

# SRI BHARATHI

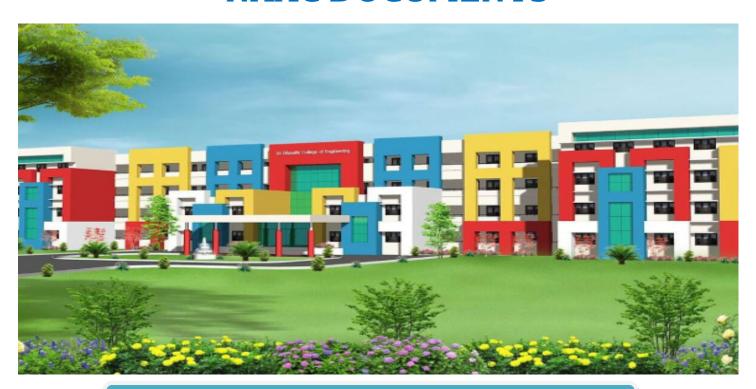
ENGINEERING COLLEGE FOR WOMEN

(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** 

Submitted by

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)** 

#### 2020-2021

# ELECTRONICS AND COMMUNICATION ENGINEERING

#### PARTICIPATIVE LEARNING

Activity	Number of Students attended	Page No.
Value Added Course (VAC)	80	3
Symposium and Workshop	10	43
TOTAL STUDENTS ATTENDED	90	-



Criteria 2

**Teaching-Learning and Evaluation** 

350

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

2020-2021

# 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 2020-2021/ODD SEMESTER

#### **DEPARTMENT CIRCULAR**

Date: 23.11.2020

Value Added Course offered by the Department of ECE will be conducted for Second, Third and Final year students on "Applications of CNC Machine in Electronics Industry" in association with Spiderman PVC Private Limited from 30.11.2020 to 05.12.2020 through online. Certificates will be issued to the eligible participants at the end of the course. The resource person details are shown in the following table.

S.No	Name of the Course	Resource Person
1	Applications of CNC Machine in Electronics Industry	Mr.S.SRINIVASAN,  Managing Director,  Spiderman PVC Private Limited,  No 17, Madhavaram,  Chennai - 600060  Tamil Nadu.  Mail.Id: spidermanview@gmail.com  Google Meet: meet.google.com/bzb-jwsj-zgn

Cc:

Principal's Office

**IQAC** Coordinator

Class In charges- II ,III &IV Year

II ,III & IV Year ECE Students

Notice Board

HOD / ECE

SRI BHARATHI ENGINEERING

COLLEGE FOR WOMEN KAIKKURICHI,

PUDUKKOTTAI - 622 303

Dr. S.THILAGAVATHIM.E. PA.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 2020-2021/ODD SEMESTER</u>

#### Value Added Course on " Applications of CNC Machine in Electronics Industry"

#### **SYLLABUS**

S.NO	TOPIC COVERED	DURATION (in hours)	DATE
1	Introduction to CNC technology, CNC programming	3	30.11.2020
2	Structural and Constructional features of CNC machines	3	30.11.2020
3	Testing and Maintenance of CNC machine-tools	3	1.12.2020
4	CNC Machine Design	3	1.12.2020
5	Advanced CNC technologies	2	2,12.2020
6	Application of CNC technology	2	2.12.2020
7	Maintenance and Trouble Shooting of CNC Machine Tools	2	2.12.2020
8	Benefits of NC/CNC machine tools over conventional machines, design considerations	3	3.12.2020
9	Constructional details of NC machine tools	3	3.12.2020
10	Types of CNC Machined Electronic Components	2	4.12.2020
11	DNC, CNC, and the advantages and disadvantages CNC over other machines.	2	4.12.2020
12	Benefits of CNC Machining	2	4.12.2020
13	How CNC Machining Benefits the Electronics Industry	3	5.12.2020
14	The Role of CNC Automation in Modern Manufacturing	3	5.12.2020
	Total Hours	36	

VAC Coordinator

Dr. S. THILAGAVATHEM.E., Ph.d.

PRINCIPAL

SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN Kaikkurchi - 622 303, Pudukkottai Dt. HOD/ECE 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 (2020-2021)

#### STUDENT PARTICIPATION LIST FOR VALUE ADDED PROGRAM

#### **Applications of CNC Machine in Electronics Industry**

S.NO	REG.NO	NAME	YEAR & BRANCH
1	912619106001	AASHIMA.M	II & ECE
2	912619106002	ANANTHI.P	II & ECE
3	912619106004	JAFFARNISHA.R	II & ECE
4	912619106005	MAHESWARI.K	II & ECE
5	912619106006	MANISHA.S	II & ECE
6	912619106007	MEGAVADHANA.A	II & ECE
7	912619106008	PRIYANGA.R	II & ECE
8	912619106009	RAGAVI.V	II & ECE
9	912619106010	RAJAPRABA.M	II & ECE
10	912619106011	SASIKA.K	II & ECE
11	912618106001	ANUSHAA.S	III & ECE
12	912618106002	ARIVARASI.A	III & ECE
13	912618106003	ASMATH HAZEENA.N	III & ECE
14	912618106004	ATCHAYA.R	III & ECE
15	912618106005	JAYAPRIYA.T	III & ECE
16	912618106006	JAYASRI.M	III & ECE
17	912618106007	NAGALAKSHMI.P	III & ECE
18	912618106008	NAVITHRA.D	III & ECE
19	912618106009	ROHINI.K	III & ECE
20	912618106010	SOUNTHARYA.P	III & ECE
21	912618106012	THAIYAL NAYAGI.K	III & ECE
22	912618106701	JANANI.R	III & ECE
23	912617106001	ABIRAMI.S	IV & ECE
24	912617106002	ABISHEKA.\$	IV & ECE

