



SRI BHARATHI

ENGINEERING COLLEGE FOR WOMEN

(Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai)
Kaikkurichi, Pudukkottai -622 303

www.sbec.edu.in

NAAC DOCUMENTS



Quality Indicator Frame Work

Criterion – 1

CURRICULAR ASPECTS

Submitted by

IQAC

Internal Quality Assurance Cell

Sri Bharathi Engineering College for Women



SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN

(Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai-25)

Kaikkurichi, Pudukkottai, Tamil Nadu – 622 303, India

Criterion 1	Curricular Aspects	100
--------------------	---------------------------	------------

1.1 Curricular Planning and Implementation (20)

1.1.1 *The Institution ensures effective curriculum planning and delivery through a well-planned and documented process including Academic calendar and conduct of continuous internal assessment*

Table of Contents

S.No	Description
1	Preface of the Course File
2	Review of Course File
3	Work Load
4	Course Plan
5	Content Beyond Syllabus
6	Assignment Answer Sheet Rubrics Based Evaluation
7	Tutorial Answer Sheet Rubrics Based Evaluation
8	Academic Audit Form
9	Student Feed Back on Faculty
10	Internal Assessment Schedule
11	Question Paper
12	Answer Key
13	Co Based Mark Entry
14	Internal Mark Sheet- Anna University Portal
15	CO- PO Attainment



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 AND COMMUNICATION ENGINEERING

PREFACE OF THE COURSE FILE

Batch : 2017-2021

Academic Year : 2020-2021 / EVEN

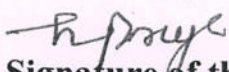
Program : ELECTRONICS AND COMMUNICATION ENGINEERING

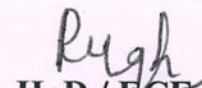
Year & Semester : 8th Semester

Course Code : EC 8094 NBA Code: C410

Name of the Course : SATELLITE COMMUNICATION

Faculty Incharge : Mrs.T.K.Mohanapriya, A.P / ECE


Signature of the Faculty Incharge


HoD / ECE


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

SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN

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

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

REVIEW OF COURSE FILE

(to be pasted on the inner side of the file-backside).(#-State Yes/No.)

S.N	Details Date:	R-I-*	R-II-*&	R-III- *&	R-IV- *&\$	R-V- *&\$@
1.	Preface of the course file	Yes				
2.	Vision, Mission, PEOs, POs, PSOs, Blooms taxonomy	Yes				
3.	Subject handlers of yesteryears					
4.	Timetable/Workload of the staff – Distribution of teaching load – Roles and Responsibilities					
5.	Syllabus signed by staff & HoD	Yes				
6.	Lecture Schedule signed by staff & HoD	Yes				
7.	Course Committee meeting circular and minutes	NA				
8.	Identification of Curricular gap and Content Beyond the syllabus	Yes				
9.	Self-study topics	Yes				
10.	Previous AU Question papers	Yes				
11.	Unit wise Q&A and Objective type questions	Yes				
12.	Unit wise course material	Yes				
13.	Assignment question paper with sample answer sheets and mark entry	Yes	Yes			
14.	Tutorial question paper with key and mark entry		Yes			
15.	Class test/IA test Q Paper with Key, sample answer papers and mark entry		Yes			
16.	IA Test- result analysis-CAP-evidence-root cause analysis.		Yes			
17.	Retest –Q paper-Attendance-marks		-			
18.	AU Web portal entry sheet		Yes			
19.	Very poor performance in first two tests-action taken.-communication to parents-evidence					
20.	Absence for two tests-action taken-communication to parents-evidence.					
21.	Indiscipline of student reported, if any		NA			
22.	Special class/coaching class/remedial class/attendance-CAP		NA			
23.	Conduct of Seminar, Quizzes - proof			Yes		
24.	Content beyond the syllabus - proof			Yes		
25.	Student feedback on faculty			Yes		
26.	Course end survey					
27.	Internal Assessment sheet					
28.	AU question paper with students feedback					
29.	Discrepancy of the question paper and correspondence, if any					
30.	AU result analysis-Details of arrear students.					
31.	AU grade sheet					Yes
32.	CO – PO & PSO attainment sheet					Yes
	Signature of Course handling faculty	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>
	Signature of HoD	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>


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



SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN

Kaikkurichi, Pudukkottai- 622 303

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

INDIVIDUAL STAFF WORKLOAD (2020-2021) EVEN SEMESTER

S.NO	STAFF NAME	SUB.CODE & SUB.NAME	DEPT	YEAR / SEM	HOURS ALLOCATED	TOTAL HOURS
1.	Mrs.YOGESHWARI.R	EC8491- Communication Theory	ECE	II/IV	04	14
		EC8811-Project Work	ECE	IV/VIII	10	
2.	Mrs.MOHANAPRIYA.T.K	EC8095 -VLSI Design	ECE	III/VI	04	10
		EC8094 -Satellite Communication	ECE	IV/VIII	06	
		GE261- Engineering Practices Laboratory(SEC-B)	ECE	I/II	03	
3.	Mrs M.SATHYA	EC8661 -VLSI Design Laboratory	ECE	III/VI	03	08
		EC8611 -Technical Seminar	ECE	III/VI	02	
		EE8681 –Microprocessors and Microcontrollers Laboratory	EEE	III/VI	03	
4.	Mrs.G.VIDYA	EC8691- Microprocessors and Microcontrollers	ECE	III/VI	04	07
		EC8681- Microprocessors and Microcontrollers Laboratory	ECE	III/VI	03	
5.	Ms. M.SUGANYA	EC8652 -Wireless Communication	ECE	III/VI	04	07
		EE8461- Linear and Digital Integrated Circuits Laboratory	EEE	II/IV	03	
		EC8261- Circuits and Devices Laboratory	ECE	I/II	03	
6.	Mr.PALANIAPPAN.C	EC 8452-Electronic Circuits -II	ECE	II/IV	05	13
		EC8651- Transmission Lines and RF Systems	ECE	III/VI	05	
		EC8461 -Circuits Design and Simulation Laboratory	ECE	II/IV	03	
7.	Mrs.NITHYAPOORAN.I.V	EC8453- Linear Integrated Circuits	ECE	II/IV	05	15
		EC8072- Electro Magnetic Interference and Compatibility	ECE	IV/VIII	07	
		GE261- Engineering Practices	ECE	I/II	03	

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

		Laboratory(SEC A)				
8.	Mrs.SAGAYA MARY.V	EC8451- Electromagnetic Fields	ECE	II/IV	05	13
		MG8591- Principles of Management	ECE	III/VI	04	
		EC8252- Electronic Devices	ECE	I/II	04	
9.	Mrs.T.SUGANTHI	EC8004 -Wireless Networks	ECE	III/VI	04	12
		EC8681- Microprocessors and Microcontrollers Laboratory (Skilled)	ECE	III/VI	03	
		EC8251- Circuit Analysis	ECE	I/ECE	05	

