

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 – 2

Teaching-Learning and Evaluation



IQAC

Internal Quality Assurance Cell

Sri Bharathi Engineering College for Women

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

Criteria 2

Teaching-Learning and Evaluation

350

Key Indicator- 2.3. Teaching- Learning Process (40)

2019-2020

ELECTRONICS AND COMMUNICATION ENGINEERING

PARTICIPATIVE LEARNING

Activity	Number of Students attended	Page No.
Value Added Course (VAC)	92	3
Seminar, Symposium and Workshop	15	54
TOTAL STUDENTS ATTENDED	107	-

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Criteria 2

Teaching-Learning and Evaluation

350

Key Indicator- 2.3. Teaching- Learning Process (40)

2019-2020

ELECTRONICS AND COMMUNICATION ENGINEERING PARTICIPATIVE LEARNING VALUE ADDED COURSE



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

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 Deloevper, 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 ENGINEERING COLLEGE FOR WOMEN KAIKKURICHI,

PUDUKKOTTAI - 622 303

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

SRI BHARATHI ENGINEERING **COLLEGE FOR WOMEN**

Kaikkurchi - 622 303, Pudukkottai Dt.



(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

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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	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	UBINI. 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., PRINCIPAL



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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.		NAME	YEAR/	24.00	5.2019	25.06	.2019	26.06	26.06.2019		.2019	28.06.2019		NO. OF SESSIONS	SIGNOF
No	REGITO	A HILLHWAR C	BRANCH	F.N	A.N	F.N	A.N	F.N	A.N	F.N	A.N	F.N	A.N	ATTENDED	SIGN OF STUDENT
1	912618106001	ANUSHAA S	II/ECE	1	1	1	1	1	1	1	1	1	1	10	Inwhe
2	912618106002	ARIVARASI A	II/ECE	a	1	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	,	10	Booth
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	10	Tayapliye
6	912618106006	JAYASRI M	II/ECE	1	1	1	,	,	1	1	1	1	1	10	T WILLIAM
7	912618106007	NAGALAKSHMI P	II/ECE	1	1	1	1	,	,	1	1	1	1	10	Jayassi De D.
8	912618106008	NAVITHRA D	II/ECE	1	,	1	1	1	,	1	1	1	1	10	Noyle
9	912618106009	ROHINI K	II/ECE	1	,	,	1	1	1	1	1	1	1	10	Pali
10	912618106010	SOUNTHARYA P	II/ECE	1	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	ATHI M	1	thing Nag
12	912618106701	JANANI.R	II/ECE	1	1	1	1	1	1	1	,	PRINC	PAL	ERINGO	janani. R

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		TANANI B									are in the	hera si	Kerting III	E 'EUD'	F RESIDENCE
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	1	10	R. Atchys
16	912617106004	BAVADHARANI A	III /ECE	1	1	1	1	1	1	1	1	1	1	10	A Baralhari
17	912617106005	BHUVANESHWARI B	III /ECE	1	1	1	1	1	1	1	1	1	1	10	B. Bhuldressin
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	1	1	1	1	1	1	1	1	1	10	S. Endhumathi
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	1	10	G. Mala Ji
25	912617106014	MANOHARI M	III /ECE	1	1	1	1	,	1	1	1	,	1	10	M. Mini
26	912617106015	MARAGATHA LAKSHMI. S	III /ECE	1	1	1	1	1	1	1	1	1	1	lo	S. Massafter
27	912617106017	SAFRIN NISHA S	III /ECE	1	1	a	1	1	1	1	1	1	1	9	S. Safish Real
28	912617106018	SUBASHINI M	III /ECE	1	1	1	1	1	1	1	1	1	1	10	The sulassin
29	912617106019	SUBASHINI T	III /ECE	1	1	1	1	1.	1	1	1	1	1	lo	T. Sul-
30	912617106020	VINTHIYA R	III /ECE	1	1	1	1	0,	,	98	1		1	7 10	R. vintaige
31	912616106001	ABINAYA R	IV/ECE	,	1	1	1	1	/ D	r S/TH	ILAGA	VATE	I M.E.,P	h.D., to	R. Abinaya
32	912616106002	AGALYA A	IV/ECE	1	1	1	1	1	1	SRIB	HARATI	HENG FOR V	NEERIN OMEN dukkottai D	G 10	A Agalya
										Mainku	10III - 022	000, Fu	uunnuttai L	/L.	

33	912616106003	ATCHAYA G	IV/ECE	1	1	1	1	1	1	1	1	1	1	10	a. Afchaya.
34	912616106004	DEEPA N	IV/ECE	1	1	1	./	1	p	1	,	1	1	10	N. Deapa
35	912616106005	DHARANIYA A	IV/ECE	1	1	1.	/	,	1	1	,	1	1:	10	& Starry
36	912616106006	JEEVITHA U	IV/ECE	1	1	1	/	,	1	1	,	/	1	10	U. Jeevithe
37	912616106007	MAHESWARI V	IV/ECE	1	1	1	-/	1	1	1	1	1	1	10	Malari 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	Proiyanka.E
40	912616106010	ROJA A	IV/ECE	a	a	,	1	/	1	1	/	/	1	8	Rose
41	912616106011	SHANMUGAPRIYA .R	IV/ECE	1	/	1	1	1	1	1	1	1	1	10	Shanpoux
42	912616106012	SHIYAMALA E	IV/ECE	,	/	1	1	,	1	,	1	1	,	10	E. Sugar
43	912616106013	SIVABHARATHI P	IV/ECE	1	/	,	1	,	1	/	,	1	1	10	P. Balbhon
44	912616106014	SIVARUBINI S	IV/ECE	1	1	1	,	1	1	,	1	,)	10	8iv2
45	912616106016	VINCY A	IV/ECE	1	1	a	a	1	1	1	1	./	1	8	Wency - &
46	912616106302	SANKAVI M	IV/ECE	1	1	1	1	1	,	1	/	,	7	10	M. Sankani
														, -	1. (.

VAC Coordinator

Dr. S.THILAGAVATH M.E., Ph.D.,
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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: 46

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 <u>46 Students</u> 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)

Vaccoordinator

HOD / EGE

SRI BHARATHI ENGINEERING

COLLEGE FOR WOMEN KAIKKURICHI.

