Analog Circuits

Small signal equivalent circuits of diodes, BJTs and MOSFETs; Simple diode circuits: clipping, clamping and rectifiers; Single-stage BJT and MOSFET amplifiers: biasing, bias stability, mid-frequency small signal analysis and frequency response; BJT and MOSFET amplifiers: multi-stage, differential, feedback, power and operational; Simple op-amp circuits; Active filters; Sinusoidal oscillators: criterion for oscillation, single-transistor and op-amp configurations; Function generators, wave-shaping circuits and 555 timers; Voltage reference circuits; Power supplies: ripple removal and regulation.

Section 4: Digital Circuits

Number systems; Combinatorial circuits: Boolean algebra, minimization of functions using Boolean identities and Karnaugh map, logic gates and their static CMOS implementations, arithmetic circuits, code converters,

multiplexers, decoders and PLAs; Sequential circuits: latches and flip-flops, counters, shift-registers and finite state machines; Data converters: sample and hold circuits, ADCs and DACs; Semiconductor memories: ROM, SRAM, DRAM; 8-bit microprocessor (8085): architecture, programming, memory and I/O interfacing.

Section 5: Control Systems

Basic control system components; Feedback principle; Transfer function; Block diagram representation; Signal flow graph; Transient and steady-state analysis of LTI systems; Frequency response; Routh-Hurwitz and Nyquist stability criteria; Bode and root-locus plots; Lag, lead and lag-lead compensation; State variable model and solution of state equation of LTI systems.

Section 7: Communications

Random processes: autocorrelation and power spectral density, properties of white noise, filtering of random signals through LTI systems; Analog communications: amplitude modulation and demodulation, angle modulation and demodulation, spectra of AM and FM, superheterodyne receivers, circuits for analog communications; Information theory: entropy, mutual information and channel capacity theorem; Digital communications: PCM, DPCM, digital modulation schemes, amplitude, phase and frequency shift keying (ASK, PSK, FSK), QAM, MAP and ML decoding, matched filter receiver, calculation of bandwidth, SNR and BER for digital modulation; Fundamentals of error correction, Hamming codes; Timing and frequency synchronization, inter-symbol interference and its mitigation; Basics of TDMA, FDMA and CDMA.

Section 8: Electromagnetics

Electrostatics; Maxwell's equations: differential and integral forms and their interpretation, boundary conditions, wave equation, Poynting vector; Plane waves and properties: reflection and refraction, polarization, phase and group velocity, propagation through various media, skin depth; Transmission lines: equations, characteristic impedance, impedance matching, impedance transformation, S-parameters, Smith chart; Waveguides: modes, boundary conditions, cut-off frequencies, dispersion relations; Antennas: antenna types, radiation pattern, gain and directivity, return loss, antenna arrays; Basics of radar; Light propagation in optical fibers.

Assesment Procedure:

Students performance was assesed by conducting one assessments test.

- | | |
|---------------------------|---|
| ➤ Total Test Marks | :50 |
| ➤ Test Duration | :1.30 Hours |
| ➤ Test Mode | :Offline |
| ➤ Question Pattern | :1)Part A Shall have 10 questions (10*1 = 10 Marks)
2)Part B Shall have 10 questions(10*2 = 20 Marks)
3)Part C Shall have 05 questions(05*4 = 20 Marks) |

W. Newton
02/01/2016
Staff In-charge

J. M. M. M.
02/12/2016
HOD/ECE

J. M. M. M.
2/12/16
PRINCIPAL



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2016-17/ODD SEMESTER

GATE Coaching-Summary and Outcome

Summary of the course :

Department of Electronics and Communication Engineering conducted a Gate Coaching Class for III ECE Students. The co-ordinator for the course was Mr.W.Newton David Raj,Assistant Professor, Department of Electronics and Communication Engineering, Kings College of Engineering, Pulakulam , Pudukkottai. As per the course plan the duration of the course were planned 30 hours. The course was started on 02.07.2016 and ended on 29.10.2016. 25 Students from III ECE were registered and participated, finally on 29.10.2016 exam was conducted for 50 marks. At the end of the day the feedback of the course was collected from the students.

Outcome of the Course :

- GATE qualified can apply for admission into IITs, NITs, GFTIs, IISc and many other institutes for higher studies. Also, they can avail some reserved seats at IIMs for doctoral programme. Based on the GATE score, Institutes like IIT Bombay offers admissions to PhD., PGDM and PGDIE programmes.
- GATE exam qualified candidates can apply for studies in other countries like Germany, Singapore also. So, India is not only the limit.
- By qualifying GATE exam, candidates will be eligible for PSUs Recruitment. Candidates must note that the number of PSUs participating in the recruitment process are increasing, moreover, top companies are also getting involved in it.
- GATE qualified candidates will also be able to apply for various jobs like a Professor or Asst. Professor in reputed institutes. Moreover, Scientists "C" grade jobs can also be acquired by candidates who have qualified GATE exam.
- Direct recruitment to Group A level posts in Central government will be done on the basis of GATE score. The posts include Senior Field Officer (Tele), Senior Research Officer (Crypto) and Senior Research Officer (S&T) in Cabinet Secretariat, Government of India.

W. Newton
29/10/2016
Staff In-charge

J. M. Muthu
29/10/2016
HOD/ECE



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR (2016-2017) ODD SEMESTER

Name of the Course: Mini Project	
Duration :30 hrs	Beneficiaries : II & III ECE
Course commences on : 30.6.2016	Course in Charge: Mr.R.Thandayuthapani

Syllabus

UNIT 1 INTRODUCTION 08

Instruction to the students – Guide lines– Batch formation – Topic Identification – Area of Specialization

UNIT 2 HANDS ON PRACTICE 12

Topic Confirmation – Hardware and Software Identification - Soldering Practice – Integration

UNIT 3 PROJECT COMPLETION 10

Testing and Debugging - Project Submission

REFERENCE:

R1: Electronics for You
R2: Mini project Handbook

ASSESSMENT PROCEDURE:

- PPT Presentation
- Project Demo & Exhibition

R. S. S. S.
16/6/17
Mini Project Coordinator


J. R. S. S. S.
16/06/2017
HOD/ECE

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
ACADEMIC YEAR 2016 - 2017 / ODD SEMESTER