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

[Signature]
PRINCIPAL
PRINCIPAL
 SRI BHARATHI ENGINEERING
 COLLEGE FOR WOMEN
 KAIKKURICHI - 622 303.
 PUDUKKOTTAI DISTRICT

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

[Signature]
 SRI BHARATHI ENGINEERING
 COLLEGE FOR WOMEN
 PUDUKKOTTAI - 622 303



SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN

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

Kaikkurichi, Pudukkottai, Tamil Nadu – 622 303, India

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

COURSE PLAN

Subject code: EC 8094	Branch/Year/Sem/Section: B.E ECE/IV/VIII
Subject Name: SATELLITE COMMUNICATION	Batch:2017-2021
Staff Name: Mrs. T.K.Mohanapriya	Academic year:2020-2021

COURSE OBJECTIVE

The student should be made to:

- Understand the basics of satellite orbits
- Understand the satellite segment and earth segment
- Analyze the various methods of satellite access
- Understand the applications of satellites
- Understand the basics of satellite Networks

TEXT BOOKS:

T1.Dennis Roddy, -Satellite Communicationl, 4th Edition, Mc Graw Hill International, 2006.

T2.Timothy,Pratt,Charles,W.Bostain,JeremyE.Allnutt,"SatelliteCommunicationl,2nd Edition, Wiley Publications,2002

REFERENCES:

R1.Wilbur L.Pritchard, Hendri G. Suyderhoud, Robert A. Nelson, -Satellite Communication Systems Engineeringl, Prentice Hall/Pearson, 2007.

R2. N.Agarwal, -Design of Geosynchronous Space Craftl, Prentice Hall, 1986.

R3. Bruce R. Elbert, -The Satellite Communication Applicationsl, Hand Book, Artech House Bostan London, 1997.

R4. Tri T. Ha, -Digital Satellite Communicationl, II nd edition, 1990.

R5. Emanuel Fthenakis, -Manual of Satellite Communicationsl, Mc Graw Hill Book Co., 1984.

R6.Robert G. Winch, -Telecommunication Trans Mission Systemsl, Mc Graw-Hill Book Co., 1983.

R7.Brian Ackroyd, -World Satellite Communication and earth station Designl, BSP profeonal Books, 1990.

R8. G.B.Bleazard, -Introducing Satellite communications-, NCC Publication, 1985.

R9. M.Richharia, -Satellite Communication Systems-Design Principlesl, Macmillan 2003.

- BB - BLACK BOARD
- PPT - POWER POINT PRESENTATION

WEB /URL

1. <https://www.youtube.com/watch?v=YJXm0iRWmp4&t=214s>

2. <https://www.youtube.com/watch?v=KpE4-oS8Gh>


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

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

EC8094 SATELLITE COMMUNICATION

L	T	P	C
3	0	0	3

UNIT I SATELLITE ORBITS 9

Kepler's Laws, Newton's law, orbital parameters, orbital perturbations, station keeping, geo stationary and non Geo-stationary orbits – Look Angle Determination- Limits of visibility – eclipse-Sub satellite point –Sun transit outage-Launching Procedures - launch vehicles and propulsion.

UNIT II SPACE SEGMENT 9

Spacecraft Technology- Structure, Primary power, Attitude and Orbit control, Thermal control and Propulsion, communication Payload and supporting subsystems, Telemetry, Tracking and command-Transponders-The Antenna Subsystem.

UNIT III SATELLITE LINK DESIGN 9

Basic link analysis, Interference analysis, Rain induced attenuation and interference, Ionospheric characteristics, Link Design with and without frequency reuse.

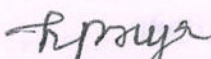
UNIT IV SATELLITE ACCESS AND CODING METHODS 9

Modulation and Multiplexing: Voice, Data, Video, Analog – digital transmission system, Digital video Broadcast, multiple access: FDMA, TDMA, CDMA, DAMA Assignment Methods, compression – encryption, Coding Schemes.

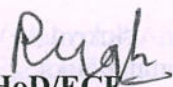
UNIT V SATELLITE APPLICATIONS 9

INTELSAT Series, INSAT, VSAT, Mobile satellite services: GSM, GPS, INMARSAT, LEO, MEO, Satellite Navigational System. GPS Position Location Principles, Differential GPS, Direct Broadcast satellites (DBS/DTH)..

TOTAL: 45 PERIODS


Faculty Incharge


Dr. S.THILAGAVATHI M.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

Topic No	Topic Name	Books For reference	Page No	Teaching Methodology	No of periods required	Cumulative periods
UNIT I WIRELESS CHANNELS						(9)
1.	Introduction, Kepler's Laws, Newton's law,	T1	29-31	BB	1	1
2.	Orbital parameters, orbital perturbations,	T1	32-38	BB	1	2
3.	station keeping	T1	209	BB & PPT	1	3
4.	Geo stationary and non Geo-stationary orbits	T1	77	BB	1	4
5	Look Angle Determination- Limits of visibility	T1	78-87	BB	1	5
6	Satellite eclipse-Sub satellite point	T1	87-92	BB & PPT	1	6
7	Sun transit outage	T2	94-101	BB	1	7
8	Launching Procedures, launch vehicles	T2	43-49	BB & PPT	1	8
9	launch vehicles and propulsion	T2	43-49	BB & PPT	1	9
10	Revision	-	-	BB	1	10

LEARNING OUTCOME:

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

- Analyze the satellite orbits

UNIT -II SPACE SEGMENT

(9)

11	Spacecraft Technology	T1	199	BB	1	11
12	Structure, Primary power	T1	199	BB ,PPT	1	12
13	Attitude and Orbit control,	T1	199-206	BB	1	13
14	Thermal control and Propulsion,	T1	211	BB ,PPT	1	14
15	Communication Payload and supporting subsystems	T2	72	BB	1	15
16	Supporting subsystems	T2	72	BB	1	16
17	Telemetry, Tracking and command	T1	212	BB	1	17

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

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

18	Transponders & its types	T1	213-225	BB ,PPT	1	18
19	The Antenna Subsystem	T1	227	BB	1	19
20	Revision	-	-	BB	1	20

LEARNING OUTCOME:

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

- Analyze the earth segment and space segment

UNIT – III SATELLITE LINK DESIGN

(9)

