

SRI BHARATHI

ENGINEERING COLLEGE FOR WOMEN

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

Kaikkurichi, Pudukkottai -622 303

www.sbec.edu.in

NAAC DOCUMENTS



Quality Indicator Frame Work

Criterion — 1 CURRICULAR ASPECTS

Submitted by

IQAC Internal Quality Assurance Cell

Sri Bharathi Engineering College for Women

And a state of the state of the

SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN

Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai-25) KAIKKURUCHI, PUDUKOTTAI – 622 303 DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2019-2020 / ODD SEMESTER

1.2 Academic Flexibility (30)

1.2.1 Number of Certificate/Value added courses offered and online courses of MOOCs, SWAYAM, NPTEL etc. (where the students of the institution have enrolled and successfully completed during the last five years)

AND

1.2.2 Percentage of students enrolled in Certificate/ Value added courses and also completed online courses of MOOCs, SWAYAM, NPTEL etc. as against the total number of students during the last five years

VAC Title:	РСВ	MANUFACTURING AND DESIGNING OF BASIC CIRCUITS										
Resource Per		PCB I Galwa	Er.V.Veerapandiyan, PCB Developer, Galwin Technology,Trichy-620 002.									
Organized D			24.06.201 ELECTE		To: 28.06.2019 Duration: 30 Hour D COMMUNICATION ENGINEERING							
Participant Y	ipant Year: 2/3/4			Semester:	ODD		No. of Stud	red: 46				
Venue: Seminar Hall, ,Ground Floor, SBECW												

TABLE OF CONTENTS

SNO	DOCUMENT	PAGE-NO
1	VAC Circular	3-3
2	VAC Syllabus and Schedule	4-4
3	List Of Students Participants	5-6
4	Attendance Of Students	7-9
5	VAC Report	10-10
6	Course Completion Certificates -VAC	11-13
7	VAC Test Paper	14-16
8	VAC Answer Key	16-16
9	VAC Test Answer Sheet-Sample	17-25
10	VAC Mark Statement	26-28



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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2019-2020/ODD SEMESTER

DEPARTMENT CIRCULAR

This is to inform that Value Added Course offered by the Department of ECE will be conducted for Second, Third and Final year students on "PCB Manufacturing and Designing of Basic Circuits" in association with Galwin Technology from 24.06.2019 to 28.06.2019. Certificates will be issued to the eligible participants at the end of the course.

S.No	Name of the Course	Resource Person
1	PCB Manufacturing and Designing of Basic Circuits	Er.V.VEERAPANDIYAN, PCB Developer, Galwin Technology, 12A, Periyasamy Towers, 3rd floor, Chathiram Bus Stand, Trichy- 620 002. Tamil Nadu . Mail.Id: info@galwintech.in

Cc:

- Principal's Office
- **IQAC** Coordinator
- Class In charges- II ,III &IV Year
- II ,III & IV Year ECE Students
- Notice Board

Date: 17.06.2019

HOD / ECE SRI BHARATHI ENGINEERIN COLLEGE FOR WOMEN

KAIKKURICHI, PUDUKKOTTAI - 622 303

Dr. S.THILAGAVATHEM.E., Ph.D.

PRINCIPAL



(Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai-25) Kaikkurichi, Pudukkottai, Tamil Nadu – 622 303, India

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING <u>ACADEMIC YEAR 2019-2020/ODD SEMESTER</u>

Value Added Course on "PCB Manufacturing And Designing of Basic Circuits"

SYLLABUS

S.NO	TOPIC COVERED	DURATION (in hours)	DATE
1	Introduction to Printed circuit board& Design rules for PCB	3	24.6.2019
2	Understand the electrical parameters & Creating the schematic.	3	24.6.2019
3	Electronic design automation(EDA) tools for PCB designing	3	25.6.2019
4	Component Introduction and their categories	3	25.6.2019
5	Detailed Description about labels and identifiers	3	26.6.2019
6	Creations of PCB layout & Designing of PCB stackup	3	26.6.2019
7	PCB design for EMI/EMC	3	27.6.2019
8	High-Density Interconnection (HDI) Technology	3	27.6.2019
9	PCB Technology Trends & concepts of Packaging	3	28.6.2019
10	Advance techniques, skills and modern tools for designing and fabrication of PCBs	3	28.6.2019
	Total Hours	30	

VAC Coordinator

Dr. S.THILAGAVATHI M.E., Ph.D., PRINCIPAL

SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN Kaikkurchi - 622 303, Pudukkotiai Dt. HoD/ECE

HOD / ECE

SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN KAIKKURICHI, PUDUKKOTTAI - 622 303



SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN (Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai-25) Kaikkurichi, Pudukkottai, Tamil Nadu – 622 303, India

DEPARTMENT OF ELECTRONICS AN COMMUNICATIONENGINEERING ACADEMIC YEAR ODD SEMESTER (2019-2020)