MINIPROJECT REGISTRATION FORM

Sl. No.	Project Name	Name of the Student	Year/sec	Signature
1.	Audio transmission using visible rays	S. Sharmuga priya S. Vainiyya	II/B	Smit R. Inji
2.	Mobile phone battery charger using solar panel	B. Divya G. Sheiswathi C. S. Niranjini	II/B	B. Divya G. Sheiswathi C. S. Niranjini
3.	security Alarm	G. Anitha S. Manisha M. Krithica	II/A	Anitha S. Manisha M. Krithica
4.	Power saving of Energy	S. Dhanya Darshini S. Durga M. Bavadharani	II/A	J. D. S. S. Durga M. Bavadharani
5.	Stress meter	K. Jai shree L. Mowli	II/A	K. Jai shree L. Mowli


MINI PROJECT INCHARGE


HOD/ECE

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
ACADEMIC YEAR 2016 - 2017 / ODD SEMESTER

MINIPROJECT REGISTRATION FORM

Sl. No.	Project Name	Name of the Student	Year/sec	Signature
6.	Micro controller based biomedical Heart beat Monitor	R. Mahalakshmi Bai K. Gayathri B. Monisha Reeta	II / A	R. Mahalakshmi K. Gayathri B. Monisha Reeta
7.	Automatic plant watering	P. Malathi R. Priyadharsini	II / A	P. Malathi R. Priyadharsini
8.	Height Measurement using IR Sensor	T. R. Shanthini V. Nandhini Divya Bharathi C.	- III / II / A II	T. R. Shanthini V. Nandhini Divya Bharathi C.
9.	Vehicle black box System	C. Dinesh Praya P. Anbuselvi	II / A	C. Dinesh Praya P. Anbuselvi
10.	Coal mine Robot	G. Maheswari J. Savanya	II / A	G. Maheswari J. Savanya


MINI PROJECT INCHARGE


HOD/ECE

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
ACADEMIC YEAR 2016 - 2017 / ODD SEMESTER

MINIPROJECT REGISTRATION FORM

Sl. No.	Project Name	Name of the Student	Year/sec	Signature
11.	Wireless Power Transmission for low voltage application.	K. Nanthya S. Karibala	II/A	K. Nanthya S. Karibala
12.	Mobile phone detector	K. Priyanka	II/B	K. Priyanka
13.	Proximity Sensor - Accident prevention	R. Vinitha R. Shanmuga Priya G. Srivithya	II/B	R. Vinitha R. Shanmuga Priya G. Srivithya
14.	Primary color detector used in medical applications.	T. Swetha S. Shanmuga Priya V. Uthayashree	II/B	T. Swetha S. Shanmuga Priya V. Uthayashree
15.	Home appliances control and energy saving system	P. Pavithra G. Preethi K. Priyanka	II/B	P. Pavithra G. Preethi K. Priyanka

MINI PROJECT INCHARGE

HOD/ECE



KINGS
COLLEGE OF ENGINEERING
Pudukulam, Thanjavur.

Approved by AICTE, Affiliated to Anna University Accredited by NBA



TUV Rheinland
CERT
ISO 9001

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
ACADEMIC YEAR 2016 - 2017 / ODD SEMESTER

MINI PROJECT REGISTRATION FORM

Sl. No.	Project Name	Name of the Student	Year/sec	Signature
16.	Theft Alarm Using Audio oscillator.	M. AJAY M. JANAKI RAKIAN C. NARENDHAN	II / ECE / A	N. Jay. M. Janaki R. C. Narendhan
17.	Fire alarm using IC 555	S. Vimala S. Pavithra.	II - ECE-B	S. Vimala S. Pavithra.
18.	Mr. Janani Vehicle Speed Control System	Mr. Janani S. Priyadharshini R. Saranya	III ECE	Mr. Janani R. Saranya

MINI PROJECT INCHARGE

HOD/ECE

A REPORT

“MINI PROJECT EXPO - 2016”

on

17th September 2016

About the Expo:

Mini project exhibition was scheduled on 17th September 2016 at 1.30 pm in the departmental lab. The students had to exhibit their technical as well as presentation skills wherein they were given an opportunity to demonstrate their work with the help of charts, block diagrams or by using their laptops.

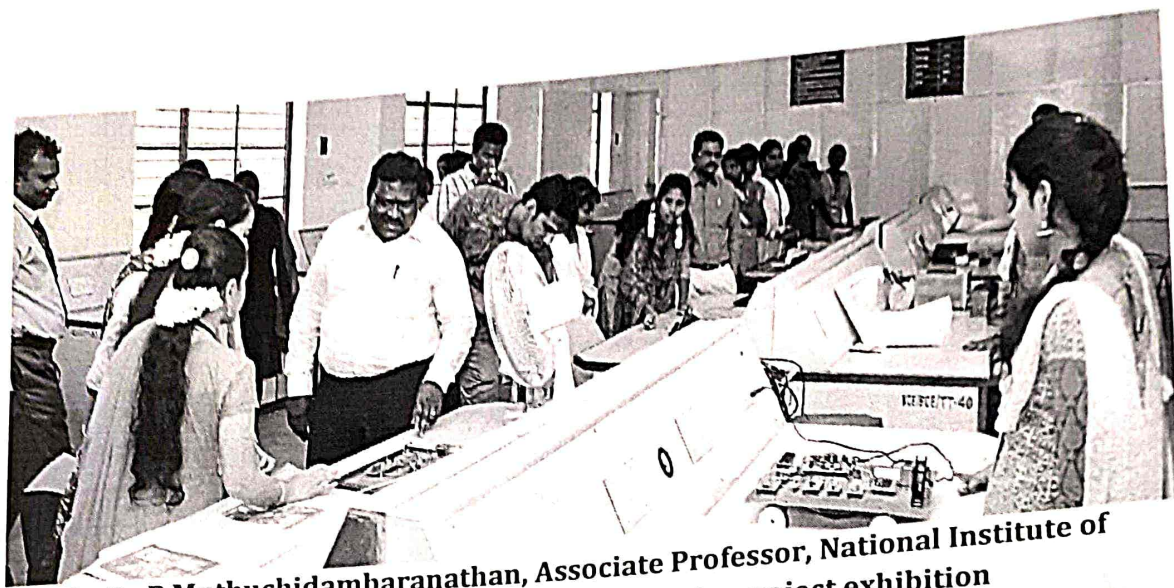
The main agenda behind the competition was to explore the technical skills among our students and give more exposure towards technical knowledge which is very much required in building their career. The event mainly focused in developing interest among students toward new innovation and rapidly growing technology.