21.	Basic link Analysis	T1	351	BB,NPTEL	1	21
22.	Link analysis design	T1	352-357	BB	1	22
23.	Interference Analysis	T1	357-363	BB,PPT	1	23
24.	Interference Analysis continuation	T1	357-363	BB,PPT	1	24
25	Rain Induced attenuation	T1	363-393	BB	1	25
26.	Interference	T1	363-393	BB	1	26
27.	Ionospheric Characteristics	T1	363-393	BB	1	27
28	Link design With Frequency Reuse	T1	363-393	BB	1	28
29	Link design Without Frequency Reuse	T1	363-393	BB	1	29
30	Revision	=	=	BB	1	30

LEARNING OUTCOME:

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

- Analyze the satellite Link design


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

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

UNIT IV SATELLITE ACCESS AND CODING METHODS						(9)
31	Modulation and Multiplexing: Voice, Data, Video	T1	423	BB,PPT	1	31
32	Analog digital transmission system	T1,R1	366-371	BB	1	32
33	Digital video Broadcast	T1	531	BB	1	33
34	Multiple Access,FDMA	T1	259-268	BB	1	34
35	TDMA,CDMA	T1	436	BB,PPT	1	35
36	DAMA	T1	472	BB	1	36
37	Assignment Methods,Compression	T1	536	BB	1	37
38	Encryption	T1	541	BB	1	38
39	Coding Schemes	T2	273	BB	1	39
40	Master Antenna TV and Community Antenna(CBS)	-	-	BB	1	40

LEARNING OUTCOME:

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

- Learn the comparison of multiple access

UNIT V SATELLITE APPLICATIONS						(9)
41	INTELSAT Series	T1	9	BB,NPT EL	1	41
42	INSAT,VSAT	T1	561	PPT	1	42
43	Mobile Satellite Services	T1,R1	576	PPT	1	43
44	GSM,GPS	T1	569	BB,PPT	1	44
45	INMARSAT,LEO	T1	570	BB	1	45
46	MEO,SATELLITE NAVIGATION SYSTEM	T1	571	BB	1	46


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

47	GPS Position Location Principles, Differential GPS	T2	570	BB, NPTEL	1	47
48	Direct Broadcast Satellites (DBS)	T2, R2	439	BB	1	48
49	Direct to Home Satellites (DTH)	T1	445	BB	1	49
50	Revision	-	-	BB	1	50

LEARNING OUTCOME:

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

- learn and design the applications of various satellite

COURSE OUTCOME

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

C410.1	Analyze the different types of satellites
C410.2	Find the orbital determination and launching methods.
C410.3	Analyze the earth segment and space segment
C410.4	Analyze the satellite Link design
C410.5	Learn the Comparison of Multiple access methods
C410.6	Design various satellite applications

CONTENT BEYOND THE SYLLABUS

- Master Antenna TV
- Community Antenna TV

INTERNAL ASSESSMENT DETAILS

ASSESMENT NUMBER	I	II	III
	Unit 1 &2	Unit 3& half unit in Unit 4)	Half Unit in Unit 4 &Unit 5

ASSIGNMENT DETAILS

ASSIGNMENT NUMBER	I	II	IV	V
UNIT NUMBER	Unit 1	Unit 2	Unit 4	Unit5
DEAD LINE	11.1.2021	01.2.2021	25.2.2021	16.3.2021

ASSIGNMENT NUMBER	UNIT	DESCRIPTIVE QUESTIONS/TOPIC (Minimum of 8 Pages)
I	I	Kepler"s Laws, orbital parameters, orbital perturbations
II	II	Transponders ,TT &C
III	IV	Digital video Broadcast, TDMA
IV	V	GPS Position Location Principles, Differential GPS

PREPARED BY,

T.K. Mohanapriya
Mrs. T.K.Mohanapriya

APPROVED BY

S. Thilagavathi M.E.
Dr. S. THILAGAVATHI M.E., PRINCIPAL

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

PRINCIPAL

SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN
KAIKKURICHI - 622 303.

VERIFIED BY

R. Rajah
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 and affiliated to Anna University, Chennai)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

REVIEW OF COURSE FILE

(to be pasted on the inner side of the file-backside).(#-State Yes/No.)

S.N	Details Date:	R-I-*	R-II-*&	R-III- *&	R-IV- *&\$	R-V- *&\$@
1.	Preface of the course file	Yes				
2.	Vision, Mission, PEOs, POs, PSOs, Blooms taxonomy	Yes				
3.	Subject handlers of yesteryears					
4.	Timetable/Workload of the staff – Distribution of teaching load – Roles and Responsibilities					
5.	Syllabus signed by staff & HoD	Yes				
6.	Lecture Schedule signed by staff & HoD	Yes				
7.	Course Committee meeting circular and minutes	NA				
8.	Identification of Curricular gap and Content Beyond the syllabus	Yes				
9.	Self-study topics	Yes				
10.	Previous AU Question papers	Yes				
11.	Unit wise Q&A and Objective type questions	Yes				
12.	Unit wise course material	Yes				
13.	Assignment question paper with sample answer sheets and mark entry	Yes	Yes			
14.	Tutorial question paper with key and mark entry		Yes			
15.	Class test/IA test Q Paper with Key, sample answer papers and mark entry		Yes			
16.	IA Test- result analysis-CAP-evidence-root cause analysis.		Yes			
17.	Retest –Q paper-Attendance-marks		-			
18.	AU Web portal entry sheet		Yes			
19.	Very poor performance in first two tests-action taken.-communication to parents-evidence					
20.	Absence for two tests-action taken-communication to parents-evidence.					
21.	Indiscipline of student reported, if any		NA			
22.	Special class/coaching class/remedial class/attendance-CAP		NA			
23.	Conduct of Seminar, Quizzes - proof			Yes		
24.	Content beyond the syllabus - proof			Yes		
25.	Student feedback on faculty			Yes		
26.	Course end survey					
27.	Internal Assessment sheet					
28.	AU question paper with students feedback					
29.	Discrepancy of the question paper and correspondence, if any					
30.	AU result analysis-Details of arrear students.					
31.	AU grade sheet					Yes
32.	CO – PO & PSO attainment sheet					Yes
	Signature of Course handling faculty	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>
	Signature of HoD	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>


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



SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN

Kaikkurichi, Pudukkottai, Tamil Nadu – 622 303, India

(Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai-25)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Identification of Curricular Gap & Content Beyond Syllabus(CBS)

Name of the Faculty : Mrs. T.K.Mohanapriya

Course Code & Name: EC8094 & Satellite Communication

Academic Year: 2020 -2021 /EVEN

Degree & Program: B.E/ECE

Year/ Semester: IV/VIII

I. Mapping of Course Outcomes with POs & PSOs. (before CBS)

Table.1 Mapping of COs, PSOs with POs - before CBS.