PUDUKKOTTAI - 622 303

Principal

PRINCIPAL 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

PRINCIPAL

PRINCIPAL



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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

S.THILAGA GATHI M.E., Ph.D.



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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 SBECW 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 "PCB Manufacturing a	nd Designing of Basic Circuits"
MCQ QUESTIONS (25X1	= 25 Marks)
High current circuits are purposely located or placed near supply lines for	r 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
2. Which among the below stated soldering methods is also Resistance Soldering'?	renowned as 'High Frequency
a) Iron Soldering	c) Torch Soldering
b) Furnace Soldering	d) Electrical Soldering
3. Which among the below mentioned approaches belongs	to the category of In-circuit Testing?
a) Impedance Testing	c) Apply Signal and check output
b) Component Testing	d) All of the above
4. Which among the below stated devices/equipments are p supply line noise especially in TTL/CMOS / ECL PCB des	signing?
a) Coupling capacitor	c) Snubber circuits
b) Decoupling capacitor	d) All of the above
5. Which terminology of PCB represents a thin photo-sens photographic pattern of single traces or IC pads for etching	itive polymer by supporting
a) Prepreg	c) Photo-resist
b) Etching	d) Solder mask
6. The actual cost of PCB can be evaluated on the basis of	
a) PCB size & material	c) Vias on PCB
b) Number of layers	d) All of the above
7. Which type of PCB requires minimum soldering on comreplacement oriented difficulties?	ponent side in order to avoid
a) Single-sided PCB	c) Both a and b
b) Double-sided PCB	d) None of the above
8. Which among the below mentioned packages does not be Package'?	CANDIDATES STATES TO STATES IN STATES
a) SO	c) SOT
b) SOP Dr. S.THILAGAVATHI M.E., Ph. D PRINCIPAL SRI BHARATHI ENGINEERING	o,d) SON

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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 in	nterface 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.
a) Interactive b) Mechanical	c) Auto d) Basic
12 provides the functions	al flow and graphical representation of an electronic
circuit and consists of electrical connect	ions (nets) and junctions.
a) Layout b) Schematic Diagram	c) Assembly d) Testing
13. In Schematic Capture, the project file	e is saved as anfile.
a) ASCII b) Assembly language	c) Binary d) Circuit
14 Verification check is	s used to verify whether preferred pad and hole sizes are
used.	
a) Electrical b) Physical	c) General d).Mechanical
15. To determine whether single-sided;	double-sided or multi-layer board,
plated-through holes,	are used.
a) PCB Specificationsb) Mechanical Specifications	c) Electrical Specifications d) Pattern Specifications
16. Wooden frame is not preferred for sc	reen printing, 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 support for electronic
components and to interconnect the	em electrically.
a) Electrical b) General	c) Mechanical d) Pattern Dr. S.THILAGAVATHI M.E., Ph.D., PRINCIPAL SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN

Kaikkurchi - 622 303, Pudukkottai Dt.



b Reduce heat

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18. Which of the following is an Etching Chemical	?
a) Sodium chloride	c) Ferric chloride
b) Hydro chloride	d) Magnesium chloride
19. Volume Resistivity is given by(W c	m)
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 composite	onent of an electronic circuit?
a) Capacitor	c) Diode
b) Inductor	d) Temperature
21. What is the effect of temperature on the recom	bination rate of electrons in electronic circuits?
a) Recombination rate increases with increase in the	ne temperature
b) Recombination rate decreases with increase in t	he temperature
c) Recombination rate is independent of temperatu	re
d) Recombination of electrons doesn't occur in ser	niconductors
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 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	c)Transfer Heat

d) All the above

Dr. S.THILAGAVATHI M.E., Ph.D.,
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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING ACADEMIC YEAR 2019-2020/ODD SEMESTER

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.THILÀGAVATHI M.E., Ph.D.,

PRINCIPAL



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

Name of the Student : ARIVAR	ASI.A Year/Sem: TT /TTT 93
AU Register Number: 91261810	
Value Added Course on "PCB Man	ufacturing and Designing of Basic Circuits"
MCQ QUESTI	ONS (25X1 = 25 Marks)
supply lines for	ed or placed near the edge of PCB in accordance to the
(a) Removal of heat	
b) Isolation of stray current	c) Reduction of path length
o) isolation of stray current	d) All of the above
2. Which among the below stated and	A SAME WAS A SAME OF THE SAME
Resistance Soldering'?	methods is also renowned as 'High Frequency
a) Iron Soldering	the Action and Authorities and Authorities
b) Furnace Soldering	c) Torch Soldering
b) I difface Soldering	d Electrical Soldering
3 Which among the helesses .	manufaction and the second
a) Impedance Testing	oaches belongs to the category of In-circuit Testing?
b) Component Testing	c) Apply Signal and check output
o) Component Testing	(d) All of the above
4. Which among the below stated devices/eq supply line noise especially in TTL/CMOS (a) Coupling capacitor	
(b) Decoupling capacitor	c) Snubber circuits
C) The properties	d) All of the above
5. Which terminology of PCB represents a the photographic pattern of single traces or IC p.	hin photo-sensitive polymer by supporting ads for etching?
a) Prepreg	©Photo-resist
b) Etching	d) Solder mask
6. The actual cost of PCB can be evaluated of	on the basis of
a) PCB size & material	c) Vias on PCB
b) Number of layers	d) All of the above
1 -	
7. Which type of PCB requires minimum sol	dering on component side in order to avoid
replacement offented difficulties?	so component side in order to avoid
(a) Single-sided PCB	c) Both a and b
b) Double-sided PCB	c) Both a and b
	d) None of the above
8. Which among the below mentioned package	ges does not belong to the category of 'Small Outline
Package'?	,es does not belong to the category of Small Outline
a) SO	c) SOT

SON Dr. S.THILAGAVATHI M.E., PH.D.,

PRINCIPAL SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN Kaikkurchi - 622 303, Pudukkotia¹ Dt.



