

PERI INSTITUTE OF TECHNOLOGY

ACADEMIC CALENDER 2020 - 2021 (ODD SEMESTER)

JUNE				JULY			
Date	Day	Activity	Academic Day	Date	Day	Activity	Academic Day
1	Mon			1	Wed		
2	Tue			2	Thu		
3	Wed			3	Fri		
4	Thu			4	Sat		
5	Fri			5	Sun	HOLIDAY	
6	Sat			6	Mon		
7	Sun	HOLIDAY		7	Tue		
8	Mon			8	Wed		
9	Tue			9	Thu		
10	Wed			10	Fri		
11	Thu			11	Sat		
12	Fri			12	Sun		
13	Sat			13	Mon		
14	Sun	HOLIDAY		14	Tue		
15	Mon			15	Wed		
16	Tue			16	Thu		
17	Wed			17	Fri		
18	Thu			18	Sat		
19	Fri			19	Sun	HOLIDAY	
20	Sat			20	Mon		
21	Sun	HOLIDAY		21	Tue		
22	Mon			22	Wed		
23	Tue			23	Thu		
24	Wed			24	Fri		
25	Thu			25	Sat		
26	Fri			26	Sun	HOLIDAY	
27	Sat			27	Mon		
28	Sun	HOLIDAY		28	Tue		
29	Mon			29	Wed		
30	Tue			30	Thu		
				31	Fri		



AUGUST				SEPTEMBER			
Date	Day	Activity	Academic Day	Date	Day	Activity	Academic Day
1	Sat			1	Tue	CAT1 Assessment starts	16
2	Sun	BAKRID		2	Wed		17
3	Mon			3	Thu	IQAC meeting	18
4	Tue			4	Fri		19
5	Wed			5	Sat		20
6	Thu			6	Sun	HOLIDAY	
7	Fri			7	Mon	CAT1 Assessment ends	21
8	Sat			8	Tue	R & D meeting	22
9	Sun	HOLIDAY		9	Wed		23
10	Mon			10	Thu	CAT1 Assessment Result Analysis Report submission	24
11	Tue			11	Fri		25
12	Wed	Online classes started for II, III & IV Year students	1	12	Sat	EEE - Seminar 1	26
13	Thu		2	13	Sun	HOLIDAY	
14	Fri		3	14	Mon	Placement meeting	27
15	Sat	INDEPENDENCE DAY		15	Tue	CSE - Guest Lecture 1	28
16	Sun	HOLIDAY		16	Wed		29
17	Mon		4	17	Thu	IQAC meeting	30
18	Tue	R & D meeting	5	18	Fri	Mentor-2 report submission	31
19	Wed		6	19	Sat	Zeroth review project report submission	32
20	Thu	IQAC meeting	7	20	Sun	HOLIDAY	
21	Fri		8	21	Mon		33
22	Sat	VINAYAGAR CHATURTHI		22	Tue		34
23	Sun	HOLIDAY		23	Wed	CAT2 Assessment starts	35
24	Mon	Placement meeting	9	24	Thu		36
25	Tue		10	25	Fri		37
26	Wed	Mentor-1 report submission	11	26	Sat		38
27	Thu		12	27	Sun	HOLIDAY	
28	Fri	CCM Report -1 submission	13	28	Mon	Placement meeting	39
29	Sat	ECE - Seminar 1	14	29	Tue	CAT2 Assessment ends / R & D meeting	40
30	Sun	MUHARRAM		30	Wed		41
31	Mon	ONAM	15				

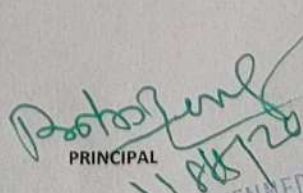


OCTOBER				NOVEMBER			
Date	Day	Activity	Academic Day	Date	Day	Activity	Academic Day
1	Thu	IQAC meeting	42	1	Sun	HOLIDAY	
2	Fri	GANDHI JAYANTHI	43	2	Mon		66
3	Sat		44	3	Tue	R & D meeting	67
4	Sun	HOLIDAY		4	Wed		68
5	Mon	CAT2 Assessment Result Analysis Report submission	45	5	Thu	IQAC meeting	69
6	Tue		46	6	Fri		70
7	Wed	Civil - Conference	47	7	Sat		71
8	Thu		48	8	Sun	HOLIDAY	
9	Fri	Mentor-3 report submission	49	9	Mon	Placement meeting	72
10	Sat		50	10	Tue		73
11	Sun	HOLIDAY		11	Wed		74
12	Mon	Placement meeting	51	12	Thu		75
13	Tue	R & D meeting	52	13	Fri	HOLIDAY	
14	Wed		53	14	Sat	DIWALI	
15	Thu	IQAC meeting	54	15	Sun	HOLIDAY	
16	Fri	CCM Report -2 submission	55	16	Mon		76
17	Sat		56	17	Tue		77
18	Sun			18	Wed		78
19	Mon	Mech - Seminar 1	57	19	Thu	CAT3 Assessment starts	79
20	Tue		58	20	Fri		80
21	Wed	First review project report submission	59	21	Sat		81
22	Thu	AYUTHA POOJA		22	Sun	HOLIDAY	
23	Fri	VIJAYA DHASAMI		23	Mon	Placement meeting	82
24	Sat	HOLIDAY		24	Tue	R & D meeting	83
25	Sun	HOLIDAY		25	Wed	CAT3 Assessment ends	84
26	Mon	Placement meeting	60	26	Thu	IQAC meeting	85
27	Tue		61	27	Fri		86
28	Wed		62	28	Sat	Second review project report submission	87
29	Thu	MILADI NABI	63	29	Sun	HOLIDAY	
30	Fri		64	30	Mon	CAT3 Assessment Result Analysis Report submission	88
31	Sat		65				



DECEMBER				JANUARY			
Date	Day	Activity	Academic Day	Date	Day	Activity	Academic Day
1	Tue		89	1	Fri	NEW YEAR	
2	Wed	CCM Report -3 submission	90	2	Sat		
3	Thu		91	3	Sun	HOLIDAY	
4	Fri		92	4	Mon		
5	Sat		93	5	Tue		
6	Sun	HOLIDAY		6	Wed		
7	Mon	Model exam starts	94	7	Thu		
8	Tue	R & D meeting	95	8	Fri		
9	Wed		96	9	Sat		
10	Thu	IQAC meeting	97	10	Sun	HOLIDAY	
11	Fri		98	11	Mon		
12	Sat	Model exam ends	99	12	Tue		
13	Sun	HOLIDAY		13	Wed		
14	Mon		100	14	Thu		
15	Tue	Model exam Result Analysis Report submission	101	15	Fri		
16	Wed			16	Sat		
17	Thu			17	Sun	HOLIDAY	
18	Fri			18	Mon		
19	Sat			19	Tue		
20	Sun	HOLIDAY		20	Wed		
21	Mon			21	Thu		
22	Tue			22	Fri		
23	Wed			23	Sat		
24	Thu			24	Sun	HOLIDAY	
25	Fri	CHRISTMAS		25	Mon		
26	Sat			26	Tue		
27	Sun	HOLIDAY		27	Wed		
28	Mon			28	Thu		
29	Tue			29	Fri		
30	Wed			30	Sat		
31	Thu			31	Sun	HOLIDAY	




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PERI INSTITUTE OF TECHNOLOGY

ACADEMIC CALENDER 2020 - 2021 (EVEN SEMESTER)

FEBRUARY				MARCH			
Date	Day	Activity	Academic Day	Date	Day	Activity	Academic Day
1	Mon			1	Mon		10
2	Tue			2	Tue	R & D meeting	11
3	Wed			3	Wed	Skills Development	12
4	Thu			4	Thu		13
5	Fri			5	Fri	Mech - Seminar 1	14
6	Sat			6	Sat	Mentor report-1 submission	15
7	Sun	HOLIDAY		7	Sun	HOLIDAY	
8	Mon			8	Mon		16
9	Tue			9	Tue		17
10	Wed			10	Wed		18
11	Thu			11	Thu	IQAC meeting	19
12	Fri			12	Fri	ECE - Seminar 1	20
13	Sat			13	Sat		21
14	Sun	HOLIDAY		14	Sun	HOLIDAY	
15	Mon			15	Mon	Placement meeting	22
16	Tue			16	Tue		23
17	Wed			17	Wed	Mech - Guest Lecture 1	24
18	Thu	Reopening of II, III & IV year	1	18	Thu		25
19	Fri		2	19	Fri	Civil - Guest Lecture 1	26
20	Sat		3	20	Sat	ECE - Workshop 1 / CCM-1 Report submission	27
21	Sun	HOLIDAY		21	Sun		
22	Mon	Placement meeting	4	22	Mon	Zeroth review project report submission	28
23	Tue		5	23	Tue	R & D meeting	29
24	Wed		6	24	Wed	Skills Development	30
25	Thu	IQAC meeting	7	25	Thu	CAT1 Assesment starts	31
26	Fri		8	26	Fri		32
27	Sat		9	27	Sat		33
28	Sun	HOLIDAY		28	Sun	HOLIDAY	
				29	Mon		34
				30	Tue		35
				31	Wed	CAT1 Assesment ends	36



APRIL				MAY			
Date	Day	Activity	Academic Day	Date	Day	Activity	Academic Day
1	Thu	CSE - Guest Lecture 1	37	1	Sat	ECE - Seminar 3	61
2	Fri	Good Friday	38	2	Sun	HOLIDAY	
3	Sat	CAT1 Assessment Result Analysis Report submission / CSE - Paper	39	3	Mon	CCM-2 Report submission/Placement meeting	62
4	Sun	HOLIDAY		4	Tue		63
5	Mon	Placement meeting	40	5	Wed		64
6	Tue	R & D meeting	41	6	Thu	IQAC meeting	65
7	Wed	Mentor report-2 submission	42	7	Fri		66
8	Thu	IQAC meeting	43	8	Sat		67
9	Fri		44	9	Sun	Ramzan	
10	Sat	ECE - IDEATHON'21	45	10	Mon		68
11	Sun	HOLIDAY		11	Tue		69
12	Mon		46	12	Wed	Skills Development	70
13	Tue	Telugu New Year		13	Thu		71
14	Wed	Tamil New Year / Last Working (4th Year)		14	Fri	ECE - Alumini Connect	72
15	Thu		47	15	Sat	Mentor report-3 submission	73
16	Fri	CSE - Guest Lecture 2	48	16	Sun	HOLIDAY	
17	Sat	Mech - Guest Lecture 2	49	17	Mon	CAT3 Assessment starts	74
18	Sun	HOLIDAY		18	Tue	R & D meeting / EEE - Seminar 1	75
19	Mon		50	19	Wed	Second review project report submission	76
20	Tue	CAT2 Assessment starts	51	20	Thu		77
21	Wed	Skills Development	52	21	Fri		78
22	Thu		53	22	Sat	CAT3 Assessment ends	79
23	Fri	First review project report submission	54	23	Sun	HOLIDAY	
24	Sat	ECE - Seminar 2	55	24	Mon	Placement meeting	80
25	Sun	Mahaveer Jayanthi		25	Tue	CAT3 Assessment Result Analysis Report submission	81
26	Mon	CAT2 Assessment ends	56	26	Wed	Civil - Seminar 1	82
27	Tue	R & D meeting	57	27	Thu	EEE - Seminar 2 / IQAC meeting	83
28	Wed	EEE - Alumini Connect	58	28	Fri	CCM-3 Report submission	84
29	Thu	CAT2 Assessment Result Analysis Report submission	59	29	Sat		85
30	Fri		60	30	Sun	HOLIDAY	
				31	Mon	Model exam starts	86



JUNE			
Date	Day	Activity	Academic Day
1	Tue	R & D meeting	87
2	Wed	Skills Development	88
3	Thu	IQAC meeting	89
4	Fri		90
5	Sat	Model exam ends	91
6	Sun	HOLIDAY	
7	Mon	Placement meeting	92
8	Tue	Model exam Result Analysis Report submission	93
9	Wed		94
10	Thu		95
11	Fri		96
12	Sat		97
13	Sun	HOLIDAY	
14	Mon		
15	Tue		
16	Wed		
17	Thu		
18	Fri		
19	Sat		
20	Sun	HOLIDAY	
21	Mon		
22	Tue		
23	Wed		
24	Thu		
25	Fri		
26	Sat		
27	Sun	HOLIDAY	
28	Mon		
29	Tue		
30	Wed		
31	Thu		



PRINCIPAL

15/2/21
Dr. R. PALSON KENNEDY, M.E., Ph.D.,
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PERI INSTITUTE OF TECHNOLOGY

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2020-2021 ODD SEMESTER

Sub. Code /Sub.Name : **EC8501/DIGITAL COMMUNICATION**

Regulation : **R2017**

Class/Sem/Sec : **III ECE /V/A**

StaffIn-charge : **Ms. V. Sharanya**

S. No	Topic to be Covered	Proposed Date	Actual Date	Teaching Method	Reference Material
UNIT-I INFORMATION THEORY					
1.	Discrete Memoryless source	12.8.20	12.8.20	Online	T1 & R1
2.	Information	13.8.20	13.8.20	Online	T1 & R1
3.	Entropy	17.8.20	17.8.20	Online	T1 & R1
4.	Entropy Problems	18.8.20	18.8.20	Online	T1 & R1
5.	Discrete Memoryless channel - Binary Symmetric Channel.	19.8.20	19.8.20	Online	T1 & R1
6.	Mutual Information	20.8.20	20.8.20	Online	T1 & R1
7.	Channel Capacity, HartelyShannon Law	24.8.20	24.8.20	Online	T1 & R1
8.	Shannon Fano Code	25.8.20	25.8.20	Online	T1 & R1
9.	Huffman Coding	26.8.20	26.8.20	Online	T1 & R1
10.	Problems on Anna university question paper	27.8.20	27.8.20	Online	T1 & R1
UNIT-II WAVEFORM CODING AND REPRESENTATION					
11.	Introduction about PCM	31.8.20	31.8.20	Online	T1 & R1
12.	DPCM - Differential pulse code modulation	3.9.20	3.9.20	Online	T1 & R1
13.	ADPCM - Adaptive differential pulse code modulation	7.9.20	7.9.20	Online	T1 & R1
14.	DM - Delta Modulation	8.9.20	8.9.20	Online	T1 & R1
15.	ADM - Adaptive delta modulation	9.9.2	9.9.20	Online	T1 & R1
16.	Line coding and its properties	10.9.20	10.9.20	Online	T1 & R1
UNIT-III BASEBAND TRANSMISSION					
17.	ISI - Intersymbol Interference	30.9.20	30.9.20	Online	T1 & R1
18.	Nyquist Criteria for distortionless transmission	1.10.20	1.10.20	Online	T1 & R1
19.	Pulse shaping	5.10.20	5.10.20	Online	T1 & R1
20.	Correlative coding	6.10.20	6.10.20	Online	T1 & R1
21.	Eye Pattern	7.10.20-	7.10.20-	Online	T1 & R1

		10.10.20	10.10.20		
22.	Receiving filters	10.10.20	10.10.20	Online	T1 & R1
23.	Matched Filters	12.10.20	12.10.20	Online	T1 & R1
24	Matched Filters	13.10.20	13.10.20	Online	T1 & R1
UNIT-IV DIGITAL MODULATION SCHEMES					
25	Adaptive equalization	14.10.20	14.10.20	Online	T1 & R1
26	BPSK - BER	15.10.20	15.10.20	Online	T1 & R1
27	BPSK - PSD	19.10.20	19.10.20	Online	T1 & R1
28	QPSK transmitter and receiver	19.10.20	19.10.20	Online	T1 & R1
29	QAM transmitter and receiver	20.10.20	20.10.20	Online	T1 & R1
30	BFSK transmitter and receiver	20.10.20	20.10.20	Online	T1 & R1
31	BFSK - BER and PSD	24.10.20	24.10.20	Online	T1 & R1
32	Carrier synchronization	24.10.20	24.10.20	Online	T1 & R1
33	Structure of non-coherent receivers	27.10.20	27.10.20	Online	T1 & R1
34	DPSK transmitter and receiver	27.10.20	27.10.20	Online	T1 & R1
35	DPSK transmitter and receiver			Online	T1 & R1
UNIT-V ERROR CONTROL CODING					
39	Linear Block codes	28.10.20- 29.10.20	28.10.20- 29.10.20	Online	T1 & R1
40	Problems on linear block codes	2.11.20	2.11.20	Online	T1 & R1
41	Cyclic Codes	3.11.20	3.11.20	Online	T1 & R1
42	Problems on cyclic codes	4.11.20	4.11.20	Online	T1 & R1
43	convolutional codes	7.11.20	7.11.20	Online	T1 & R1
44	convolutional codes	9.11.20	9.11.20	Online	T1 & R1
45	Problems on convolutional codes	10.11.20	10.11.20	Online	T1 & R1
46	Problems on convolutional codes	12.11.20	12.11.20	Online	T1 & R1
47	Viterbi decoding algorithm	14.11.20	14.11.20	Online	T1 & R1
48	Problems on viterbi decoding algorithm	17.11.20	17.11.20	Online	T1 & R1

Text Books

T1 : S. Haykin, —Digital Communications, John Wiley, 2005 (Unit I –V)

Reference Books

R1 : B. Sklar, —Digital Communication Fundamentals and Applications, 2nd Edition, Pearson Education, 2009.