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

SRI BHARATHI ENGINEERING
COLLEGE FOR WOMEN

S.NO	REG.NO	NAME	YEAR & BRANCH
25	912617106003	ATSHAYA.R	IV & ECE
26	912617106004	BAVADHARANI.A	IV & ECE
27	912617106005	BHUVANESHWARI.B	IV & ECE
28	912617106006	DHIVYA.L	IV & ECE
29	912617106007	GOWSALYA.D	IV & ECE
30	912617106009	INDHUMATHI.S	IV & ECE
31	912617106010	KANIMOZHI.D	IV & ECE
32	912617106011	KAVYA.C	IV & ECE
33	912617106012	KEERTHANA.G	IV & ECE
34	912617106013	MAHESHWARI.G	IV & ECE
35	912617106014	MANOHARI.M	IV & ECE
36	912617106015	MARAGATHALAKSHMI.S	IV & ECE
37	912617106017	SAFRIN NISHA.S	IV & ECE
38	912617106018	SUBASHINI.M	IV & ECE
39	912617106019	SUBASHINI.T	IV & ECE
40	912617106020	VINTHIYA.R	IV & ECE

Coordinator

HoD/ECE HOD / ECE SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN KAIKKURICHI,

PUDUKKOTTAI - 622 303

Dr. S.THILAGAVATHIME., Ph.b., PRINCIPAL





(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 (2020-2021)

#### ATTENDANCE SHEET FOR VALUE ADDED COURSE - APPLICATIONS OF CNC MACHINE IN ELECTRONICS INDUSTRY

S.No	REG. NO	NAME	YEAR/	30.11	1.2020	1.12.	2020	2.12.	2020	3.12.	2020	4.12.	2020	5.12.	2020	NO. OF
			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	SESSIONS ATTENDED
1	912619106001	AASHIMA M	II/ECE	a	1	1	1	a	,	1	1	/	,	,	,	10
2	912619106002	ANANTHI P	II/ECE	1	1	1	1	,	1	1.	,		,	,	,	12
3	912619106004	JAFFARNISHA R	II/ECE	a	a	1	/	1	1	1	,	)	1	,	,	lo
4	912619106005	MAHESWARI K	II/ECE	1	7	1	1	1	1	1	1	7	1	,	1	12
5	912619106006	MANISHA S	II/ECE	a	a	1	,	1	1	1	i	1	1	1	ľ	10
6	912619106007	MEGAVADHANA A	II/ECE	1	1	1	1	a	a	1	1	a	1	1	1	9
7	912619106008	PRIYANGA R	II/ECE	,	,	1	,	/	,	,	1	1	1	,	,	12
8	912619106009	RAGAVI V	II/ECE	1	1	1	,	1	j	j	,	,	)	,	į	12
9	912619106010	RAJAPRABA M	II/ECE	1	,	1	,	,	1	,	1	,	,	,	1	12
10	912619106011	SASIKA K	II/ECE	,	a	a	,	1	1	1	1	,	,	,	,	lo
11	912618106001	ANUSHAA S	III/ECE	1	7	,	,	1	1	,	,	,	1	,	,	180
12	912618106002	ARIVARASI A	III/ECE	,	,	,	,	a	a	,	,	,	,	,	,	10
13	912618106003		D'IB/ECE-				0.,,	1	1	,	1	,	1	1	,	12
14	912618106004	ATCHAYA R	III LOLLE Kajkkurchi	ATHI EI GE/FOI	NGINEE R WOM	RING EN/	1	1	1	1	1	1	1	1	/	12
			- ACHARICITI-	<del>022 303,</del>	Pudukko	tai Dt,										

15	912618106005	JAYAPRIYA T	III/ECE	a	a	,	1	1	1	1	1	1	1	1	1	10
16	912618106006	JAYASRI M	III/ECE	1	1	1	1	1	1	1	1	1	1	1	1	12
17	912618106007	NAGALAKSHMI P	III/ECE	7	7	j	1	1	1	1	1	a	a	7	1	10
18	912618106008	NAVITHRA D	III/ECE	1	,	1	1	i	1	1	,	1	1	1	1	12
19	912618106009	ROHINI K	III/ECE	a	1	1	1	1	1	à	a	1	1	1	1	9
20	912618106010	SOUNTHARYA P	III/ECE	1	,	,	,	,	,	1	,	,	1	',	,	12
21	912618106012	THAIYAL NAYAGI K	III/ECE	,	,	,	1	1	,	j	1	1	1	1	;	12
22	912618106701	JANANI.R	III/ECE	1	1	)	',	,	1	1	,	1	,	,	1	12
23	912617106001	ABIRAMI S	IV/ECE	1	1	a	a	1	7	1	1	1	1	1	7	10
24	912617106002	ABISHEKA S	IV/ECE	1	1	1	. /	1	1	,	,	1	1	1	7	12
25	912617106003	ATSHAYA R	IV/ECE	1	1	a	a	1	1	1	1	1	1	1	1	10
26	912617106004	BAVADHARANI A	IV/ECE	a	1	1	1	a	a	1	1	1	1	1	1	9
27	912617106005	BHUVANESHWARI B	IV/ECE	1	1	,	1	1	1	1	1	1	1	1	1	12
28	912617106006	DHIVYA L	IV/ECE	1	/	1	1	a	a	1	301	1	1	,	1	10
29	912617106007	GOWSALYA D	IV/ECE	1	1	1	11/	1	1	1	1	1	1	1	1	12
30	912617106009	INDHUMATHI S	IV/ECE	1	1	1	1	a	a	1	1	1	1	1	1	10
31	912617106010	KANIMOZHI D	IV/ECE	a	a	a	1	1	1	1	1	n/e	1	1	1	9
32	912617106011	KAVYA C	IV/ECE	1	1	1	1	1	1	1	1	1	1	1	1	12
33	912617106012	KEERTHANAG	W/ECE	1	1	1	1	a	a	1	1	1	1	1	,	10
34	912617106013	MAHESHWARI G	TYRECE PA	LI	יירויייייי	1	,	1	1	1	1	1	/	1	1	12
			LEGETOP													

COLLEGE FOR WOMEN Kaikkurchi - 622 303, Pudukkottai Dt.