COs	POs												PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO 1	PSO 2	PSO 3
C410.1	3	3	2	2	1	1	-	-	-	2	-	2	3	2	-
C410.2	3	3	2	2	1	1	-	-	-	2	-	2	3	2	-
C410.3	3	3	2	2	1	1	-	-	-	2	-	2	3	2	-
C410.4	3	3	2	2	1	1	-	-	-	2	-	2	3	3	-
C410.5	3	3	2	2	1	1	-	-	-	2	-	2	3	2	-
C410.6	3	3	2	2	1	1	-	-	-	2	-	2	3	2	-
C410	3	3	2	2	1	1	-	-	-	2	-	2	3	2	-

II. Identification of content beyond syllabus.

Details of Content Beyond Syllabus(CBS) added	POs strengthened/ vacant filled	CO/Unit
Master Antenna TV & Community Antenna TV	PO7 (2) Vacant filled	CO4 & CO5/ IV & V

Table.2 Identification of content beyond syllabus

III. Mapping of Course Outcomes with POs & PSOs. (After CBS)

Table.3 Mapping of COs, PSOs with POs- after CBS.

COs	POs												PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO 1	PSO 2	PSO 3
C410.1	3	3	2	2	1	1	-	-	-	2	-	2	3	2	-
C410.2	3	3	2	2	1	1	-	-	-	2	-	2	3	2	-
C410.3	3	3	2	2	1	1	-	-	-	2	-	2	3	2	-
C410.4	3	3	2	2	1	1	1*	-	-	2	-	2	3	3	-
C410.5	3	3	2	2	1	1	1*	-	-	2	-	2	3	2	-
C410.6	3	3	2	2	1	1	-	-	-	2	-	2	3	2	-
C410	3	3	2	2	1	1	1	-	-	2	-	2	3	2	-

Signature of the Faculty

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

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



SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN

Kaikkurichi, Pudukkottai, Tamil Nadu – 622 303, India

(Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai-25)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Assignment Answer Paper

Name of the Student : *S. ABISEKERA*

AU Register Number: *912617106002*

Assignment – 01			Date of Issue:	11.01.2021	Marks	10
Course code	EC8094	Course Title	SATELLITE COMMUNICATION			
Year	IV	Semester	VIII	Date of Submission:	19.1.2021	

Q.No	Questions	CO
1	State Kepler's law	C410.1
2	Define apogee and Perigee	C410.1
3	State the six orbital elements of keplerian element set	C410.1
4	Define polar orbiting satellite	C410.1
5	What is meant by station keeping?	C410.1
6	What are satellite launch vehicles? Give all the steps to launch the satellite vehicles for geostationary orbits and explain is with required figure and equations.	C410.1

Mark Allocation

Rubrics	Marks Allocated	Marks obtained
Content Quality	6	<i>5</i>
Presentation Quality	2	<i>2</i>
Timely submission	2	<i>2</i>
Total marks	10	<i>9</i>

hpsrjn
Name and Signature of the Faculty Incharge
(J.K. MOHANAPRIYA)

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

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



SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN

(Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai-25)

Kaikkurichi, Pudukkottai, Tamil Nadu – 622 303, India

IQAC Academic Audit Form

ACADEMIC YEAR: 2020-2021 EVEN SEMESTER

Name of Department : ECE Year / Sem : IV / VIII No. of Students Registered : 18

Details of Examination : CT-1 / CT-2 / CT-3

S.No.	Course Code	List of Reg.No Verified	Course Log Book Verified (Y/N)	Course File Verified (Y/N)	No of students Passed	No of Absentees	No of Failures	Pass %	Remarks
1.	EC8012	912617106011	Y	Y	18	-	-	100%	-
2.	EC8014	912617106020	Y	Y	18	-	-	100%	-

Verified by

External Member Name and Signature:

R. Sarath [R. SARATHA]

Internal Member Name and Signature:

C. Palaniappan [C. PALANIAPPAN]

Overall Remarks:

NIL

R. Sarath
HoD/ ECE

S. Thilagavathi
11/3/21
IQAC Coordinator

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

PRINCIPAL

SRI BHARATHI ENGINEERING
COLLEGE FOR WOMEN

Kaikkurichi - 622 303, Pudukkottai Dt

S. Thilagavathi
Principal
PRINCIPAL 3/21
SRI BHARATHI ENGINEERING
COLLEGE FOR WOMEN
KAIKKURICHI - 622 303, PUDUKKOTTAI Dt



SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN

(Approved by AICTE, Affiliated to Anna University, Chennai, India)

Kaikkurichi, Pudukkottai – 622 303

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

STUDENT FEEDBACK ON FACULTY

Course Code & Name: EC8094 & Satellite Communication

Year & Sem : IV/VIII

S.NO.	DESCRIPTION	SCORED OUT OF 4	SCORED OUT OF 100
1.	Syllabus coverage as prescribed by university	3.8	95
2.	Technical Knowledge of the teacher	3.8	95
3.	Teacher Communication Skill	3.91	97.8
4.	Regularity in taking classes	3.91	97.8
5.	Helping the students in conducting the experiment through set of instructions And Demonstrations	3.66	91.5
6.	Tendency of inviting opinion and questions on subject matter from students	3.83	95.8
7.	Knowledge of the teacher in latest Development of field	3.75	93.8
8.	Perfectness of Valuation	3.83	95.8
OVERALL SCORE		3.81	95.31

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

PRINCIPAL

**SRI BHARATHI ENGINEERING
COLLEGE FOR WOMEN**

Kaikkurichi - 622 303, Pudukkottai Dt.


REPORT SHEET

S.NO	REG.NO	NAME	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
1.	912617106001	ABIRAMI S	4	4	4	3	3	4	4	4
2.	912617106002	ABISHEKA S	4	3	4	3	4	4	3	4
3.	912617106003	ATSHAYA R	4	4	4	3	4	4	4	3
4.	912617106004	BAVADHARANI A	3	3	4	4	3	4	3	4
5.	912617106005	BHUVANESHWARI B	4	4	3	4	4	4	4	4
6.	912617106006	DHIVYA L	4	4	4	4	3	3	3	3
7.	912617106007	GOWSALYA D	3	4	4	4	4	3	4	4
8.	912617106009	INDHUMATHI S	4	4	4	4	3	4	4	4
9.	912617106010	KANIMOZHI D	4	4	4	4	4	4	4	4
10.	912617106011	KAVYA C	4	4	4	4	4	4	4	4
11.	912617106012	KEERTHANA G	4	4	4	4	4	4	4	4
12.	912617106013	MAHESHWARI G	4	4	3	4	4	4	4	4
13.	912617106014	MANOHARI M	4	4	4	4	3	4	4	4
14.	912617106015	MARAGATHALAKSHMI S	4	4	4	4	4	4	4	4
15.	912617106017	SAFRIN NISHA S	4	4	4	3	4	4	4	3
16.	912617106018	SUBASHINI M	3	3	4	4	3	4	3	4
17.	912617106019	SUBASHINI T	4	3	4	3	4	4	3	4
18.	912617106020	VINTHIYA R	4	4	4	3	4	4	4	3
AVERAGE			3.8	3.8	3.91	3.91	3.66	3.83	3.75	3.83
PERCENTAGE			95	95	97.8	97.8	91.5	95.8	93.8	95.8

EXCELLENT	VERY GOOD	GOOD	AVERAGE	POOR
4	3	2	1	0


Faculty Incharge


HoD/ECE


Principal

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

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



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

Circular

Date: 25-02-2021

The first cycle test will be conducted through online on 02.03.2021 for the VIII semester (IV year) B.E/ B.Tech students for 60 marks MCQ Pattern as per the time table given below. Students are directed to prepare well and score good marks.