R2 : Ghali B.P. Lathi, —Modern Digital and Analog Communication Systems, 3rd Edition, Oxford University Press 2007.

R3 : H P Hsu, Schaum Outline Series - —Analog and Digital Communications, TMH 2006

R4 : J.G Proakis, —Digital Communication, 4th Edition, Tata McGraw Hill Company, 2001.

PERI INSTITUTE OF TECHNOLOGY

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2020-2021 ODD SEMESTER

Sub. Code /Sub.Name : EC8501/DIGITAL COMMUNICATION

Regulation : R2017

Class/Sem/Se : III ECE/V/B

StaffIn-charge : M s . B . L a v a n y a

S. No	Topic to be Covered	Proposed Date	Actual Date	Teaching Method	Reference Material
UNIT-I INFORMATION THEORY					
1.	Discrete Memoryless source	12.8.20	12.8.20	Online	T1 & R1
2.	Information	13.8.20	13.8.20	Online	T1 & R1
3.	Entropy	17.8.20	17.8.20	Online	T1 & R1
4.	Entropy Problems	18.8.20	18.8.20	Online	T1 & R1
5.	Discrete Memoryless channel - Binary Symmetric Channel.	19.8.20	19.8.20	Online	T1 & R1
6.	Mutual Information	20.8.20	20.8.20	Online	T1 & R1
7.	Channel Capacity, Hartely-Shannon Law	24.8.20	24.8.20	Online	T1 & R1
8.	Shannon Fano Code	25.8.20	25.8.20	Online	T1 & R1
9.	Huffman Coding	26.8.20	26.8.20	Online	T1 & R1
10.	Problems on Anna university question paper	27.8.20	27.8.20	Online	T1 & R1
UNIT-II WAVEFORM CODING AND REPRESENTATION					
11.	Introduction about PCM	31.8.20	31.8.20	Online	T1 & R1
12.	DPCM - Differential pulse code modulation	3.9.20	3.9.20	Online	T1 & R1
13.	ADPCM - Adaptive differential pulse code modulation	7.9.20	7.9.20	Online	T1 & R1
14.	DM - Delta Modulation	8.9.20	8.9.20	Online	T1 & R1
15.	ADM - Adaptive delta modulation	9.9.2	9.9.20	Online	T1 & R1
16.	Line coding and its properties	10.9.20	10.9.20	Online	T1 & R1
UNIT-III BASEBAND TRANSMISSION					
17.	ISI - Intersymbol Interference	30.9.20	30.9.20	Online	T1 & R1
18.	Nyquist Criteria for distortionless transmission	1.10.20	1.10.20	Online	T1 & R1
19.	Pulse shaping	5.10.20	5.10.20	Online	T1 & R1
20.	Correlative coding	6.10.20	6.10.20	Online	T1 & R1
21.	Eye Pattern	7.10.20-	7.10.20-	Online	T1 & R1

		10.10.20	10.10.20		
22.	Receiving filters	10.10.20	10.10.20	Online	T1 & R1
23.	Matched Filters	12.10.20	12.10.20	Online	T1 & R1
24	Matched Filters	13.10.20	13.10.20	Online	T1 & R1
UNIT-IV DIGITAL MODULATION SCHEMES					
25	Adaptive equalization	14.10.20	14.10.20	Online	T1 & R1
26	BPSK - BER	15.10.20	15.10.20	Online	T1 & R1
27	BPSK - PSD	19.10.20	19.10.20	Online	T1 & R1
28	QPSK transmitter and receiver	19.10.20	19.10.20	Online	T1 & R1
29	QAM transmitter and receiver	20.10.20	20.10.20	Online	T1 & R1
30	BFSK transmitter and receiver	20.10.20	20.10.20	Online	T1 & R1
31	BFSK - BER and PSD	24.10.20	24.10.20	Online	T1 & R1
32	Carrier synchronization	24.10.20	24.10.20	Online	T1 & R1
33	Structure of non-coherent receivers	27.10.20	27.10.20	Online	T1 & R1
34	DPSK transmitter and receiver	27.10.20	27.10.20	Online	T1 & R1
35	DPSK transmitter and receiver			Online	T1 & R1
UNIT-V ERROR CONTROL CODING					
39	Linear Block codes	28.10.20- 29.10.20	28.10.20- 29.10.20	Online	T1 & R1
40	Problems on linear block codes	2.11.20	2.11.20	Online	T1 & R1
41	Cyclic Codes	3.11.20	3.11.20	Online	T1 & R1
42	Problems on cyclic codes	4.11.20	4.11.20	Online	T1 & R1
43	convolutional codes	7.11.20	7.11.20	Online	T1 & R1
44	convolutional codes	9.11.20	9.11.20	Online	T1 & R1
45	Problems on convolutional codes	10.11.20	10.11.20	Online	T1 & R1
46	Problems on convolutional codes	12.11.20	12.11.20	Online	T1 & R1
47	Viterbi decoding algorithm	14.11.20	14.11.20	Online	T1 & R1
48	Problems on viterbi decoding algorithm	17.11.20	17.11.20	Online	T1 & R1

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PERI Institute of Technology
Department of Electronics and Communication Engineering
ACADEMIC YEAR 2020-2021 ODD SEMESTER

Course File History

Department : ECE
 Course Name : B.E. (R2017)
 Subject Name : DIGITAL ELECTRONICS

 Subject Code : EC8392
 Year of Establishment (Course) : 2020-2021
 Faculty incharge: :Ms.V.Sharanya

Course Plan
II ECE

S.No	Topic to be Covered	Proposed Date	Actual Date	Teaching Method	Reference Material
UNIT-I DIGITAL FUNDAMENTALS					
1.	Number Systems – Decimal, Binary, Octal, Hexadecimal	12.8.20	12.8.20	online	T 1 & R1
2.	1's and 2's complements	13.8.20	13.8.20	online	T 1 & R1
3.	Codes – Binary, BCD,	14.8.20	14.8.20	online	T 1 & R1
4.	Excess 3, Gray	17.8.20	17.8.20	online	T 1 & R1
5.	Alphanumeric codes, Boolean theorems	18.8.20	18.8.20	online	T 1 & R1
6.	Logic gates, Universal gates	19.8.20	19.8.20	online	T 1 & R1
7.	Sum of products and product of sums	20.8.20	20.8.20	online	T 1 & R1
8.	Sum of products and product of sums	21.8.20	21.8.20	online	T 1 & R1
9.	Minterms and Maxterms	24.8.20	24.8.20	online	T 1 & R1
10.	Karnaugh map Minimization	25.8.20	25.8.20	online	T 1 & R1
11.	Karnaugh map Minimization	26.8.20	26.8.20	online	T 1 & R1
12.	Quine-McCluskey method of minimization	27.8.20	27.8.20	online	T 1 & R1
Unit II - COMBINATIONAL CIRCUIT DESIGN					
13.	Design of Half and Full Adders	31.8.20	31.8.20	online	T 1 & R1
14.	Half and Full Subtractors	2.9.20	2.9.20	online	T 1 & R1
15.	Binary Parallel Adder	3.9.20	3.9.20	online	T 1 & R1

16.	Carry look ahead Adder	4.9.20	4.9.20	online	T 1 & R1
17.	BCD Adder	7.9.20	7.9.20	online	T 1 & R1
18.	Multiplexer, Demultiplexer	8.9.20	8.9.20	online	T 1 & R1
19.	Multiplexer, Demultiplexer	9.9.20	9.9.20	online	T 1 & R1
20.	Magnitude Comparator	10.9.20	10.9.20	online	T 1 & R1
21.	Decoder, Encoder	11.9.20	11.9.20	online	T 1 & R1
22.	Decoder, Encoder	14.9.20	14.9.20	online	T 1 & R1
23.	Priority Encoder	15.9.20	15.9.20	online	T 1 & R1
24.	Revision	16.9.20	16.9.20	online	T 1 & R1
UNIT-III SYNCHRONOUS SEQUENTIAL CIRCUITS					
25.	Flip flops – SR, JK, T, D	18.9.20	18.9.20	online	T 1 & R1
26.	Master/Slave FF – operation and excitation tables	21.9.20	21.9.20	online	T 1 & R1
27.	Triggering of FF	23.9.20	23.9.20	online	T 1 & R1
28.	Analysis and design of clocked sequential circuits	24.9.20	24.9.20	online	T 1 & R1
29.	Design - Moore/Mealy models	25.9.20	25.9.20	online	T 1 & R1
30.	state minimization, state assignment, circuit implementation	28.9.20	28.9.20	online	T 1 & R1
31.	state minimization, state assignment, circuit implementation	29.9.20	29.9.20	online	T 1 & R1
32.	state minimization, state assignment, circuit implementation	30.9.20	30.9.20	online	T 1 & R1
33.	Design of Counters- Ripple Counters	5.10.20	5.10.20	online	T 1 & R1
34.	Ring Counters	6.10.20	6.10.20	online	T 1 & R1
35.	Shift registers	7.10.20	7.10.20	online	T 1 & R1
36.	Universal Shift Register	8.10.20	8.10.20	online	T 1 & R1
UNIT-IV ASYNCHRONOUS SEQUENTIAL CIRCUITS					
37.	Stable and Unstable states	12.10.20	12.10.20	online	T 1 & R1
38.	output specifications	13.10.20	13.10.20	online	T 1 & R1
39.	cycles and races	14.10.20	14.10.20	online	T 1 & R1
40.	state reduction	15.10.20	15.10.20	online	T 1 & R1
41.	race free assignments	16.10.20	16.10.20	online	T 1 & R1

42.	Hazards, Essential Hazards	19.10.20	19.10.20	online	T 1 & R1
43.	Pulse mode sequential circuits	20.10.20	20.10.20	online	T 1 & R1
44.	Pulse mode sequential circuits	21.10.20	21.10.20	online	T 1 & R2
45.	Pulse mode sequential circuits	22.10.20	22.10.20	online	T 1 & R2
46.	Design of Hazard free circuits.	23.10.20	23.10.20	online	T 1 & R2
47.	Design of Hazard free circuits.	27.10.20	27.10.20	online	T 1 & R2
48.	Design of Hazard free circuits.	28.10.20	28.10.20	online	T 1 & R2
UNIT V MEMORY DEVICES AND DIGITAL INTEGRATED CIRCUITS					
49.	Basic memory structure – ROM -PROM – EPROM – EEPROM –EAPROM, RAM	29.10.20	29.10.20	online	T 1 & R2
50.	Basic memory structure – ROM -PROM – EPROM – EEPROM –EAPROM, RAM	30.10.20	30.10.20	online	T 1 & R2
51.	Static and dynamic RAM	2.11.20	2.11.20	online	T 1 & R2
52.	Programmable Logic Devices – Programmable Logic Array (PLA)	3.11.20	3.11.20	online	T 1 & R2
53.	Programmable Logic Devices – Programmable Logic Array (PLA)	4.11.20	4.11.20	online	T 1 & R2
54.	Programmable Array Logic (PAL)	5.11.20	5.11.20	online	T 1 & R2
55.	Programmable Array Logic (PAL)	6.11.20	6.11.20	online	T 1 & R2
56.	Field Programmable Gate Arrays (FPGA) -	9.11.20	9.11.20	online	T 1 & R2
57.	Implementation of combinational logic circuits using PLA, PAL.	10.11.20	10.11.20	online	T 1 & R2
58.	Implementation of combinational logic circuits using PLA, PAL.	12.11.20	12.11.20	online	T 1 & R2
59.	Implementation of combinational logic circuits using PLA, PAL.	16.11.20	16.11.20	online	T 1 & R2
60.	Implementation of combinational logic circuits using PLA, PA	17.11.20	17.11.20	online	T 1 & R2

TEXT BOOK:

1. M. Morris Mano and Michael D. Ciletti, —Digital Design, 5th Edition, Pearson, 2014.

REFERENCES:

1. Charles H.Roth. —Fundamentals of Logic Design, 6th Edition, Thomson Learning, 2013.
2. Thomas L. Floyd, —Digital Fundamentals, 10th Edition, Pearson Education Inc,
3. S.Salivahan and S.Arivazhagan—Digital Electronics, Ist Edition, VikasPublishing Housepvt Ltd, 2012

4. Anil K.Maini —Digital ElectronicsI, Wiley, 2014.
5. A.Anand Kumar —Fundamentals of Digital CircuitsI, 4th Edition, PHI Learning Private Limited, 2016
6. Soumitra Kumar Mandal — Digital ElectronicsI, McGraw Hill Education Private Limited

PERI INSTITUTE OF TECHNOLOGY

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2020-2021 ODD SEMESTER

Sub. Code /Sub.Name : EC 8702/ADHOC WIRELESS SENSOR NETWORK

Regulation : R 2017

Class/Sem/Sec : IV ECE / VII / A1

Staff in-charge : MS.DHIVYA BHARATHI S

S. No	Topic to be Covered	Proposed Date	Actual Date	Teaching Method	Reference Material
IV ECE A1 COURSE PLAN					
UNIT-I AD HOC NETWORKS – INTRODUCTION					
1.	Elements of Ad hoc Wireless Networks	12.8.20	12.8.20	Online	T1
2.	Issues in Ad hoc wireless networks, Example commercial applications of Ad hoc networking,	13.8.20	13.8.20	Online	T1
3.	Ad hoc wireless Internet	14.8.20	14.8.20	Online	T1
4.	Issues in Designing a Routing Protocol for Ad Hoc Wireless Networks	18.8.20	18.8.20	Online	T1
5.	Classifications of Routing Protocols	19.8.20	19.8.20	Online	T1
6.	Table Driven Routing Protocols – Destination Sequenced Distance Vector (DSDV)	20.8.20	20.8.20	Online	T1
7.	On-Demand Routing protocols – Ad hoc On-Demand Distance Vector Routing (AODV)	21.8.20	21.8.20	Online	T1
UNIT-II SENSOR NETWORKS – INTRODUCTION & ARCHITECTURES					
8.	Challenges for Wireless Sensor Networks	25.8.20	25.8.20	Online	T2
9.	Enabling Technologies for Wireless Sensor Networks, WSN application examples	26.8.20	26.8.20	Online	T2
10.	Single-Node Architecture – Hardware Components	27.8.20	27.8.20	Online	T2
11.	Energy Consumption of Sensor Nodes	28.8.20	28.8.20	Online	T2
12.	Network Architecture – Sensor Network Scenarios	8.9.20	8.9.20	Online	T2
13.	Transceiver Design Considerations	9.9.20	9.9.20	Online	T2
14.	Optimization Goals and Figures of Merit	10.9.20	10.9.20	Online	T2
UNIT-III WSN NETWORKING CONCEPTS AND PROTOCOLS					
15.	MAC Protocols for Wireless Sensor Networks	11.9.20	11.9.20	Online	T2