35	912617106014	MANOHARI M	IV/ECE	,	,	,	,	0						T		
36	912617106015	MARAGATHA	IV/ECE	,			/	a	a	/	/	/	/	1	1	10
37	912617106017	LAKSHMI S	IV/ECE	/	/	/	1	1	/	1	1	1	1	1	1	12
38	)	SAFRIN NISHA S		a	1	1	1	1	1	1	1	a	1	,	1	lo
	912617106018	SUBASHINI M	IV/ECE	a	9	,	1	1	,	,	,	0	,	,	,	0
39	912617106019	SUBASHINI T	IV/ECE	,	,	,			,	^		a		/	/	4
40	912617106020	VINTHIYA R	IV/ECE	/	/	/	/	/				1	1	1	1	12
					/	/	/	a	a	1	1	/	1	1	1	lo

VACCOORdinator

HoD/ ECE

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

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

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

			D .	-							
			Report of	n V	alue	Add	ded Cou	irse			
Title:	Appli	cation	s of CNC Ma								
Resource	Person:		S.SRINIVAS		ν,						
		Spi	derman PVC	Priv							
		No	17, Madhavai	am	, Cher	ınai - (	600060.				
Date of co	onduct fr	om:	30.11.2020		To:	5.12.	2020	Duration:	36 Hours		
Organized	d Departr	ment:	Electronics an	nd C	ommu	nicatio	n Engineer	ing			
Participar	Participant Year: 2/3/4 Semester: ODD No. of Students Registered: 40										
Venue:	Venue: Google Meet: meet.google.com/bzb-jwsj-zgn										
	Outcome	of Wol	un Addad Cours	. (\$7	A (1) A	4.41	1 00	~ -	•		

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

- Understand the fundamentals of NC/CNC
- Develop electronic components, such as printed circuit boards and sensors
- Design machine tools according to the functionality.
- Test and maintain CNC machines.
- Implement CNC technologies for applications other than machining.

No. of students successfully completed the VAC course is <u>40 Students</u> based on the following Assessment process.

#### **Assessment Process**

- Students, who are 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

HOD/ECE HOD/ECE

Principal

SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN

KAIKKURICHI, PUDUKKOTTAI - 022 303

Dr. S.THILAGAVATHI M.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 2020-2021/ODD SEMESTER</u>

# Value Added Course on Applications of CNC Machine in Electronics Industry <u>MCQ ANSWER KEY</u>

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

Dr. S.THILAGAVATHIKE, Ph.D.

# Sri Bharathi Engineering College for women Department of ECE

Value Added course (30.11.2020 to 5.12-2020

Name: Manisha. S

Year : II

Reg. No: 912619106006

Sem: III

1) a

a) c

3) D

4) D

5) ax

b) a X

7) DV

8) C

9) C

10) ax

11) ax.

12) a

13) c

14)c

(5) D

Answers

16) a X

(7) d 1

18) a X

19) CV

20) dx

20

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

Sri Bhatathi Engineering college floor women
Department of ECE

value Added course

C30.11.2020 to 5.12.20

Nome: Rohini.k -

Reg. NO: 912618106009 Sem: T

Answers

13) CV

14) C /

(5) d

16)

17) 2

18) A

19)c ~

20)C/

7) d /

9)9x

10) bx

11)C

12) 0 /

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

# Sri Bharathi Engineering College for Women Department of ECE

Value Added Course (30. 11. 2020 to 5.12.2020)

Name: Kavya. C

Year: IV

Rog No: 9126 1710 6011

Sem: VII

		Answers	
1)	A /	11) C	19
2)	c /	12) CY	1 20
3)	D	13) c /	
4)	D /	15) D	
5)		16) (	
6)	c/	17) D	
て)	D	18) D	
8)	CV	19) 6	
9)	c \( \)	20, 6	
	5		



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# DEPARTMENT OF ELECTRONICS AND COMMUNICATIONENGINEERING ACADEMIC YEAR ODD SEMESTER (2020-2021)

### MARK SHEET FOR VALUE ADDED COURSE- APPLICATIONS OF CNC MACHINE IN ELECTRONICS INDUSTRY

S.NO	REGISTER	ATSHAYA'R	YEAR		ndance A)	VAC –MC		OVERALL MARK(100)
23	NUMBER	NAME	& BRANCH	No.of Sessions Attented	Marks (100)	No.of Correct Answer	Marks (100)	(50% of A + 50% of B)
1	912619106001	AASHIMA M	II /ECE	10	83	16	80	82
2	912619106002	ANANTHI P	II /ECE	12	100	18	90	95
3	912619106004	JAFFARNISHA R	II /ECE	10	83	17	85	84
4	912619106005	MAHESWARI K	II /ECE	12	100	14	70	85
5	912619106006	MANISHA S	II /ECE	10	83	13	65	74
6	912619106007	MEGAVADHANA A	II /ECE	9	75	15	75	75
7	912619106008	PRIYANGA R	II /ECE	12	100	16	80	90
8	912619106009	RAGAVI V	II /ECE	12	100	15	75	88
9	912619106010	RAJAPRABA M	II /ECE	12	100	15	75	88
10	912619106011	SASIKA K	II /ECE	10	83	19	95	89
11	912618106001	ANUSHAA S	III /ECE	12	100	17	85	93
12	912618106002	ARIVARASI A	III /ECE	10	83	13	65	74