Question Pattern - Part A- 30 single mark MCQ questions and Part B – 15 two mark MCQ Questions.

Date	10.00 am -11.30 am	2.00 pm - 3.30 pm
02.03.2021	CE8018 – Geo Environmental Engineering (CIVIL)	GE8021 – Structural Dynamics & Earthquake Engineering (CIVIL)
	CS8080 – information Retrieval Techniques (CSE & IT)	GE8076 – Professional Ethics in Engineering (CSE & IT)
	EC8072 – Electro Magnetic Interference and Compatibility (ECE)	EC8094 – Satellite Communication (ECE)
	EE8015 - Electric Energy Generation, Utilization and Conservation (EEE)	EE8017 - High Voltage Direct Current Transmission (EEE)

Cc:

- All IV year B.E / B.Tech Classes
- All faculty
- Exam cell
- Notice Board
- Office file


PRINCIPAL 25/02/21

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

Register Number:																				
------------------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--



SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN

Kaikkurichi, Pudukkottai, Tamil Nadu – 622 303, India


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

Cycle Test - I			Date/Session	02.03.2021	Marks	60
Course code	EC8094	Course Title	SATELLITE COMMUNICATION			
Regulation	2017	Duration	90 minutes	Academic Year	2020-2021	
Year	IV	Semester	VIII	Department	ECE	
COURSE OUTCOMES						
C410.1	Analyze the different types of satellites					
C410.2	Find the orbital determination and launching methods.					
C410.3	Analyze the earth segment and space segment					
C410.4	Analyze the satellite Link design					
C410.5	Learn the Comparison of Multiple access methods					
C410.6	Design various satellite applications					

Q.No.	Question	CO
PART A		
(Answer all the Questions 30 x 1 = 30 Marks)		
1	What happens if a satellite is launched vertically and released at its design altitude? a) Continue to orbit the earth b) Fall back c) Overshoots the altitude and moves at a constant speed d) Stays where it was released	C410.1
2	The satellite is accelerating as it orbits the earth. a) True b) False	C410.1
3	Why does the orbit take the shape of an ellipse or circle? a) Position can be easily determined b) Consume less fuel c) Most efficient geometry d) Better coverage on earth	C410.1
4	The direction of orbit in the same direction of earth rotation is called _____ a) Retrograde b) Posigrade c) Perigee d) Apogee	C410.1
5	When is the speed of the satellite maximum in an elliptical orbit? a) Retrograde b) Posigrade c) Perigee d) Apogee	C410.1
6	Satellites closer to the earth travel at lower speeds than satellites that are far away from earth. a) True b) False	C410.1
7	The time period taken by the satellite to complete one orbit is called _____ a) Lapsed time b) Time period c) Sidereal period d) Unit frequency	C410.1
8	The period of time that elapses between the successive passes of the satellite over a given meridian of earth longitude is called as _____ a) synodic period b) Lapsed time c) Time period d) Sidereal period	C410.1
9	What is the angle of inclination for a satellite following an equatorial orbit? a) 0° b) 180° c) 45°	C410.1

SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN
DR. S. LAGAVATHI M.E., Ph.D.
PRINCIPAL
Kaikkurichi - 622 303, Pudukkottai Dt.

	d) 90°	
10	The angle between the line from the earth station's antenna to the satellite and the line between the earth station's antenna and the earth's horizon is called as _____ a) Angle of inclination b) Angle of elevation c) Apogee angle d) LOS angle	C410.1
11	To use a satellite for communication relay or repeater purposes what type of orbit will be the best? a) Circular orbit b) Elliptical orbit c) Geosynchronous orbit d) Triangular orbit	C410.1
12	What percentage of the earth can communication satellites see? a) 20 b) 50 c) 70 d) 40	C410.1
13	What is the point on the surface of the earth that is directly below the satellite called? a) Satellite point b) Subsatellite point c) Supersatellite point d) Overhead point	C410.1
14	How does troposphere affect the satellite signals? a) Reduces velocity b) Reflects the signals c) Refracts the signal d) Bit inversion occurs	C410.1
15	Which of the following makes the existence of ionosphere possible? a) Rotation of the Earth b) Ultraviolet radiation from sun c) Solar flares d) Radiation from distant stars	C410.1
16	Satellite signals are refracted by the ionosphere. a) True b) False	C410.1
17	What happens to the satellite signals as the density of the ionosphere is high? a) Velocity increases b) Velocity decreases c) Signal strength increases d) Frequency reduces	C410.1
18	What is the increase in velocity of the signal by the ionosphere termed as? a) Differential velocity b) Velocity advance c) Phase advance d) Signal advance	C410.1
19	Which of the following is not a satellite subsystem? a) Ground station b) Power system c) Telemetry tracking d) Communication subsystem	C410.1
20	Which of the following is not a part of the propulsion subsystem of a satellite? a) Gyroscope b) Jet thruster c) AKM d) Fuel control system	C410.2
21	Which of the following are common baseband signals transmitted from the earth ground station? a) Navigational data, computer data, video b) Computer data, navigational data, voice c) Voice, video, computer data d) Computer data	C410.2
22.	Which of the following components receives, translates the signal frequency and re-transmits the signal in a satellite? a) Repeater b) Relay c) Transponder	C410.2