16.	Low Duty Cycle Protocols And Wakeup Concepts – S-MAC	15.9.20	15.9.20	Online	T2
17.	The Mediation Device Protocol	16.9.20	16.9.20	Online	T2
18.	Contention based protocols – PAMAS	17.9.20	17.9.20	Online	T2
19.	Schedule based protocols – LEACH	18.9.20	18.9.20	Online	T2
20.	IEEE 802.15.4 MAC protocol, Routing Protocols	30.9.20	30.9.20	Online	T2
21.	Energy Efficient Routing, Challenges and Issues in Transport layer protocol	30.9.20	30.9.20	Online	T2
UNIT-IV SENSOR NETWORK SECURITY					
22.	Network Security Requirements, Issues and Challenges in Security Provisioning	1.10.20	1.10.20	Online	T2
23.	Network Security Attacks	6.10.20	6.10.20	Online	T2
24.	Layer wise attacks in wireless sensor networks	7.10.20	7.10.20	Online	T2
25.	Possible solutions for jamming, tampering, black hole attack, flooding attack	8.10.20	8.10.20	Online	T2
26.	Key Distribution and Management	9.10.20	9.10.20	Online	T2
27.	Secure Routing – SPINS	13.10.20	13.10.20	Online	T2
28.	Reliability requirements in sensor networks	14.10.20	14.10.20	Online	T2
UNIT-V SENSOR NETWORK PLATFORMS AND TOOLS					
29.	Sensor Node Hardware – Berkeley Motes	16.10.20	16.10.20	Online	T2
30.	Programming Challenges, Node-level software platforms – TinyOS	27.10.20	27.10.20	Online	T2
31.	nesC, CONTIKIOS	28.10.20	28.10.20	Online	T2
32.	Node-level Simulators – NS2 and its extension to sensor networks	29.10.20	29.10.20	Online	T2
33.	COOJA, TOSSIM	30.10.20	30.10.20	Online	T2
34.	Programming beyond individual nodes – State centric programming	31.10.20-5.11.20	31.10.20-5.11.20	Online	T2

TEXT BOOKS:

1. C. Siva Ram Murthy and B. S. Manoj, -Ad Hoc Wireless Networks Architectures and Protocols, Prentice Hall, PTR, 2004. (UNIT I)
2. Holger Karl , Andreas willig, -Protocol and Architecture for Wireless Sensor Networks, John wiley publication, Jan 2006.(UNIT II-V)

REFERENCES:

1. FengZhao, Leonidas Guibas, -Wireless Sensor Networks: an information processing approachl, Elsevier publication,2004.
2. Charles E. Perkins,-AdHoc Networkingl,AddisonWesley,2000.
3. I.F. Akyildiz, W. Su, Sankarasubramaniam, E. Cayirci, -Wireless sensor networks: a surveyl,computer networks, Elsevier,2002, 394- 422.

PERI INSTITUTE OF TECHNOLOGY
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2020-2021 ODD SEMESTER

Sub. Code /Sub.Name : EC 8702/ADHOC WIRELESS SENSOR
 NETWORK

Regulation : R 2017

Class/Sem/Sec : IV ECE / VII / A2

StaffIn-charge :M S . D H I V Y A B H A R A T H I

S. No	Topic to be Covered	Proposed Date	Actual Date	Teaching Method	Reference Material
IV ECE A1 COURSE PLAN					
UNIT-I AD HOC NETWORKS – INTRODUCTION					
1.	Elements of Ad hoc Wireless Networks	12.8.20	12.8.20	Online	T1
2.	Issues in Ad hoc wireless networks, Example commercial applications of Ad hoc networking,	13.8.20	13.8.20	Online	T1
3.	Ad hoc wireless Internet	14.8.20	14.8.20	Online	T1
4.	Issues in Designing a Routing Protocol for Ad Hoc Wireless Networks	18.8.20	18.8.20	Online	T1
5.	Classifications of Routing Protocols	19.8.20	19.8.20	Online	T1
6.	Table Driven Routing Protocols – Destination Sequenced Distance Vector (DSDV)	20.8.20	20.8.20	Online	T1
7.	On–Demand Routing protocols – Ad hoc On–Demand Distance Vector Routing (AODV)	21.8.20	21.8.20	Online	T1
UNIT-II SENSOR NETWORKS – INTRODUCTION & ARCHITECTURES					
8.	Challenges for Wireless Sensor Networks	25.8.20	25.8.20	Online	T2
9.	Enabling Technologies for Wireless Sensor Networks, WSN application examples	26.8.20	26.8.20	Online	T2
10.	Single-Node Architecture – Hardware Components	27.8.20	27.8.20	Online	T2
11.	Energy Consumption of Sensor Nodes	28.8.20	28.8.20	Online	T2
12.	Network Architecture – Sensor Network Scenarios	8.9.20	8.9.20	Online	T2
13.	Transceiver Design Considerations	9.9.20	9.9.20	Online	T2
14.	Optimization Goals and Figures of Merit	10.9.20	10.9.20	Online	T2
UNIT-III WSN NETWORKING CONCEPTS AND PROTOCOLS					

15.	MAC Protocols for Wireless Sensor Networks	11.9.20	11.9.20	Online	T2
16.	Low Duty Cycle Protocols And Wakeup Concepts – S-MAC	15.9.20	15.9.20	Online	T2
17.	The Mediation Device Protocol	16.9.20	16.9.20	Online	T2
18.	Contention based protocols – PAMAS	17.9.20	17.9.20	Online	T2
19.	Schedule based protocols – LEACH	18.9.20	18.9.20	Online	T2
20.	IEEE 802.15.4 MAC protocol, Routing Protocols	30.9.20	30.9.20	Online	T2
21.	Energy Efficient Routing, Challenges and Issues in Transport layer protocol	30.9.20	30.9.20	Online	T2
UNIT-IV SENSOR NETWORK SECURITY					
22.	Network Security Requirements, Issues and Challenges in Security Provisioning	1.10.20	1.10.20	Online	T2
23.	Network Security Attacks	6.10.20	6.10.20	Online	T2
24.	Layer wise attacks in wireless sensor networks	7.10.20	7.10.20	Online	T2
25.	Possible solutions for jamming, tampering, black hole attack, flooding attack	8.10.20	8.10.20	Online	T2
26.	Key Distribution and Management	9.10.20	9.10.20	Online	T2
27.	Secure Routing – SPINS	13.10.20	13.10.20	Online	T2
28.	Reliability requirements in sensor networks	14.10.20	14.10.20	Online	T2
UNIT-V SENSOR NETWORK PLATFORMS AND TOOLS					
29.	Sensor Node Hardware – Berkeley Motes	16.10.20	16.10.20	Online	T2
30.	Programming Challenges, Node-level software platforms – TinyOS	27.10.20	27.10.20	Online	T2
31.	nesC, CONTIKIOS	28.10.20	28.10.20	Online	T2
32.	Node-level Simulators – NS2 and its extension to sensor networks	29.10.20	29.10.20	Online	T2
33.	COOJA, TOSSIM	30.10.20	30.10.20	Online	T2
34.	Programming beyond individual nodes – State centric programming	3.11.20-5.11.20	3.11.20-5.11.20	Online	T2

TEXT BOOKS:

1. C. Siva Ram Murthy and B. S. Manoj, -Ad Hoc Wireless Networks Architectures and Protocols, Prentice Hall, PTR, 2004. (UNIT I)
2. Holger Karl , Andreas willig, -Protocol and Architecture for Wireless Sensor Networks, John wiley publication, Jan 2006.(UNIT II-V)

REFERENCES:

1. FengZhao, Leonidas Guibas, -Wireless Sensor Networks: an information processing approachl, Elsevier publication,2004.
2. Charles E. Perkins,-AdHoc Networkingl,AddisonWesley,2000.
3. I.F. Akyildiz, W. Su, Sankarasubramaniam, E. Cayirci, -Wireless sensor networks: a surveyl,computer networks, Elsevier,2002, 394- 422.

PERI INSTITUTE OF TECHNOLOGY
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
ACADEMIC YEAR 2020-2021 EVEN SEMESTER

Sub. Code /Sub.Name : EC 8095 / VLSI DESIGN

Regulation : R2017

Class/Sem/Sec : III / V /A

StaffIn-charge :Ms. SHARANYA

UNIT I :INTRODUCTION TO MOS
TRANSISTOR

S. No	Topics to be Covered	Proposed Date	Actual Date	Teaching Aid	Reference
1	MOS Transistor	18.2.21	18.2.21	Online	T1 & R1
2	CMOS logic Inverter	20.2.21	20.2.21	Online	T1 & R1
3	Pass Transistor, Transmission gate	22.2.21	22.2.21	Online	T1 & R1
4	Layout Design Rules, Gate Layouts	23.2.21	23.2.21	Online	T1 & R1
5	Stick Diagrams	24.2.21	24.2.21	Online	T1 & R1
6	Long-Channel I-V Characteristics	25.2.21	25.2.21	Online	T1 & R1
7	C-V Characteristics, DC Transfer characteristics	27.2.21	27.2.21	Online	T1 & R1
8	Non ideal I-V Effects	1.3.21-2.3.21	1.3.21-2.3.21	Online	T1 & R1
9	RC Delay Model, Elmore Delay	3.3.21-4.3.21	3.3.21-4.3.21	Online	T1 & R1
10	Linear Delay Model, Logical effort, Parasitic Delay, Delay in Logic Gate	4.3.21-8.3.21	4.3.21-8.3.21	Online	T1 & R1
11	Scaling	9.3.21	9.3.21	Online	T1 & R1

**UNIT II :COMBINATIONAL MOS LOGIC
CIRCUITS**

S. No	Topics to be Covered	Proposed Date	Actual Date	Teaching Aid	Reference
1	Static CMOS	9.3.21	9.3.21	Online	T 1 & R1
2	Ratioed Circuits, Cascode Voltage Switch Logic	10.3.21	10.3.21	Online	T 1 & R1
3	Dynamic Circuits	11.3.21	11.3.21	Online	T 1 & R1
4	Pass Transistor Logic	13.3.21	13.3.21	Online	T 1 & R1
5	Transmission Gates	15.3.21	15.3.21	Online	T 1 & R1
6	Domino, Dual Rail Domino, CPL, DCVSPG, DPL,	16.3.21	16.3.21	Online	T 1 & R2
7	Circuit Pitfalls	17.3.21	17.3.21	Online	T 1 & R2
8	Dynamic Power, Static Power,	18.3.21	18.3.21	Online	T 1 & R2
9	Low Power Architecture	21.3.21-23.3.21	21.3.21-23.3.21	Online	T 1 & R2

**UNIT III :SEQUENTIAL
CIRCUIT DESIGN**

S. No	Topics to be Covered	Proposed Date	Actual Date	Teaching Aid	Reference
1	Static latches and Registers	24.3.21	24.3.21	Online	T 2 & R2
2	Dynamic latches and Registers	25.3.21	25.3.21	Online	T 2 & R2
3	Pulse Registers, Sense Amplifier Based Register	29.3.21	29.3.21	Online	T 2 & R2
4	Pipelining	30.3.21	30.3.21	Online	T 2 & R2
5	Schmitt Trigger	7.4.21	7.4.21	Online	T 2 & R2
6	Monostable Sequential Circuits	12.4.21	12.4.21	Online	T 2 & R2
7	Astable Sequential Circuits.	13.4.21	13.4.21	Online	T 2 & R2
8	Timing Classification Of Digital System	15.4.21	15.4.21	Online	T 2 & R2
9	Synchronous Design	19.4.21-21.4.21	19.4.21-21.4.21	Online	T 2 & R2

**UNIT IV :DESIGN OF ARITHMETIC BUILDING BLOCKS AND
SUBSYSTEM**

S. No	Topics to be Covered	Proposed Date	Actual Date	Teaching Aid	Reference
1	Data Paths	22.4.21	22.4.21	Online	T 2 & R2
2	Adders	24.4.21	24.4.21	Online	T 2 & R2
3	Multipliers	26.4.21	26.4.21	Online	T 2 & R2
4	Shifters	27.4.21	27.4.21	Online	T 2 & R2
5	ALUs	28.4.21	28.4.21	Online	T 2 & R2
6	Power and speed tradeoffs, Case Study: Design as a tradeoff.	29.4.21	29.4.21	Online	T 2 & R2
7	Memory Architectures and Building Blocks	10.5.21	10.5.21	Online	T 2 & R2
8	Memory Core	11.5.21	11.5.21	Online	T 2 & R2
9	Memory Peripheral Circuitry	12.5.21-18.5.21	12.5.21-18.5.21	Online	T 2 & R2

UNIT V :IMPLEMENTATION STRATEGIES AND TESTING

S. No	Topics to be Covered	Proposed Date	Actual Date	Teaching Aid	Reference
1	FPGA Building Block Architectures	18.5.21	18.5.21	Online	T 2 & R2
2	Xilinx 3000	19.5.21	19.5.21	Online	T 2 & R2
3	Xilinx 4000	20.5.21	20.5.21	Online	T 2 & R2
4	FPGA Interconnect/Routing Procedures	24.5.21	24.5.21	Online	T 2 & R2
5	Design for Testability: Ad Hoc Testing,	25.5.21	25.5.21	Online	T 2 & R2
6	Scan Design, BIST	26.5.21	26.5.21	Online	T 2 & R2
7	IDDQ Testing, Design for Manufacturability	27.5.21	27.5.21	Online	T 2 & R2
8	Boundary Scan	27.5.21	27.5.21	Online	T 2 & R2

Text Books:

1. Neil H.E. Weste, David Money Harris CMOS VLSI Design: A Circuits and Systems Perspective, 4th Edition, Pearson , 2017 (Unit I,II,V)
2. Jan M. Rabaey ,AnanthaChandrakasan, Borivoje. Nikolic, Digital Integrated Circuits:A Design perspective, Second Edition , Pearson , 2016.(Unit III,IV)

References:

1. M.J. Smith, Application Specific Integrated Circuits, Addison Wesley, 1997
2. Sung-Mo kang, Yusuf leblebici, Chulwoo Kim CMOS Digital Integrated Circuits:Analysis and Design,4th edition McGraw Hill Education,2013
3. Wayne Wolf, Modern VLSI Design: System On Chip, Pearson Education, 2007
4. R.Jacob Baker, Harry W.LI., David E.Boyee, CMOS Circuit Design, Layout and Simulation, Prentice Hall of India 2005.