Inauguration of the event

The ribbon cutting ceremony of the project expo event was held on 17th September 2016, 1:30 p.m.

- Dr.P.Muthuchidambaranathan, Associate Professor, National Institute of Technology, Tiruchirappalli - Chief Guest
- Dr.J.Arputha Vijaya Selvi , HOD, Electronics and Communication Engineering

The faculties also encouraged the students, which brought more zeal and enthusiasm among the students to work harder towards the success. Near about 18 teams with 45 students registered for this event and each team came up with a unique project which clearly showed the technical ability of our students.

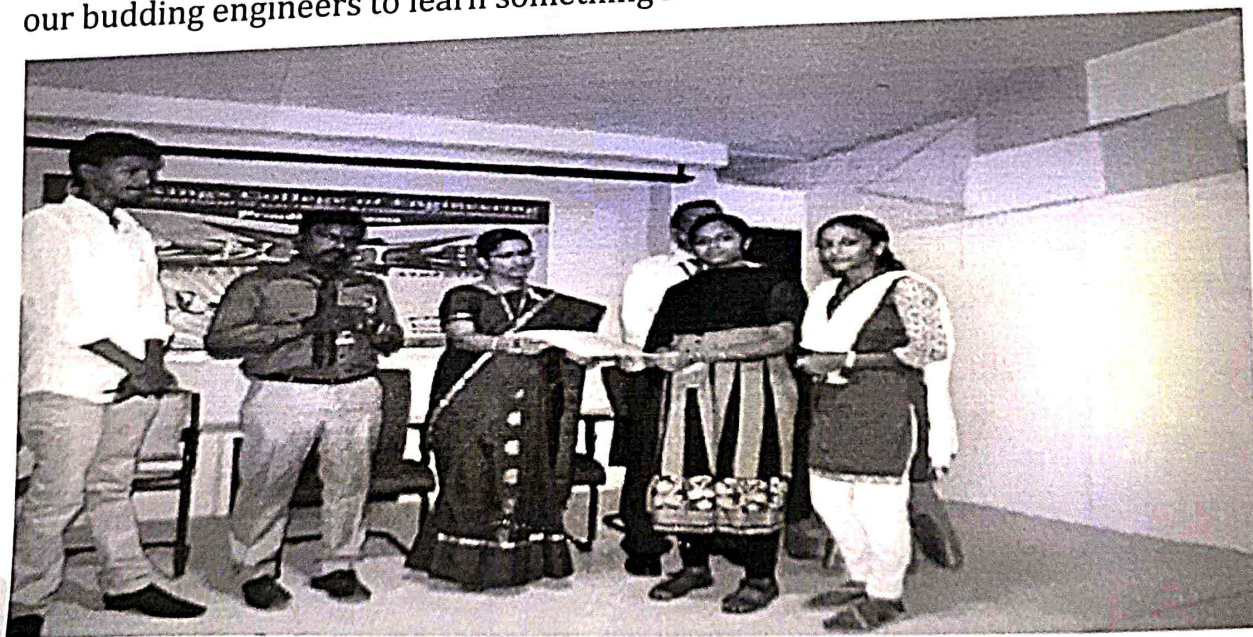


Dr Dr.P.Muthuchidambaranathan, Associate Professor, National Institute of Technology, Tiruchirappalli, viewing the project exhibition

The judges not only gave the judgments but also helped and guided the students to make some improvisations in their project wherever required which in turn helped the students to work on their project in a better way.

Prize Distribution

Students participated from all the different year, added to which was the large number of participation from second year which outshone the interest among our budding engineers to learn something new.



Prize and certificates distribution to the participants

As mark of appreciation prize distribution ceremony was also held wherein departmental wise the prizes were distributed. 1st and 2nd prize winners were awarded with the cash prize and certificates. Apart from the winners, all the participants were given the participation certificate as the mark of recognition to their efforts.

Outcome:

Overall, the event turned out to be a very successful one since many teams participated and were satisfied with their efforts. This also gave them the confidence to work out more and more projects which would grace them with high technical knowledge and skills.

MINIPROJECT TOPICS WITH NAME LIST

Sl. No	Name of the Student	Year	Name of the Project
1	Sanmugapriya.S Vainiya.S	II	Audio transmission using visible rays
2	Divya.B Shrisurithi.G Niranjini.C	II	Mobile phone battery charger using solar panel
3	Anitha.G Manisha.S Krithika.M	II	Security alarm
4	Dhivyadharshini.J Dhurga.S Bavatharani.M	II	Power saving of Energy
5	Jaisree.K Mowli.L	II	Power saving of energy
6	MahalakshmiBai.R Gayathri.K Monishareeta.B	II	Stress meter
7	Malathi.P Priyadharshini.R	II	Microcontroller based biomedical heart beat monitor (Stress meter)
8	Shandhini.T.R Nandhini.V Duvyabharathi.K	II	Height measurement using UV sensor
9	Dhineshpriya.C Anbuselvi.P	II	Vehicle black box system
10	Maheswari.G Lavanya.J	II	Coal mine robot
11	Nathiya.K Kavibala.S	II	Wireless power transmission for low voltage application
12	Priyanka.K	II	Mobile phone detection
13	Vinitha.R Shanmugapriya.R Srivithya.G	II	Proximity sensor accident prevention

14	Swetha.T Shenbagavel.S Uthrasri.V	II	Primary color detector used in medicals applications
15	Pavithra.P Preethi.G Priyanka.K	II	Home appliances control and energy saving system
16	Ajay.M Janakiraman.M Narendran.C	II	Theft alarm using audio Oscillator
17	Vimala S Pavithra S	II	Fire alarm using IC 555
18	Janani K Priyadharshini S Saranya R	III	Vehicle speed control system