D. SITHILAKSHMI, Ph.D.
 PRINCIPAL
 SRI BHARATHI ENGINEERING
 COLLEGE FOR WOMEN
 Kaikkurichi - 622 303, Pudukkottai Dt.

	d) Transducer	
23.	Why is there a huge spectrum space between the transmitted and received signal in satellite communication? a) Reduce interference b) Maximum efficiency c) Less attenuation d) To reduce space occupied by filters	C410.2
24	Which of the following transponders convert the uplink signal to downlink signal using two mixers a) Single conversion transponders b) Dual conversion transponders c) Regenerative transponders d) Dual mixer transponder	C410.2
25	What is the number of transponders if the satellite uses 12 channels of frequency and frequency reuse is implemented? a) 12 b) 6 c) 24 d) 3	C410.2
26	Why is it not possible to provide transmit function by wideband amplifier and mixer circuits? a) Heavy attenuation b) High power output over wideband is not possible c) Economically not profitable d) Weight of the system increases five fold	C410.2
27	Which of the following is not true? a) Battery is only used as a back up b) When in orbit, solar power is always available c) Battery is used for initial satellite orientation and stabilization d) The batteries are charged using solar power	C410.2
28	Telemetry, command, and control (TC&C) subsystem allow a ground station to monitor and control conditions in the satellite. a) True b) False	C410.2
29	The satellite that is used as a relay to extend communication distance is called as _____ a) Relay satellites b) Communication satellites c) Repeater satellites d) Geosynchronous satellites	C410.2
30	The transmitter-receiver combination in the satellite is known as a _____ a) Relay b) Repeater c) Transponder d) Duplexer	C410.2

PART B

(Answer all the Questions 2 x 15 = 30 Marks)

31	What is the reason for carrying multiple transponders in a satellite? a) More number of operating channel b) Better reception c) More gain d) Redundancy	C410.2
32	Why are VHF, UHF, and microwave signals used in satellite communication? a) More bandwidth b) More spectrum space c) Are not diffracted by the ionosphere d) Economically viable	C410.2
33	What is the reason for shifting from c band to ku band in satellite communication? a) Lesser attenuation b) Less power requirements c) More bandwidth d) Overcrowding	C410.2
34	What is the maximum theoretical data rate if a transponder is used for binary transmission and has a bandwidth of 36MHz? a) 32Mbps b) 72Mbps c) 36Mbps d) 12Mbps	C410.2


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

35	Why are techniques like frequency reuse and spatial isolation carried out? a) Reduce traffic load b) More gain c) High speed d) Error detection	C410.2
36	Which technique uses two different antennas to reduce traffic on the same frequency? a) Spatial isolation b) Frequency reuse c) Multiplexing d) Modulation	C410.2
37	Which technique uses spot beam antennas to divide the area covered by the satellite into smaller segments? a) Spatial isolation b) Frequency reuse c) Multiplexing d) Modulation	C410.2
38	For an elliptical orbit? a) $0 < e < 1$. b) $e < 0$ c) $e > 1$ d) None of the above	C410.1
39	The orbital period in seconds? a) $P = 2\pi / n$. b) $P = 2\pi / n^2$ c) $P = \pi / n$ d) None of the above	C410.1
40	Calculate the radius of a circular orbit for which the period is 1 day? a) 42.241Km b) 42.241m c) 4.241Km d) 2.241Km	C410.1
41	Ascending node? a) The point where the orbit crosses the equatorial plane going from south to north b) The point longest from earth c) The point closest approach to earth d) None of the above	C410.1
42	True anomaly? a) The true anomaly is the angle from perigee to the satellite position, measured at the earth's center. b) The point longest from earth c) The point closest approach to earth d) None of the above	C410.1
43	Define Polar-orbiting Satellites. (a) Polar orbiting Satellites orbit the earth in such a way as to cover the north & south Polar Regions. b) Orbiting Satellites orbit the earth in such a way as to cover the east & west Polar Regions c) Either (a) & (b) d) None of the above	C410.1
44	Define Universal time day. (a) $UT \text{ day} = 1/24(\text{hours} + \text{minutes}/60 + \text{seconds}/3600)$ (b) $UT \text{ day} = 1/24(\text{hours} + \text{minutes} + \text{seconds}/3600)$ (c) $UT \text{ day} = 1/24(\text{hours} + \text{minutes}/6 + \text{seconds}/360)$ (d) None of above	C410.1
45	What is meant by azimuth angle? (a) It is defined as the angle produced by intersection of local horizontal plane & the plane passing through the earth station, the satellite & center of earth. (b) It is defined as the angle produced by intersection of local vertical plane & the plane passing through the earth station, the satellite & center of earth. (c) It is defined as the angle produced by intersection of local horizontal plane & center of earth. (d) None of above	C410.1

R. Princy
Course Faculty 1/3/21
(Name / Sign / Date)

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

Rugh
HoD 1/3/21
HOD / ECE
(Name / Sign / Date)
SRI BHARATHI ENGINEERING
COLLEGE FOR WOMEN
KAIKKURCHI



SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN

Kaikkurichi, Pudukkottai, Tamil Nadu – 622 303, India

(Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai-25)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ANSWER KEY

QN	ANSWER	QN	ANSWER	QN	ANSWER	QN	ANSWER	QN	ANSWER
1	B	10	B	19	A	28	A	37	A
2	A	11	C	20	A	29	B	38	A
3	A	12	D	21	C	30	C	39	A
4	B	13	B	22	C	31	A	40	A
5	C	14	A	23	A	32	C	41	A
6	B	15	B	24	B	33	D	42	A
7	C	16	B	25	C	34	B	43	A
8	A	17	A	26	B	35	A	44	A
9	A	18	C	27	B	36	B	45	A

Rpsiyk
Course Faculty (1/3/2)

(Name / Sign / Date)

Rugh
HoD (1/3/2)

(Name / Sign / Date)

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

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



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 AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2020 – 2021 (EVEN SEMESTER)

STUDENTS MARK STATEMENT- CO BASED

CYCLE TEST-I

COURSE CODE & NAME: EC8094-SATELLITE COMMUNICATION

YEAR/SEM: IV/VIII

MONTH & YEAR: MAR'21

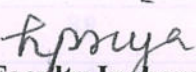
S.NO	REG.NO	NAME	CO1 (32)	CO2 (28)	MARKS (60)	TOTAL MARKS (100)
1.	912617106001	ABIRAMI S	30	28	58	96
2.	912617106002	ABISHEKA S	30	28	58	96
3.	912617106003	ATSHAYA R	30	25	55	92
4.	912617106004	BAVADHARANI A	32	21	53	88
5.	912617106005	BHUVANESHWARI B	30	28	58	96
6.	912617106006	DHIVYA L	30	28	58	96
7.	912617106007	GOWSALYA D	30	25	55	92
8.	912617106009	INDHUMATHI S	30	28	58	96
9.	912617106010	KANIMOZHI D	30	23	53	88
10.	912617106011	KAVYA C	30	28	58	96
11.	912617106012	KEERTHANA G	30	28	58	96
12.	912617106013	MAHESHWARI G	30	25	55	92
13.	912617106014	MANOHARI M	31	27	58	96
14.	912617106015	MARAGATHALAKSHMI S	31	27	58	96
15.	912617106017	SAFRIN NISHA S	30	23	53	80
16.	912617106018	SUBASHINI M	30	28	58	96
17.	912617106019	SUBASHINI T	30	25	55	92
18.	912617106020	VINTHIYA R	32	26	58	96