PERI INSTITUTE OF TECHNOLOGY
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
ACADEMIC YEAR 2020-2021 EVEN SEMESTER

Sub. Code /Sub.Name : EC 8095 / VLSI DESIGN
 Regulation : R2017
 Class/Sem/Sec : III / V /B
 StaffIn-charge :Ms.KALSHMI PRIYA

**UNIT I :INTRODUCTION TO MOS
TRANSISTOR**

S. No	Topics to be Covered	Proposed Date	Actual Date	Teaching Aid	Reference
1	MOS Transistor	18.2.21	18.2.21	Online	T 1 & R1
2	CMOS logic Inverter	20.2.21	20.2.21	Online	T 1 & R1
3	Pass Transistor, Transmission gate	22.2.21	22.2.21	Online	T 1 & R1
4	Layout Design Rules, Gate Layouts	23.2.21	23.2.21	Online	T 1 & R1
5	Stick Diagrams	24.2.21	24.2.21	Online	T 1 & R1
6	Long-Channel I-V Characteristics	25.2.21	25.2.21	Online	T 1 & R1
7	C-V Characteristics, DC Transfer characteristics	27.2.21	27.2.21	Online	T 1 & R1
8	Non ideal I-V Effects	1.3.21-2.3.21	1.3.21-2.3.21	Online	T 1 & R1
9	RC Delay Model, Elmore Delay	3.3.21-4.3.21	3.3.21-4.3.21	Online	T 1 & R1
10	Linear Delay Model, Logical effort, Parasitic Delay, Delay in Logic Gate	4.3.21-8.3.21	4.3.21-8.3.21	Online	T 1 & R1
11	Scaling	9.3.21	9.3.21	Online	T 1 & R1

**UNIT II :COMBINATIONAL MOS LOGIC
CIRCUITS**

S. No	Topics to be Covered	Proposed Date	Actual Date	Teaching Aid	Reference
1	Static CMOS	9.3.21	9.3.21	Online	T 1 & R1
2	Ratioed Circuits, Cascode Voltage Switch Logic	10.3.21	10.3.21	Online	T 1 & R1
3	Dynamic Circuits	11.3.21	11.3.21	Online	T 1 & R1
4	Pass Transistor Logic	13.3.21	13.3.21	Online	T 1 & R1
5	Transmission Gates	15.3.21	15.3.21	Online	T 1 & R1
6	Domino, Dual Rail Domino, CPL, DCVSPG, DPL,	16.3.21	16.3.21	Online	T 1 & R2
7	Circuit Pitfalls	17.3.21	17.3.21	Online	T 1 & R2
8	Dynamic Power, Static Power,	18.3.21	18.3.21	Online	T 1 & R2
9	Low Power Architecture	21.3.21-23.3.21	21.3.21-23.3.21	Online	T 1 & R2

**UNIT III :SEQUENTIAL
CIRCUIT DESIGN**

S. No	Topics to be Covered	Proposed Date	Actual Date	Teaching Aid	Reference
1	Static latches and Registers	24.3.21	24.3.21	Online	T 2 & R2
2	Dynamic latches and Registers	25.3.21	25.3.21	Online	T 2 & R2
3	Pulse Registers, Sense Amplifier Based Register	29.3.21	29.3.21	Online	T 2 & R2
4	Pipelining	30.3.21	30.3.21	Online	T 2 & R2
5	Schmitt Trigger	7.4.21	7.4.21	Online	T 2 & R2
6	Monostable Sequential Circuits	12.4.21	12.4.21	Online	T 2 & R2
7	Astable Sequential Circuits.	13.4.21	13.4.21	Online	T 2 & R2
8	Timing Classification Of Digital System	15.4.21	15.4.21	Online	T 2 & R2
9	Synchronous Design	19.4.21-21.4.21	19.4.21-21.4.21	Online	T 2 & R2

UNIT IV :DESIGN OF ARITHMETIC BUILDING BLOCKS AND SUBSYSTEM

S. No	Topics to be Covered	Proposed Date	Actual Date	Teaching Aid	Reference
1	Data Paths	22.4.21	22.4.21	Online	T 2 & R2
2	Adders	24.4.21	24.4.21	Online	T 2 & R2
3	Multipliers	26.4.21	26.4.21	Online	T 2 & R2
4	Shifters	27.4.21	27.4.21	Online	T 2 & R2
5	ALUs	28.4.21	28.4.21	Online	T 2 & R2
6	Power and speed tradeoffs, Case Study: Design as a tradeoff.	29.4.21	29.4.21	Online	T 2 & R2
7	Memory Architectures and Building Blocks	10.5.21	10.5.21	Online	T 2 & R2
8	Memory Core	11.5.21	11.5.21	Online	T 2 & R2
9	Memory Peripheral Circuitry	12.5.21-18.5.21	12.5.21-18.5.21	Online	T 2 & R2

UNIT V :IMPLEMENTATION STRATEGIES AND TESTING

S. No	Topics to be Covered	Proposed Date	Actual Date	Teaching Aid	Reference
1	FPGA Building Block Architectures	18.5.21	18.5.21	Online	T 2 & R2
2	Xilinx 3000	19.5.21	19.5.21	Online	T 2 & R2
3	Xilinx 4000	20.5.21	20.5.21	Online	T 2 & R2
4	FPGA Interconnect/Routing Procedures	24.5.21	24.5.21	Online	T 2 & R2
5	Design for Testability: Ad Hoc Testing,	25.5.21	25.5.21	Online	T 2 & R2
6	Scan Design, BIST	26.5.21	26.5.21	Online	T 2 & R2
7	IDDQ Testing, Design for Manufacturability	27.5.21	27.5.21	Online	T 2 & R2
8	Boundary Scan	27.5.21	27.5.21	Online	T 2 & R2

Text Books:

1. Neil H.E. Weste, David Money Harris CMOS VLSI Design: A Circuits and Systems Perspective, 4th Edition, Pearson , 2017 (Unit I,II,V)
2. Jan M. Rabaey ,AnanthaChandrakasan, Borivoje. Nikolic, Digital Integrated Circuits:A Design perspective, Second Edition , Pearson , 2016.(Unit III,IV)

References:

1. M.J. Smith, Application Specific Integrated Circuits, Addison Wesley, 1997
2. Sung-Mo kang, Yusuf leblebici, Chulwoo Kim CMOS Digital Integrated Circuits:Analysis and Design,4th edition McGraw Hill Education,2013
3. Wayne Wolf, Modern VLSI Design: System On Chip, Pearson Education, 2007
4. R.Jacob Baker, Harry W.LI., David E.Boyee, CMOS Circuit Design, Layout and Simulation, Prentice Hall of India 2005.

PERI INSTITUTE OF TECHNOLOGY
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2020-2021 ODD SEMESTER

Sub. Code /Sub.Name : EC8551/ COMMUNICATION NETWORKS

Regulation : R2017

Class/Sem/Sec : III ECE /V/A

StaffIn-charge : Ms.B.Sundari

S. No	Topic to be Covered	Proposed Date	Actual Date	Teaching Method	Reference Material
III ECE A COURSE PLAN					
UNIT-I FUNDAMENTALS & LINK LAYER					
1.	Overview of Data Communications	12.8.20	12.8.20	Online	T1 & R1
2.	Building Network and its types	13.8.20	13.8.20	Online	T1 & R1
3.	Overview of Internet	17.8.20	17.8.20	Online	T1 & R1
4.	Protocol Layering	18.8.20	18.8.20	Online	T1 & R1
5.	OSI Mode	19.8.20	19.8.20	Online	T1 & R1
6.	Physical Layer	20.8.20	20.8.20	Online	T1 & R1
7.	Overview of Data and Signals	24.8.20	24.8.20	Online	T1 & R1
8.	Introduction to Data Link Layer	25.8.20	25.8.20	Online	T1 & R1
9.	Link layer Addressing	26.8.20	26.8.20	Online	T1 & R1
10.	Error Detection and Correction	27.8.20	27.8.20	Online	T1 & R1
UNIT-II MEDIA ACCESS & INTERNETWORKING					
11.	Overview of Data link Control and Media access control -	31.8.20	31.8.20	Online	T1 & R1
12.	Ethernet (802.3)	3.9.20	3.9.20	Online	T1 & R1
13.	Wireless LANs	7.9.20	7.9.20	Online	T1 & R1
14.	Protocols – Bluetooth – Bluetooth Low Energy	7.9.20	7.9.20	Online	T1 & R1
15.	WiFi – 6LowPAN–Zigbee	8.9.20	8.9.20	Online	T1 & R1
16.	Network layer services	8.9.20	8.9.20	Online	T1 & R1
17.	Packet Switching –	9.9.20	9.9.20	Online	T1 & R1
18.	IPv4 Address	9.9.20	9.9.20	Online	T1 & R1
19.	Network Layer Protocols - IP, ICMP	10.9.20	10.9.20	Online	T1 & R1
20.	Mobile IP	10.9.20	10.9.20	Online	T1 & R1
UNIT-III ROUTING					
21.	Routing – Uni cast Routing	30.9.20	30.9.20	Online	T1 & R1

22.	Algorithms – Protocols	1.10.20	1.10.20	Online	T1 & R1
23.	Protocols – Multicast Routing and its basics	5.10.20	5.10.20	Online	T1 & R1
24.	Overview of Intradomain and inter domain protocols	6.10.20	6.10.20	Online	T1 & R1
25.	Overview of IPv6 Addressing	7.10.20-10.10.20	7.10.20-10.10.20	Online	T1 & R1
26.	Transition from IPv4 to IPv6	12.10.20	12.10.20	Online	T1 & R1
UNIT-IV TRANSPORT LAYER					
27.	Introduction to Transport layer – Protocols	14.10.20	14.10.20	Online	T1 & R1
28.	User Datagram Protocols (UDP) and Transmission Control Protocols (TCP)	15.10.20	15.10.20	Online	T1 & R1
29.	TCP Connection – State Transition Diagram	19.10.20	19.10.20	Online	T1 & R1
30.	Flow, Error and Congestion Control	19.10.20	19.10.20	Online	T1 & R1
31.	Congestion avoidance (DEC bit, RED)	20.10.20	20.10.20	Online	T1 & R1
32.	QoS – Application requirements	20.10.20	20.10.20	Online	T1 & R1
UNIT-V APPLICATION LAYER					
33.	Application Layer Paradigms	24.10.20	24.10.20	Online	T1 & R1
34.	Client Server Programming	27.10.20	27.10.20	Online	T1 & R1
35.	World Wide Web and HTTP	27.10.20	27.10.20	Online	T1 & R1
36.	DNS	2.11.20	2.11.20	Online	T1 & R1
37.	Electronic Mail (SMTP, POP3, IMAP, MIME)	3.11.20	3.11.20	Online	T1 & R1
38.	Introduction to Peer to Peer Networks	4.11.20	4.11.20	Online	T1 & R1
39.	Need for Cryptography and Network Security – Firewalls	7.11.20	7.11.20	Online	T1 & R1
40.	Firewalls	9.11.20	9.11.20	Online	T1 & R1

TEXT BOOK:

1. Behrouz A. Forouzan, -Data communication and Networking, Fifth Edition, Tata McGraw – Hill, 2013 (UNIT I–V)

REFERENCES

1. James F. Kurose, Keith W. Ross, -Computer Networking - A Top-Down Approach Featuring the Internet, Seventh Edition, Pearson Education, 2016.
2. Nader. F. Mir,- Computer and Communication Networks, Pearson Prentice Hall Publishers, 2nd Edition, 2014.
3. Ying-Dar Lin, Ren-Hung Hwang, Fred Baker, -Computer Networks: An Open Source Approach, McGraw Hill Publisher, 2011.
4. Larry L. Peterson, Bruce S. Davie, -Computer Networks: A Systems Approach, Fifth Edition, Morgan Kaufmann Publishers, 2011.

PERI INSTITUTE OF TECHNOLOGY

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2020-2021 ODD SEMESTER

Sub. Code /Sub.Name : EC8551/ COMMUNICATION NETWORKS
Regulation : R2017
Class/Sem/Sec : III ECE /V/B
StaffIn-charge : Ms.AbishaJ.Benelyn

S. No	Topic to be Covered	Proposed Date	Actual Date	Teaching Method	Reference Material
III ECE A COURSE PLAN					
UNIT-I FUNDAMENTALS & LINK LAYER					
1.	Overview of Data Communications	12.8.20	12.8.20	Online	T1 & R1
2.	Building Network and its types	13.8.20	13.8.20	Online	T1 & R1
3.	Overview of Internet	17.8.20	17.8.20	Online	T1 & R1
4.	Protocol Layering	18.8.20	18.8.20	Online	T1 & R1
5.	OSI Mode	19.8.20	19.8.20	Online	T1 & R1
6.	Physical Layer	20.8.20	20.8.20	Online	T1 & R1
7.	Overview of Data and Signals	24.8.20	24.8.20	Online	T1 & R1
8.	Introduction to Data Link Layer	25.8.20	25.8.20	Online	T1 & R1
9.	Link layer Addressing	26.8.20	26.8.20	Online	T1 & R1
10.	Error Detection and Correction	27.8.20	27.8.20	Online	T1 & R1
UNIT-II MEDIA ACCESS & INTERNETWORKING					
11.	Overview of Data link Control and Media access control -	31.8.20	31.8.20	Online	T1 & R1
12.	Ethernet (802.3)	3.9.20	3.9.20	Online	T1 & R1
13.	Wireless LANs	7.9.20	7.9.20	Online	T1 & R1
14.	Protocols – Bluetooth – Bluetooth Low Energy	7.9.20	7.9.20	Online	T1 & R1
15.	WiFi – 6LowPAN–Zigbee	8.9.20	8.9.20	Online	T1 & R1
16.	Network layer services	8.9.20	8.9.20	Online	T1 & R1
17.	Packet Switching –	9.9.20	9.9.20	Online	T1 & R1
18.	IPV4 Address	9.9.20	9.9.20	Online	T1 & R1
19.	Network Layer Protocols - IP, ICMP	10.9.20	10.9.20	Online	T1 & R1
20.	Mobile IP	10.9.20	10.9.20	Online	T1 & R1
UNIT-III ROUTING					
21.	Routing – Uni cast Routing	30.9.20	30.9.20	Online	T1 & R1

22.	Algorithms – Protocols	1.10.20	1.10.20	Online	T1 & R1
23.	Protocols – Multicast Routing and its basics	5.10.20	5.10.20	Online	T1 & R1
24.	Overview of Intradomain and inter domain protocols	6.10.20	6.10.20	Online	T1 & R1
25.	Overview of IPv6 Addressing	7.10.20-10.10.20	7.10.20-10.10.20	Online	T1 & R1
26.	Transition from IPv4 to IPv6	12.10.20	12.10.20	Online	T1 & R1
UNIT-IV TRANSPORT LAYER					
27.	Introduction to Transport layer – Protocols	14.10.20	14.10.20	Online	T1 & R1
28.	User Datagram Protocols (UDP) and Transmission Control Protocols (TCP)	15.10.20	15.10.20	Online	T1 & R1
29.	TCP Connection – State Transition Diagram	19.10.20	19.10.20	Online	T1 & R1
30.	Flow, Error and Congestion Control	19.10.20	19.10.20	Online	T1 & R1
31.	Congestion avoidance (DEC bit, RED)	20.10.20	20.10.20	Online	T1 & R1
32.	QoS – Application requirements	20.10.20	20.10.20	Online	T1 & R1
UNIT-V APPLICATION LAYER					
33.	Application Layer Paradigms	24.10.20	24.10.20	Online	T1 & R1
34.	Client Server Programming	27.10.20	27.10.20	Online	T1 & R1
35.	World Wide Web and HTTP	27.10.20	27.10.20	Online	T1 & R1
36.	DNS	2.11.20	2.11.20	Online	T1 & R1
37.	Electronic Mail (SMTP, POP3, IMAP, MIME)	3.11.20	3.11.20	Online	T1 & R1
38.	Introduction to Peer to Peer Networks	4.11.20	4.11.20	Online	T1 & R1
39.	Need for Cryptography and Network Security – Firewalls	7.11.20	7.11.20	Online	T1 & R1
40.	Firewalls	9.11.20	9.11.20	Online	T1 & R1

TEXT BOOK:

1. Behrouz A. Forouzan, -Data communication and NetworkingI, Fifth Edition, Tata McGraw – Hill, 2013 (UNIT I–V)

REFERENCES

1. James F. Kurose, Keith W. Ross, -Computer Networking - A Top-Down Approach Featuring the InternetI, Seventh Edition, Pearson Education, 2016.
2. Nader. F. Mir,- Computer and Communication NetworksI, Pearson Prentice Hall Publishers, 2nd Edition, 2014.
3. Ying-Dar Lin, Ren-Hung Hwang, Fred Baker, -Computer Networks: An Open Source ApproachI, McGraw Hill Publisher, 2011.
4. Larry L. Peterson, Bruce S. Davie, -Computer Networks: A Systems ApproachI, Fifth Edition, Morgan Kaufmann Publishers, 2011.