STUDENT PARTICIPATION LIST FOR VALUE ADDED PROGRAM

PCB Manufacturing and Designing of Basic Circuits

S.NO	REG.NO	NAME	YEAR & BRANCH
1	912618106001	ANUSHAA.S	II & ECE
2	912618106002	ARIVARASI .A	II & ECE
3	912618106003	ASMATH HAZEENA.N	II & ECE
4	912618106004	ATCHAYA. R	II & ECE
5	912618106005	JAYAPRIYA .T	II & ECE
6	912618106006	JAYASRI. M	II & ECE
7	912618106007	NAGALAKSHMI. P	II & ECE
8	912618106008	NAVITHRA. D	II & ECE
9	912618106009	ROHINI. K	II & ECE
10	912618106010	SOUNTHARYA. P	II & ECE
11	912618106012	THAIYAL NAYAGI .K	II & ECE
12	912618106701	JANANI.R	II & ECE
13	912617106001	ABIRAMI .S	III & ECE
14	912617106002	ABISHEKA .S	III & ECE
15	912617106003	ATSHAYA .R	III & ECE
16	912617106004	BAVADHARANI. A	III & ECE
17	912617106005	BHUVANESHWARI. B	III & ECE
18	912617106006	DHIVYA .L	III & ECE
19	912617106007	GOWSALYA .D	III & ECE
20	912617106009	INDHUMATHI. S	III & ECE
21	912617106010	KANIMOZHI. D	III & ECE
22	912617106011	KAVYA .C	III & ECE
23	912617106012	KEERTHANA .G	III & ECE
24	912617106013	MAHESHWARI. G	III & ECE

PRINCIPAL

S.NO	REG.NO	NAME	YEAR & BRANCH		
25	912617106014	MANOHARI .M	III & ECE		
26	912617106015	MARAGATHALAKSHMI. S	III & ECE		
27	912617106017	SAFRIN NISHA. S	III & ECE		
28	912617106018	SUBASHINI .M	III & ECE		
29	912617106019	SUBASHINI. T	III & ECE		
30	912617106020	VINTHIYA. R	III & ECE		
31	912616106001	ABINAYA. R	IV & ECE		
32	912616106002	AGALYA .A	IV & ECE		
33	912616106003	ATCHAYA. G	IV & ECE		
34	912616106004	DEEPA .N	IV & ECE		
35	912616106005	DHARANIYA. A	IV & ECE		
36	912616106006	JEEVITHA .U	IV & ECE		
37	912616106007	MAHESWARI .V	IV & ECE		
38	912616106008	PAZHANIYAMMAL .R	IV & ECE		
39	912616106009	PRIYANKA. E	IV & ECE		
40	912616106010	ROJA .A	IV & ECE		
41	912616106011	SHANMUGAPRIYA. R	IV & ECE		
42	912616106012	SHIYAMALA. E	IV & ECE		
43	912616106013	SIVABHARATHI .P	IV & ECE		
44	912616106014	SIVARUBINI. S	IV & ECE		
45	912616106016	VINCY .A	IV & ECE		
46	912616106302	SANKAVI .M	IV & ECE		

Coordinator

HoD/ECE

HOD / ECE

SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN KAIKKURICHI, PUDUKKOTTAI - 622 303 .

Dr. S.THILAGAVATHI M.E., Ph.D.,



(Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai-25) KAIKKURICHI, PUDUKKOTTAI-622 303

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

ATTENDANCE SHEET FOR VALUE ADDED COURSE-PCB MANUFACTURING AND DESIGNING OF BASIC CIRCUITS

S.	REG. NO	NAME	YEAR/	24.00	5.2019	25.06	.2019	26.06	.2019	27.06	.2019	28.00	6.2019	NO. OF	CICN OF
No	REG. NO	IVAIVIE	BRANCH	F.N	A.N	F.N	A.N	F.N	A.N	F.N	A.N	F.N	A.N	SESSIONS ATTENDED	SIGN OF STUDENT
1	912618106001	ANUSHAA S	II/ECE	1	1	1	1	1	1	1	1	1	1	10	Inche
2	912618106002	ARIVARASI A	II/ECE	a	1	/	1	1	1	1	1	1	1	9	Arivarari.
3	912618106003	ASMATH HAZEENA N	II/ECE	1	1	1	1	1	1	1	1	1	1	10	Barther
4	912618106004	ATCHAYA R	II/ECE	1	1	1	1	1	,	1	1	/	1	10	OTCHAYA.P
5	912618106005	JAYAPRIYA T	II/ECE	1	1	1	1	1	1	1	1	1	1	10	Tayapliya
6	912618106006	JAYASRI M	II/ECE	1	1	1	,	1	1	1	1	1	1	10	L Survey
7	912618106007	NAGALAKSHMI P	II/ECE	1	1	1	1	1	1	1	1	1	1	10	Jayasri
8	912618106008	NAVITHRA D	II/ECE	1)	1	1	1	1	1	1	1	1	10	Neyle
9	912618106009	ROHINI K	II/ECE	1	,	1	1	1	1	1	1	1	1	10	Pali
10	912618106010	SOUNTHARYA P	II/ECE	1	1	1	,	1	1	/	10	X	10	10	Roski
11	912618106012	THAIYAL NAYAGI. K	II/ECE	1	1	1	1	1	1	a	K	Yh	5)		thing Nag
12	912618106701	JANANI.R	II/ECE	1	,	1	1	1	1) s	RIAHA	PRINC	ATHI M	ERINGO	janani. R