Total no of projects: 18 / Total no of students: 45

R. S. S.
17/9/16

Mini Project In-Charge

J. Arumugam
17/9/2016

HoD/ECE



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2016-17/EVEN SEMESTER

GATE Competitive Exam Coaching Class Name List

Batch : (2014-2018)

Class/Sem : III ECE/06

S.No	Reg No	Student Name
1.	821114106001	ABENAYAVARSHANDENI. N
2.	821114106002	ABINAYA. G
3.	821114106003	ABINAYA. G
4.	821114106004	ABINAYA.M
5.	821114106005	ABIRAMI. K
6.	821114106006	AKALYA. A
7.	821114106009	ARAVINTH.M
8.	821114106011	DEVAYANI.S
9.	821114106012	DHARANEESWARI.P
10.	821114106013	DHIVYALAKSHMI. S
11.	821114106014	DIVYA BHARATHI. K
12.	821114106016	INDHUMATHI.S
13.	821114106018	JEFRI ROBINSON.M
14.	821114106021	KIRUTHIKA.K
15.	821114106024	MANIKANDAN.S
16.	821114106025	MOHANALALITHA. S
17.	821114106031	RAVICHANDRAN.A
18.	821114106033	SARANYA. R
19.	821114106036	SEETHA. S
20.	821114106037	SHANTHINI. T.R
21.	821114106038	SUGAPRIYA. K
22.	821114106039	SWATHIPRIYA. R
23.	821114106040	SWATHI PRIYA. K
24.	821114106041	VALARMATHI.A
25.	821114106042	VENKATESH.K

Total No of Enrolled Students : 25

W. Newton
31/12/2016

GATE CO-ORDINATOR

[Mr.W.Newton David Raj,AP/ECE]

J. Joseph
31/12/2016

HOD/ECE



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2016-17/EVEN SEMESTER

GATE Coaching-Curriculum

COURSE NAME : GATE Coaching
YEAR/CLASS : III ECE
BATCH : 2014-2018
DURATION : 30 Hours
STAFF INCHARGE : Mr.W.Newton David Raj
TOTAL NO OF STUDENTS : 25

Section 1: Networks, Signals and Systems

Network solution methods: nodal and mesh analysis; Network theorems: superposition, Thevenin and Norton's, maximum power transfer; Wye-Delta transformation; Steady state sinusoidal analysis using phasors; Time domain analysis of simple linear circuits; Solution of network equations using Laplace transform; Frequency domain analysis of RLC circuits; Linear 2-port network parameters: driving point and transfer functions; State equations for networks.

Continuous-time signals: Fourier series and Fourier transform representations, sampling theorem and applications; Discrete-time signals: discrete-time Fourier transform (DTFT), DFT, FFT, Z-transform, interpolation of discrete-time signals; LTI systems: definition and properties, causality, stability, impulse response, convolution, poles and zeros, parallel and cascade structure, frequency response, group delay, phase delay, digital filter design techniques.

Section 2: Electronic Devices

Energy bands in intrinsic and extrinsic silicon; Carrier transport: diffusion current, drift current, mobility and resistivity; Generation and recombination of carriers; Poisson and continuity equations; P-N junction, Zener diode, BJT, MOS capacitor, MOSFET, LED, photo diode and solar cell; Integrated circuit fabrication process: oxidation, diffusion, ion implantation, photolithography and twin-tub CMOS process.

Section 3: Analog Circuits

Small signal equivalent circuits of diodes, BJTs and MOSFETs; Simple diode circuits: clipping, clamping and rectifiers; Single-stage BJT and MOSFET amplifiers: biasing, bias stability, mid-frequency small signal analysis and frequency response; BJT and MOSFET amplifiers: multi-stage, differential, feedback, power and operational; Simple op-amp circuits; Active filters; Sinusoidal oscillators: criterion for oscillation, single-transistor and op-amp configurations; Function generators, wave-shaping circuits and 555 timers; Voltage reference circuits; Power supplies: ripple removal and regulation.

Section 4: Digital Circuits

Number systems; Combinatorial circuits: Boolean algebra, minimization of functions using Boolean identities and Karnaugh map, logic gates and their static CMOS implementations, arithmetic circuits, code converters, multiplexers, decoders and PLAs; Sequential circuits: latches and flip-flops, counters, shift-registers and finite

state machines; Data converters: sample and hold circuits, ADCs and DACs; Semiconductor memories: ROM, SRAM, DRAM; 8-bit microprocessor (8085): architecture, programming, memory and I/O interfacing.

Section 5: Control Systems

Basic control system components; Feedback principle; Transfer function; Block diagram representation; Signal flow graph; Transient and steady-state analysis of LTI systems; Frequency response; Routh-Hurwitz and Nyquist stability criteria; Bode and root-locus plots; Lag, lead and lag-lead compensation; State variable model and solution of state equation of LTI systems.

Section 7: Communications

Random processes: autocorrelation and power spectral density, properties of white noise, filtering of random signals through LTI systems; Analog communications: amplitude modulation and demodulation, angle modulation and demodulation, spectra of AM and FM, superheterodyne receivers, circuits for analog communications; Information theory: entropy, mutual information and channel capacity theorem; Digital communications: PCM, DPCM, digital modulation schemes, amplitude, phase and frequency shift keying (ASK, PSK, FSK), QAM, MAP and ML decoding, matched filter receiver, calculation of bandwidth, SNR and BER for digital modulation; Fundamentals of error correction, Hamming codes; Timing and frequency synchronization, inter-symbol interference and its mitigation; Basics of TDMA, FDMA and CDMA.

Section 8: Electromagnetics

Electrostatics; Maxwell's equations: differential and integral forms and their interpretation, boundary conditions, wave equation, Poynting vector; Plane waves and properties: reflection and refraction, polarization, phase and group velocity, propagation through various media, skin depth; Transmission lines: equations, characteristic impedance, impedance matching, impedance transformation, S-parameters, Smith chart; Waveguides: modes, boundary conditions, cut-off frequencies, dispersion relations; Antennas: antenna types, radiation pattern, gain and directivity, return loss, antenna arrays; Basics of radar; Light propagation in optical fibers.

Assesment Procedure:

Students performance was assessed by conducting one assessments test.