PERI INSTITUTE OF TECHNOLOGY

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2020-2021 ODD SEMESTER

Sub. Code /Sub.Name : EC8553/Discrete Time Signal Processing

Regulation : R2017

Class/Sem/Sec : III ECE /V/A

StaffIn-charge :Mr . E l u m a l a i . J

S.No	Topic to be Covered	Proposed Date	Actual Date	Teaching Method	Reference Material
UNIT-I DISCRETE FOURIER TRANSFORM					
1.	Review of signals and systems	12.8.20	12.8.20	Online	T1 & R1
2.	Concept of frequency in discrete-time signals	13.8.20	13.8.20	Online	T1 & R1
3.	Summary of analysis & synthesis equations for FT & DTFT	17.8.20	17.8.20	Online	T1 & R1
4.	Frequency domain sampling, Discrete Fourier transform (DFT)	18.8.20	18.8.20	Online	T1 & R1
5.	Deriving DFT from DTFT, Properties of DFT - periodicity, symmetry	19.8.20	19.8.20	Online	T1 & R1
6.	Circular convolution, Linear filtering using DFT	20.8.20	20.8.20	Online	T1 & R1
7.	Filtering long data sequences - overlap save and overlap add method.	24.8.20	24.8.20	Online	T1 & R1
8.	Fast computation of DFT - Radix-2 Decimation-in-time (DIT) Fast Fourier transform (FFT),	25.8.20	25.8.20	Online	T1 & R1
9.	Decimation-in-frequency (DIF) Fast Fourier transform (FFT)	26.8.20	26.8.20	Online	T1 & R1
10.	Decimation-in-frequency (DIF) Fast Fourier transform (FFT)	27.8.20	27.8.20	Online	T1 & R1
Unit II - INFINITE IMPULSE RESPONSE FILTERS					
11.	Characteristics of practical frequency selective filters	31.8.20	31.8.20	Online	T1 & R1
12.	Characteristics of commonly used analog filters	3.9.20	3.9.20	Online	T1 & R2
13.	Butterworth filters, Chebyshev filters	3.9.20	3.9.20	Online	T1 & R1
14.	Design of IIR filters from analog filters	7.9.20	7.9.20	Online	T1 & R2
15.	LPF, HPF	7.9.20	7.9.20	Online	T1 & R1
16.	BPF, BRF	8.9.20	8.9.20	Online	T1 & R2

17.	Approximation of derivatives	8.9.20	8.9.20	Online	T1 & R1
18.	Impulse invariance method	9.9.20	9.9.20	Online	T1 & R2
19.	Bilinear transformation	9.9.20	9.9.20	Online	T1 & R1
20.	Frequency transformation in the analog domain	10.9.20	10.9.20	Online	T1 & R2
21.	Structure of IIR filter - direct form I, direct form II, Cascade, parallel realizations.	10.9.20	10.9.20	Online	T1 & R1
UNIT-III DESIGN OF FIR FILTERS					
22.	Design of FIR filters	30.9.20	30.9.20	Online	T1 & R1
23.	Symmetric FIR filters	1.10.20	1.10.20	Online	T1 & R2
24.	Anti-symmetric FIR filters	5.10.20	5.10.20	Online	
25.	Design of linear phase FIR filters using Fourier series method	6.10.20	6.10.20	Online	T1 & R1
26.	FIR filter design using windows	7.10.20-10.10.20	7.10.20-10.10.20	Online	T1 & R2
27.	Rectangular Window	10.10.20	10.10.20	Online	T1 & R1
28.	Hamming window	12.10.20	12.10.20	Online	T1 & R2
29.	Hanning window	13.10.20	13.10.20	Online	T1 & R1
30.	Frequency sampling method	13.10.20	13.10.20	Online	
31.	FIR filter structures - linear phase structure, direct form realizations	13.10.20	13.10.20	Online	T1 & R1
UNIT-IV FINITE WORD LENGTH EFFECTS					
32.	Fixed point and floating point number representation	14.10.20	14.10.20	Online	T1 & R1
33.	ADC - quantization	15.10.20	15.10.20	Online	T1 & R1
34.	Truncation and rounding	19.10.20	19.10.20	Online	T1 & R1
35.	Quantization noise	19.10.20	19.10.20	Online	T1 & R1
36.	Input / output quantization	20.10.20	20.10.20	Online	T1 & R1
37.	Coefficient and product quantization error	20.10.20	20.10.20	Online	T1 & R1
38.	Overflow error	24.10.20	24.10.20	Online	T1 & R1
39.	Limit cycle oscillations due to product quantization and summation	24.10.20	24.10.20	Online	T1 & R1
40.	Structure form realization-linear phase structure, direct form realizations	27.10.20	27.10.20	Online	T1 & R2
UNITV INTRODUCTION TO DIGITAL SIGNAL PROCESSORS					
41.	DSP functionalities	28.10.20-29.10.20	28.10.20-	Online	T1 & R1

			29.10.20		
42.	Circular buffering	2.11.20	2.11.20	Online	T1 & R1
43.	DSP architecture	3.11.20	3.11.20	Online	T1 & R2
44.	Continuation of DSP architecture	4.11.20	4.11.20	Online	T1 & R1
45.	Fixed and Floating point architecture principles	7.11.20	7.11.20	Online	T1 & R2
46.	Programming	9.11.20	9.11.20	Online	T1 & R2
47.	Programming	10.11.20	10.11.20	Online	T1 & R1
48.	Application examples	12.11.20	12.11.20	Online	T1 & R1

Text Books

T1 :John G. Proakis& Dimitris G.Manolakis, —Digital Signal Processing – Principles, Algorithms & Applications, Fourth Edition, Pearson Education / Prentice Hall, 2007. (UNIT I – V)

REFERENCES:

R1 : Emmanuel C. Ifeachor& Barrie. W. Jervis, —Digital Signal Processing, Second Edition, Pearson Education / Prentice Hall, 2002.

R2 : A. V. Oppenheim, R.W. Schafer and J.R. Buck, —Discrete-Time Signal Processing, 8th Indian Reprint, Pearson, 2004.

R3 : Sanjit K. Mitra, —Digital Signal Processing – A Computer Based Approach, Tata Mc Graw Hill, 2007.

R4 : Andreas Antoniou, —Digital Signal Processing, Tata Mc Graw Hill, 2006.

PERI INSTITUTE OF TECHNOLOGY

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2020-2021 ODD SEMESTER

Sub. Code /Sub.Name : EC8553/Discrete Time Signal Processing

Regulation : R2017

Class/Sem/Sec : III ECE /V/B

StaffIn-charge :M s . R e n u g a

S.No	Topic to be Covered	Proposed Date	Actual Date	Teaching Method	Reference Material
UNIT-I DISCRETE FOURIER TRANSFORM					
1.	Review of signals and systems	12.8.20	12.8.20	Online	T1 & R1
2.	Concept of frequency in discrete-time signals	13.8.20	13.8.20	Online	T1 & R1
3.	Summary of analysis & synthesis equations for FT & DTFT	17.8.20	17.8.20	Online	T1 & R1
4.	Frequency domain sampling, Discrete Fourier transform (DFT)	18.8.20	18.8.20	Online	T1 & R1
5.	Deriving DFT from DTFT, Properties of DFT - periodicity, symmetry	19.8.20	19.8.20	Online	T1 & R1
6.	Circular convolution, Linear filtering using DFT	20.8.20	20.8.20	Online	T1 & R1
7.	Filtering long data sequences - overlap save and overlap add method.	24.8.20	24.8.20	Online	T1 & R1
8.	Fast computation of DFT - Radix-2 Decimation-in-time (DIT) Fast Fourier transform (FFT),	25.8.20	25.8.20	Online	T1 & R1
9.	Decimation-in-frequency (DIF) Fast Fourier transform (FFT)	26.8.20	26.8.20	Online	T1 & R1
10.	Decimation-in-frequency (DIF) Fast Fourier transform (FFT)	27.8.20	27.8.20	Online	T1 & R1
Unit II - INFINITE IMPULSE RESPONSE FILTERS					
11.	Characteristics of practical frequency selective filters	31.8.20	31.8.20	Online	T1 & R1
12.	Characteristics of commonly used analog filters	3.9.20	3.9.20	Online	T1 & R2
13.	Butterworth filters, Chebyshev filters	3.9.20	3.9.20	Online	T1 & R1
14.	Design of IIR filters from analog filters	7.9.20	7.9.20	Online	T1 & R2
15.	LPF, HPF	7.9.20	7.9.20	Online	T1 & R1
16.	BPF, BRF	8.9.20	8.9.20	Online	T1 & R2

17.	Approximation of derivatives	8.9.20	8.9.20	Online	T1 & R1
18.	Impulse invariance method	9.9.20	9.9.20	Online	T1 & R2
19.	Bilinear transformation	9.9.20	9.9.20	Online	T1 & R1
20.	Frequency transformation in the analog domain	10.9.20	10.9.20	Online	T1 & R2
21.	Structure of IIR filter - direct form I, direct form II, Cascade, parallel realizations.	10.9.20	10.9.20	Online	T1 & R1
UNIT-III DESIGN OF FIR FILTERS					
22.	Design of FIR filters	30.9.20	30.9.20	Online	T1 & R1
23.	Symmetric FIR filters	1.10.20	1.10.20	Online	T1 & R2
24.	Anti-symmetric FIR filters	5.10.20	5.10.20	Online	
25.	Design of linear phase FIR filters using Fourier series method	6.10.20	6.10.20	Online	T1 & R1
26.	FIR filter design using windows	7.10.20-10.10.20	7.10.20-10.10.20	Online	T1 & R2
27.	Rectangular Window	10.10.20	10.10.20	Online	T1 & R1
28.	Hamming window	12.10.20	12.10.20	Online	T1 & R2
29.	Hanning window	13.10.20	13.10.20	Online	T1 & R1
30.	Frequency sampling method	13.10.20	13.10.20	Online	
31.	FIR filter structures - linear phase structure, direct form realizations	13.10.20	13.10.20	Online	T1 & R1
UNIT-IV FINITE WORD LENGTH EFFECTS					
32.	Fixed point and floating point number representation	14.10.20	14.10.20	Online	T1 & R1
33.	ADC - quantization	15.10.20	15.10.20	Online	T1 & R1
34.	Truncation and rounding	19.10.20	19.10.20	Online	T1 & R1
35.	Quantization noise	19.10.20	19.10.20	Online	T1 & R1
36.	Input / output quantization	20.10.20	20.10.20	Online	T1 & R1
37.	Coefficient and product quantization error	20.10.20	20.10.20	Online	T1 & R1
38.	Overflow error	24.10.20	24.10.20	Online	T1 & R1
39.	Limit cycle oscillations due to product quantization and summation	24.10.20	24.10.20	Online	T1 & R1
40.	Structure form realization-linear phase structure, direct form realizations	27.10.20	27.10.20	Online	T1 & R2
UNITV INTRODUCTION TO DIGITAL SIGNAL PROCESSORS					
41.	DSP functionalities	28.10.20-29.10.20	28.10.20-	Online	T1 & R1

			29.10.20		
42.	Circular buffering	2.11.20	2.11.20	Online	T1 & R1
43.	DSP architecture	3.11.20	3.11.20	Online	T1 & R2
44.	Continuation of DSP architecture	4.11.20	4.11.20	Online	T1 & R1
45.	Fixed and Floating point architecture principles	7.11.20	7.11.20	Online	T1 & R2
46.	Programming	9.11.20	9.11.20	Online	T1 & R2
47.	Programming	10.11.20	10.11.20	Online	T1 & R1
48.	Application examples	12.11.20	12.11.20	Online	T1 & R1

Text Books

T1 : John G. Proakis & Dimitris G. Manolakis, —Digital Signal Processing – Principles, Algorithms & Applications, Fourth Edition, Pearson Education / Prentice Hall, 2007. (UNIT I – V)

REFERENCES:

R1 : Emmanuel C. Ifeachor & Barrie. W. Jervis, —Digital Signal Processing, Second Edition, Pearson Education / Prentice Hall, 2002.

R2 : A. V. Oppenheim, R.W. Schaffer and J.R. Buck, —Discrete-Time Signal Processing, 8th Indian Reprint, Pearson, 2004.

R3 : Sanjit K. Mitra, —Digital Signal Processing – A Computer Based Approach, Tata Mc Graw Hill, 2007.

R4 : Andreas Antoniou, —Digital Signal Processing, Tata Mc Graw Hill, 2006.

PERI INSTITUTE OF TECHNOLOGY

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2020-2021 ODD SEMESTER

Sub. Code /Sub.Name : EC8751/ OPTICAL COMMUNICATION

Regulation : R 2017

Class/Sem/Sec : IV ECE / VII / A1

StaffIn-charge :Ms.B.SUNDARI

S. No.	Topic	Proposed Date	Actual Date	Content Delivery Method	Reference Book no. & Page no.
UNIT I INTRODUCTION TO OPTICAL FIBERS					
1.	Introduction-general optical fiber communication system	12.8.20	12.8.20	online	T1,R1
2.	Basic optical laws and definitions optical modes and configurations	13.8.20	13.8.20	online	T1,R1
3.	Mode analysis for optical propagation through fibers modes in planar wave guide	14.8.20	14.8.20	online	T1,R1
4.	Modes in cylindrical optical fiber	18.8.20	18.8.20	online	T1,R1
5.	Transverse electric and transverse magnetic modes	18.8.20	18.8.20	online	T1,R1
6.	Fiber materials-fiber fabrication techniques	19.8.20	19.8.20	online	T1,R1
7.	Fiber fabrication techniques	19.8.20	19.8.20	online	T1,R1
8.	Fiber optic cables classification of optical fiber-single mode fiber	20.8.20	20.8.20	online	T1,R1
9.	Fiber optic cables classification of optical fiber- multi mode fiber	20.8.20	20.8.20	online	T1,R1
10.	Step index graded index fiber	21.8.20	21.8.20	online	T1,R1
11	PROBLEMS	21.8.20	21.8.20	online	T1,R1
UNIT II TRANSMISSION CHARACTERISTIC OF OPTICAL FIBER					
12.	Attenuation-absorption	25.8.20	25.8.20	online	T1,R1
13.	Scattering losses-bending losses	26.8.20	26.8.20	online	T1,R1

14.	Core and cladding losses-signal dispersion	27.8.20	27.8.20	online	T1,R1
15.	Inter symbol interference and bandwidth-intra model dispersion	28.8.20	28.8.20	online	T1,R1
16.	Material dispersion	8.9.20	8.9.20	online	T1,R1
17.	Waveguide dispersion	9.9.20	9.9.20	online	T1,R1
18	Polarization mode dispersion-intermodal dispersion	10.9.20	10.9.20	online	T1,R1
19	Optimization of single mode fiber-characteristics of single mode fiber	10.9.20	10.9.20	online	T1,R1
20	R-I Profilecutoff wave length-dispersion calculation-mode field diameter.	10.9.20	10.9.20	online	T1,R1
UNIT III OPTICAL SOURCES AND DETECTORS					
21.	Sources: Intrinsic and extrinsic material	11.9.20	11.9.20	online	T1,R1
22.	Direct and indirect band gaps, LED	11.9.20	11.9.20	online	T1,R1
23.	LED structures surface emitting LED-Edge emitting LED	15.9.20	15.9.20	online	T1,R1
24.	Quantum efficiency and LED power-light source materials	15.9.20	15.9.20	online	T1,R1
25.	Modulation of LED-LASER diodes Introduction	16.9.20	16.9.20	online	T1,R1
26.	Modes and threshold conditions-Rate equations	16.9.20	16.9.20	online	T1,R1
27.	External quantum efficiency-resonant frequencies	17.9.20	17.9.20	online	T1,R1
28.	Structures and radiation patterns-single mode laser-external modulation	17.9.20	17.9.20	online	T1,R1
29.	Temperature effort. Detectors: PIN photo detector	18.9.20	18.9.20	online	T1,R1
30.	Avalanche photo diodes-Photo detector noise	18.9.20	18.9.20	online	T1,R1
31	Noise sources-SNR-detector response time-Avalanche multiplication noise	30.9.20	30.9.20	online	T1,R1
32	Temperature effects comparisons of photo detectors, Problems	30.9.20	30.9.20	online	T1,R1
UNIT IV OPTICAL RECEIVER, MEASUREMENTS AND COUPLING					