S.THILAGAVATHI M.E., Ph.L.,
PRINCIPAL



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13	912618106003	ASMATH HAZEENA N	III /ECE	12	100	14	70	85
14	912618106004	ATCHAYA R	III /ECE	12	100	13	65	83
15	912618106005	JAYAPRIYA T	III /ECE	10	83	16	80	82
16	912618106006	JAYASRI M	III /ECE	12	100	13	65	83
17	912618106007	NAGALAKSHMI P	III /ECE	10	83	14	70	77
18	912618106008	NAVITHRA D	III /ECE	12	100	19	95	98
19	912618106009	ROHINI K	III /ECE	9	75	18	90	83
20	912618106010	SOUNTHARYA P	III /ECE	12	100	16	80	90
21	912618106012	THAIYAL NAYAGI K	III /ECE	12	100	15	75	88
22	912618106701	JANANI.R	III /ECE	12	100	18	90	95
23	912617106001	ABIRAMI S	IV /ECE	10	83	14	70	77
24	912617106002	ABISHEKA S	IV /ECE	12	100	16	80	90
25	912617106003	ATSHAYA R	IV /ECE	10	83	15	75	79
26	912617106004	BAVADHARANI A	IV /ECE	9	75	18	90	83
27	912617106005	BHUVANESHWARI B	IV /ECE	12	100	16	80	90
28	912617106006	DHIVYA L	IV /ECE	10	83	19	95	89
29	912617106007	GOWSALYA D	IV /ECE	12	100	13	65	83
30	912617106009	INDHUMATHI S	IV /ECE	10	83	14	70	77
31	912617106010	KANIMOZHI D	IV /ECE	9	75	14	70	73
32	912617106011	KAVYA C	IV /ECE	12	100	19	95	98

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



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33	912617106012	KEERTHANA G	IV /ECE	10	83	13	65	74
34	912617106013	MAHESHWARI G	IV /ECE	12	100	14	70	85
35	912617106014	MANOHARI M	IV /ECE	10	83	14	70	77
36	912617106015	MARAGATHALAKSHMI S	IV/ECE	12	100	14	70	85
37	912617106017	SAFRIN NISHA S	IV/ECE	10	83	19	95	89
38	912617106018	SUBASHINI M	IV/ECE	9	75	13	65	70
39	912617106019	SUBASHINI T	IV/ECE	12	100	14	70	85
40	912617106020	VINTHIYA R	IV/ECE	10	83	19	95	89

VAC Coordinator

HoD/ECE

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

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



### SPIDERMAN PVC TE CHN OLOGY PRIVATE LIMITED NO;17, MADHAVARAM,CHENNAI-600060

#### CERTIFICATE OF PARTICIPATION

This is to Certify that

### Ms. NAGALAKSHMI.P, III ECE from Sri Bharathi Engineering College for Women

has successfully completed Value Added Course on

"Applications of CNC Machine in Electronics Industry"

Conducted from 30.11.2020 to 05.12.2020 (6 days) during the Academic year 2020-2021.

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

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

**Managing Director** 



#### SPIDERM AN PVC TE CHN OLOGY PRIVATE LIMITED NO;17, MADHAVARAM, CHENNAI-600060

#### CERTIFICATE OF PARTICIPATION

This is to Certify that

Ms. MANISHA.S, II ECE from Sri Bharathi Engineering College for Women

has successfully completed Value Added Course on

"Applications of CNC Machine in Electronics Industry"

Conducted from 30.11.2020 to 05.12.2020 (6 days) during the Academic year 2020-2021.

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

**Managing Director** 



#### SPIDERM AN PVC TE CHN OLOGY PRIVATE LIMITED NO;17, MADHAVARAM, CHENNAI-600060

#### CERTIFICATE OF PARTICIPATION

This is to Certify that

Ms. SAFRIN NISHA.S, IV ECE from Sri Bharathi Engineering College for Women

has successfully completed Value Added Course on

"Applications of CNC Machine in Electronics Industry"

Conducted from 30.11.2020 to 05.12.2020 (6 days) during the Academic year 2020-2021.

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

SRIBHARATHI ENGINEERING

Kaikkurchi - 622 303 Pudukkattai Dt

flerivantui

**Managing Director** 



(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 2020-2021/EVEN SEMESTER

#### DEPARTMENT CIRCULAR

Value Added Course offered by the Department of ECE will be conducted for Second, Third and Final year students on "Emerging Technologies of Bio Signal Processing in VLSI" in association with Spiderman PVC Private Limited, from 26.04.2021 to 30.04.2021 through online. Certificates will be issued to the eligible participants at the end of the course. The resource person details are shown in the following table.

S.No	Name of the Course	Resource Person
1	Emerging Technologies of Bio Signal Processing in VLSI	Mr.S.SRINIVASAN,  Managing Director,  Spiderman PVC Private Limited,  No 17, Madhavaram,  Chennai - 600060  Tamil Nadu.  Mail.Id: spidermanview@gmail.com  Google Meet: meet.google.com/cex-eijs-gse

Cc:

Principal's Office

**IQAC** Coordinator

Class In charges- II , III & IV Year

II ,III & IV Year ECE Students

Notice Board

HOD / ECE

SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN

Date: 19.04.2021

KAIKKURICHI,

PUDUKKOTTAI - 622 303

Dr. S.THILAGAVATHI M.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 2020-2021/EVEN SEMESTER</u>

# Value Added Course on "Emerging Technologies of Bio Signal Processing In VLSI"

#### **SYLLABUS**

S.NO	TOPIC COVERED	DURATION (in hours)	DATE
1	Bio Signals(eg.,EEG,ECG,PCG,PPG,EMG,ENG) processing	3	26.4.2021
2	Wavelets and Fourier Analysis & Soft Computing Techniques	3	26.4.2021
3	Neural networks	3	27.4.2021
4	Fuzzy logic, Genetic Algorithms	3	27.4.2021
5	VLSI Signal processing	3	28.4.2021
6	System partitioning and level testing Xilinix, Cadence, Modelsim etc in VLSI Design	3	28.4.2021
7	Physical design layout, Verification in VLSI Technology	3	29.4.2021
8	Image compression and registration, Image quality assessment	3	29.4.2021
9	Image segmentation and enhancement	3	30.4.2021
10	Image Retrieval and Analysis, Video Image analysis and processing	3	30.4.2021
	Total Hours	30	