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9. The computer-based design process	s 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 a	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.
a Interactive b) Mechanical	c) Auto d) Basic
12 provides the funct	ional flow and graphical representation of an electronic
circuit and consists of electrical conn	ections (nets) and junctions.
a) Layout (b) Schematic Diagram	c) Assembly d) Testing
13. In Schematic Capture, the project	t file is saved as anfile.
ASCII b) Assembly language	c) Binary d) Circuit
14- Verification chec	ck is used to verify whether preferred pad and hole sizes are
used.	
a) Electrical b) Physical	General d).Mechanical
15. To determine whether single-side	ed; 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 fo	r screen printing, due to
a) Rigidness b) Less weight	(c) Absorption of water and bending tendency d) Stretchability
17. The basic function of the laminat	te is to provide support for electronic
components and to interconnect	
a) Electrical b) General	Mechanical d) Pattern Dr. S.THILAGAVATHI M.E., Ph.D., PRINCIPAL SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN Volkhurchi - 622 303 Pudukkolisi Dt.



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

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	
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
23. Select best types of board	
(a)Single Sided	o)Throughhala
b)Multilayer	c)Throughhole
o).viditilayer	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. Ph.

PRINCIPAL



b) SOP

SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN

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

Name of the Student: Bhuvareshow	vie. B Year/Sem: III / V
AU Register Number: 9126171060	
Value Added Course on "PCB Manufac	cturing and Designing of Basic Circuits"
MCQ QUESTIONS	S(25X1 = 25 Marks)
	placed near the edge of PCB in accordance to the c) Reduction of path length
d) Basic	d) All of the above
2. Which among the below stated soldering meth Resistance Soldering'?a) Iron Soldering	nods is also renowned as 'High Frequency
b) Furnace Soldering	c) Torch Soldering d) Effectrical Soldering
3. Which among the below mentioned approache	es helongs to the category of In circuit Tarting
a) Impedance Testing b) Component Testing	c) Apply Signal and check output All of the above
orphis me noise especially in TIL/CMOS/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	hoto-sensitive polymer by supporting or etching?
a) Prepreg	c) Photo-resist
b) Etching	d) Solder mask
6. The actual cost of PCB can be evaluated on the	
b) Number of layers	c) Vias on PCBd) All of the above
7. Which type of PCB requires minimum soldering replacement oriented difficulties?	ng 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
8. Which among the below mentioned packages do Package'?	
a) SO	TOD (

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



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11.In a multi-layer board design,	CAD plays an important role in the design process.
Interactive b) Mechanical	c) Auto d) Basic
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Verification check used.	is used to verify whether preferred pad and hole sizes are
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a) Electrical b) General	d) Pattern Dr. S.THILAGAVATHI M.E., Ph.D., PRINCIPAL SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN

Kaikkurchi - 622 303. Pudukkottai De



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

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23. Select best types of board	
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(a) stable and durable base for devices	c)Transfer Heat
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(Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai-25) Kaikkurichi, Pudukkottai, Tamil Nadu – 622 303, India

Name of the Student: Priyanka . E

AU Register Number: 9126161060	
Value Added Course on "PCB Manufa	ecturing and Designing of Basic Circuits"
	IS(25X1 = 25 Marks)
	r placed near the edge of PCB in accordance to the
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	c) Apply Signal and I desting?
b) Component Testing	c) Apply Signal and check output d) All of the above
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a) SO	c) SOT
b) SOP	SON Dr. S.THILAGAVATHI M.E., Ph.D.



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	7 min 17ada - 022 505, India
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- ^	
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b)Multilayer	d)Surface mount
	d)surface mount
24. What is the first thing to consider when p	lacing components Size Restrictions
a)Heat/Thermal	Track width
b)Top or Bottom side	d)Bottom side
25. What is the use of IC in PCB	
stable and durable base for devices b Reduce heat	c)Transfer Heat Dr. S.THILAGAVATHI M.E., Ph.D.,
o reduce fiedt	CLAIL the above

d) All the above



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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

s.no REGISTER NUMBER	PECISTEP	NAME	YEAR	Attendance (A)		VAC -MCQ TEST (B)		OVERALL MARK(100)
	NUMBER		& 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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		T 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1	II /POP				T-0-	
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

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



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31	912616106001	ABINAYA R	IV/ECE	10	100	18	72	86
32	912616106002	AGALYA A	IV/ECE	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 Ė	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



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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2019-2020/EVEN SEMESTER

DEPARTMENT CIRCULAR

Date: 02.12.2019

Value Added Course offered by the Department of ECE will be conducted for Second, Third and Final year students on "Learning Arduino Platform and its Uses" in association with Galwin Technology from 09.12.2019 to 14.12.2019. Certificates will be issued to the eligible participants at the end of the course.

S.No	Name of the Course	Resource Person
1	Learning Arduino Platform and its Uses	Er.S.DEEPAN, Embedded 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

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

Dr. S.THILAGAVATHLM.E.,Ph.D., PRINCIPAL



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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING ACADEMIC YEAR 2019-2020/EVEN SEMESTER

Value Added Course on "LEARNING ARDUINO PLATFORM AND ITS USES" SYLLABUS"

s.no	TOPIC COVERED	DURATION (in hours)	DATE		
1	Indroduction of Arduino	2	9.12.2019		
2	Anatomy of an Arduino Board	1	9.12.2019		
3	Basic Operation, Circuit Basics	3	9.12.2019		
4	Sensors & Actuators, Memory, Embedded Sensors	3	10.12.2019		
5	Sensors and Software: Understanding Processing Code Structure, variables and flow control,Interfacing to the Real World	3	10.12.2019		
6	Libraries, GPIO / Pin Management	3	11.12.2019		
7	Core Specific API	3	11.12.2019		
8	Arduino Software Tools	3	12.12.2019		
9	Arduino IDE 1.8.x	3	12.12.2019		
10	Internet of Things (IoT)	3	13.12.2019		
11	Arduino programming language and IDE, Program basic Arduino examples.	3	13.12.2019		
12	Arduino API, Structure	3	14.12.2019		
13	Arduino Communication Modules	3	14.12.2019		
	Total Hours	3	66		

VACCoordinator

Dr. S.THILAGAVATHI ME., Ph.D.,
PRINCIPAL

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



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

STUDENT PARTICIPATION LIST FOR VALUE ADDED PROGRAM

Learning Arduino Platform and its Uses

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			
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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			