34.	Fundamental receiver operation-preamplifiers	1.10.20	1.10.20	online	T1,R1
35.	Digital signal transmission-error sources	6.10.20	6.10.20	online	T1,R1
36.	Front end amplifiers-digital receiver performance	7.10.20	7.10.20	online	T1,R1
37.	Probability of error-receiver sensitivity	8.10.20	8.10.20	online	T1,R1
38.	Quantum limit. Optical power measurement-attenuation measurement	9.10.20	9.10.20	online	T1,R1
39.	Dispersion measurement- Fiber Numerical Aperture Measurements-	9.10.20	9.10.20	online	T1,R1
40.	Fiber cut- off Wave length Measurements- Fiber diameter measurements	13.10.20	13.10.20	online	T1,R1
41.	Source to Fiber Power Launching- Lensing Schemes for Coupling Management	13.10.20	13.10.20	online	T1,R1
42.	Fiber to Fiber Joints-LED Coupling to Single Mode Fibers-	14.10.20	14.10.20	online	T1,R1
43.	Fiber splicing optical Fiber connectors.	14.10.20	14.10.20	online	T1,R1
UNIT V OPTICAL COMMUNICATION SYSTEMS AND NETWORKS					
44.	System design consideration Point – to –Point link design	16.10.20	16.10.20	online	T1,R1
45.	Link power budget	16.10.20	16.10.20	online	T1,R1
46.	Rise time budget	27.10.20	27.10.20	online	T1,R1
47.	Wdm –passive dwdm components	27.10.20	27.10.20	online	T1,R1
48.	Passive DWDM Components-Elements of optical networks	28.10.20	28.10.20	online	T1,R1
49.	SONET/SDH Rings and Networks	28.10.20	28.10.20	online	T1,R1
50.	High speed light wave Links	29.10.20	29.10.20	online	T1,R1
51.	OADM configuration-Optical ETHERNET	29.10.20	29.10.20	online	T1,R1
52.	Soliton	30.10.20	30.10.20	online	T1,R1
53.	Problems	30.10.20	30.10.20	online	T1,R1
54.	Problems	31.10.20-5.11.20	31.10.20-5.11.20	online	T1,R1

TEXT BOOKS:

1. P Chakrabarti, "Optical Fiber Communication, McGraw Hill Education (India) Private Limited, 2016 (Unit I, II, III)
2. Gred Keiser, "Optical Fiber Communication, McGraw Hill Education (India) Private Limited. Fifth Edition, Reprint 2013. (Unit I, IV, V)

REFERENCES:

1. John M. Senior, Optical fiber communication, Pearson Education, second edition. 2007.
2. Rajiv Ramaswami, Optical Networks , Second Edition, Elsevier , 2004.
3. J. Gower, Optical Communication System, Prentice Hall of India, 2001.
4. Govind P. Agrawal, Fiber-optic communication systems, third edition, John Wiley and sons, 2004.

PERI INSTITUTE OF TECHNOLOGY

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2020-2021 ODD SEMESTER

Sub. Code /Sub.Name : EC8751/ OPTICAL COMMUNICATION

Regulation : R 2017

Class/Sem/Sec : IV ECE / VII / A2

StaffIn-charge :MS.K.LAKSHMI PRIYA

S. No.	Topic	Proposed Date	Actual Date	Content Delivery Method	Reference Book no. & Page no.
UNIT I INTRODUCTION TO OPTICAL FIBERS					
1.	Introduction-general optical fiber communication system	12.8.20	12.8.20	online	T1,R1
2.	Basic optical laws and definitions optical modes and configurations	13.8.20	13.8.20	online	T1,R1
3.	Mode analysis for optical propagation through fibers modes in planar wave guide	14.8.20	14.8.20	online	T1,R1
4.	Modes in cylindrical optical fiber	18.8.20	18.8.20	online	T1,R1
5.	Transverse electric and transverse magnetic modes	18.8.20	18.8.20	online	T1,R1
6.	Fiber materials-fiber fabrication techniques	19.8.20	19.8.20	online	T1,R1
7.	Fiber fabrication techniques	19.8.20	19.8.20	online	T1,R1
8.	Fiber optic cables classification of optical fiber-single mode fiber	20.8.20	20.8.20	online	T1,R1
9.	Fiber optic cables classification of optical fiber- multi mode fiber	20.8.20	20.8.20	online	T1,R1
10.	Step index graded index fiber	21.8.20	21.8.20	online	T1,R1
11	PROBLEMS	21.8.20	21.8.20	online	T1,R1
UNIT II TRANSMISSION CHARACTERISTIC OF OPTICAL FIBER					
12.	Attenuation-absorption	25.8.20	25.8.20	online	T1,R1
13.	Scattering losses-bending losses	26.8.20	26.8.20	online	T1,R1

14.	Core and cladding losses-signal dispersion	27.8.20	27.8.20	online	T1,R1
15.	Inter symbol interference and bandwidth-intra model dispersion	28.8.20	28.8.20	online	T1,R1
16.	Material dispersion	8.9.20	8.9.20	online	T1,R1
17.	Waveguide dispersion	9.9.20	9.9.20	online	T1,R1
18.	Polarization mode dispersion-intermodal dispersion	10.9.20	10.9.20	online	T1,R1
19.	Optimization of single mode fiber-characteristics of single mode fiber	10.9.20	10.9.20	online	T1,R1
20.	R-I Profile cutoff wave length-dispersion calculation-mode field diameter.	10.9.20	10.9.20	online	T1,R1
UNIT III OPTICAL SOURCES AND DETECTORS					
21.	Sources: Intrinsic and extrinsic material	11.9.20	11.9.20	online	T1,R1
22.	Direct and indirect band gaps, LED	11.9.20	11.9.20	online	T1,R1
23.	LED structures surface emitting LED-Edge emitting LED	15.9.20	15.9.20	online	T1,R1
24.	Quantum efficiency and LED power-light source materials	15.9.20	15.9.20	online	T1,R1
25.	Modulation of LED-LASER diodes Introduction	16.9.20	16.9.20	online	T1,R1
26.	Modes and threshold conditions-Rate equations	16.9.20	16.9.20	online	T1,R1
27.	External quantum efficiency-resonant frequencies	17.9.20	17.9.20	online	T1,R1
28.	Structures and radiation patterns-single mode laser-external modulation	17.9.20	17.9.20	online	T1,R1
29.	Temperature effect. Detectors: PIN photo detector	18.9.20	18.9.20	online	T1,R1
30.	Avalanche photo diodes-Photo detector noise	18.9.20	18.9.20	online	T1,R1
31.	Noise sources-SNR-detector response time-Avalanche multiplication noise	30.9.20	30.9.20	online	T1,R1
32.	Temperature effects comparisons of photo detectors, Problems	30.9.20	30.9.20	online	T1,R1
UNIT IV OPTICAL RECEIVER, MEASUREMENTS AND COUPLING					

34.	Fundamental receiver operation- preamplifiers	1.10.20	1.10.20	online	T1,R1
35.	Digital signal transmission-error sources	6.10.20	6.10.20	online	T1,R1
36.	Front end amplifiers-digital receiver performance	7.10.20	7.10.20	online	T1,R1
37.	Probability of error-receiver sensitivity	8.10.20	8.10.20	online	T1,R1
38.	Quantum limit. Optical power measurement-attenuation measurement	9.10.20	9.10.20	online	T1,R1
39.	Dispersion measurement- Fiber Numerical Aperture Measurements-	9.10.20	9.10.20	online	T1,R1
40.	Fiber cut- off Wave length Measurements- Fiber diameter measurements	13.10.20	13.10.20	online	T1,R1
41.	Source to Fiber Power Launching- Lensing Schemes for Coupling Management	13.10.20	13.10.20	online	T1,R1
42.	Fiber to Fiber Joints-LED Coupling to Single Mode Fibers-	14.10.20	14.10.20	online	T1,R1
43.	Fiber splicing optical Fiber connectors.	14.10.20	14.10.20	online	T1,R1
UNIT V OPTICAL COMMUNICATION SYSTEMS AND NETWORKS					
44.	System design consideration Point – to –Point link design	16.10.20	16.10.20	online	T1,R1
45.	Link power budget	16.10.20	16.10.20	online	T1,R1
46.	Rise time budget	27.10.20	27.10.20	online	T1,R1
47.	Wdm –passive dwdm components	27.10.20	27.10.20	online	T1,R1
48.	Passive DWDM Components-Elements of optical networks	28.10.20	28.10.20	online	T1,R1
49.	SONET/SDH Rings and Networks	28.10.20	28.10.20	online	T1,R1
50.	High speed light wave Links	29.10.20	29.10.20	online	T1,R1
51.	OADM configuration-Optical ETHERNET	29.10.20	29.10.20	online	T1,R1
52.	Soliton	30.10.20	30.10.20	online	T1,R1
53.	Problems	30.10.20	30.10.20	online	T1,R1
54.	Problems	31.10.20-5.11.20	31.10.20- 5.11.20	online	T1,R1

TEXT BOOKS:

3. P Chakrabarti, "Optical Fiber Communication, McGraw Hill Education (India) Private Limited, 2016 (Unit I, II, III)
4. Gred Keiser, "Optical Fiber Communication, McGraw Hill Education (India) Private Limited. Fifth Edition, Reprint 2013. (Unit I, IV, V)

REFERENCES:

5. John M. Senior, Optical fiber communication, Pearson Education, second edition. 2007.
6. Rajiv Ramaswami, Optical Networks , Second Edition, Elsevier , 2004.
7. J. Gower, Optical Communication System, Prentice Hall of India, 2001.
8. Govind P. Agrawal, Fiber-optic communication systems, third edition, John Wiley and sons, 2004.

PERI Institute of Technology
Department of Electronics and Communication Engineering
ACADEMIC YEAR 2020-2021 ODD SEMESTER

Sub. Code /Sub.Name : EC8352/ SIGNALS & SYSTEMS

Regulation : R2017

Class/Sem/Sec : II ECE/III/A

StaffIn-charge :Mr..Kannadasan

S. No	Topic to be Covered	Proposed Date	Actual Date	Teaching method	Reference material
Unit-I CLASSIFICATION OF SIGNALS AND SYSTEMS					
1.	Standard signals- Step, Ramp, Pulse, Impulse, Real and complex exponentials and Sinusoids	12.8.20	12.8.20	online	T1,R1
2.	Classification of signals	13.8.20	13.8.20	online	T1,R1
3.	<u>Problem solving:</u> Periodic & Aperiodic signals,	14.8.20	14.8.20	online	T1,R1
4.	<u>Problem solving:</u> Energy & Power signals	18.8.20	18.8.20	online	T1,R1
5.	Classification of systems	19.8.20	19.8.20	online	T1,R1
6.	<u>Problem solving:</u> Linear & Nonlinear	20.8.20	20.8.20	online	T1,R1
7.	<u>Problem solving:</u> Time-variant & Time-invariant	21.8.20	21.8.20	online	T1,R1
8.	<u>Problem solving:</u> Causal & Non-causal, Stable & Unstable.	25.8.20	25.8.20	online	T1,R1
9.	Pictorial Representation of signals	26.8.20	26.8.20	online	T1,R1
10.	Summary: Unit-I	28.8.20	28.8.20	online	T1,R1
Unit-II ANALYSIS OF CONTINUOUS TIME SIGNALS					
11.	Fourier Transform: Introduction	1.9.20	1.9.20	online	T1,R1
12.	Fourier Transform: Standard Problems	2.9.20	2.9.20	online	T1,R1
13.	Fourier Transform: Properties and Proof	3.9.20	3.9.20	online	T1,R1
14.	Technical Quiz: Signals and Systems	4.9.20	4.9.20	online	T1,R1
15.	Problem solving: Based on FT properties	8.9.20	8.9.20	online	T1,R1
16.	Problem solving: Standard University Questions	9.9.20	9.9.20	online	T1,R1
17.	Laplace Transform: Introduction	10.9.20	10.9.20	online	T1,R1

18.	Laplace Transform: Standard Problems	11.9.20	11.9.20	online	T1,R1
19.	Roll Play: Signals and Systems	15.9.20	15.9.20	online	T1,R1
20.	Laplace Transform: Properties and Proof	16.9.20	16.9.20	online	T1,R1
21.	Laplace Transform: Based on FT properties	17.9.20	17.9.20	online	T1,R1
22.	Laplace Transform: Standard University Questions	18.9.20	18.9.20	online	T1,R1
23.	Fourier series for periodic signals	18.9.20	18.9.20	online	T1,R1
24.	Seminar: Content beyond the syllabus	18.9.20	18.9.20	online	T1
25.	Summary: Unit-II	18.9.20	18.9.20	online	T1
UNIT III LINEAR TIME INVARIANT CONTINUOUS TIME SYSTEMS					
26.	Introduction-CTS System	22.9.20	22.9.20	online	T1,R1
27.	Analysis of CTS using Fourier Transform	23.9.20	23.9.20	online	T1,R1
28.	Analysis of CTS using Fourier Transform	24.9.20	24.9.20	online	T1,R1
29.	Convolution integrals	25.9.20	25.9.20	online	T1,R1
30.	Roll Play: Signals and Systems	29.9.20	29.9.20	online	T1,R1
31.	Analysis of CTS using Laplace Transform	30.9.20	30.9.20	online	T1,R1
32.	Analysis of CTS using Laplace Transform	1.10.20	1.10.20	online	T1,R1
33.	Block diagram Representation	6.10.20	6.10.20	online	T1,R1
34.	Direct form-I, Direct form-II	8.10.20	8.10.20	online	T1,R1
35.	Cascade Form & Parallel Form	13.10.20	13.10.20	online	T1,R1
36.	Summary: Unit-III	14.10.20	14.10.20	online	T1,R1
UNIT IV ANALYSIS OF DISCRETE TIME SIGNALS					
37.	Introduction- Baseband limited signal	27.10.20	27.10.20	online	T1,R1
38.	Sampling Theorem, Problems	28.10.20	28.10.20	online	T1,R1
39.	Fourier Transform of discrete time signals (DTFT)	29.10.20	29.10.20	online	T1,R1
40.	DTFT: Standard Problems	30.10.20	30.10.20	online	T1,R1
41.	DTFT: Properties and Proof	3.11.20	3.11.20	online	T1,R1
42.	Problem solving: Standard University Questions	4.11.20	4.11.20	online	T1,R1

43.	Z Transform-Introduction	5.11.20	5.11.20	online	T1,R1
44.	ZT: Standard Problems	6.11.20	6.11.20	online	T1,R1
45.	ZT: Properties and Proof	10.11.20	10.11.20	online	T1,R1
46.	Problem solving: Standard University Questions	11.11.20	11.11.20	online	T1,R1
47.	Summary: Unit-IV	12.11.20	12.11.20	online	T1,R1
UNIT V LINEAR TIME INVARIANT-DISCRETE TIME SYSTEMS					
48.	Introduction-DTS System	13.11.20	13.11.20	online	T1,R1
49.	Analysis of DTS using DTFT	17.11.20	17.11.20	online	T1,R1
50.	Analysis of DTS using DTFT	18.11.20	18.11.20	online	T1,R1
51.	Convolution integrals	19.11.20	19.11.20	online	T1,R1
52.	Roll Play: Signals and Systems	20.11.20	20.11.20	online	T1,R1
53.	Analysis of DTS using ZT	10.12.20	10.12.20	online	T1,R1
54.	Analysis of DTS using ZT	11.12.20	11.12.20	online	T1,R1
55.	Block diagram Representation	15.12.20	15.12.20	online	T1,R1
56.	Direct form-I, Direct form-II	16.12.20	16.12.20	online	T1,R1
57.	Cascade Form & Parallel Form	17.12.20	17.12.20	online	T1,R1
58.	Summary: Unit-III	18.12.20	18.12.20	online	T1,R1
TEXT BOOK:					
1. Allan V.Oppenheim, S.Wilsky and S.H.Nawab, “Signals and Systems”, Pearson, 2015.(Unit 1-V)					
REFERENCES					
1. B. P. Lathi, “Principles of Linear Systems and Signals”, Second Edition, Oxford, 2009.					
2. R.E.Zeimer, W.H.Tranter and R.D.Fannin, “Signals & Systems - Continuous and Discrete”, Pearson, 2007.					