- | | |
|---------------------------|---|
| ➤ Total Test Marks | :50 |
| ➤ Test Duration | :1.30 Hours |
| ➤ Test Mode | :Offline |
| ➤ Question Pattern | :1)Part A Shall have 10 questions (10*1 = 10 Marks)
2)Part B Shall have 10 questions(10*2 = 20 Marks)
3)Part C Shall have 05 questions(05*4 = 20 Marks) |

W. N. S. S.
31/12/2016
Staff In-charge

J. S. S.
31/12/2016
HOD/ECE

J. S. S.
31/12/2016
PRINCIPAL



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2016-17/EVEN SEMESTER

GATE Coaching-Summary and Outcome

Summary of the course :

Department of Electronics and Communication Engineering conducted a Gate Coaching Class for III ECE Students. The co-ordinator for the course was Mr.W.Newton David Raj, Assistant Professor, Department of Electronics and Communication Engineering, Kings College of Engineering, Pulakulam , Pudukkottai. As per the course plan the duration of the course were planned 30 hours. The course was started on 31.12.2016 and ended on 15.04.2017. 25 Students from III ECE were registered and participated, finally on 15.04.2017 exam was conducted for 50 marks. At the end of the day the feedback of the course was collected from the students.

Outcome of the Course :

- GATE qualified can apply for admission into IITs, NITs, GFTIs, IISc and many other institutes for higher studies. Also, they can avail some reserved seats at IIMs for doctoral programme. Based on the GATE score, Institutes like IIT Bombay offers admissions to PhD., PGDM and PGDIE programmes.
- GATE exam qualified candidates can apply for studies in other countries like Germany, Singapore also. So, India is not only the limit.
- By qualifying GATE exam, candidates will be eligible for PSUs Recruitment. Candidates must note that the number of PSUs participating in the recruitment process are increasing, moreover, top companies are also getting involved in it.
- GATE qualified candidates will also be able to apply for various jobs like a Professor or Asst. Professor in reputed institutes. Moreover, Scientists "C" grade jobs can also be acquired by candidates who have qualified GATE exam.
- Direct recruitment to Group A level posts in Central government will be done on the basis of GATE score. The posts include Senior Field Officer (Tele), Senior Research Officer (Crypto) and Senior Research Officer (S&T) in Cabinet Secretariat, Government of India.

W. Newton
15/04/2017
Staff In-charge

J. Rosamitha
15/4/2017
HOD/ECE



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2016-17/EVEN SEMESTER

GATE Competitive Exam Coaching Class Name List

Batch : (2013-2017) Class/Sem/Sec : IV ECE/08/A&B

S.No	Reg No	Student Name
1.	821113106001	AARTHI S
2.	821113106002	ABARNASRI R
3.	821113106003	ABINAVI A
4.	821113106004	ABINAYA A
5.	821113106006	ABIRAMI S
6.	821113106010	AKSHAYA A
7.	821113106012	ANITHA S
8.	821113106014	ANU RATHIKA M
9.	821113106015	ANUSHA A
10.	821113106025	ASHVITHA M
11.	821113106028	BARGAVI G
12.	821113106030	BAVATHARANI S
13.	821113106032	BENITA A
14.	821113106033	CHANDRAMALA C
15.	821113106034	CHANTHIYA S
16.	821113106035	DEEPIKA L
17.	821113106040	FARIDHA NASRIN N
18.	821113106047	HASIKA PRIYA R
19.	821113106048	HEMALATHA R
20.	821113106053	JEEVA M
21.	821113106055	KARTHIKA R
22.	821113106056	KAVERI S
23.	821113106058	KAVITHA R
24.	821113106059	KIRUTHIKA B
25.	821113106061	KRISHNAVENI S
26.	821113106065	MAHA NANDHINI J

S.No	Reg No	Student Name
27.	821113106067	MANIKANDAN D
28.	821113106072	NADIMUTHU J
29.	821113106083	PRABHAKARAN S
30.	821113106084	PREETHI M
31.	821113106093	RAJAGOWRI V
32.	821113106094	RAJARAJAN V
33.	821113106095	RAJASRI E
34.	821113106102	SANGEETHA S B
35.	821113106116	SUBBALAH E
36.	821113106121	SWAMI PRABAKARAN K
37.	821113106122	SWATHI R
38.	821113106124	VELMURUGAN R
39.	821113106126	VIGNESH U
40.	821113106129	VIJAY S

Total No of Enrolled Students : 40

W Newton
20/12/2016

GATE CO-ORDINATOR
[Mr.W.Newton David Raj,AP/ECE]

J. Praveen
20/12/2016

HOD/ECE



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2016-17/EVEN SEMESTER

TANCET Coaching-Curriculum

COURSE NAME : TANCET Coaching
YEAR/CLASS : IV ECE
BATCH : 2013-2017
DURATION : 30 Hours
STAFF INCHARGE : Mr.W.Newton David Raj
TOTAL NO OF STUDENTS : 40

Section 1: Networks, Signals and Systems

Network solution methods: nodal and mesh analysis; Network theorems: superposition, Thevenin and Norton's, maximum power transfer; Wye-Delta transformation; Steady state sinusoidal analysis using phasors; Time domain analysis of simple linear circuits; Solution of network equations using Laplace transform; Frequency domain analysis of RLC circuits; Linear 2-port network parameters: driving point and transfer functions; State equations for networks.

Continuous-time signals: Fourier series and Fourier transform representations, sampling theorem and applications; Discrete-time signals: discrete-time Fourier transform (DTFT), DFT, FFT, Z-transform, interpolation of discrete-time signals; LTI systems: definition and properties, causality, stability, impulse response, convolution, poles and zeros, parallel and cascade structure, frequency response, group delay, phase delay, digital filter design techniques.

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Energy bands in intrinsic and extrinsic silicon; Carrier transport: diffusion current, drift current, mobility and resistivity; Generation and recombination of carriers; Poisson and continuity equations; P-N junction, Zener diode, BJT, MOS capacitor, MOSFET, LED, photo diode and solar cell; Integrated circuit fabrication process: oxidation, diffusion, ion implantation, photolithography and twin-tub CMOS process.