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



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

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

ATTENDANCE SHEET FOR VALUE ADDED COURSE-LEARNING ARDUINO PLATFORM AND ITS USES

NI	DEC NO	NAME	YEAR/	9.12.	2019	10.12	.2019	11.12	.2019	12.12.	2019	13.12	.2019	14.12	.2019	NO. OF SESSIONS	SIGN OF
.No	REG. NO		BRANCH	F.N	A.N	F.N	A.N	F.N	A.N	F.N	A.N	F.N	A.N	F.N	A.N	ATTENDED	STUDENT
1	912618106001	ANUSHAA S	II/ECE	a	a	1	1	1	1	1	1	1	1	1	1	10	Sonde
2	912618106002	ARIVARASI A	II/ECE	1	1	1	,	1	1	1	1	1	1	1	,	12	Driwasi.
3	912618106003	ASMATH HAZEENA N	II/ECE	1	1	1	1	1	1	a	a	1	1	1	1	10	Brothmer.
4	912618106004	ATCHAYA R	II/ECE	1	1	1	1	1	1	1	1	1	1	1	1	12	ATCHAYA.R
5	912618106005	JAYAPRIYA T	II/ECE	a	1	1	1	1	1	a	1	1	1	1	,	10	JayapRige
6	912618106006	JAYASRI M	II/ECE	a	1	1	1	1	1	a	a	1	1	1	1	9	Jagaszi
7	912618106007	NAGALAKSHMI P	II/ECE	1	1	1	,	1	1	1	1	/	1	1	1	12	Neulz
8	912618106008	NAVITHRA D	II/ECE	1-	1	1	1	1	1	1	1	1	1	1	1	12	nem
9	912618106009	ROHINI K	II/ECE	1	,	1	1	1	1	1	,	1	1	1	,	12	BQ.
10	912618106010	SOUNTHARYA P	II/ECE	a	a	1	1	1	1	1	1	1	1	1	1	10	Q.Q.
11	912618106012	THAIYAL NAYAGI K	II/ECE	1	1	1	1	1	1	1	1	1	1	1	1	12_	and white
12	912618106701	JANANI.R	II/ECE	1	,	1	,	1	1	1	,	a	a	,	,	10	jananik
13	912617106001	ABIRAMI S	III /ECE	1	1	1	br\s	4	- Las	VATHI		/	1	1	1	12	S. Spiocin

ABISHEKA S ATSHAYA R BAVADHARANI A BHUVANESHWARI B	III /ECE III /ECE III /ECE	a	1 a	1	1	1	,	,	1	,	,	,	,	12	
BAVADHARANI A		a	a	pany .						/		/	/	12-	
	III /ECE			1	1	1	1	1	1	,	,	1	1	10	R. Afcheye
BHUVANESHWARI B		1	1	1	1	1	1	1	1	1	1	1	1	12	D. Bandle
*	III /ECE	1	1	a	a	,	,	1	1	1	1	1	,	lo	BBhwans
DHIVYA L	III /ECE	1	1	1	1	1	1	1	1	1	1	1	1	12	L. Dênja
GOWSALYA D	III /ECE	1	1	a	a	a	,	1	1	1	,	1	,	9	D. Govedo
INDHUMATHI S	III /ECE	1	1	1	1	1	1	1	1	1	1	1	1	12	S. In Dunat
KANIMOZHI D	III /ECE	1	1	,	7	1	1	1	1	1	,	1	1	12	D. Kanima
KAVYA C	III /ECE	1	1	1	1	1	1	1	1	1	1	1	1	12	C. Kauga
KEERTHANA G	III /ECE	a	a	1	1	1	1	1	1	1	1	1	,	lo	a. Keesther
MAHESHWARI G	III /ECE	1	1	,	1	a	a	1	1	1	1	1	,	lo	G. Halan 1
MANOHARI M	III /ECE	,	,	1	1	.,	1	/	1	1	1	1	1	12	M. Mui
MARAGATHALAKSHMI S	III /ECE	a	a	1	,	1	1	1	,	1	,	1	1	10	S. Mossyflen
SAFRIN NISHA S	III /ECE	1	1	,	1	1	1	1	1	1	1	1	1	12	8. Sofondi
SUBASHINI M	III /ECE	1	1	1	1	1	1	a	a	1	1	1	1	lo	M-Scelash
SUBASHINI T	III /ECE	,	,	1	1	1	1	1	,	1	1	1	,	12	T. Sudii
VINTHIYA R	III /ECE	1	1	1	1	,	1	a	a	1	1	,	,	10	R. vinthiz
ABINAYA R	IV/ECE	1	1	a	a	1	1	1	1	1	1	,	,		R. Almay
AGALYA A	IV/ECE	1	1	1	1	1	,	1	1	1	1	1	1	12	D. Agan
ATCHAYA G	IV/ECE	a	a	1	1	1	Dr.S.	THILA	GAVA	ATH! M	E.,Ph	D.,,	1	10	G. Afologo
	GOWSALYA D INDHUMATHI S KANIMOZHI D KAVYA C KEERTHANA G MAHESHWARI G MANOHARI M MARAGATHALAKSHMI S SAFRIN NISHA S SUBASHINI M SUBASHINI T VINTHIYA R ABINAYA R AGALYA A	GOWSALYA D III /ECE INDHUMATHI S III /ECE KANIMOZHI D III /ECE KAVYA C III /ECE KEERTHANA G III /ECE MAHESHWARI G MANOHARI M III /ECE SAFRIN NISHA S III /ECE SUBASHINI M III /ECE SUBASHINI T III /ECE VINTHIYA R ABINAYA R IV/ECE IV/ECE	GOWSALYA D III /ECE INDHUMATHI S III /ECE KANIMOZHI D III /ECE KAVYA C III /ECE KEERTHANA G III /ECE MAHESHWARI G III /ECE MANOHARI M III /ECE MARAGATHALAKSHMI S III /ECE SAFRIN NISHA S III /ECE SUBASHINI M III /ECE / SUBASHINI T VINTHIYA R ABINAYA R IV/ECE / IV/ECE / IV/ECE	GOWSALYA D III /ECE / / INDHUMATHI S III /ECE / / KANIMOZHI D III /ECE / / KAVYA C III /ECE / / KEERTHANA G III /ECE / / MAHESHWARI G III /ECE / / MANOHARI M III /ECE / / MARAGATHALAKSHMI S III /ECE / / SUBASHINI M III /ECE / / SUBASHINI T VINTHIYA R ABINAYA R ATCHAYA G III /ECE / / IV/ECE / / ATCHAYA G III /ECE / / IV/ECE	GOWSALYA D III /ECE	GOWSALYA D III /ECE	GOWSALYA D III /ECE	GOWSALYA D III /ECE	GOWSALYA D III /ECE	GOWSALYA D III /ECE	GOWSALYA D III /ECE	GOWSALYA D III /ECE	GOWSALYAD III / ECE	GOWSALYA D III /ECE	GOWSALYA D III /ECE

