About the college:

Our College was established in the year 1998. It is promoted and supported by Virudhunagar Hindu Nadars' Devasthanam, various Hindu Nadars' Mahamai Tharappus in Virudhunagar and other places and educational institutions of Virudhunagar. Our College is ideally located on the home land of Karmaveerar "Bharat Ratna" K. Kamaraj and our institution is one of the Virudhunagar's most recognizable landmark.

About the Department

Electronics and Communication Engineering (ECE) is a swiftly advancing field, with new ideas emerging every other second. To render services to meet the growing global challenges of Engineering industries and organizations, Electronics and Communication engineering was started in the year 1998. From then, ECE Department prepares students to pursue leadership, technical, and management positions in a variety of industries.

Department Vision:

To make the Department of Electronics and Communication Engineering of this Institution the unique of its kind in the field of Research and Development activities in this part of world ″

Department Mission:

To impart highly innovative and technical knowledge in the field of Electronics and Communication Engineering to the urban and unreachable rural student folks through Total Quality Education ″

Program Educational Objectives

1.To establish a strong foundation in Electronics and Communication Engineering necessary to formulate, model, analyze and solve real time problems.

2.To inculcate professional skills and life skills for placement or to pursue higher studies in the relevant fields.

3.To promote research and development activities and solve industrial problems with creative ideas

KAMARAJ
COLLEGE OF ENGINEERING & TECHNOLOGY
S.P.G. Chidambara Nadar - C. Nagammal Campus, S.P.G.C. Nagar, VIRUDHUNAGAR
Accredited by NAAC with 'A' Grade

Tessolve Semiconductor Test Engineering-Skill Development Course

June 2020- October 2020

Organized by

Department Of Electronics And Communication Engineering

In Association With

TESSOLVE
A Hero Electronix Venture

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Workshop objective:

The main objective of this course is to impart a thorough theoretical introduction in certain key areas of test engineering along with various practical experiments. This course is intended for students technical knowledge improvement in Electronics for ECE, EEE and EIE students

This workshop will cover the following:

- **Semiconductor Devices**
- **Digital Electronics**
- **Test Engineering**
- **Introduction of LGC**
- **Parametric Testing**
- **Functional Testing**

Registration Form

Name :

Roll No :

Year :

Branch :

Batch :

Academic year:

Fees :

Address for Communication:

Mobile :

E-Mail id:

Declaration:

I agree to abide by the rules and regulations of the host institution and shall attend the seminar for the entire duration.

COORDINATORS

Mrs.S.Nisharani

Mr.R.Ashok

Mrs.P.Muthumari

KAMARAJ
COLLEGE OF ENGINEERING & TECHNOLOGY

S.P.G.Chidambara Nadar - C. Nagammal Campus,
S.P.G.C. Nagar, K. Vellakulam - 625 701, Near VIRUDHUNAGAR, Madurai District.
Accredited by NAAC with 'A' Grade

Submitted to the SECRETARY for approval through the PRINCIPAL

Book No. ECE

SL No. 92

Date 10/2/20

1) Name of the object / item / service : Value Added Course on Semiconductor Test Engineering - Skill Development Course

2) Purpose (Replacement / upgradation / New) or (Participation / Presentation) or (Service / Renewal / New) :

3) Specifications :

4) Approx. Value per object / item (Min. Quote / Reasons for Higher Quote) : Duration - 45 hours Date - 13/2/2020 - 20/

5) No. of Quotations Received : No of students - 20

6) No. / Type of objects / items / service needed : Fees - Rs 4000

7) Total Value (incl. tax) : Budget enclosed

Signature of Faculty

HOD 10/2/2020

PRINCIPAL

OFFICE USE

1) Budget allotted : Amount to be collected from the Participants

2) Amount committed / Spent sofar :

3) Balance available :

OM

Secretary

KAMARAJ
COLLEGE OF ENGINEERING & TECHNOLOGY

Department of ECE

Value added course on

Semiconductor Test Engineering-Skill Development Course[STE-SDC]

syllabus

PREREQUISITE

Basic Knowledge in Electronics and IC Test Engineering.

COURSE OUTCOMES

On the successful completion of the course, students will be able to

CO	Course Outcomes	Level
CO1	Apply Electrical circuit laws and Theorems to measure Voltage, Current and Power.	K3-Apply
CO2	Understand the working principle of Semiconductor Devices.	K2-understand
CO3	Understand the concept of Digital Electronics	K2-understand
CO4	Understand the working principle of Source and Load	K2-understand
CO5	Understand the different type of Functional and Hardware Testing.	K2-understand

Circuit Theory **9**

Basic Laws: KCL, KVL, and ohm's Law. Measurements: Voltage, Current and Power Measurement in Low Frequency circuits. V, I, R_{equ} and Power measurements: serial and parallel connection under DC and AC supply. Theorems: Thevenin's, Norton's, Super position and maximum power transfer theorem. Source and Load: Uni Polar, bi polar and Four Quadrant Power supply, Current limiting Resistor, Auto Cross Over, Kelvin Connection, Different Power rate of Resistors.

SEMICONDUCTOR DEVICES 9

PN Junction Diode: I-V characteristics under Forward Bias and Reverse Bias, Zener Diode Voltage Regulator: Line Regulation and Load Regulation, Transistors: Applications of BJT and FET. Application of Diode and Transistors, OP AMP: Inverting and Non Inverting Amplifier, Source Follower.

Digital Electronics

9

Gate design using Diodes and Transistors: OR Gate & AND Gate, TTL and DTL. Characteristics of Rise Time, Fall Time, Fan In, Fan Out, Propagation Delay, Setup Time, Holding Time, Duty Cycle.