Section 3: Analog Circuits

Small signal equivalent circuits of diodes, BJTs and MOSFETs; Simple diode circuits: clipping, clamping and rectifiers; Single-stage BJT and MOSFET amplifiers: biasing, bias stability, mid-frequency small signal analysis and frequency response; BJT and MOSFET amplifiers: multi-stage, differential, feedback, power and operational; Simple op-amp circuits; Active filters; Sinusoidal oscillators: criterion for oscillation, single-transistor and op-amp configurations; Function generators, wave-shaping circuits and 555 timers; Voltage reference circuits; Power supplies: ripple removal and regulation.

Section 4: Digital Circuits

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Section 8: Electromagnetics

Electrostatics; Maxwell's equations: differential and integral forms and their interpretation, boundary conditions, wave equation, Poynting vector; Plane waves and properties: reflection and refraction, polarization, phase and group velocity, propagation through various media, skin depth; Transmission lines: equations, characteristic impedance, impedance matching, impedance transformation, S-parameters, Smith chart; Waveguides: modes, boundary conditions, cut-off frequencies, dispersion relations; Antennas: antenna types, radiation pattern, gain and directivity, return loss, antenna arrays; Basics of radar; Light propagation in optical fibers.

Assesment Procedure:

Students performance was assessed by conducting one assessments test.

- **Total Test Marks** :50
- **Test Duration** :1.30 Hours
- **Test Mode** :Offline
- **Question Pattern**
 - 1)Part A Shall have 10 questions (10*1 = 10 Marks)
 - 2)Part B Shall have 10 questions(10*2 = 20 Marks)
 - 3)Part C Shall have 05 questions(05*4 = 20 Marks)


Staff In-charge


HOD/ECE


PRINCIPAL



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2016-17/EVEN SEMESTER

GATE & TANCET Coaching- Summary and Outcome

Summary of the course :

Department of Electronics and Communication Engineering conducted a Gate Coaching Class for IV ECE Students. The co-ordinator for the course was Mr.W.Newton David Raj, Assistant Professor, Department of Electronics and Communication Engineering, Kings College of Engineering, Pulakulam , Pudukkottai. As per the course plan the duration of the course were planned 30 hours. The course was started on 27.12.2016 and ended on 19.04.2017. ⁴⁰ Students from IV ECE were registered and participated, finally on 19.04.2017 exam was conducted for 50 marks. At the end of the day the feedback of the course was collected from the students.

Outcome of the Course :

- GATE qualified can apply for admission into IITs, NITs, GFTIs, IISc and many other institutes for higher studies. Also, they can avail some reserved seats at IIMs for doctoral programme. Based on the GATE score, Institutes like IIT Bombay offers admissions to PhD., PGDM and PGDIE programmes.
- GATE exam qualified candidates can apply for studies in other countries like Germany, Singapore also. So, India is not only the limit.
- By qualifying GATE exam, candidates will be eligible for PSUs Recruitment. Candidates must note that the number of PSUs participating in the recruitment process are increasing, moreover, top companies are also getting involved in it.
- GATE qualified candidates will also be able to apply for various jobs like a Professor or Asst. Professor in reputed institutes. Moreover, Scientists "C" grade jobs can also be acquired by candidates who have qualified GATE exam.
- Direct recruitment to Group A level posts in Central government will be done on the basis of GATE score. The posts include Senior Field Officer (Tele), Senior Research Officer (Crypto) and Senior Research Officer (S&T) in Cabinet Secretariat, Government of India.

W. Newton
19/04/2017
Staff In-charge

J. Joseph
19/4/2017
HOD/ECE



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
ACADEMIC YEAR 2016-2017 (EVEN SEMESTER)

REAL TIME ANDROID APPLICATION DEVELOPMENT PROGRAMMING
STUDENTS NAME LIST

IV ECE A			IV ECE B		
SL.NO	ROLL NO	NAME OF THE STUDENT	SL.NO	ROLL NO	NAME OF THE STUDENT
1	5	ABIRAM I.S	19	3	MANIKANDAN D
2	6	AGASTHIYA .A	20	5	MARUTHANAYAKI B
3	7	AJEETHKUMAR V	21	7	NADIMUTHU J
4	9	AKSHAYA A	22	9	NISHA R
5	14	ARAVIND K	23	16	PRABHAKARAN S
6	15	ARAVINDH R	24	27	RAJA RAJAN V
7	17	ARAVINTH R	25	31	RANJITH KUMAR K
8	18	AROKIA AJITH LEO X	26	36	SHANMUGA PRIYA. R
9	20	ARUN KUMAR G	27	37	SHANMUGA PRIYA. K
10	28	BENITA A	28	38	SHIVASHANKAR. A
11	37	FARIDHA NASRIN N	29	39	SHOBICA. S
12	39	GOWTHAMAN A	30	41	SINDHUJA. S
13	45	JAYALAKSHMI M	31	46	SUBBAIAH. E
14	50	KAVITHA R	32	47	SURUTHI. R
15	51	KIRUTHIKA B	33	48	SUSANDHIYAA. R.S
16	52	KISHORE G K	34	49	SUSHMITHA. P
17	53	KRISHNSVENI S	35	50	SWAMI PRABAKARAN K
18	55	LAVANYA P	36	51	SWATHI R
			37	52	VELMURUGAN R
			38	54	VIGNESH U
			39	55	VIGNESH PANDIAN M
			40	56	VIJAY D
			41	57	VIJAY S
			42	58	VIJAYALAKSHMI A
			43	60	DEEPIKA. R
			44	61	NAVSATH BEGUM. T
			45	62	NARESH KUMAR.K
			46	63	MADHAN KUMAR. M
			47	64	VINOTHKUMAR.S
TOTAL			TOTAL		
18			29		

TOTAL: 47

P. Raja Selva
20/12/16

Staff-Incharge

J. Dhanasekaran
20/12/2016

HOD/ECE

Module 5: Multimedia

(10)

Time and Date-Images and media-Composite-Alert Dialogs & Toast-Popup-styles.xml-drawable resources for shapes, gradients (selectors)-style attribute in layout file-Applying themes via code and manifest file-SQLite Programming-SQLiteOpenHelper -SQLiteDatabase-Cursor-Reading and updating Contacts-Reading bookmarks-Develop an App to demonstrate database usage: CRUD operations, GridView, ListView-Android Debug Bridge (ADB) tool.