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34	912616106004	DEEPA N	IV/ECE	1	1	1	1	1	1	,	1	1	1	1	1	12	N. Deopa
35	912616106005	DHARANIYA A	IV/ECE	a	a	1	1	1	,	1	1	1	1	1	1	lo	1. Dlang
36	912616106006	JEEVITHA U	IV/ECE	1	1	1	./	1	1	1	1	1	1	1	1	12	U. Jeovste
37	912616106007	MAHESWARI V	IV/ECE	1	1	1	1	1	1	1	1	a	a	1	1	10	Ma Drais V
38	912616106008	PAZHANIYAMMAL R	IV/ECE	1	1	1	1	1	/	1	1	a	a	1	1	10	Parluny
39	912616106009	PRIYANKA E	IV/ECE	1	1	/	,)	1	1	d	1	1	1	1	12	Paryanka &
40	912616106010	ROJA A	IV/ECE	/	,	1	1	7	/	a	a	1	1	1.	1	10	Rojas
41	912616106011	SHANMUGAPRIYA R	IV/ECE	a	a	1	1	7	-/	. /	1	1	1	1	,	10	Sharfax
42	912616106012	SHIYAMALA E	IV/ECE	1)	1	1	1	1	/	1	1	1	1	1	12	E. Sout
43	912616106013	SIVABHARATHI P	IV/ECE	1	1	a	a	1	,	1	1	1	/	1	1	10	P. Cable
44	912616106014	SIVARUBINI S	IV/ECE	1	1	1	1	1	/	/	1	1	1	1	1	12	Swar
45	912616106016	VINCY A	IV/ECE	1	1	a	a	1	1	1	/	1	1	1	1	10	Vanay. 8
46	912616106302	SANKAVI M	IV/ECE	a	a	1	1	1	1	1	1	1	/	1	1	10	M. Sankan
																	The second secon

VAC Coordinator

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

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

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

Report on	Value	Added	Course
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Title:

Learning Arduino Platform and its Uses

Resource Person:

Er.S.DEEPAN,

Embedded Developer, Galwin Technology, Trichy-620 002.

Date of conduct from:

9.12.2019

To: 14.12.2019

Duration:

36 Hours

Organized Department:

Electronics and Communication Engineering

Participant Year:

2/3/4

Semester: EVEN

No. of Students Registered:

46

Venue:

Seminar Hall, ,Ground Floor, SBECW

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

- Learn the basics of electronics, including reading schematics
- Recall the basics of sensors, its functioning.
- Execute basic and advanced assembly language programs.
- Learn the ways to interface I/O devices with processor for task sharing.
- Recall the basics of co-processor and its ways to handle float values by its instruction set.
- Recognize the functionality of micro controller, latest version processors and its applications.
- Design a component with realistic constraints, to solve real world engineering problems and analyse the results.
- After the completion of the course, the students will be specialized in Embedded System design using Arduino.

No. of students successfully completed the VAC course is <u>46 Students</u> 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)

VAC coordinator

Hob ECE

Principal

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

Dr. S.THILAGAVATHI M.E., Ph.I PRINCIPAL SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN Kaikkurchi - 622 303, Pudukkottai Dt.

18/12



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KAIKKURICHI, PUDUKKOTTAI-622303



Certificate of completion

VALUE ADDED PROGRAM

This is to Certify that Mr/Ms. **ATCHAYA.R** of **II ECE** has successfully completed Value Added Course on "Learning Arduino Platform and its Uses" organized by the department of Electronics and Communication Engineering in association with Galwin Technology from 09.12.2019 to 14.12.2019 during the academic year 2019-2020.

Managing Director Galwin Technology HoD/ECE

PRINCIPAL

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

SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN Kaikkurchi - 622 303, Pudukkottai DL



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KAIKKURICHI, PUDUKKOTTAI-622303



Certificate of completion

VALUE ADDED PROGRAM

This is to Certify that Mr/Ms. **VINTHIYA. R** of **III ECE** has successfully completed Value Added Course on "Learning Arduino Platform and its Uses" organized by the department of Electronics and Communication Engineering in association with Galwin Technology from 09.12.2019 to 14.12.2019 during the academic year 2019-2020.

Managing Director Galwin Technology HoD/ECE SBECW PRINCIPAL SBECW

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

SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN Kaikkurchi - 622 303, Pudukkottai Dt.



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KAIKKURICHI, PUDUKKOTTAI-622303



Certificate of completion

VALUE ADDED PROGRAM

This is to Certify that Mr/Ms. **SANKAVI** .M of **IV ECE** has successfully completed Value Added Course on "Learning Arduino Platform and its Uses" organized by the department of Electronics and Communication Engineering in association with Galwin Technology from 09.12.2019 to 14.12.2019 during the academic year 2019-2020.

Managing Director Galwin Technology HoD/ECE SBECW PRINCIPAL SBECW

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

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Name of the Student:	Year/Sem:
AU Register Number:	(minthes Algebra Area
Value Added Course on "Learning	ng Arduino Platform and its Uses"
MCQ QUESTIONS	S(20X1 = 20 Marks)
Arduino shields are also called as a) Extra peripherals b) Add-on modulest	c)Connectivity modules d) Another Arduinos
 Which is the software or a programming lang a) Assembly Language b) C Languages 	uage used for controlling of Arduino? c)C. JAVA d) Any Language
3. What are the uses of Arduino? a)Inexpensive b)Cross-platform	c)Open source and extensible software d)All of the above
4. What are the different file extensions for? a)ino b)pde c)C. h	d)All of the above
5. What are the types of Arduino?a)Arduino UNOb)Arduino Mega	c)Arduino Duemilanove d)All of the above
6. Arduino IDE consists of 2 functions. What are a)Build() and loop()b)Setup() and build()	c they? c)Setup() and loop() d)Loop() and build() and setup()
7. What are Arduino UNO Salient features? a)PWM (Pulse Width Modulation) outputs b)Input Pins (Analog)	c)DC Current (Max) d)All of the above
8. What is PWM?	