COLLEGE FOR WOMEN

1.9		JANANLR													
13	912617106001	ABIRAMI S	III /ECE	1	1	1	1	1	1	1	1	1	1	10	S. Abirami
14	912617106002	ABISHEKA S	III /ECE	1	1	1	1	1	1	1	1	1	1	10	
15	912617106003	ATSHAYA R	III /ECE	1	1	1	1	1	1	,	1	1	/	10	R. Atchys
16	912617106004	BAVADHARANI A	III /ECE	1	1	1	1	1	1	1	1	1	1	10	D. Baralhani
17.	912617106005	BHUVANESHWARI B	III /ECE	1	1	1	1	1	1	1	1	1	1	10	B. Bhurancery
18	912617106006	DHIVYA L	III /ECE	1	1	1	1	1	1	,	1	1	1	10	L. Dirya
19	912617106007	GOWSALYA D	III /ECE	a	1	1	1	1	1	1	1	1	1	9	D. Cowedyn
20	912617106009	INDHUMATHI S	III /ECE	1	7	1	1	1	1	1	1	1	1	10	S. Endlumatti
21	912617106010	KANIMOZHI D	III /ECE	1	1	1	1	,	1	1	1	1	1	10	Q. Kainozli
22	912617106011	KAVYA C	III /ECE	1	1	1	1	1	1	a	a	1	1	8	C. Kavya
23	912617106012	KEERTHANA G	III /ECE	1	1	1	1	1	1	1	1	1	1	10	G. Harden
24	912617106013	MAHESHWARI G	III /ECE	1	1	1	1	1	1	1	1	1	,	10	G. Mala Ji
25	912617106014	MANOHARI M	III /ECE	1	1	1	1	1	1	1	1	1	1	10	M. Mini
26	912617106015	MARAGATHA LAKSHMI. S	III /ECE	1	1	1	1	1	1	10.12	1	1	1	lo	S. Massatta
27	912617106017	SAFRIN NISHA S	III /ECE	1	1	a	1	1	1	1)/	1	- /	9	S. Safin Right
28	912617106018	SUBASHINI M	III /ECE	1	1	1	1	1	1	1	1	1	1	10	77 sulastin
29	912617106019	SUBASHINI T	III /ECE	1	1	1	1	1.	1	1	1	1	1	10	T. Suli
30	912617106020	VINTHIYA R	III /ECE	1	1	1	1	0,1	1	195	1		4	1 10	R. vintage
31	912616106001	ABINAYA R	IV/ECE	1	1	1	1	1	10	r S/TH	ILAGA	VATH	I M.E.,P	h.D., 10	R. Abinaya
32	912616106002	AGALYA A	IV/ECE	1	1	1	1	1	1	SRIBI	HARATI LLEGE	HENG!	NEERIN OMEN	G 10	A Agolya
					1					Kaikkui	CIII - 022	303, Pu	dukkottai D	ot.	

33	912616106003	ATCHAYA G	IV/ECE	1	1	1	1	1	1	1	/	1	1	10	G. Afchaye
34	912616106004	DEEPA N	IV/ECE	1	1	1	1	1	p	1	1	1	1	10	W. Deepa
35	912616106005	DHARANIYA A	IV/ECE	1	1	1.	1	1	1	1	,	1	1:	10	& Stary
36	912616106006	JEEVITHA U	IV/ECE	1	1	1	/	,	1	1	,	1	1	10	U. Feerithe
37	912616106007	MAHESWARI V	IV/ECE	1	1	1	-/	1	1	1	1	1	1	10	Maari V
38	912616106008	PAZHANIYAMMAL .R	IV/ECE	1	1	1	1	,	1	1	1	1	1	10	Robart
39	912616106009	PRIYANKA E	IV/ECE	1	1	1	1	1	1	1	1	1	1	10	Projyanka, E
40	912616106010	ROJA A	IV/ECE	a	a	,	1	1	1	1	1	1	1	8	Roje
41	912616106011	SHANMUGAPRIYA .R	IV/ECE	1	1	1	1	1	1	1	1	1	1	10	Shanpoya
42	912616106012	SHIYAMALA E	IV/ECE	1	/	1	1	1	1	1	1	1	,	10	E. Duget
43	912616106013	SIVABHARATHI P	IV/ECE	1	1	,	1	1	1	1	1	1	1	10	P. Bashon
44	912616106014	SIVARUBINI S	IV/ECE	1	1	1	1	1	1	,	1	,)	10	8iv2
45	912616106016	VINCY A	IV/ECE	1	1	a	a	,	1	1	1	./	1	8	Jeny &
46	912616106302	SANKAVI M	IV/ECE	1	1	1	1	1	1	1	1	,	7	10	M. Sankani

VAC Coordinator

Dr. S.THILAGAVATHI M.E., Ph.D.,
PRINCIPAL
SRI BHARATHI ENGINEERING
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Kaikkurchi - 622 303, Pudukkottai Dt.