Total: 50 Periods

TEXT BOOKS

- T1. Bill Philips & Brian Hardy, "Android Programming: The Big Nerd Ranch Guide (Big Nerd Ranch Guides)", 2013.
- T2. Greg Nudelman, "Android Design Patterns: Interaction Design Solutions for Developers", 2013.
- T3. Mario Zechner, "Beginning Android Games", 2011.
- T4. Zigurd Mednieks, Laird Dornin, G. Blake Meike & Masumi Nakamura, "Programming Android", 2012.



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
COURSE PLAN

Sub.Name	: Printed Circuit Board Design	Branch / Year / Sem	: B.E ECE / IV /VIII
Staff Name	: Mr.R.Sathyaraj	Batch	: 2013-2017
	Mr.P.Raja pirian	Academic Year	: 2016-17 (Even)

COURSE OBJECTIVE

1. To make familiar with PCB design and various processes involved.
2. To provide in-depth core knowledge in design, performance analysis and fabrication of Printed Circuit Boards.
3. To provide the knowledge in PCB fabrication process and factors affecting PCB performance.

TEXT BOOK

T1. R S Khandpur, “Printed Circuit Boards – Design, Fabrication, Assembly and Testing”, Third reprint, Tata McGraw-Hill, 2012.

Topic No	Topic	Books for Reference	Page No.	Teaching Methodology	No. of Hours Required	Cumulative No. of periods
UNIT I Electronic Components & Digital electronics (9)						
1.	Connectivity in Electronic Equipment , Evolution, Component	T1	1-4	BB	3	3
	Hands on Training Basics of PCB Designing.			LAB		
2.	Classification of PCB, Basics of Electronic Components, ICs	T1	5-71	PPT	3	6
	Hands on Training Manual Tracing on PCB			LAB		
3.	SMDs, Connectors, Standards.	T1	23-28	PPT	3	9
	Hands on Training Manual Tracing on PCB			LAB		
UNIT II Basics of Printed Circuit Boards & Design Considerations (9)						
4.	Reading Drawings & Design Considerations, Layout design & checklist	T1	104-108 108-110 142-149 150-151	BB	3	12
	Hands on Training Making of simple PCB Such as Alarm, Charger .			LAB		

Topic No	Topic	Books for Reference	Page No.	Teaching Methodology	No. of Hours Required	Cumulative No. of periods
5.	Design Rules for Analog & Digital Circuits	T1	155-162 162-169	BB	3	15
	Hands on Training Making of simple PCB for mini projects.			LAB		
6.	Design Rules for Microwave & power electronic circuits, EMI & EMC	T1	174-182 182-191	PPT	3	18
	Introduction to Pad to Pad			LAB		
UNIT III Artwork Generation, Lamination & Image Transfer Techniques (9)						
7.	Basic Approach to Artwork, General Design Guidelines	T1	194-198	BB	3	21
	Design of Analog circuits using Pad to Pad - 1	T1	198-210	BB		
8.	Anatomy of Laminates, Properties, Types, Evaluation	T1	255-259	BB	3	24
	Design of Analog circuits using Pad to Pad - 2	T1	262-267 267-274 274-281	PPT		
9.	Image Transfer Technique: Preparation, Printing, Transferring, Legend Printing.	T1	283-287 287-292 308-312	BB,PPT	3	27
	Design of Digital circuits using Pad to Pad - 1			LAB		
UNIT IV Plating, Etching, Mechanical Operations & Multilayer PCBs (9)						
10.	Need for plating, Plating Techniques, General problems in plating	T1	317-335	BB	3	30
11.	Design of Digital circuits using Pad to Pad - 1			LAB		
12.	Considerations for shop floor, additive process, Etching: solutions & parameters	T1	343-346 346-76	PPT	3	33
13.	Design of Embedded Based Applications - 1		365-374 376	LAB		
14.	Mechanical Operations: Cutting, Punching, Drilling & Vias , Multilayer PCB.	T1	384 385-390 390-391 391-406 406-412	PPT	3	36
15.	Design of Embedded Based Applications - 2			LAB		

Topic No	Topic	Books for Reference	Page No.	Teaching Methodology	No. of Hours Required	Cumulative No. of periods
UNIT V Introduction To Designing Software & Fabrication (14)						
16.	Pad-2-Pad design flow	SOFTWARE TOOLS			4	40
17.	Pad-2-Pad overview and tools				4	44
18.	Testing for Quality Control & Methods	T1	564-567 567-570	BB	1	45
19.	Testing of PCBs & Environmental Standards	T1	570-581 628-629	BB	1	46
20.	Exposure on PCB Manufacturing	HARDWARE TOOLS			4	50

Assesment Procedure:

Students performance was assesed by conducting two assessments test.

- **Total Test Marks** :50
- **Test Duration** :1.30 Hours
- **Test Mode** :Offline
- **Question Pattern** :1)Part A Shall have 5 questions(05 * 02 = 10 Marks)
2)Part B Shall have 4 questions(04 * 10 = 40 Marks)


 Approved by
 PRINCIPAL



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2016-2017 (EVEN SEMESTER)

SYSTEM DESIGN USING EMBEDDED C

STUDENTS NAME LIST

IV YEAR ECE A & B (BATCH 2013- 2017)