LGlite ATE

9

Architectecture of LGlite: Pattern generator, Logic Analyzer and IO Channels. Functional test on Basic gates,I^2C, Flip Flop and memories(RAM and ROM).

Parametric Test

Open /short test, static test, leakage test, output drive current measurement, output voltage measurement test, dynamic power supply current measurement.

References:

1. David A. Bell, "Electric Circuits and Electronic Devices", Oxford University Press.

2. Sudhakar. A & Shyam Mohan, SP 2015, "Circuits and Networks-Analysis and Synthesis", McGraw Hill.

3. Charles K. Alexander, Mathew N.O. Sadiku, "Fundamentals of Electric Circuits", Fifth Edition, McGraw Hill, 9th Reprint 2015.

4. S Salivahanan & S Arivazhzgan, "Digital Circuits and Logic Design", Fourth Edition, Vikas Publishing House Pvt. Ltd.

Course Coordinator

HoD/ECE

KAMARAJ
COLLEGE OF ENGINEERING & TECHNOLOGY

Department of ECE

Value added course on

Semiconductor Test Engineering-Skill Development Course[STE-SDC]

Programme schedule – (2020 – 2021)

S.No	Staff Name	Topics	Date	Signature
1	Dr.R.Sureshbabu	Basic Laws: KCL, KVL, ohm's Law. Measurements: Voltage, Current and Power Measurement in Low Frequency circuits.	06.07.2020	
2	Mrs.S.Nisharani	V, I ,R_{equ} and Power measurements :serial and parallel connection under DC and AC supply	08.07.2020	
3	Mr.R.Ashok	Theorems: Thevenin's, Norton's, Super position and maximum power transfer theorem	13.07.2020	
4	Mrs.P.Muthumari	Norton's theorem	15.07.2020	
5	Dr.R.Sureshbabu	Super position theorem	17.07.2020	
6	Mrs.S.Nisharani	maximum power transfer theorem	20.07.2020	
7	Mr.R.Ashok	PN Junction Diode: I-V characteristics under Forward Bias and Reverse Bias	22.07.2020	
8	Mrs.P.Muthumari	Zener Diode Voltage Regulator: Line Regulation and Load Regulation	24.07.2020	
9	Mr.R.Ashok	Transistors: Applications of BJT and FET	27.07.2020	
10	Mrs.P.Muthumari	Application of Diode and Transistors	29.07.2020	
11	Dr.R.Sureshbabu	OP AMP: Inverting and Non Inverting Amplifier	31.07.2020	
12	Mrs.S.Nisharani	Source Follower	03.08.2020	
13	Mrs.S.Nisharani	Gate design using Diodes and Transistors: OR Gate & AND Gate	05.08.2020	
14	Mr.R.Ashok	TTL and DTL. Characteristics of Rise Time	07.08.2020	

15	Mrs.P.Muthumari	Fall Time, Fan In, Fan Out	10.08.2020	P. Mu
16	Dr.R.Sureshbabu	Propagation Delay, Setup Time	12.08.2020	R.S
17	Mrs.S.Nisharani	Holding Time, Duty Cycle	14.08.2020	Bhuvana
18	Mrs.P.Muthumari	Uni Polar Power supply	17.08.2020	P. Mu
19	Mrs.S.Nisharani	bi polar and Four Quadrant Power supply	19.08.2020	Bhuvana
20	Mr.R.Ashok	Current limiting Resistor	21.08.2020	R.Ash
21	Mrs.P.Muthumari	Auto Cross over	24.08.2020	P. Mu
22	Dr.R.Sureshbabu	Kelvin Connection, Different Power rate of Resistors.	26.08.2020	P. Mu R.S
23	Mrs.S.Nisharani	Different Power rate of Resistors.	28.08.2020	Bhuvana
24	Mr.R.Ashok	Architecture of LGlite	02.09.2020	R.Ash
25	Mrs.S.Nisharani	Pattern generator,	04.09.2020	Bhuvana
26	Mr.R.Ashok	Logic Analyzer	07.09.2020	R.Ash
27	Mr.R.Ashok	IO Channels.	09.09.2020	R.Ash
28	Dr.R.Sureshbabu	Functional test on Basic gates,	11.09.2020	R.S
29	Mrs.S.Nisharani	I²C	14.09.2020	Bhuvana
30	Mr.R.Ashok	Flip Flop	16.09.2020	R.Ash
31	Mrs.P.Muthumari	Memories (ROM).	18.09.2020	P. Mu
32	Mr.R.Ashok	Memories (RAM)	21.09.2020	R.Ash
33	Mrs.P.Muthumari	Open /short test,	23.09.2020	P. Mu
34	Mrs.P.Muthumari	Open /short test,	25.09.2020	P. Mu
35	Mrs.S.Nisharani	static test	05.10.2020	Bhuvana
36	Mr.R.Ashok	leakage test	07.10.2020	R.Ash
37	Mrs.P.Muthumari	leakage test	09.10.2020	R.Ash
38	Mr.R.Ashok	output drive current measurement	12.10.2020	R.Ash
39	Mrs.P.Muthumari	output drive current measurement	14.10.2020	P. Mu
40	Mrs.S.Nisharani	output voltage measurement test	16.10.2020	Bhuvana
41	Mr.R.Ashok	output voltage measurement test	19.10.2020	R.Ash
42	Mrs.P.Muthumari	Dynamic power supply current measurement.	21.10.2020	P. Mu
43	Mrs.S.Nisharani	Dynamic power supply current measurement.	23.10.2020	Bhuvana
44	Mr.R.Ashok	Dynamic power supply current measurement.	26.10.2020	R.Ash
45	Mrs.S.Nisharani	Parametric test	27.07.2020	Bhuvana

R.Ashok

R.S