HoD/ ECE

HOD / ECE SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN KAIKKURICHI,

PUDUKKOTTAI - 622 303

(Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai-25) Kaikkurichi, Pudukkottai, Tamil Nadu - 622 303, India

Report on Value Added Course

Title:

PCB Manufacturing and Designing of Basic Circuits

Er.V.VEERAPANDIYAN,

Resource Person:

PCB Developer,

Galwin Technology,

Trichy-620 002.

Date of conduct from:

24.06.2019

To: 28.06.2019 Duration:

30 Hours

Organized Department:

Electronics and Communication Engineering

Participant Year:

2/3/4

Semester: ODD No. of Students Registered:

Venue:

Seminar Hall, ,Ground Floor,SBECW

Outcome of Value Added Course (VAC) : At the end of Course , Students can able to

- Understand basics of PCB designing.
- Design PCB layout of their design.
- Produce PCB of their own circuit.
- Apply advance techniques, skills and modern tools for designing and fabrication of PCBs.
- Apply the knowledge and techniques to fabricate Multilayer, SMT and HDI PCB.
- Understand concepts of Packaging.
- Recognize the technologies used in electronic industry through the practical experience gained in the course.

No. of students successfully completed the VAC course is 46 Students based on the following Assessment process.

Assessment Process

- Students securing more than 60% on total score and secured more than 75% in attendance is eligible to receive the certificate for the VAC course conducted
- Total Score = (0.5 *Attendance in VAC out of 100 percentage + 0.5 *Test mark in VAC out of 100 marks)

dinator

SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN

KAIKKURICHI.

PUDUKKOTTAI - 622 303

Principat

PRINCIPAL



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KAIKKURICHI, PUDUKKOTTAI-622303



Certificate of completion

VALUE ADDED PROGRAM

This is to Certify that Mr/Ms. ASMATH HAZEENA.N of II ECE has successfully completed Value Added Course on "PCB Manufacturing and Designing of Basic Circuits" organized by the department of Electronics and Communication Engineering in association with Galwin Technology from 24.06.2019 to 28.06.2019 during the academic year 2019-2020.

Managing Director Galwin Technology HoD/ECE SBECW

SBECW
THI AGAVATHIME Ph D



(Approved by AICTE | Affiliated to Anna University)

KAIKKURICHI, PUDUKKOTTAI-622303



Certificate of completion

VALUE ADDED PROGRAM

This is to Certify that Mr/Ms. **ABISHEKA.S** of **III ECE** has successfully completed Value Added Course on "PCB Manufacturing and Designing of Basic Circuits" organized by the department of Electronics and Communication Engineering in association with Galwin Technology from 24.06.2019 to 28.06.2019 during the academic year 2019-2020.

Managing Director Galwin Technology HoD/ECE SBECW PRINCIPAL SBECW

PRINCIPAL



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KAIKKURICHI, PUDUKKOTTAI-622303



Certificate of completion

VALUE ADDED PROGRAM

This is to Certify that Mr/Ms. SHANMUGAPRIYA.R of IV ECE has successfully completed Value Added Course on "PCB Manufacturing and Designing of Basic Circuits" organized by the department of Electronics and Communication Engineering in association with Galwin Technology from 24.06.2019 to 28.06.2019 during the academic year 2019-2020.

Managing Director Galwin Technology HoD/ECE SRECW PRINCIPAL SBECW

Dr S.THILAGAVATHIM.E.,Ph.D.,



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Name of the Student:	Year/Sem:
AU Register Number:	
Value Added Course on "PC"	B Manufacturing and Designing of Basic Circuits"
MCQ QI	UESTIONS (25X1 = 25 Marks)
1. High current circuits are purpose supply lines for	ly located or placed near the edge of PCB in accordance to the
a) Removal of heat	c) Reduction of path length
b) Isolation of stray current	d) All of the above
Resistance Soldering'?	oldering methods is also renowned as 'High Frequency
a) Iron Soldering	c) Torch Soldering
b) Furnace Soldering	d) Electrical Soldering
a) Impedance Testing	ned approaches belongs to the category of In-circuit Testing? c) Apply Signal and check output
b) Component Testing	d) All of the above
4. Which among the below stated do supply line noise especially in TTL a) Coupling capacitor	evices/equipments are preferred for elimination of ground and //CMOS / ECL PCB designing? c) Snubber circuits
b) Decoupling capacitor	d) All of the above
5. Which terminology of PCB representations o	esents a thin photo-sensitive polymer by supporting
6. The actual cost of DCD and be	printered interest in thorough the service.
6. The actual cost of PCB can be eval a) PCB size & material	c) Vias on PCB
b) Number of layers	d) All of the above
replacement oriented difficulties?	imum soldering on component side in order to avoid
a) Single-sided PCB	c) Both a and b
b) Double-sided PCB	d) None of the above
Package'?	ed packages does not belong to the category of 'Small Outline
a) SO	c) SOT
	PRINCIPAL RATHI ENGINEERING

COLLEGE FOR WOMEN Kaikkurchi - 622 303, Pudukkoʻ(la/Dt.