IV ECE A			IV ECE B		
SL.NO	ROLL NO	NAME OF THE STUDENT	SL.NO	ROLL NO	NAME OF THE STUDENT
1	8	AKALYA N	23	4	MANJULAVANI. H
2	11	ANNALAKSHMI A	24	6	NABINIYA. M
3	12	ANURATHIKA.M	25	8	NAGANANDHINI. G
4	13	ANUSHA A	26	10	NIVETHA. R
5	19	ARTHI A	27	12	PADMAPRIYA. K
6	22	ASHIYABEGUM J	28	13	PAVITHRA. E
7	24	BARGAVI G	29	14	PAVITHRA. S
8	25	BASHIRUNNISHA S	30	15	PRABHA. R
9	26	BAVATHARANI S	31	18	PREETHIKA. V
10	30	CHANTHIYA S	32	19	PRIYA DARSINI. S
11	33	DURGA DEVI P	33	21	PRIYADHARSHINI.K
12	34	ELAMATHI M	34	24	PRIYANKA. R
13	35	ESTHER THANISHA T	35	25	PRIYANKA. U
14	41	HASIKA PRIYA R	36	28	RAJASRI. E
15	42	HEMALATHA R	37	33	SALMA BEGUM. R
16	43	ISHWARYA B	38	34	SANGEETHA. S.B
17	44	JASMINE.K	39	40	SHYAMALA. K
18	46	JEEVA.M	40	42	SIVARANJANI. S
19	48	KARTHIKA.R	41	43	SRI DEVI. A
20	49	KAVERI.S	42	45	STEPHYGRAPH. A
21	54	LAVANYA.G	43	53	VETRISELVI M
22	56	MADHUVANTHI.M	44	59	R.POTHUM SELVI
TOTAL		22	TOTAL		22

TOTAL: 44

T. Parvathy
Staff Incharge
20/12/16

J. Parvathy
20/12/2016
HOD/ECE



My Credit Course

Name of the Course : System Design using Embedded C Programming			
Duration	: 50 hrs.	Course In charge	:T.Jeyaseelan
Beneficiaries	: IV ECE	Internal Staff Members	:T.Jeyaseelan & T.Pasupathi
Course Commences on	: 02/01/2017		

L T P
3 0 3

Objective:

The student should be made to:

1. Understand the building blocks of Embedded Systems and architecture of 8051/PIC/ARM Processor
2. Understand the embedded software programming and real-time programming
3. Understand the concept of real-time development tools and its interfacing

Syllabus:

Module-I INTRODUCTION TO EMBEDDED COMPUTING DESIGN

10

Introduction to 8085/8051/ARM/PIC microprocessor and Microcontrollers-Architecture-Instruction set- Addressing modes- Embedded system design process- Recent trends in Embedded Design and computing platform-ARM Processor-programming-Compiling, Linking, and Locating-Downloading and Debugging

Module-II INTRODUCTION TO EMBEDDED C PROGRAMMING

10

Overview of C- Constants, Variables and datatypes- Operators and expressions- Loops-arrays-Strings- User defined function-structures- pointers

Module-III GETTING TO KNOW THE HARDWARE

10

I/O pins-LED's-switches-Keypad-LCD-seven segment display-Timers-Interrupts-UART-RTC-Analog to Digital converter-Digital to analog converter-Memory-stepper motor-DC motor-Zigbee-GSM

Module-IV PROGRAMMING-I/O DEVICES

10

I/O pins-LED's-switches-Keypad-LCD-seven segment display-UART-RTC-Analog to Digital converter-Digital to analog converter- stepper motor-DC motor-PWM-Memory-Timers-Interrupts

Module-V PROGRAMMING-COMMUNICATION PROTOCOLS

10

RF-I²C Interfacing- Zigbee-GSM- Real Time data logging

Total: 50 Periods

OUTCOMES:

Upon completion of the course, students will be able to:

1. Outline the concepts of embedded systems and able to describe the architecture and programming of 8051/ARM/PIC.
2. Interface Peripherals, memory and Write programs related to memory operations
3. Explain the concepts of real time system design.
4. Formulate a mini project using embedded system.

TEXT BOOKS

- T1.** Marilyn Wolf, "Computers as Components - Principles of Embedded Computing System Design", Third Edition "Morgan Kaufmann Publisher (An imprint from Elsevier), 2012.
- T2.** E.Balagurusamy, "Programming in ANSI C" Third Edition, Tata McGraw Hill, 2005
- T3.** The 8051 Microcontroller & Embedded systems Using Assembly and C" Second Edition, Pearson Edition.
- T4.** Muhammad Ali Mazidi, The 8051 Microcontroller and Embedded Systems, Prentice Hall, 2007.
- W1.** <http://homemaderobo.blogspot.in/2014/02/how-to-configure-zigbee-tarang-f4.html>
- W2.** <https://www.efxkits.co.uk/wp-content/uploads/2014/11/chapter-10.pdf>
- W3.** http://www.dauniv.ac.in/downloads/EmbsysRevEd_PPTs/Chap_3Lesson18EmsysNew.pdf
- W4.** <https://www.efxkits.co.uk/wp-content/uploads/2014/11/chapter-11.pdf>
- W5.** www.campuscomponent.com

Topic No	Topic	Books for Reference	Page No.	Teaching Methodology	No. of Hours Reqd.	Cumulative No. of periods
Module-I INTRODUCTION TO EMBEDDED COMPUTING DESIGN						
1.	Introduction to 8085/8051/ARM/PIC microprocessor and Microcontrollers-Architecture	T3	23-28	PPT	2	2
2.	Instruction set- Addressing modes	T3	109-112 139-161	PPT	1	3
3.	Embedded system design process- Recent trends in Embedded Design and computing platform	T1	10-25, 44	PPT	2	5
4.	ARM Processor-programming	T1	57-72	PPT	3	8
5.	Compiling, Linking, and Locating	T1	233, 228-235, 181-183	PPT	1	9
6.	Downloading and Debugging			PPT	1	10
Module-II INTRODUCTION TO EMBEDDED C PROGRAMMING						
7.	Overview of C	T2	1-18	PPT	2	12
8.	Constants, Variables and data types	T2	22-33	PPT	2	14
9.	Operators and expressions-	T2	51-62	PPT	2	16
10.	Loops-arrays	T2	145-159 180-199	PPT	1	17
11.	Strings- User defined function	T2	218-230	PPT	1	18
12.	structures	T2	301-313	PPT	1	19
13.	pointers	T2	333-344	PPT	1	20
Module-III GETTING TO KNOW THE HARDWARE						
14.	I/O pins-LED's-switches	T3	181-188	HANDS-ON SESSION-LAB	1	21
15.	Keypad-LCD-seven segment display	T3	351-363		1	22
16.	Timers-Interrupts-UART	T3	239-260 277-306 317-340		2	24
17.	RTC-Analog to Digital converter-Digital to analog converter	T3	373-403 467-479		2	26
18.	Memory-stepper motor-DC motor	T3	491-507 411-430		2	28
19.	Zigbee-GSM	W1			2	30