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



### 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 EVEN SEMESTER (2020-2021)

#### STUDENT PARTICIPATION LIST FOR VALUE ADDED PROGRAM

#### **Emerging Technologies of Bio Signal Processing in VLSI**

S.NO	REG.NO	NAME	YEAR & BRANCH
1 , ,	912619106001	AASHIMA M	II & ECE
2	912619106002	ANANTHI P	II & ECE
3	912619106004	JAFFARNISHA R	II & ECE
4	912619106005	MAHESWARI K	II & ECE
5	912619106006	MANISHA S	II & ECE
6	912619106007	MEGAVADHANA A	II & ECE
7	912619106008	PRIYANGA R	II & ECE
8	912619106009	RAGAVI V	II & ECE
9	912619106010	RAJAPRABA M	II & ECE
10	912619106011	SASIKA K	II & ECE
11	912618106001	ANUSHAA S	III & ECE
12	912618106002	ARIVARASI A	III & ECE
13	912618106003	ASMATH HAZEENA N	III & ECE
14	912618106004	ATCHAYA R	III & ECE
15	912618106005	JAYAPRIYA T	III & ECE
16	912618106006	JAYASRI M	III & ECE
17	912618106007	NAGALAKSHMI P	III & ECE
18	912618106008	NAVITHRA D	III & ECE
19	912618106009	ROHINI K	III & ECE
20	912618106010	SOUNTHARYA P	III & ECE
21	912618106012	THAIYAL NAYAGI K	III & ECE
22	912618106701	JANANI.R	III & ECE
23	912617106001	ABIRAMI S	IV& ECE
24	912617106002	ABISHEKA S	IV& ECE

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

S.NO	REG.NO	NAME	YEAR & BRANCH
25	912617106003	ATSHAYA R	IV& ECE
26	912617106004	BAVADHARANI A	IV& ECE
27	912617106005	BHUVANESHWARI B	IV& ECE
28	912617106006	DHIVYA L	IV& ECE
29	912617106007	GOWSALYA D	IV& ECE
30	912617106009	INDHUMATHI S	IV& ECE
31	912617106010	KANIMOZHI D	IV& ECE
32	912617106011	KAVYA C	IV& ECE
33	912617106012	KEERTHANA G	IV& ECE
34	912617106013	MAHESHWARI G	IV& ECE
35	912617106014	MANOHARI M	IV& ECE
36	912617106015	MARAGATHALAKSHMI S	IV& ECE
37	912617106017	SAFRIN NISHA S	IV& ECE
38	912617106018	SUBASHINI M	IV& ECE
39	912617106019	SUBASHINI T	IV& ECE
40	912617106020	VINTHIYA R	IV& ECE

Coordinator

HOD / ECE

SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN

KAIKKURICHI, PUDUKKOTTAI - 622 303

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



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KAIKKURICHI, PUDUKKOTTAI-622 303
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
ACADEMIC YEAR EVEN SEMESTER (2020-2021)

# ATTENDANCE SHEET FOR VALUE ADDED COURSE-EMERGING TECHNOLOGIES OF BIO SIGNAL PROCESSING IN VLSI

S.NO	NO REG. NO NAME		YEAR/	26.04	.2021	27.04	4.2021	28.04.2021		29.04.2021		30.04.2021		NO. OF
-	A CONTRACTOR	23.37.43.37.47.22	BRANCH	F.N	A.N	F.N	A.N	F.N	A.N	F.N	A.N	F.N	A.N	- SESSIONS ATTENDED
1	912619106001	AASHIMA M	II /ECE	1	1	1	/	1	/	1	,	1	1	10
2	912619106002	ANANTHI P	II /ECE	1	1	1	1	,	1	1	1	,	,	10
3	912619106004	JAFFARNISHA R	II /ECE	1	1	1	1	1	1	1	,	/	,	10
4	912619106005	MAHESWARI K	II /ECE	a	1	1	1	1	1	,	,	1	1	9
5	912619106006	MANISHA S	II /ECE	/	1	1	1	1	1	1	1	,	1	10
6	912619106007	MEGAVADHANA A	II /ECE	/	1	1	/	1	1	1	,	,	1	10
7	912619106008	PRIYANGA R	II /ECE	/	/	1	1	/	/	1	,	_	1	lo
8	912619106009	RAGAVI V	II /ECE	a	1	1	1	1	1	1	1	1	,	9
9	912619106010	RAJAPRABA M	II /ECE	1	/	1	/	a	1	/	1	,	1	9
10	912619106011	SASIKA K	II /ECE	1	1	1	1	1	/	1	1	,	/	10
11	912618106001	ANUSHAA S	III/ ECE	1	1	/pr.	S.THII	AGAV	ATHI	M.E.,P	1.D.,	,	1	10