PERI INSTITUTE OF TECHNOLOGY
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
ACADEMIC YEAR 2020-2021 EVEN SEMESTER

Sub. Code /Sub.Name : EC8681& MICROPROCESSOR& MICROCONTROLLER LAB

Regulation : R2017

Class/Sem/Sec : III ECE / VI / A

StaffIn-charge :MS.SREE DEVI B

S.No	Experiments to be Covered	Batch I		Batch II		Teaching Method
		Proposed Date	Actual Date	Proposed Date	Actual Date	
1.	Basic arithmetic and Logical operations	18.2.21	18.2.21	19.2.21	19.2.21	Online
2.	Move data block without overlap	26.2.21	26.2.21	25.2.21	25.2.21	Online
3.	Code conversion, decimal arithmetic and Matrix operations	4.3.21	4.3.21 6.3.21	27.2.21 5.3.21	27.2.21 5.3.21	Online
4.	Floating point operations, string manipulations, sorting and searching	12.3.21	12.3.21 18.3.21	11.3.21	11.3.21	Online
5.	Password checking, Print RAM size and system date	20.3.21	20.3.21	13.3.21	13.3.21	Online
6.	Counters and Time Delay	27.3.21	27.3.21	19.3.21 19.3.21 20.3.21	19.3.21 20.3.21	Online
7.	Traffic light controller	8.4.21	8.4.21 15.4.21	26.3.21	26.3.21	Online
8.	Stepper motor control	8.4.21	8.4.21 15.4.21	26.3.21	26.3.21	Online
9.	Digital clock	8.4.21	8.4.21 15.4.21	26.3.21	26.3.21	Online
10.	Keyboard and Display	22.4.21	22.4.21 30.4.21	9.4.21	9.4.21	Online
11.	Printer status	22.4.21	22.4.21 30.4.21	9.4.21	9.4.21	Online

12.	Serial interface and Parallel interface	22.4.21	22.4.21 30.4.21	9.4.21	9.4.21	Online
13.	A/D and D/A interface and Waveform Generation	14.5.21	14.5.21 20.5.21	16.4.21	16.4.21	Online
14.	Basic arithmetic and Logical operations	14.5.21	14.5.21 20.5.21	16.4.21	16.4.21	Online
15.	Square and Cube program, Find 2's complement of a number	27.5.21	27.5.21	25.4.21	25.4.21 29.5.21	Online
16.	Unpacked BCD to ASCII	27.5.21	27.5.21	15.5.21	15.5.21	Online

PERI INSTITUTE OF TECHNOLOGY
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
ACADEMIC YEAR 2020-2021 EVEN SEMESTER

Sub. Code /Sub.Name : EC8661& VLSI DESIGN LABORATORY

Regulation : R2017

Class/Sem/Sec : III ECE / VI / B

StaffIn-charge :MS. LAVANYA B

S.No	Experiments to be Covered	Batch I		Batch II		Teaching Method
		Proposed Date	Actual Date	Proposed Date	Actual Date	
17.	Basicarithmetic andLogical operations	18.2.21	18.2.21	19.2.21	19.2.21	Online
18.	Moveadatablockwithoutoverlap	26.2.21	26.2.21	25.2.21	25.2.21	Online
19.	Codeconversion,decimal arithmeticand Matrixoperations	4.3.21	4.3.21 6.3.21	27.2.21 5.3.21	27.2.21 5.3.21	Online
20.	Floatingpointoperations,stringmanipulations,sortingandsearching	12.3.21	12.3.21 18.3.21	11.3.21	11.3.21	Online
21.	Passwordchecking,PrintRAMsizeandssystemdate	20.3.21	20.3.21	13.3.21	13.3.21	Online
22.	CountersandTime Delay	27.3.21	27.3.21	19.3.21 20.3.21	19.3.21 20.3.21	Online
23.	Trafficlightcontroller	8.4.21	8.4.21 15.4.21	26.3.21	26.3.21	Online
24.	Stepper motor control	8.4.21	8.4.21 15.4.21	26.3.21	26.3.21	Online
25.	Digital clock	8.4.21	8.4.21 15.4.21	26.3.21	26.3.21	Online
26.	Keyboard andDisplay	22.4.21	22.4.21 30.4.21	9.4.21	9.4.21	Online
27.	Printerstatus	22.4.21	22.4.21 30.4.21	9.4.21	9.4.21	Online

28.	Serial interface and Parallel interface	22.4.21	22.4.21 30.4.21	9.4.21	9.4.21	Online
29.	A/D and D/A interface and Waveform Generation	14.5.21	14.5.21 20.5.21	16.4.21	16.4.21	Online
30.	Basic arithmetic and Logical operations	14.5.21	14.5.21 20.5.21	16.4.21	16.4.21	Online
31.	Square and Cube program, Find 2's complement of a number	27.5.21	27.5.21	25.4.21	25.4.21 29.5.21	Online
32.	Unpacked BCD to ASCII	27.5.21	27.5.21	15.5.21	15.5.21	Online

PERI INSTITUTE OF TECHNOLOGY**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING****ACADEMIC YEAR 2020-2021 EVEN SEMESTER**

Sub. Code /Sub.Name : EC8491 / COMMUNICATION THEORY

Regulation : R2017

Class/Sem/Sec : II ECE/IV

Staff In-charge : Mr.K.Kannadasan

S. No	Topic to be Covered	Proposed Date	Actual Date	Teaching Method	Reference Material
II ECE COURSE PLAN					
UNIT-I AMPLITUDE MODULATION					
1.	Introduction Communication Theory, Amplitude Modulation	3.3.21	3.3.21	online	T 1 & R1
2.	DSBSC Modulation index, Spectra, Power relations and Bandwidth	4.3.21&5.3.21	4.3.21&5.3.21	online	T 1 & R1
3.	DSBFC Modulation index, Spectra, Power relations and Bandwidth	6.3.21	6.3.21	online	T 1 & R1
4.	SSB, VSB – Modulation index, Spectra, Power relations and Bandwidth	7.3.21	7.3.21	online	T 1 & R1
5.	AM Generation – Square law and Switching modulator,	8.3.21	8.3.21	online	T 1 & R1
6.	DSBSC Generation –Balanced and Ring Modulator,	9.3.21	9.3.21	online	T 1 & R1
7.	SSB Generation – Filter, Phase Shift and Third Methods	10.3.21	10.3.21	online	T 1 & R1
8.	VSB Generation – Filter Method	10.3.21	10.3.21	online	T 1 & R1
9.	Hilbert Transform, Pre-envelope & complex envelope	11.3.21	11.3.21	online	T 1 & R1
10.	Comparison of different AM techniques, Super heterodyne receiver	11.3.21	11.3.21	online	T 1 & R1
UNIT-II ANGLE MODULATION					
11.	Phase and frequency modulation	12.3.21	12.3.21	online	T 1 & R1
12.	Narrow Band - Modulation index, Spectra, Power relations and Transmission Bandwidth	15.3.21	15.3.21	online	T 1 & R1
13.	Wide band FM- Modulation index, Spectra, Power relations and Transmission Bandwidth	16.3.21&17.3.21	16.3.21&17.3.21	online	T 1 & R1
14.	FM modulation –Direct methods	18.3.21	18.3.21	online	T2 & R2
15.	FM modulation –Indirect methods	19.3.21	19.3.21	online	T 2 & R2
16.	FM Demodulation- FM to AM conversion	22.3.21	22.3.21	online	T 2 & R2
17.	FM Discriminator - PLL as	23.3.21	23.3.21	online	T 2 & R2

	FM Demodulator.				
UNIT-III RANDOM PROCESS					
18.	Random variables	6.4.21	6.4.21	online	T 2 & R1
19.	Random Process	9.4.21	9.4.21	online	T 2 & R1
20.	Stationary Processes	10.4.21	10.4.21	online	T 2 & R1
21.	Mean, Correlation & Covariance functions	13.4.21	13.4.21	online	T2 & R1
22.	Power Spectral Density	13.4.21	13.4.21	online	T 2 & R2
23.	Ergodic Processes	15.4.21	15.4.21	online	T 2 & R2
24.	Gaussian Process	15.4.21	15.4.21	online	T 2 & R1
25.	Transmission of a Random Process Through a LTI filter	16.4.21	16.4.21	online	T 2 & R2
26.	Problems in mean	16.4.21	16.4.21	online	T 2 & R1
27.	Problems in Random process	16.4.21	16.4.21	online	T 2 & R2
UNIT-IV NOISE CHARACTERISTICS					
28.	Noise sources	17.4.21	17.4.21	online	R1 & R2
29.	Noise figure, noise temperature and noise bandwidth	24.4.21	24.4.21	online	R1 & R2
30.	Noise in cascaded systems.	24.4.21	24.4.21	online	R1 & R2
31.	Representation of Narrow band noise In-phase	23.4.21	23.4.21	online	R1 & R2
32.	Representation of Narrow band noise quadrature	23.4.21	23.4.21	online	R1 & R2
33.	Noise performance analysis in AM with Threshold effect	27.4.21	27.4.21	online	R1 & R2
34.	Noise performance analysis in AM with Threshold effect(coherent)	27.4.21	27.4.21	online	R1 & R2
35.	Envelope and Phase – Noise performance analysis in FM systems with Threshold effect	28.4.21 & 30.4.21	28.4.21 & 30.4.21	online	R1 & R2
36.	Pre-emphasis and deemphasis for FM	30.4.21	30.4.21	online	R1 & R2
37.	Noise sources	30.4.21	30.4.21	online	R1 & R2
UNIT-V INFORMATION THEORY					
38.	Low pass sampling – Aliasing-Signal Reconstruction	1.10.21	1.10.21	online	R2 & R3
39.	Quantization - Uniform & non- uniform quantization	18.10.21-22.10.21	18.10.21-22.10.21	online	R2 & R3
40.	Quantization noise	26.10.21	26.10.21	online	R2 & R3
41.	PAM, PPM, PWM,	26.10.21	26.10.21	online	R2 & R3
42.	PCM.	26.10.21	26.10.21	online	R2 & R3
43.	TDM	28.10.21	28.10.21	online	R2 & R3
44.	FDM.	28.10.20	28.10.20	online	R2 & R3
45.	FDM.	29.10.21	29.10.21	online	

TEXT BOOKS:

1. J.G.Proakis, M.Salehi, "Fundamentals of Communication Systems", Pearson Education 2014. (UNIT I-IV)
2. Simon Haykin, "Communication Systems", 4th Edition, Wiley, 2014.(UNIT I-V)

REFERENCES:

1. B.P.Lathi, "Modern Digital and Analog Communication Systems", 3rd Edition, Oxford University Press, 2007.
2. D.Roody, J.Coolen, —Electronic Communications, 4th edition PHI 2006
3. A.Papoulis, "Probability, Random variables and Stochastic Processes", McGraw Hill, 3rd edition, 1991.
4. B.Sklar, "Digital Communications Fundamentals and Applications", 2nd Edition Pearson Education 2007
5. H P Hsu, Schaum Outline Series - "Analog and Digital Communications" TMH 2006
6. Couch.L., "Modern Communication Systems", Pearson, 2001.

PERI Institute of Technology
Department of Electronics and Communication Engineering
ACADEMIC YEAR 2020-2021 EVEN SEMESTER

Course File History

Department : Electronics and Communication
 Regulation : B.E. (R2017)
 Subject Name : ELECTRONIC CIRCUITS - II
 Subject Code : EC 8452
 Year of Establishment (Course) : 2020-21
 Faculty In-charge: :Mrs.Renuga

Course Plan:

S. No.	Topics to be covered	Proposed Date	Actual Date	Teaching Method	Reference Material
UNIT-I: FEEDBACK AMPLIFIERS AND STABILITY					
1.	Feedback Concepts – gain with feedback	3.3.21	3.3.21	online	T1,R2
2.	Effect of feedback on gain stability, distortion, bandwidth	4.3.21&5.3.21	4.3.21&5.3.21	online	T1,R2
3.	Input and output impedances	6.3.21	6.3.21	online	T1,R2
4.	Series-Series Feedback amplifier	7.3.21	7.3.21	online	T1,R2
5.	Shunt - Shunt Feedback amplifier	8.3.21	8.3.21	online	T1,R2
6.	Shunt-Series Feedback amplifier	9.3.21	9.3.21	online	T1,R2
7.	Stability problem- Gain and Phase margins	10.3.21	10.3.21	online	T1,R2
8.	Frequency compensation	11.3.21	11.3.21	online	T1,R2
UNIT-II: Oscillators					
9.	Barkhausen criterion for oscillation	12.3.21	12.3.21	online	T1,R2
10.	Phase shift oscillator	15.3.21	15.3.21	online	T1,R2
11.	Wien bridge oscillator	16.3.21&17.3.21	16.3.21&17.3.21	online	T1,R2
12.	Hartley oscillator	18.3.21	18.3.21	online	T1,R2
13.	Colpitt's oscillator	19.3.21	19.3.21	online	T1,R2
14.	Clapp oscillator	22.3.21	22.3.21	online	T1,R2
15.	Ring oscillators and crystal oscillators	23.3.21	23.3.21	online	T1,R2
16.	Oscillator amplitude stabilization	29.3.21	29.3.21	online	T1,R2
UNIT-III: Tuned Amplifiers					
17.	Coil losses, unloaded and loaded Q of tank circuits	6.4.21	6.4.21	online	T1,R2

18.	Small signal tuned amplifiers	9.4.21	9.4.21	online	T1,R2
19.	Single tuned amplifier	10.4.21	10.4.21	online	T1,R2
20.	Double tuned amplifier	13.4.21	13.4.21	online	T1,R2
21.	Effect of cascading single tuned and double tuned amplifiers on bandwidth	13.4.21	13.4.21	online	T1,R2
22.	Stagger tuned amplifiers	15.4.21	15.4.21	online	T1,R2
23.	Stability of tuned amplifiers	15.4.21	15.4.21	online	T1,R2
24.	Neutralization - Hazeltine neutralization method.	16.4.21	16.4.21	online	T1,R2
UNIT-IV: Wave Shaping and Multivibrators					
25.	Pulse circuits and attenuators	17.4.21	17.4.21	online	T1,R2
26.	Integrator circuit	24.4.21	24.4.21	online	T1,R2
27.	Differentiator circuit	24.4.21	24.4.21	online	T1,R2
28.	Clippers and Clampers	23.4.21	23.4.21	online	T1,R2
29.	Astable Multivibrators	27.4.21	27.4.21	online	T1,R2
30.	Monostable and Bistable Multivibrators	28.4.21 &30.4.21	28.4.21 &30.4.21	online	T1,R2
31.	Schmitt Trigger	30.4.21	30.4.21	online	T1,R2
32.	UJT Oscillator	30.4.21	30.4.21	online	T1,R2
UNIT-V: Power Amplifiers and DC converters					
33.	Power amplifiers- Introduction	1.10.21	1.10.21	online	T1,R2
34.	Class A - Class B - Class AB -Class C Amplifiers	18.10.21- 22.10.21	18.10.21- 22.10.21	online	T1,R2
35.	Power MOSFET-Temperature Effect	26.10.21	26.10.21	online	T1,R2
36.	Class AB Power amplifier using MOSFET	26.10.21	26.10.21	online	T1,R2
37.	DC/DC convertors – Introduction	26.10.21	26.10.21	online	T1,R2
38.	Buck converter - analysis and design	28.10.21	28.10.21	online	T1,R2
39.	Boost converter - analysis and design	28.10.20	28.10.20	online	T1,R2
40.	Buck-Boost analysis and design	29.10.21	29.10.21	online	T1,R2

TEXT BOOK:

1. Donald .A. Neamen, Electronic Circuit Analysis and Design –2nd Edition,TataMcGraw Hill, 2009.

REFERENCES:

1. Adel .S. Sedra, Kenneth C. Smith, “Micro Electronic Circuits”, 6th Edition, Oxford University Press, 2010.

2. David A., “Bell Electronic Devices and Circuits”, Oxford Higher Education Press, 5th Edition, 2010
3. Behzad Razavi, “Design of Analog CMOS Integrated Circuits”, Tata Mc Graw Hill, 2007.
4. Paul Gray, Hurst, Lewis, Meyer “Analysis and Design of Analog Integrated Circuits”, 4th Edition, John Wiley & Sons 2005
5. Millman, J. and Halkias C.C, “Integrated Electronics”, Mc Graw Hill, 2001.
6. D. Schilling and C. Belove, “Electronic Circuits”, 3rd Edition, Mc Graw Hill, 1989.
7. Robert L. Boylestad and Louis Nashersky, “Electronic Devices and Circuit Theory”, 10th Edition, Pearson Education / PHI, 2008.