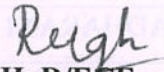

Dr. S. THILAGAVATHI M.E., Ph.D.,
PRINCIPAL
SRI BHARATHI ENGINEERING
COLLEGE FOR WOMEN
Kaikkurichi - 622 303, Pudukkottai

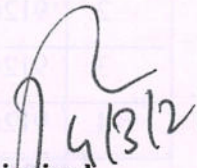
MARKS RANGE

<20	20-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100
-	--	-	-	-	-	01	02	15

Total No.of Candidates Present	18
Total No.of Candidates Absent	NIL
Total No.of Students Pass	18
Total No.of Students Fail	NIL
Percentage of Pass	100 %


Faculty Incharge


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


Principal
PRINCIPAL
SRI BHARATHI ENGINEERING
COLLEGE FOR WOMEN
KAIKKURICHI - 622 303.
PUDUKKOTTAI DISTRICT


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



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 AND COMMUNICATION ENGINEERING
ACADEMIC YEAR 2020 – 2021 (EVEN SEMESTER)

FINAL INTERNAL STUDENTS MARK STATEMENT(Out of 20)
SUBJECT CODE & TITLE: EC8094 –SATELLITE COMMUNICATION
YEAR/SEM : IV/VIII
REGULATION : 2017

S.NO	REG.NO	NAME	MARKS
1.	912617106001	ABIRAMI S	18
2.	912617106002	ABISHEKA S	18
3.	912617106003	ATSHAYA R	17
4.	912617106004	BAVADHARANI A	17
5.	912617106005	BHUVANESHWARI B	18
6.	912617106006	DHIVYA L	17
7.	912617106007	GOWSALYA D	18
8.	912617106009	INDHUMATHI S	16
9.	912617106010	KANIMOZHI D	16
10.	912617106011	KAVYA C	19
11.	912617106012	KEERTHANA G	19
12.	912617106013	MAHESHWARI G	16
13.	912617106014	MANOHARI M	17
14.	912617106015	MARAGATHALAKSHMI S	18
15.	912617106017	SAFRIN NISHA S	18
16.	912617106018	SUBASHINI M	16
17.	912617106019	SUBASHINI T	17
18.	912617106020	VINTHIYA R	18

[Signature]
Faculty Incharge

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

[Signature]
Ho/ECCE

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

[Signature]
Principal

PRINCIPAL
SRI BHARATHI ENGINEERING
COLLEGE FOR WOMEN
KAIKKURICHI - 622 303
PUDUKKOTTAI DISTRICT



SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN

Kaikkurichi, Pudukkottai, Tamil Nadu – 622 303, India

(Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai-25)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

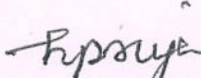
ACADEMIC YEAR 2020 – 2021 (EVEN SEMESTER)


ANNA UNIVERSITY RESULT STATEMENT APR/MAY-2021

SUBJECT CODE & TITLE: EC 8094-SATELLITE COMMUNICATION


YEAR/SEM : IV/VIII

S.NO	REG.NO	NAME	MARKS
1.	912617106001	ABIRAMI S	A+
2.	912617106002	ABISHEKA S	A+
3.	912617106003	ATSHAYA R	A+
4.	912617106004	BAVADHARANI A	A+
5.	912617106005	BHUVANESHWARI B	A+
6.	912617106006	DHIVYA L	A+
7.	912617106007	GOWSALYA D	A+
8.	912617106009	INDHUMATHI S	A+
9.	912617106010	KANIMOZHI D	A+
10.	912617106011	KAVYA C	A+
11.	912617106012	KEERTHANA G	A+
12.	912617106013	MAHESHWARI G	A+
13.	912617106014	MANOHARI M	A+
14.	912617106015	MARAGATHALAKSHMI S	A+
15.	912617106017	SAFRIN NISHA S	A+
16.	912617106018	SUBASHINI M	A+
17.	912617106019	SUBASHINI T	A+
18.	912617106020	VINTHIYA R	A+


Faculty Incharge


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


HoD/ECE
HOD / ECE


Principal

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

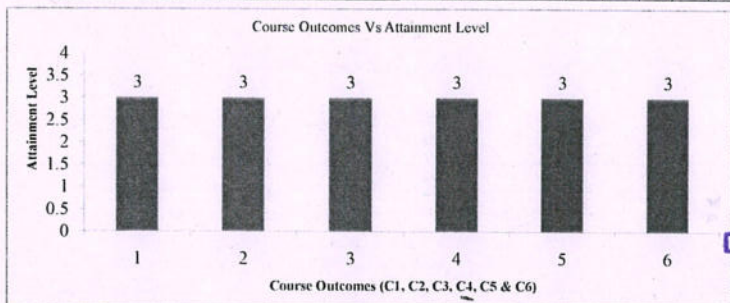


SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN
 (Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai)
 Kaikkuruchi, Pudukkottai- 622303.

Department of Electronics and communication Engineering

Internal Assessment -Attainment of Course Outcomes (Through Direct Assessment)