				* most		1								
12	912618106002	ARIVARASI A	III/ ECE	1	1	1	1	1	1	1	1	1	1	to
13	912618106003	ASMATH HAZEENA N	III/ ECE	1	1	,	1	1	/	1	1	1	1	10
14	912618106004	ATCHAYA R	III/ ECE	1	1	1	1	1	1	1	1	1	1	10
15	912618106005	JAYAPRIYA T	III/ ECE	/	1	1	1	1	1	1	1	1	1	lo
16	912618106006	JAYASRI M	III/ ECE	1	1	1	1	1	1	1	1	1	1	lo
17	912618106007	NAGALAKSHMI P	III/ ECE	a	a	1	1	1	,	1	1	1	1	8
18	912618106008	NAVITHRA D	III/ ECE	1	1	1	1	1	,	1	1	1	1	10
19	912618106009	ROHINI K	III/ ECE	1	1	1	1	a	1	1	1	1	1	9
20	912618106010	SOUNTHARYA P	III/ ECE	1	1	1	1	1	1	1	1	1	1	10
21	912618106012	THAIYAL NAYAGI K	III/ ECE	1	1	1	1	1	1	1	1	1	1	10
22	912618106701	JANANI.R	III/ ECE	1	1	1	1	1	1	1	1	1	1	lo
23	912617106001	ABIRAMI S	IV/ECE	a	1	1	1	1	1	1	1	1	1	q
24	912617106002	ABISHEKA S	IV/ECE	1	1	1	1	1	1	1	1	1	/	10
25	912617106003	ATSHAYA R	IV/ECE	1	1	1	1	1	1	1	1	1	1	10
26	912617106004	BAVADHARANI A	IV/ECE	/	1	1	1	1	1	1	1	1	1	10
27	912617106005	BHUVANESHWARI B	IV/ECE	1	1	1	1	1	1	1	1	1	1	10
28	912617106006	DHIVYA L	IV/ECE	1	1	1	1	1	1	1	1	1	1	10
29	912617106007	GOWSALYA D	IV/ECE	1	1	1	1	1	1	/	1	/	1	10
30	912617106009	INDHUMATHI S	IV/ECE	1	1	1	1	14	s. <b>тн</b> і	LAGA	VATH NGIPAL	M.E.,P	h.D/,	10
							1	/				MEERIN		* *

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Kaikkurch. - 622 303, Pudukko...

31	912617106010	KANIMOZHI D	IV/ECE	1	1	1	1	1	1	1	1	1	1	10
32	912617106011	KAVYA C	IV/ECE	1	. 1	1	1	1	1	1	1	1	1	lo
33	912617106012	KEERTHANA G	IV/ECE	,	1	1	1	1	1	1	,	1	1	lo
34	912617106013	MAHESHWARI G	IV/ECE	1	1	1	,	1	,	1	1	1	1	10
35	912617106014	MANOHARI M	IV/ECE	1	1	1	/	1	1	1	1	1	,	10
36	912617106015	MARAGATHA LAKSHMI S	IV/ECE	1	/	1	1	a	,	1	1	1	,	9
37	912617106017	SAFRIN NISHA S	IV/ECE	1	^	. /	1	1	1	. /	1	1	,	10
38	912617106018	SUBASHINI M	ĮV/ECE	1	1	,	1	1	,	,	1	/	,	10
39	912617106019	SUBASHINI T	IV/ECE	1	1	1	1	1	,	1	1	1	,	10
40	912617106020	VINTHIYA R	IV/ECE	1	1	1	1	,	1	,	,	1	1	10

VAC Coordinator

HOD / ECE

SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN KAIKKURICHI,

PUDUKKOTTAI - 622 303

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

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

#### **Report on Value Added Course**

Title:

Emerging Technologies of Bio Signal Processing in VLSI

Resource Person:

Mr.S.SRINIVASAN,

Managing Director,

Spiderman PVC Private Limited,

No 17, Madhavaram, Chennai - 600060

Date of conduct from:

26.04.2021

To: 30.04.2021

Duration:

30 Hours

Organized Department:

**Electronics and Communication Engineering** 

Participant Year:

2/3/4

Semester: EV

EVEN

No. of Students Registered:

40

Venue:

online mode Google Meet: meet.google.com/cex-eijs-gse

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

- Apply appropriate signal processing techniques in analysing various bio-signals.
- Explain and employ sampling and quantization procedures for digitally recording physiological data
- Develop measurement systems for bio-signals and its signal conditioning circuits.
- Understand and explain the basic concept of VLSI signal processing and its various components
- Understand advanced statistical tools and numerical methods to describe the temporal dynamics of biomedical signals.
- No. of students successfully completed the VAC course is **40** 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)

VAT Coordinator

HOD / ECE

Principal

~10

SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN

KAIKKURICHI, PUDUKKOTTAI - 622 303. Dr. **S.THILAGAVATHI** M.E.,Ph.D. PRINCIPAL



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Name of the Student :	Year/Sem:
AU Register Number:	
Value Added Course on Emerging	Technologies of Bio Signal Processing in VLSI
	$\overline{\Gamma IONS} (25X1 = 25 \text{ Marks})$
	11 Lis a to for Blind source separation
<ul><li>1. In digital system if h (transfer functio</li><li>a) Analyze</li><li>b) Control</li></ul>	n) and y (output) find X means c) Design d) All the above
2 Is a record of the amplified el a) EMG	ectrical activity generated by neurons in the brain c) MRI
b) EEG	d) None of the above
caused by eye movements and blinks	e a number of contaminating voltage potential
a) Ocular artifacts	c) EOG
b) Antifacts	d) EFG
4. Shannon Nyquist theorem $f_{\text{sampling}} >= a$ ) $f_{\text{max}}$ b) $f_{\text{min}}$	c) both a and b d) None of the above
5. The shape of signal repeats with an in	terval
a) Periodic b) Aperiodic	c) Predictability d) All the above
6 Is a symmetric periodic function w	ith period 2π
a) DFT b) Convolution	c) Correlation d) Regression
7filter is used to remove high free the pass band	quency noise with minimal loss of signal components in
a) Moving average filter	c) Median
b) offset	d) Detrending
other a) Covariance b) Mean square  Dr. S.THILAGA PRIF	VCIPAL
Kaikkurchi - 622	FOR WOMEN 303, Pudukkottai Dt.