a)A built-in library to control DC motor

b)A type of oscilloscope used with microcontrollers as Arduino

c)Is a technique for getting analog results with digital means

d)Is a technique for getting digital results with analog means

9. What are the Steps to program an Arduino?

a)Declaration of Variables

b)Initialization

c)Control code d)All the above Dr S.THILAGAVATHIM.E.,Ph.D., PRINCIPAL

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10.	What	are	the	basic	Arduino	functions?	

a)AnalogRead(pin)

b)AnalogWrite(pin, value)

c)serial.begin(baud rate)

d)All of the above

11. Delay(5000); stands for

a) Wait 5 minutes

b) Wait 5 seconds

c) Wait 50 seconds

12. Digitalwrite(13, LOW); turns the light

a) on

b)offcorrect

c)dim

13. A forward slash is used for

a)code

b)output

c)comments

14. An LED is an:

a)output

b) input

15. An push button is

a)Output

b) input

16. An knob is

a)Output

b) input

17. An servo is

a)Output

b) input

18. A sketch is

a)an Arduino file

b)an Arduino picture

c) an Arduino board

19. How long is the LED on?

digitalWrite(13, HIGH);

delay(1000);

digital Write(13, LOW);

delay(1000);

a) 1000 seconds

b)100 seconds

c)1 second

d)100 milliseconds

20. Which pin is the jumper wire connected to?

digitalWrite(13, HIGH);

delay(1000);

digitalWrite(13, LOW);

delay(1000);

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SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN d)digital pin Kaikkurchi - 622 303, Pudukkoltai Dt.

a)13

b)12

c)100



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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2019-2020/EVEN SEMESTER

Value Added Course on "Learning Arduino Platform and its Uses"

MCQ ANSWER KEY

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

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Name of the Student: Nagalakshi AU Register Number: 91 26 18 10 600	
Value Added Course on "Learning	g Arduino Platform and its Uses"
MCQ QUESTIONS	S(20X1 = 20 Marks)
1. Arduino shields are also called as	
a) Extra peripherals	c)Connectivity modules
(b) Add-on modulest	d) Another Arduinos
2. Which is the software or a programming lang	uage used for controlling of Arduino?
a) Assembly Language	(c)C. JAVA
b) C Languages	d) Any Language
3. What are the uses of Arduino?	
a)Inexpensive	c)Open source and extensible software
b)Cross-platform	dAll of the above
4. What are the different file extensions for?	e don't a 2 / o
a)ino b)pde c)C. h	dAll of the above
5. What are the types of Arduino?	
a)Arduino UNO	c)Arduino Duemilanove
b)Arduino Mega	(d) All of the above
6 Arduino IDE consists of 2 functions. What are	they?
a)Build() and loop()	©Setup() and loop()
b)Setup() and build()	d)Loop() and build() and setup()
77 What are Andring IDIO C. I	, and surply and setapo
7. What are Arduino UNO Salient features?	COVER ELABORITATION
a)PWM (Pulse Width Modulation) outputs b)Input Pins (Analog)	c)DC Current (Max)
O)mput I iiis (Analog)	d)All of the above
8. What is PWM?	
a)A built-in library to control DC motor	

d)Is a technique for getting digital results with analog means

What are the Steps to program an Arduino?

a)Declaration of Variables

b)Initialization

c)Control code Dr. S.THILAGAVATHI M.E., Ph.D., d)All the above PRINCIPAL SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN Kaikkurchi - 622 303, Pudukkottai Dt.



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(10. What are the basi a)AnalogRead(p b)AnalogWrite(p	in)		in(baud rate) above	
11. Delay(5000); stan a) Wait 5 minutes	ds for b)Wait 5 seconds	c)Wait 50 se	econds	
12. Digitalwrite(13, La) on	OW); turns the light Boffcorrect	c)dim	parties automospheids autober parties autober cellies	
13. A forward slash is a)code	used for b)output	© comments	own a more sold abilities W. S. X.	
14. An LED is an: a)output	(b) input			
15. An push button is a)Output	(B) input			
16. An knob is a)Output	(b) input		nsixé si il manufato nul ma ma il Ve. 3 , du Dra abajo omito	
17. An servo is a Output	b) input			
18. A sketch is a)an Arduino file	b)an Arduino picture	c) an Arduin	no board	
19. How long is the L digital Write(13, H delay(1000);			Officed new Cantas (s. Ottook par Captura) (s. Ottook	
delay(1000); digital Write(13, L delay(1000); a) 1000 seconds	OW);	c)1 second	d)100 milliseconds	
	umper wire connected to		1) Too infiniseconds	
digitalWrite(13 delay(1000); digitalWrite(13 delay(1000);	Stiketh in things		Dr. S.THILAGAVATHI M.E., Ph.D. PRINCIPAL SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN).
(a) 13	b)12	c)100	d)digital pin	



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Kaikkurieni, i udukkottai, i	anni 14adu – 622 505, India
Name of the Student: MANOHARI AU Register Number: 91261710	// / / /
Value Added Course on "Learning	Arduino Platform and its Uses"
MCQ QUESTIONS	(20X1 = 20 Marks)
a) Extra peripherals b) Add-on modulest	c)Connectivity modules d) Another Arduinos
2. Which is the software or a programming langua. a) Assembly Language b) C Languages	age used for controlling of Arduino? c)C. JAVA d) Any Language
3. What are the uses of Arduino? a)Inexpensive b)Cross-platform	c)Open source and extensible software d)All of the above
4. What are the different file extensions for? a)ino b)pde c)C. h	(d)All of the above
5. What are the types of Arduino? a)Arduino UNO b)Arduino Mega	c)Arduino Duemilanove d)All of the above
6. Arduino IDE consists of 2 functions. What are a)Build() and loop()	they? (c)Setup() and loop()
b)Setup() and build()	d)Loop() and build() and setup()
What are Arduino UNO Salient features? (a)PWM (Pulse Width Modulation) outputs b)Input Pins (Analog)	c)DC Current (Max) d)All of the above
8. What is PWM? a) A built-in library to control DC motor b) A type of oscilloscope used with microcontrol Colls a technique for getting analog results with d) Is a technique for getting digital results with	digital means
9. What are the Steps to program an Arduino?	