ACADEMIC YEAR - 2020- 2021																							BATCH						2017 - 2021															
COURSE CODE/TITLE		EC8094-Satellite Communication																					COURSE OUTCOME						1	2	3	4	5	6										
YEAR/SEM		IV /VIII																					TARGET(%)						65	65	65	65	65	65										
COURSE COORDINATOR		Mrs.Mohana Priya T K																					TOTAL STRENGTH						18															
ATTAINMENT LEVEL		Level		Range																																								
		1		UP TO 60% of the students scored more than target																																								
		2		61 - 79% of the students scored more than target																																								
		3		80% & ABOVE of the students scored more than target																																								
S.NO	REG NO	NAME OF THE STUDENT	IAT 1 - MARKS ALLOTTED						IAT 2 - MARKS ALLOTTED						IAT 3 - MARKS ALLOTTED						Assignment / Mini Project /Tutorial / Seminar						TOTAL COURSE OUTCOME																	
			C1	C2	C3	C4	C5	C6	C1	C2	C3	C4	C5	C6	C1	C2	C3	C4	C5	C6	C1	C2	C3	C4	C5	C6	C1	C2	C3	C4	C5	C6												
			60	40									40	60											60	40							10	10				10	60	50	50	60	60	50
1	912617106001	ABIRAMI S	53	35									37	55													53	35				9	9				8	53	44	46	55	53	43	
2	912617106002	ABISHEKA S	46	31									39	58													56	38				10	10				9	46	41	49	58	56	47	
3	912617106003	ATSHAYA R	50	33									30	45														55	36				9	9				8	50	42	39	45	55	44
4	912617106004	BAVADHARANI A	48	32									30	45														56	37				9	9				8	48	41	39	45	56	45
5	912617106005	BHUVANESHWARI B	57	38									35	53														52	34				9	9				9	57	47	44	53	52	43
6	912617106006	DHIVYA L	48	32									37	55														52	34				9	10				9	48	41	47	55	52	43
7	912617106007	GOWSALYA D	48	32									37	55														55	36				8	10				9	48	40	47	55	55	45
8	912617106009	INDHUMATHI S	43	29									31	47														50	34				10	10				10	43	39	41	47	50	44
9	912617106010	KANIMOZHI D	56	37									36	54														57	38				10	9				9	56	47	45	54	57	47
10	912617106011	KAVYA C	54	36									39	58														59	39				9	9				8	54	45	48	58	59	47
11	912617106012	KEERTHANA G	43	29									37	56														54	36				8	9				9	43	37	46	56	54	45
12	912617106013	MAHESHWARI G	46	31									31	47														53	35				10	10				10	46	41	41	47	53	45
13	912617106014	MANOHARI M	44	29									36	54														54	36				9	9				8	44	38	45	54	54	44
14	912617106015	MARAGATHALAKSHMI S	55	37									35	53														53	35				9	9				8	52	46	44	54	59	43
15	912617106017	SAFRIN NISHA S	55	37									36	53														52	34				10	10				10	55	47	46	53	52	44
16	912617106018	SUBASHINI M	49	33									28	42														54	36				9	9				10	49	42	37	53	55	46
17	912617106019	SUBASHINI T	47	31									35	52														55	36				9	9				9	52	40	44	52	59	45
18	912617106020	VINTHIYA R	55.8	37.2									38	57														59	39				9	10				9	56	46	48	57	59	48



R. Priya
Faculty Incharge

CO's Target Value	39.0	32.5	32.5	39.0	39.0	32.5
No. of Students scored above CO's Target Value	18	18	18	18	18	18
Percentage of Students scored above Target	100.0	100.0	100.0	100.0	100.0	100.0
CO Attainment	3	3	3	3	3	3
CO attainment Values to plot the Graph	3	3	3	3	3	3

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

HOD/ECE

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



SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN
DEPARTMENT OF ECE
COURSE OUTCOME ATTAINMENT - UNIVERSITY EXAMINATION
ACADEMIC YEAR : 2020- 2021(EVEN)

YEAR /SEM: IV/VIII

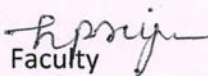
Batch:2017-2021

SUBJECT :EC8094-Satellite Communication

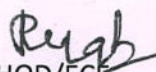
CO Attainment Level: 1 - (UPTO 60%) 2- (61%-79%) 3-(80% and Above)

TOTAL STRENGTH : 18

S.NO	Register No	NAME	Univ. Grade	
1	912617106001	ABIRAMI S	A+	
2	912617106002	ABISHEKA S	A+	
3	912617106003	ATSHAYA R	A+	
4	912617106004	BAVADHARANI A	A+	
5	912617106005	BHUVANESHWARI B	A+	
6	912617106006	DHIVYA L	A+	
7	912617106007	GOWSALYA D	A+	
8	912617106009	INDHUMATHI S	A+	
9	912617106010	KANIMOZHI D	A+	
10	912617106011	KAVYA C	A+	
11	912617106012	KEERTHANA G	A+	
12	912617106013	MAHESHWARI G	A+	
13	912617106014	MANOHARI M	A+	
14	912617106015	MARAGATHALAKSHMI S	A+	
15	912617106017	SAFRIN NISHA S	A+	
16	912617106018	SUBASHINI M	A+	
17	912617106019	SUBASHINI T	A+	
18	912617106020	VINTHIYA R	A+	
No. of O Grade			0	0
No. of A+ Grade			18	18
No. of A Grade			0	0
No. of B+ Grade			0	0
No. of B Grade			0	0
No. of U Grade			0	0
No. of UA Grade			0	0
Target for course outcome Attainment			60	18
No of students above the target			18	
CO-Attainment University (%)			100.00	


Faculty


Dr. S. THILAGAVATHI M.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

Overall Attainment Sheet – COs - POs & PSOs attainment calculation

CO	CO-Attainment Internal (CO-INT) (Avg. Attainment of All section) (%)	CO-Attainment University (CO-UNI) (Avg. Attainment of All section) (%)	Direct CO Attainment (0.20xCO-INT + 0.80xCO-UNI) (%)	CO Attainment Level
C410.1	100.0	100.00	100.0	3
C410.2	100.0	100.00	100.0	3
C410.3	100.0	100.00	100.0	3
C410.4	100.0	100.00	100.0	3
C410.5	100.0	100.00	100.0	3
C410.6	100.0	100.00	100.0	3

Expected CO-PO Level

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C410.1	3	3	2	2	1	1	#VALUE!	-	-	2	-	2	3	2	
C410.2	3	3	2	2	1	1	-	-	-	2	-	2	3	2	
C410.3	3	3	2	2	1	1	-	-	-	2	-	2	3	2	
C410.4	3	3	2	2	1	1	-	-	-	2	-	2	3	3	
C410.5	3	3	2	2	1	1	-	-	-	2	-	2	3	2	
C410.6	3	3	2	2	1	1	-	-	-	2	-	2	3	2	
C410	3	3	2	2	1	1	-	-	-	2	-	2	3	2	

PO Attainment Level

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C410.1	3	3	2	2	1	1	-	-	-	2	-	2	3	2	
C410.2	3	3	2	2	1	1	-	-	-	2	-	2	3	2	
C410.3	3	3	2	2	1	1	-	-	-	2	-	2	3	2	
C410.4	3	3	2	2	1	1	-	-	-	2	-	2	3	2	
C410.5	3	3	2	2	1	1	-	-	-	2	-	2	3	2	-
C410.6	3	3	2	2	1	1	-	-	-	2	-	2	3	2	-
C410	3	3	2	2	1	1	-	-	-	2	-	2	3	2	

Attainment of POs and PSOs:

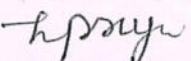
Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C410	3	3	2	2	1	1	-	-	-	2	-	2	3	2	
Attainment	3	3	2	2	1	1	-	-	-	2	-	2	3	2	

Comments by Program Coordinator	1. 2.
Remarks by HoD	


Dr. S. THILAGAVATHI M.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


T. K. Mohana Priya
 Name and Signature
 of the Faculty Member