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9. The computer-based design process is both	than manual process.
a)Slower and Less accurate b)Faster and more accurate	c)Slower and more accurate d)Faster and less accurate
10.Computer-aided design provides an interface b	petween theand the computer.
a) Circuit Designer b) Customer	c) PCB Manufacturer d) PCB Designer
11.In a multi-layer board design, CAD	plays an important role in the design process.
a) Interactive b) Mechanical	c) Auto d) Basic
12 provides the functional flow ar	nd graphical representation of an electronic
circuit and consists of electrical connections (nets	
a) Layout b) Schematic Diagram	c) Assembly d) Testing
13. In Schematic Capture, the project file is saved	l as anfile.
a) ASCII b) Assembly language	c) Binary d) Circuit
14 Verification check is used to	verify whether preferred pad and hole sizes are
used.	р. Decoupling спрасти
a) Electricalb) Physical	c) General d).Mechanical
15. To determine whether single-sided; double-sided	ded or multi-layer board,
plated-through holes, are used	no listoutero od mo 1094ka papa Institut of II o
a) PCB Specificationsb) Mechanical Specifications	c) Electrical Specifications d) Pattern Specifications
16. Wooden frame is not preferred for screen print	ting, due to
a) Rigidness b) Less weight	c) Absorption of water and bending tendencyd) Stretchability
17. The basic function of the laminate is to provide	de support for electronic
components and to interconnect them electri	cally.
a) Electrical b) General	c) Mechanical d) Pattern Dr. S.THILAGAVATHI M.E., Ph.D., PRINCIPAL SRI BHARATHI ENGINEERING



b Reduce heat

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18. Which of the following is an Etching Che	mical?
a) Sodium chloride	c) Ferric chloride
b) Hydro chloride	d) Magnesium chloride
19. Volume Resistivity is given by	(W cm)
a) (R x t)/ A	c) A/ (R t)
b) R/ (A t)	d) (R x A)/ t
20. Which of the following is not a physical of	component of an electronic circuit?
a) Capacitor	c) Diode
b) Inductor	d) Temperature
21. What is the effect of temperature on the re	ecombination rate of electrons in electronic circuits?
a) Recombination rate increases with increase	e in the temperature
b) Recombination rate decreases with increas	e in the temperature
c) Recombination rate is independent of temp	perature
d) Recombination of electrons doesn't occur	in semiconductors
22. What is the first step in PCB design	
a)Specification	c)Manufacturing file
b)Schematic	d)Simulation
23.Select best types of board	
a)Single Sided	c)Throughhole
b)Multilayer	d)Surface mount
24. What is the first thing to consider when pla	acing components Size Restrictions
a)Heat/Thermal	c)Track width
b)Top or Bottom side	d)Bottom side
25. What is the use of IC in PCB	
a) stable and durable base for devices	c)Transfer Heat

d) All the above

Dr. S.THILAGAVATHI M.E., Ph.D.,



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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING <u>ACADEMIC YEAR 2019-2020/ODD SEMESTER</u>

Value Added Course on "PCB Manufacturing And Designing of Basic Circuits"

MCQ ANSWER KEY

1	A	6	D	11	A	16	С	21	В
2	D	7	В	12	В	17	C	22	A
3	D	8	D	13	A	18	С	23	В
4	В	9	В	14	С	19	D	24	D
5	С	10	D	15	A	20	D	25	A

Dr. S.THILAGAVATHIM.E.,Ph.D.,

PRINCIPAL SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN

Kaikkurchi - 622 303, Pudukkottai Dt.



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Name of the Student : ARIVARAS	SI.A Year/Sem: 17 /111 93
AU Register Number: 91261810608	
Value Added Course on "PCB Manufac	cturing and Designing of Basic Circuits"
MCQ QUESTIONS	S(25X1 = 25 Marks)
ouppity filles for	placed near the edge of PCB in accordance to the
(a) Removal of heat	a) Paduation of the
b) Isolation of stray current	c) Reduction of path lengthd) All of the above
2. Which among the below stated soldering method Resistance Soldering'?	nods is also renowned as 'High Frequency
a) Iron Soldering	c) Torch Soldering
b) Furnace Soldering	d Electrical Soldering
3. Which among the below mentioned approache	es belongs to the estace of St.
a) Impedance Testing	cs belongs to the category of in-circuit Testing?
b) Component Testing	c) Apply Signal and check output
, Tanama resumb	d All of the above
of prijume house especially in TIL/CVIOS / EC	nents are preferred for elimination of ground and L PCB designing?
a) Coupling capacitor	c) Snubber circuits
(b) Decoupling capacitor	d) All of the above
5. Which terminology of PCB represents a thin p photographic pattern of single traces or IC pads f	whoto-sensitive polymer by supporting
a) Prepreg	©Photo-resist
b) Etching	d) Solder mask
	d) Solder mask
6. The actual cost of PCB can be evaluated on the	a bosis of
a) PCB size & material	
b) Number of layers	c) Vias on PCB
o) rumber of tayers	(d) All of the above
7. Which type of PCB requires minimum soldering	on component side in a low
replacement oriented difficulties?	ig on component side in order to avoid
Single-sided PCB	a r Kriejdness
b) Double-sided PCB	c) Both a and b
o) Bount-sided FCB	d) None of the above
8. Which among the below montioned to	or or all treatment of the decision of the language is no re-
8. Which among the below mentioned packages de Package'?	oes not belong to the category of Small Outline
a) SO	company regularity of relies 5 (1919) 70 2
b) SOP	c) SOT
SACRETANADA HAT 2 of a matriff it	SON Dr. S.THILAGAVATHI M.E., PH.D.