c)Control code

(a) Declaration of Variables

b)Initialization

d)All the above Dr. S.THILAGAVATHIM.E.,Ph.D.,
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10. What are the basic (a) AnalogRead(p b) Analog Write(p		c)serial.begi d)All of the	n(baud rate) above
Delay(5000); stan a)Wait 5 minutes	ds for (b) Wait 5 seconds	c)Wait 50 se	econds
12. Digitalwrite(13, La) on	OW); turns the light boffcorrect	c)dim	
3. A forward slash is a)code	used for boutput	c)comments	
14. An LED is an:	b) input		
15. An push button is a)Output	(b) input		3 What are the exec of Arduno? allinix pensive
16. An knob is a)Output	(b) input		
17. An servo is a)Output	b) input		
18. A sketch is (a)an Arduino file	b)an Arduino picture	c) an Arduin	o board
19. How long is the L digitalWrite(13, H delay(1000);	IGH);		
digitalWrite(13, L delay(1000);	OW);		
(a) 1000 seconds	b)100 seconds	c)1 second	d)100 milliseconds
20. Which pin is the ju	umper wire connected to)?	
digitalWrite(13 delay(1000); digitalWrite(13 delay(1000);	digital means		Dr. S.THILAGAVATHI M.E., Ph.D. PRINCIPAL SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN
(a)13	b)12	100	d)digital pin Kaikkurchi - 622 303, Pudukkottai Dt.



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	1500E/Chiqish;W Bolkit/
Value Added Course on "Learn	ing Arduino Platform and its Uses"
MCQ QUESTION	NS(20X1 = 20 Marks)
Arduino shields are also called as	dgit sir and GWO LEOstovlangiQ 🗘
a) Extra peripherals Add-on modulest	c)Connectivity modules d) Another Arduinos
2. Which is the software or a programming lan	guage used for controlling of Arduino?
a) Assembly Language b) C Languages	c)C. JAVA d) Any Language
1	Any Language
3. What are the uses of Arduino? a)Inexpensive	at monad dantile & Marine
b)Cross-platform	c)Open source and extensible software All of the above
4. What are the different file extensions for? a)ino b)pde c)C. h	et dond g.A. of
a)ino b)pde c)C. h	d)All of the above
\$. What are the types of Arduino? a)Arduino UNO	
a)Arduino UNO	c)Arduino Duemilanove
b)Arduino Mega	d)All of the above
6. Arduino IDE consists of 2 functions. What a	re they?
a)Build() and loop()	√e)Setup() and loop()
b)Setup() and build()	d)Loop() and build() and setup()
7. What are Arduino UNO Salient features?	
a)PWM (Pulse Width Modulation) outputs b)Input Pins (Analog)	c)DC Current (Max)
	d)All of the above

e)Control code

d)All the above

Q. What are the Steps to program an Arduino?

a)Declaration of Variables

b)Initialization

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10. What are the basic a)AnalogRead(pi b)AnalogWrite(p	n)	c)serial.begin(baud rate) d)All of the above
a) Wait 5 minutes	ds for b) Wait 5 seconds	c)Wait 50 seconds
2. Digitalwrite(13, LC	DW); turns the light b)offcorrect	c)dim
13. A forward slash is a)code	used for b)output	Scomments
14. An LED is an:	b) input	
15. An push button is a)Output	b) input	
16. An knob is	b) input	
17. An servo is	b) input	
18. A sketch is a)an Arduino file	b)an Arduino picture	c) an Arduino board
19. How long is the LI digital Write(13, H) delay(1000);	IGH);	
digitalWrite(13, L0	OW);	

20. Which pin is the jumper wire connected to?

b)100 seconds

digitalWrite(13, HIGH); delay(1000); digitalWrite(13, LOW); delay(1000);

delay(1000);

a) 1000 seconds

b)12

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SRIBHRARATHI ENGINEERING COECECE FOR WOMEN d)digital pin

c)1 second d)100 milliseconds



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MARK SHEET FOR VALUE ADDED COURSE- LEARNING ARDUINO PLATFORM AND ITS USES

- 57 :	REGISTER	KEEKHYEV.C	YEAR	171	ndance A)	VAC –MC	OVERALL MARK(100)	
S.NO	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	83	16	80	82
2	912618106002	ARIVARASI A	II /ECE	12	100	18	90	95
3	912618106003	ASMATH HAZEENA N	II /ECE	10	83	17	85	84
4	912618106004	ATCHAYA R	II /ECE	12	100	14	60	80
5	912618106005	JAYAPRIYA T	II /ECE	10	83	13	65	74
6	912618106006	JAYASRI M	II /ECE	9	75	15	75	75
7	912618106007	NAGALAKSHMI P	II /ECE	12	100	16	80	90
8	912618106008	NAVITHRA D	II /ECE	12	100	15	75	88
9	912618106009	ROHINI K	II /ECE	12	100	15	75	88
10	912618106010	SOUNTHARYA P	II /ECE	10	83	19	95	89
11	912618106012	THAIYAL NAYAGI K	II /ECE	12	100	17	85	1 93

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12	912618106701	JANANI.R	II /ECE	10	83	13	65	74
13	912617106001	ABIRAMI S	III /ECE	12	100	14	70	85
14	912617106002	ABISHEKA S	III /ECE	12	100	13	65	83
15	912617106003	ATSHAYA R	III /ECE	10	83	16	80	82
16	912617106004	BAVADHARANI A	III /ECE	12	100	13	65	83
17	912617106005	BHUVANESHWARI B	III /ECE	10	83	14	70	77
18	912617106006	DHIVYA L	III /ECE	12	100	19	95	98
19	912617106007	GOWSALYA D	III /ECE	9	75	18	90	83
20	912617106009	INDHUMATHI S	III /ECE	12	100	16	80	90
21	912617106010	KANIMOZHI D	III /ECE	12	100	14	60	80
22	912617106011	KAVYA C	III /ECE	12	100	18	90	95
23	912617106012	KEERTHANA G	III /ECE	10	83	14	70	77
24	912617106013	MAHESHWARI G	III /ECE	10	83	14	70	77
25	912617106014	MANOHARI M	III /ECE	12	100	15	75	88
2.6	912617106015	MARAGATHALAKSHMI S	III /ECE	10	83	18	90	87
27	912617106017	SAFRIN NISHA S	III /ECE	12	100	16	80	90
28	912617106018	SUBASHINI M	III /ECE	10	83	19	95	89
29	912617106019	SUBASHINI T	III /ECE	12	100	14	70	85
30	912617106020	VINTHIYA R	III /ECE	10	83	14	70	77