a)Digital

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9. Processing of reducing the amount of data in a	given signal to i order to lower
resources usage Such as data storage space	: Insuric our to amayi
a) Envelop Detection	c) Estimation
b) Compression	d) All the above
10. Process of reducing the sampling rate of sign	al is called
a) Up sampling	c) Down sampling
b) Interpolation	d) Bandwidth
S (25X1 = 25 Marks)	NOTE SEE OF SEE
11is a to for Blind source separation	
a) IBA	c) ICA
b) IFA	d) ICD axylan A (a
evode od: IIA (b	b) Control
12 Filtering is a process of implementing a se	
implements a prediction corrector type of esting	
a) Kalman	c) both a and b
b) Kelvin	d) None of the above
12 Which techniques III would to unduce the game	uling naviad in VI SI digital signal
13. Which techniques I'd used to reduce the sam processing	pring period in VLSI digital signal
a) Unfolding	c) Aliasing
b) Throughput	d) Filter
o) moughput	
14 network safe biologically inspired netw	ork that are useful in application area
such as pattern recognition and classification	
a) computer Network	c) Sensor network
b) Mobile Network	d) Artificial network
	5. The shape of signal repeats with an interval
15 represent s the distribution of power as a	
a) PDF evods on IIA (b	c) PSD sibolog A (d
b) Entropy	d)None of the above
16. The entropy is into pretended as a function o	of about the event
a) Cartainty	b) I Incontainty
a) Certainty	b) Oncertainty
17. Signal processing is a ways to	signal in its original medium or an
abstract medium.	hand some ship
a) Finding	
b) Manipulating	b) offset
c) Converting	
d) Analyzing	
OF STREET STREET STREET STREET STREET	nedto.
18. Signal generated via physical phenomenon a	re

b)Analog

c) Both a and b

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



a) Sampledb) Quantized

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19. The real-(complex) valued samples must be -----fit into internal word length.

c) Estimated d) Converted
<ul><li>20. The effect of over sampling is also called</li><li>a) Aliasing</li><li>b) Filtering</li><li>c) Quantization</li></ul>
<ul> <li>21. The interface between an analog signal and a processor is digital</li> <li>a) D/AConverter</li> <li>b) A/DConverter</li> <li>c) Modulator</li> <li>d)Demodulator</li> </ul>
<ul> <li>22. Telegraph signals are examples of</li> <li>a) Digital signals</li> <li>b) Analog signals</li> <li>c) Impulse signals</li> <li>d) Pulse train</li> </ul>
<ul><li>23. Roll-off factor is</li><li>a) The bandwidth occupied beyond the Nyquist Bandwidth of the filter</li><li>b) The performance of the filter or device</li><li>c) Aliasing effect</li><li>d) None of the above</li></ul>
24. DTFT is the representation of a) Periodic Discrete time signals b)Aperiodic Discrete time signals c)Aperiodic continuous signals d)Periodic continuous signals
25. Decimation is a process in which the sampling rate is a)enhanced b) stable
c)reduced
d)unpredictable
Dr. S.THILAGAVATHI M.E., Ph.D.,
PRINCIPAL

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#### SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN

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### DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

#### ACADEMIC YEAR 2020-2021/EVEN SEMESTER

# Value Added Course on "Emerging Technologies of Bio Signal Processing in VLSI" MCQ ANSWER KEY

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

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

PRINCIPAL

### Sri Bharathi Engineering college for women Department of ECE

value added course (26.04.2021 to 30.04.2021)

NAMe: Jaffar Nisha.R

Reg no: 9126 1910 6004

year: 1

Sem: IV

#### Answers

- 1) d
- 2) RX
- 3) R
- 4) [
- 5) a/
- 6) 12/
- 7) 64
- 8) c
- 9) b
- 10) C
- 12) 12
- 13) [

- (4) d
- 15) C /
- 16) B
- 10) B V
- 18) 6
- 19) 5 ×
- ( ) ( )
- 20) [
- a1) b
- ad) b
- 23) R
- 24) C
- as) c

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

Sri	Bhasafhi	Engin	eesit	Collège	for Women	/
	d					
Vale	2 2 2	V =			to 30-04-20	21
Nor	ne: Subast	rini. M	f	eg.No:	912617-106	018
yea	ar: IV	,	8	en: V	<u>[II]</u>	
1)	A	A	de of		19	
/	b-	15)	C		28	
3)	a/ ax		b /			
5)			c /			
6)	a	19)	d			
7)	ar	20)	C >			
9)	b	21)	d×			
(0)	d X	J2)				
(11)		24)	d x			
(9)	ar	25)	c/	Dr. S.THILA	AGAVATHI M.E., Ph.D.,	
[3)	d X			COLL	PRINCIPAL RATHI ENGINEERING EGE FOR WOMEN - 622 303, Pudukkottai Dt.	
					The state of the s	

# Sri Bharathi Engineering College for women Department of ECE

Value dolded course (26.04.2021 to 30.04.2021)

Game: Janani. R

year: III

Beg 100: 9126 18106701

Sem: VI

- - 17) (/
  - 18) 6
  - cX 19)
  - 20) 6
  - 21) 6
  - 22) a X
  - 23) a

answers

- 14) CX
- 16) 6

- 24) C /
- 25) d x

- C/
- ar
- CX
- av 7)
- CV
- ax
- C / 10)
- 11)
- a 12)
- c 1 13)

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



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# DEPARTMENT OF ELECTRONICS AND COMMUNICATIONENGINEERING ACADEMIC YEAR EVEN SEMESTER (2020-2021)