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9. The computer-based design process is	s boththan manual process.
a)Slower and Less accurate b)Faster and more accurate	c)Slower and more accurate d)Faster and less accurate
10.Computer-aided design provides an	interface between theand the computer.
a) Circuit Designer b) Customer	c) PCB Manufacturer d) PCB Designer
11.In a multi-layer board design,	CAD plays an important role in the design process.
Interactive b) Mechanical	c) Auto d) Basic
12 provides the function	nal flow and graphical representation of an electronic
circuit and consists of electrical connec	tions (nets) and junctions.
a) Layout (b) Schematic Diagram	c) Assembly d) Testing
13. In Schematic Capture, the project fi	le is saved as anfile.
(a) ASCII b) Assembly language	c) Binary d) Circuit
Verification check used.	is used to verify whether preferred pad and hole sizes are
a) Electrical b) Physical	© General d).Mechanical
15. To determine whether single-sided;	double-sided or multi-layer board,
plated-through holes,	_ are used.
PCB Specifications Mechanical Specifications	c) Electrical Specifications d) Pattern Specifications
16. Wooden frame is not preferred for s	creen printing, due to
a) Rigidness b) Less weight	Absorption of water and bending tendency d) Stretchability
17. The basic function of the laminate	is to provide support for electronic
components and to interconnect the	nem electrically.
a) Electrical b) General	Mechanical d) Pattern Dr. S.THILAGAVATHI M.E., Ph.D., PRINCIPAL SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN Kalikhirahi - 622 303 Pudukkalisi Di



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18. Which of the following is an Etching Ch	nemical?
a) Sodium chloride	(c) Ferric chloride
b) Hydro chloride	d) Magnesium chloride
19. Volume Resistivity is given by	_(W cm)
a) (R x t)/A	c) A/ (R t)
b) R/ (A t)	(d) (R x A)/ t
20. Which of the following is not a physical	component of an electronic circuit?
a) Capacitor	c) Diode
b) Inductor	d Temperature
21. What is the effect of temperature on the	recombination rate of electrons in electronic circuits?
a) Recombination rate increases with increa	
(b) Recombination rate decreases with increase	ase in the temperature
c) Recombination rate is independent of tem	
d) Recombination of electrons doesn't occur	r in semiconductors
22. What is the first step in PCB design	
(a) Specification	c)Manufacturing file
b)Schematic	d)Simulation
	dysimulation
23. Select best types of board	
(a)Single Sided	c)Throughhole
b)Multilayer	d)Surface mount
24. What is the first thing to consider when p	lacing components Size Restrictions
a)Heat/Thermal	c)Track width
b)Top or Bottom side	(d)Bottom side
25. What is the use of IC in PCB	
a stable and durable base for devices	c)Transfer Heat
b Reduce heat	d) All the above Dr. S.THILAGAVATHI M.E. P. D.,

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Name of the Student: BhuVanesharei. B Year/Sem: 111

AU Register Number: 91261710600	5
Value Added Course on "PCB Manufact	uring and Designing of Basic Circuits"
MCQ QUESTIONS	(25X1 = 25 Marks)
1. High current circuits are purposely located or p supply lines for	aced near the edge of PCB in accordance to the
Removal of heat b) Isolation of stray current	c) Reduction of path length d) All of the above
2: Which among the below stated soldering metho Resistance Soldering'?	ds is also renowned as 'High Frequency
a) Iron Solderingb) Furnace Soldering	c) Torch Soldering d) Effectrical Soldering
3. Which among the below mentioned approaches	belongs to the category of In-circuit Testing?
a) Impedance Testing b) Component Testing	c) Apply Signal and check output All of the above
4. Which among the below stated devices/equipme supply line noise especially in TTL/CMOS / ECL a) Coupling capacitor b) Decoupling capacitor	PCB designing? c) Snubber circuits
	d) All of the above
5. Which terminology of PCB represents a thin photographic pattern of single traces or IC pads for	oto-sensitive polymer by supporting etching?
a) Prepreg b) Etching	c) Photo-resist d) Solder mask
6. The actual cost of PCB can be evaluated on the l	pasis of
PCB size & material b) Number of layers	c) Vias on PCB d) All of the above
7. Which type of PCB requires minimum soldering replacement oriented difficulties?	on component side in order to avoid
a) Single-sided PCB b) Double-sided PCB	c) Both a and b d) None of the above
8 Which among the below mentioned packages doe Package'?	s not belong to the category of 'Small Outline
a) SO b) SOP	c) SOT d) SON Dr. S.THILAGAVATHI M.E., Ph.D.,