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31	912616106001	ABINAYA R	IV/ECE	10	83	14	70	77
32	912616106002	AGALYA A	IV/ECE	12	100	19	95	98
33	912616106003	ATCHAYA G	IV/ECE	10	83	13	65	74
34	912616106004	DEEPA N	IV/ECE	12	100	14	70	85
35	912616106005	DHARANIYA A	IV/ECE	10	83	14	70	77
36	912616106006	JEEVITHA U	IV/ECE	12	100	17	75	88
37	912616106007	MAHESWARI V	IV/ECE	10	83	18	90	87
38	912616106008	PAZHANIYAMMAL R	IV/ECE	10	83	16	80	82
39	912616106009	PRIYANKA E	IV/ECE	12	100	15	. 75	88
40	912616106010	ROJA A	IV/ECE	10	83	14	70	77
41	912616106011	SHANMUGAPRIYA R	IV/ECE	10	83	· 16	80	82
42	912616106012	SHIYAMALA E	IV/ECE	12	100	15	75	88
43	912616106013	SIVABHARATHI P	IV/ECE	10	83	17	85	84
44	912616106014	SIVARUBINI S	IV/ECE	12	100	15	75	88
45	912616106016	VINCY A	IV/ECE	10	83	14	.70	77
46	912616106302	SANKAVI M	IV/ECE	10	83	17	85	84

VAC coordinator

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Criteria 2

Teaching-Learning and Evaluation

350

Key Indicator- 2.3. Teaching- Learning Process (40)

2019-2020

ELECTRONICS AND COMMUNICATION ENGINEERING PARTICIPATIVE LEARNING SYMPOSIUM, SEMINAR & WORKSHOP



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<u>PARTICIPATIVE LEARNING (SYMPOSIUM/WORKSHOP/SEMINAR)</u>

ACADEMIC YEAR 2019-2020

S.No	Register No	Student Name	Year/Sem	Name of the Learning Method	
1	912616106004	DEEPA.N	IV/VII		
2	912616106008	PAZHANIYAMMAL.R		Workshop - Recent Trends in Engineering and technology	
3	912616106009	PRIYANKA.E		Engineering and technology	
4	912617106004	BAVADHARANI. A	****	Workshop - Recent Trends in	
5	912617106011	KAVYA C	III/V	Engineering and technology	
6	912617106011	KAVYA C		Symposium-Paper Presentation	
7	912617106019	SUBASHINI T	III/V		
8	912617106007	GOWSALYA D	III/V		
9	912617106020	VINTHIYA R		Symposium-Paper Presentatio	
10	912618106001	ANUSHAA S			
11	912618106002	ARIVARASI A	II/IV		
12	912618106003	ASMATH HAZEENA N		Seminar-Wireless communication	
13	912618106004	ATCHAYA R			
14	912618106009	ROHINI K			
15	912618106010	SOUNTHARYA P			

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Mr. R. Premkumar Workshop Coordinator

Dr. P. Balamurugan

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Dr. P. Balamurugan

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Mr. R. Premkumar Workshop Coordinator

Dr. P. Balamurugan

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Dr. P. Balamurugan

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R. Premkumar Workshop Coordinator

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Dr. P. Balamurugan Dr. S. THILAGOVATHIM.





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SATELLITE COMMUNICATION	
in the National Level Technical Symposium organized by the Department of Electronics and Comm	munication
Engineering at Mount Zion College of Engineering and Technology, Pudukkottai on 6th September, 2019.	
~ 20	

Dr. G. Jagajothi COORDINATOR

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participated in PAPER PRESENTATION	entitled
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in the National Level Technical Symposium organized by the Department of Electronics and Commu	unication
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participated in PAPER	PRESENTATION	entitled
	ROBOTICS	
in the National Level Technical	Symposium organized by the Department of	Electronics and Communication
Engineering at Mount Zion College of	of Engineering and Technology, Pudukkottai on 6th	September, 2019.
00		
Dr. G. Jagajothi	Dr. S.THILAGAVATHI M.E., Ph.D. PRINCIPAL SRIBHARATHI ENGINEERING	Dr. S. Robinson

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		ROBOTICS			*		
in the Natio	onal Level Technic	al Symposium organized l	by the Departm	ent of	Electronics and C	ommunication	
Engineering a	t Mount Zion Colle	ge of Engineering and Techy	nology, Pudukkot	tai on 6 th	September, 2019.		

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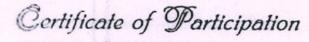
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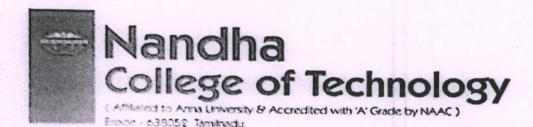
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Head of the Department (Dr. G. B. Mohankumar)

Principal (Dr. M. Vijayakumar)

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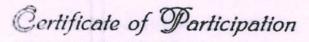
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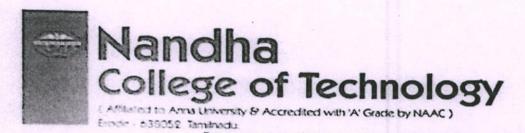
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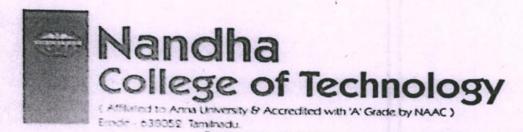
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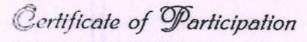
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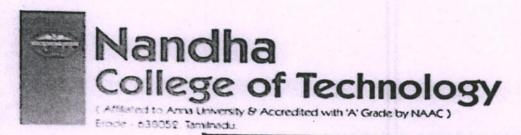
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Head of the Department (Dr. G. B. Mohankumar)

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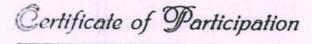
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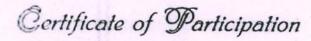
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