#### MARK SHEET FOR VALUE ADDED COURSE- EMERGING TECHNOLOGIES OF BIO SIGNAL PROCESSING IN VLSI

S.NO	REGISTER NUMBER	NAME	YEAR & BRANCH	Attendance (A)		VAC -MCQ TEST (B)		OVERALL MARK(100)
				No.of Sessions Attented	Marks (100)	No.of Correct Answer	Marks (100)	(50% of A + 50% of B)
1	912619106001	AASHIMA M	II /ECE	10	100	19	76	88
2	912619106002	ANANTHI P	II /ECE	10	100	18	72	86
3	912619106004	JAFFARNISHA R	II /ECE	10	100	22	88	94
4	912619106005	MAHESWARI K	II /ECE	9	90	20	80	85
5	912619106006	MANISHA S	II /ECE	10	100	19	76	88
6	912619106007	MEGAVADHANA A	II /ECE	10	100	18	72	86
7	912619106008	PRIYANGA R	II /ECE	10	100	20	80	90
8	912619106009	RAGAVI V	II /ECE	9	90	20	80	85
9	912619106010	RAJAPRABA M	II /ECE	9	90	18	72	81
10	912619106011	SASIKA K	II /ECE	10	100	19	76	88
11	912618106001	ANUSHAA S	III /ECE	10	100	22	88	94
12	912618106002	ARIVARASI A	III /ECE	10	100	19 / /	76	88

Or. S.THILAGAVATHI M.E.Ph.D.
PRINCIPAL
SRI BHARATHI ENGINEERING
COLLEGE FOR WOMEN
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								10
13	912618106003	ASMATH HAZEENA N	III /ECE	10	100	18	72	86
14	912618106004	ATCHAYA R	III /ECE	10	100	19	76	88
15	912618106005	JAYAPRIYA T	III /ECE	10	100	22	88	94
16	912618106006	JAYASRI M	III /ECE	10	100	18	72	86
17	912618106007	NAGALAKSHMI P	III /ECE	8	80	19	76	78
18	912618106008	NAVITHRA D	III /ECE	10	100	21	84	92
19	912618106009	ROHINI K	III /ECE	9	90	23	92	91
20	912618106010	SOUNTHARYA P	III /ECE	10	100	21	84	92
21	912618106012	THAIYAL NAYAGI K	III /ECE	10	100	23	92	96
22	912618106701	JANANI.R	III /ECE	10	100	19	76	88
23	912617106001	ABIRAMI S	IV /ECE	9	90	19	76	83
24	912617106002	ABISHEKA S	IV /ECE	10	100	18	72	86
25	912617106003	ATSHAYA R	IV /ECE	10	100	23	82	91
26	912617106004	BAVADHARANI A	IV /ECE	10	100	18	72	86
27	912617106005	BHUVANESHWARI B	IV /ECE	10	100	18	72	86
28	912617106006	DHIVYA L	IV /ECE	10	100	19	76	88
29	912617106007	GOWSALYA D	IV /ECE	10	100	18	72	86
30	912617106009	INDHUMATHI S	IV /ECE	10	100	20	80	90
31	912617106010	KANIMOZHI D	IV /ECE	10	100	19	76	88
32	912617106011	KAVYA C	IV /ECE	10	100	18	72	86



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	7	1						
33	912617106012	KEERTHANA G	IV /ECE	10	100	18	72	86
34	912617106013	MAHESHWARI G	IV /ECE	10	100	19	76	88
35	912617106014	MANOHARI M	IV /ECE	10	100	18	72	86
36	912617106015	MARAGATHALAKSHMI S	IV/ECE	9	90	20	80	85
37	912617106017	SAFRIN NISHA S	IV/ECE	10	100	19	76	88
38	912617106018	SUBASHINI M	IV/ECE	10	100	18	72	86
39	912617106019	SUBASHINI T	IV/ECE	10	100	18	72	86
40	912617106020	VINTHIYA R	IV/ECE	10	100	23	82	91

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This is to Certify that

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has successfully completed 5 days Value Added Course on

Emerging Technologies of Bio Signal Processing in VLSI

Conducted from 26.04.2021 to 30.04.2021 during the academic year 2020-2021.

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**Managing Director** 

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Criteria 2

**Teaching-Learning and Evaluation** 

350

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

2020-2021

# ELECTRONICS AND COMMUNICATION ENGINEERING PARTICIPATIVE LEARNING

SYMPOSIUM AND WORKSHOP



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

#### **ACADEMIC YEAR 2020-2021**

S.No	Register No	Student Name	Year/Sem	Name of the Learning Method (Participative learning)			
1	912618106003	ASMATH HAZEENA N					
2	912618106004	ATCHAYA R					
3	912618106005	JAYAPRIYA T		Seminar-Embedded system and			
4	912618106006	JAYASRI M	III/V	IoT			
5	912618106007	NAGALAKSHMI P					
6	912618106008	NAVITHRA D					
7	912618106701	JANANI.R					
8	912617106011	KAVYA C					
9	912617106013	MAHESHWARI G	IV/VII	Conference			
10	912617106017	SAFRI <del>N NISHA S</del>					

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PUDUKKOTTAI - 622 30

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CERTIFICATE

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This is to certify that Ms. N. ASMATH HAZEENA of Sri bharathi engineering college for women has participated in a Webinar titled "Embedded System and IoT" on 13th July 2020, organized under "Citronics Club" by the Department of Electronics and Communication Engineering, City Engineering College, Bangalore.

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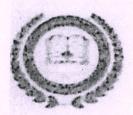
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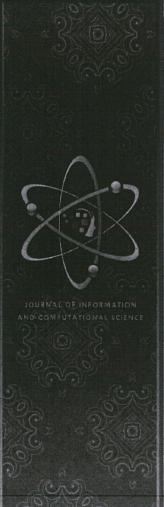
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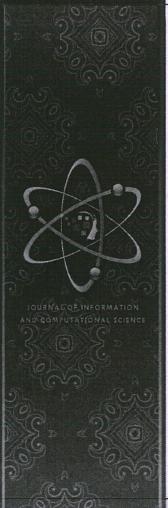


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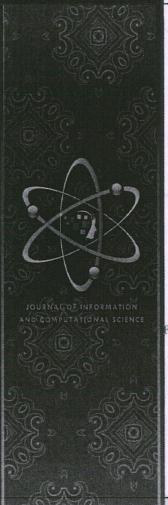


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