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9. The computer-based design process	is both than manual process.
a)Slower and Less accurate	c)Slower and more accurate d)Faster and less accurate
10. Computer-aided design provides an	interface between theand the computer.
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11.In a multi-layer board design,	CAD plays an important role in the design process.
a) Interactive b) Mechanical	c) Auto d) Basic
cl2 provides the functio	onal flow and graphical representation of an electronic
circuit and consists of electrical connec	ctions (nets) and junctions.
a) Layout Schematic Diagram	c) Assembly d) Testing
13. In Schematic Capture, the project f	file is saved as an file.
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Verification check used.	is used to verify whether preferred pad and hole sizes are
a) Electrical	d).Mechanical
15. To determine whether single-sided	; double-sided or multi-layer board,
plated-through holes,	are used.
a) PCB Specifications b) Mechanical Specifications	c) Electrical Specifications d) Pattern Specifications
16. Wooden frame is not preferred for	screen printing, due to
a) Rigidness b) Less weight	c) Absorption of water and bending tendency d) Stretchability
17. The basic function of the laminate	is to provide support for electronic
components and to interconnect t	
a) Electrical b) General	d) Pattern Dr. S.THILAGAVATHI M.E., Ph.D., PRINCIPAL SRI BHARATHI ENGINEERING

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18. Which of the following is an Etching C	Chemical?
a) Sodium chloride	© Ferric chloride
b) Hydro chloride	d) Magnesium chloride
19. Volume Resistivity is given by	(W cm)
(a) (R x t)/A	c) A/ (R t)
b) R/ (A t)	d) (R x A)/ t
20. Which of the following is not a physical	
(a) Capacitor	c) Diode
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21. What is the effect of temperature on the	e recombination rate of electrons in electronic circuits?
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24. What is the first thing to consider when	placing components Size Restrictions
a)Heat/Thermal	c)Track width
b)Top or Bottom side	(d)Bottom side
25. What is the use of IC in PCB	
a) stable and durable base for devices	
b Reduce heat	c)Transfer Heat d) All the above Dr. S.THILAGAVATHI M.E., Ph.D.
o Reduce near	d) All the above PRINCIPAL SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN Kaikkurchi - 622 303, Pudukkotiai Dt.



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Name of the Student: Friyarka . E AU Register Number: 912616106009	Year/Sem: (V) VI)
AU Register Number: 912616106009	25
Value Added Course on "PCB Manufactu	ring and Designing of Basic Circuits"
MCQ QUESTIONS (25X1 = 25 Marks
A.High current circuits are purposely located or plasupply lines for Removal of heat b) Isolation of stray current	c) Reduction of path length
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b) Decoupling capacitor	c) Snubber circuits d) All of the above
5. Which terminology of PCB represents a thin photographic pattern of single traces or IC pads for	co-sensitive polymer by supporting
a) i tepreg	©Photo-resist
b) Etching	d) Solder mask
6. The actual cost of PCB can be evaluated on the ba	asic of assignment assignment assignment assignment as a second a
a) PCB size & material	c) Vias on PCB
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7. Which type of PCB requires minimum soldering or replacement oriented difficulties?	
Single-sided PCB b) Double-sided PCB	c) Both a and b d) None of the above
8. Which among the below mentioned packages does Package'?	not belong to the category of 'Small Outline
a) SO b) SOP	c) SOT
DESCRIPTION OF STREET, OF THE PROPERTY OF THE	DSON Dr. S.THILAGAVATHI M.E., Ph.D.



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077		Name of the Studen
9.The computer-based design process is	both than manua	l process.
a)Slower and Less accurate	c)Slower and m	
B) Faster and more accurate	d)Faster and less	s accurate
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a) Circuit Designer	c) PCB Manufac	
b) Customer	(d) PCB Designe	The constant constant corcuits an
11.In a multi-layer board design,	CAD plays an importan	t role in the design process.
(a) Interactive	c) Auto	
b) Mechanical	d) Basic	
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13. In Schematic Capture, the project fil	le is saved as an	file.
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Verification check i	s used to verify whether pre	ferred pad and hole sizes are
used.	s used to verify whether pre	ion sedan alimano asci (a
	(Conord	
a) Electricalb) Physical	(c) General d).Mechanical	
raign-otod9(3)		
15. To determine whether single-sided;	double-sided or multi-layer	board,
plated-through holes,	_ are used.	
a) PCB Specifications	© Electrical Spec	
b) Mechanical Specifications	d) Pattern Specif	ications
16. Wooden frame is not preferred for so	creen printing, due to	Party Which type of PCB required to the
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b) Less weight	d) Stretchability	
17. The basic function of the laminate i	s to provides	upport for electronic
components and to interconnect th	em electrically.	() Um }
a) Electrical	(a) Machanical	C TIVE O CANCE
b) General	d) Pattern	PRINCIPAL
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DEPARTMENT OF ELECTRONICS AND COMMUNICATIONENGINEERING ACADEMIC YEAR ODD SEMESTER (2019-2020)

MARK SHEET FOR VALUE ADDED COURSE- PCB Manufacturing and Designing of Basic Circuits

DECISTED		MAHESHWARI G	YEAR	Attendance (A)		VAC -MCQ TEST (B)		OVERALL MARK(100)
S.NO	REGISTER NUMBER	NAME	& BRANCH	No.of Sessions Attented	Marks (100)	No.of Correct Answer	Marks (100)	(50% of A + 50% of B)
1	912618106001	ANUSHAA S	II /ECE	10	100	22	88	94
2	912618106002	ARIVARASI A	II /ECE	9	90	23	92	91
3	912618106003	ASMATH HAZEENA N	II /ECE	10	100	21	84	92
4	912618106004	ATCHAYA R	II /ECE	10	100	20	80	90
5	912618106005	JAYAPRIYA T	II /ECE	10	100	19	76	88
6	912618106006	JAYASRI M	II /ECE	10	100	20	80	95
7	912618106007	NAGALAKSHMI P	II /ECE	10	100	21	84	92
8	912618106008	NAVITHRA D	II /ECE	10	100	19	76	88
9	912618106009	ROHINI K	II /ECE	10	100	18	72	86
10	912618106010	SOUNTHARYA P	II /ECE	10	100	22	88	94
11	912618106012	THAIYAL NAYAGI K	II /ECE	9	90	20	80	85

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12	912618106701	JANANI.R	II /ECE	10	100	19	76	88
13	912617106001	ABIRAMI S	III /ECE	10	100	18	72	86
14	912617106002	ABISHEKA S	III /ECE	10	100	20	80	90
15	912617106003	ATSHAYA R	III /ECE	10	100	20	80	90
16	912617106004	BAVADHARANI A	III /ECE	10	100	18	72	86
17	912617106005	BHUVANESHWARI B	III /ECE	10	100	19	76	88
18	912617106006	DHIVYA L	III /ECE	10	100	22	88	94
19	912617106007	GOWSALYA D	III /ECE	9	90	19	76	83
20	912617106009	INDHUMATHI S	III /ECE	10	100	18	72	86
21	912617106010	KANIMOZHI D	III /ECE	10	100	19	76	88
22	912617106011	KAVYA C	III /ECE	8	80	22	88	84
23	912617106012	KEERTHANA G	III /ECE	10	100	18	72	91
24	912617106013	MAHESHWARI G	III /ECE	10	100	19	76	88
25	912617106014	MANOHARI M	III /ECE	10	100	21	84	92
26	912617106015	MARAGATHALAKSHMI S	III /ECE	10	100	23	92	96
27	912617106017	SAFRIN NISHA S	III /ECE	9	90	21	84	87
28	912617106018	SUBASHINI M	III /ECE	10	100	23	92	96
29	912617106019	SUBASHINI T	III /ECE	10	100	19	76	88
30	912617106020	VINTHIYA R	III /ECE	10	100	19	76	88

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31	912616106001	ABINAYA R	IV/ECE	10	100	18	72	96
	912616106002	AGALYA A	IV/ECE		-			86
32		A Second State Control of the Contro		10	100	23	92	96
33	912616106003	ATCHAYA G	IV/ECE	10	100	18	72	86
34	912616106004	DEEPA N	IV/ECE	10	100	18	72	86
35	912616106005	DHARANIYA A	IV/ECE	10	100	19	76	88
36	912616106006	JEEVITHA U	IV/ECE	10	100	18	72	86
37	912616106007	MAHESWARI V	IV/ECE	10	100	20	80	90
38	912616106008	PAZHANIYAMMAL R	IV/ECE	10	100	19	76	88
39	912616106009	PRIYANKA E	IV/ECE	10	100	18	72	86
40	912616106010	ROJA A	IV/ECE	8	80	18	72	76
41	912616106011	SHANMUGAPRIYA R	IV/ECE	10	100	19	76	88
42	912616106012	SHIYAMALA È	IV/ECE	10	100	17	68	84
43	912616106013	SIVABHARATHI P	IV/ECE	10	100	19	76	88
44	912616106014	SIVARUBINI S	IV/ECE	10	100	21	84	92
45	912616106016	VINCY A	IV/ECE	8	80	20	80	80
46	912616106302	SANKAVI M	IV/ECE	10	100	15	60	80

VACCoordinator

Dr. S.THILAGAVATHI M.E., Ph.D.,

SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN Kaikkurchi - 622 303, Pudukkottai Dt. HoD/ ECE HOD / ECE SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN KAIKKURICHI, PUDUKKOTTAI - 622 303