PERI INSTITUTE OF TECHNOLOGY

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2020-2021 EVEN SEMESTER

Sub. Code /Sub.Name : EC 8453/ LINEAR INTEGRATED CIRCUITS

Regulation : R2017

Class/Sem/SeM : IIECE

StaffIn-charge :Mr.Thiyagarajan

S. No.	Topic	Proposed Date	Actual Date	Content Delivery Method	Reference Book no. & Page no.
UNIT I- BASICS OF OPERATIONAL AMPLIFIERS					
1.	Current mirror and current sources	3.3.21	3.3.21	online	R6 37
2.	Current sources as active loads	4.3.21	4.3.21	online	R6 57
3.	Voltage sources	5.3.21	5.3.21	online	R6 57
4.	Voltage References	6.3.21	6.3.21	online	R6 60
5.	BJT Differential amplifier with active loads	7.3.21	7.3.21	online	R6 83
6.	Basic information about op-amps – Ideal Operational Amplifier - General operational amplifier stages	8.3.21	8.3.21	online	T1 44, 49
7.	Internal circuit diagrams of IC 741	9.3.21	9.3.21	online	T1 62
8.	DC performance characteristics	10.3.21	10.3.21	online	T1 117
9.	AC performance characteristics	11.3.21	11.3.21	online	T1 126
10.	Slew rate	11.3.21	11.3.21	online	T1 140
11.	Open and closed loop configurations	11.3.21	11.3.21	online	R6 139, 141
UNIT-II- APPLICATIONS OF OPERATIONAL AMPLIFIERS					
12.	Sign Changer, Scale Changer, Voltage Follower	12.3.21	12.3.21	online	R6 183, 186
13.	Phase Shift Circuits	15.3.21	15.3.21	online	R6 184
14.	V-to-I and I-to-V converters	16.3.21	16.3.21	online	T2 61
15.	adder, subtractor	17.3.21	17.3.21	online	T2 17, 19
16.	Instrumentation amplifier	18.3.21	18.3.21	online	T2 79

17.	Integrator, Differentiator	19.3.21	19.3.21	online	T2 20
18.	Logarithmic amplifier, Antilogarithmic amplifier	22.3.21	22.3.21	online	R6 215, 218
19.	Comparators	22.3.21	22.3.21	online	T2 399
20.	Schmitt trigger	23.3.21	23.3.21	online	T2 416
21.	Precision rectifier	23.3.21	23.3.21	online	T2 422
22.	peak detector, clipper and clamper	29.3.21	29.3.21	online	T2 433
23.	Low-pass, high-pass and band-pass Butterworth filters	29.3.21	29.3.21	online	R6 254
UNIT-III- ANALOG MULTIPLIER AND PLL					
24.	Analog Multiplier using Emitter Coupled Transistor Pair	6.4.21	6.4.21	online	R6 396
25.	Gilbert Multiplier cell	9.4.21	9.4.21	online	R6 398
26.	Variable transconductance technique	10.4.21	10.4.21	online	R6 404
27.	analog multiplier ICs and their applications	13.4.21	13.4.21	online	R6 406
28.	Operation of the basic PLL, Closed loop analysis	13.4.21	13.4.21	online	R6 415
29.	Voltage controlled oscillator	13.4.21	13.4.21	online	R6 424
30.	Monolithic PLL IC 565	15.4.21	15.4.21	online	R6 431
31.	application of PLL for AM detection, FM detection	15.4.21	15.4.21	online	R6 441
32.	application of PLL for FSK modulation and demodulation and Frequency synthesizing	16.4.21	16.4.21	online	R6 439
33.	Problems	16.4.21	16.4.21	online -	-
UNIT-IV- ANALOG TO DIGITAL AND DIGITAL TO ANALOG CONVERTERS					
34.	Analog and Digital Data Conversions	17.4.21	17.4.21	online	T2 559
35.	D/A converter – specifications	24.4.21	24.4.21	online	T2 561
36.	weighted resistor type, R-2R Ladder type, Voltage Mode and Current- Mode R - 2R Ladder types	24.4.21	24.4.21	online	T2 567
37.	switches for D/A converters	23.4.21	23.4.21	online	R6 466

38.	high speed sample-and-hold circuits	27.4.21	27.4.21	online	R6 479
39.	A/D Converters – specifications	27.4.21	27.4.21	online	T2 565
40.	Flash type – Successive Approximation type	28.4.21	28.4.21	online	T2 590,584
41.	Single Slope type – Dual Slope type	28.4.21	28.4.21	online	R6 494
42.	A/D Converter using Voltage-to-Time Conversion	30.4.21	30.4.21	online	R6 498
43.	Over-sampling A/D Converters	30.4.21	30.4.21	online	R6 503
UNIT-V- WAVEFORM GENERATORS AND SPECIAL FUNCTION ICS					
44.	Sine-wave generators	1.10.21	1.10.21	online	T1 250
45.	Multivibrators	1.10.21	1.10.21	online	R6 326
46.	Triangular wave generator, Saw-tooth wave generator	18.10.21	18.10.21	online	R6 332
47.	ICL8038 function generator	18.10.21	18.10.21	online	R6 336
48.	Timer IC 555	22.10.21	22.10.21	online	T2 465
49.	IC Voltage regulators – Three terminal fixed and adjustable voltage regulators	22.10.21	22.10.21	online	R6 368
50.	IC 723 general purpose regulator	22.10.21	22.10.21	online	T1 272
51.	Monolithic switching regulator	26.10.21	26.10.21	online	R1 716
52.	Switched capacitor filter IC MF10	26.10.21	26.10.21	online	R6 306
53.	Frequency to Voltage and Voltage to Frequency converters	28.10.20	28.10.20	online	T2 486
54.	Audio Power amplifier	28.10.20	28.10.20	online	R6 530
55.	Video Amplifier, Isolation Amplifier	29.10.21	29.10.21	online	R6 538
56.	Opto-couplers, fibre optic IC	29.10.21	29.10.21	online	R6 308

TEXT BOOKS:

1. D.RoyChoudhry, ShailJain, -Linear Integrated Circuitsl, New Age International Pvt. Ltd., 2018, Fifth Edition. (Unit I – V)
2. Sergio Franco, -Design with Operational Amplifiers and Analog Integrated Circuitsl, 4th Edition, Tata McGraw-Hill, 2016 (Unit I –V)

REFERENCES:

1. RamakantA.Gayakwad, -OP-AMPandLinearICsl, 4thEdition, PrenticeHall/ Pearson Education, 2015.
2. Robert F.Coughlin, Frederick F.Driscoll, -Operational Amplifiers and Linear Integrated Circuitsl, Sixth Edition, PHI, 2001.

3. B.S.Sonde,-Systemdesignusing Integrated CircuitsI,2ndEdition,NewAge Pub,2001.
4. Gray and Meyer, -Analysis and Design of Analog Integrated CircuitsI, WileyInternational,5th Edition,2009.
5. William D.Stanley, -Operational Amplifiers with Linear Integrated CircuitsI, Pearson Education,4thEdition,2001.
6. S.Salivahanan&V.S.KanchanaBhaskaran,-LinearIntegratedCircuitsI,TMH,2ndEdition, 4th Reprint,2016.

PERI INSTITUTE OF TECHNOLOGY
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2019-2020 EVEN SEMESTER
TEST PLAN

Sub. Code /Sub.Name : EC 8453/ LINEAR INTEGRATED CIRCUITS
Regulation : R2017
Class/Sem : IIECE / IV
StaffIn-charge :Mrs.UMA MAHESHWARI.P

Unit No	Test questions	Test date
UNIT I	Explain the AC characteristics of an operational amplifier	11.12.19
	Draw the circuit diagram of a basic current mirror	18.12.19

	and explain its operation	
UNIT II	Design a fourth order Butterworth LPF having a upper cutoff frequency of 1 KHz.	08.01.20
	Explain the operation of the following op-amp applications. 1. Scale Changer 2. Voltage follower 3. Non-Inverting adder	13.01.20
UNIT III	Draw the basic schematic of the PLL and explain its operation.	29.01.20
	With neat simplified internal diagram, explain the working principle of Operational Transconductance amplifier	06.02.20
UNIT IV	Explain the weighted resistor type and R-2R type DAC	12.02.20
	Compare the properties of Successive Approximation type and dual slope type converter (8) (Analyze) [NOV/DEC	26.02.20
UNIT V	Describe the operation of astablemultivibrator using op amp	18.03.20

PERI INSTITUTE OF TECHNOLOGY

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2020-2021 EVEN SEMESTER

Sub. Code /Sub.Name : EC8094- SATELLITE COMMUNICATION

Regulation : R2017

Class/Sem/Sec : IV/VIII/A1

Staff In-charge :Sundari B

S.No	Topic to be Covered	Proposed Date	Actual Date	Teaching Method	Reference Material
UNIT I SATELLITE ORBITS					
1.	Introduction Satellite Communication	4.3.21	4.3.21	Online	T1 & R1
2.	Kepler's Laws, Newton's law	5.3.21	5.3.21	Online	T1 & R1
3.	Orbital parameters, orbital perturbations	9.3.21	9.3.21	Online	T1 & R1
4.	Station keeping, geo stationary,	10.3.21	10.3.21	Online	T1 & R1
5.	Non Geo-stationary orbits	10.3.21	10.3.21	Online	T1 & R1
6.	Look Angle Determination, Limits of visibility	11.3.21	11.3.21	Online	T1 & R1
7.	Eclipse-Sub satellite point	11.3.21	11.3.21	Online	T1 & R1
8.	Sun transit outage	15.3.21	15.3.21	Online	T1 & R1
9.	Launching Procedures -,launch vehicles and propulsion.	15.3.21	15.3.21	Online	T1 & R1
UNIT II : SPACE SEGMENT					
10.	Spacecraft Technology-Structure	18.3.21	18.3.21	Online	T1 & R1
11.	Primary power, Attitude and Orbit control	19.3.21	19.3.21	Online	T1 & R1
12.	Thermal control and Propulsion	22.3.21	22.3.21	Online	T1 & R1
13.	Communication Payload and	24.3.21	24.3.21	Online	T2 & R2
14.	Supporting subsystems	25.3.21	25.3.21	Online	T2 & R2
15.	Telemetry	26.3.21	26.3.21	Online	T2 & R2
16.	Tracking and command	29.3.21	29.3.21	Online	T2 & R2
17.	Transponders	30.3.21	30.3.21	Online	T2 & R2
18.	The Antenna Subsystem.	31.3.21	31.3.21	Online	T2 & R2
UNIT III SATELLITE LINK DESIGN					

19.	Basic link analysis	1.4.21	1.4.21	Online	R1
20.	Interference analysis	6.4.21	6.4.21	Online	R1
21.	Interference analysis contd	7.4.21	7.4.21	Online	R1
22.	Rain induced attenuation	13.4.21	13.4.21	Online	R1
23.	Rain induced interference	15.4.21	15.4.21	Online	R1
24.	Ionospheric characteristics	21.4.21	21.4.21	Online	R1
25.	Ionospheric characteristics contd	22.4.21	22.4.21	Online	R1
26.	Link Design with frequency reuse	27.4.21	27.4.21	Online	R1
27.	Link Design without frequency reuse	28.4.21	28.4.21	Online	R1
UNIT IV SATELLITE ACCESS AND CODING METHODS					
28.	Modulation and Multiplexing	29.4.21	29.4.21	Online	R6
29.	Voice, Data, Video	18.5.21	18.5.21	Online	R6
30.	Analog – digital transmission system	20.5.21	20.5.21	Online	R6
31.	Digital video Broadcast	24.5.21	24.5.21	Online	R6
32.	Multiple access: FDMA, TDMA	25.5.21	25.5.21	Online	R6
33.	CDMA	26.5.21	26.5.21	Online	R6
34.	DAMA Assignment Methods,compression	26.5.21	26.5.21	Online	R6
35.	Encryption	27.5.21	27.5.21	Online	R6
36.	Coding Schemes	27.5.21	27.5.21	Online	R6
UNIT V SATELLITE APPLICATIONS					
37.	INTELSAT Series	28.5.21	28.5.21	Online	R7
38.	INSAT, VSAT	28.5.21	28.5.21	Online	R7
39.	Mobile satellite services: GSM,	28.5.21	28.5.21	Online	R7
40.	GPS, INMARSAT	29.5.21	29.5.21	Online	R7
41.	LEO, MEO	29.5.21	29.5.21	Online	R7
42.	Satellite Navigational System	5.6.21	5.6.21	Online	R7
43.	GPS Position Location Principles	5.6.21	5.6.21	Online	R7
44.	Differential GPS	12.6.21	12.6.21	Online	R7
45.	Direct Broadcast satellites (DBS/DTH).	12.6.21	12.6.21	Online	R7

Text Books:

1. Dennis Roddy, Satellite Communication, 4th Edition, Mc Graw Hill International, 2006.
2. Timothy, Pratt, Charles, W. Bostain, Jeremy E. Allnutt, "Satellite Communication, 2nd Edition, Wiley Publications, 2002

References:

1. Wilbur L. Pritchard, Hendri G. Suyderhoud, Robert A. Nelson, Satellite Communication Systems Engineering, Prentice Hall/Pearson, 2007.
2. N. Agarwal, Design of Geosynchronous Space Craft, Prentice Hall, 1986.
3. Bruce R. Elbert, The Satellite Communication Applications, Hand Book, Artech House Boston London, 1997.
4. Tri T. Ha, Digital Satellite Communication, II nd edition, 1990.
5. Emanuel Fthenakis, Manual of Satellite Communications, Mc Graw Hill Book Co., 1984.
6. Robert G. Winch, Telecommunication Trans Mission Systems, Mc Graw-Hill Book Co., 1983.
7. Brian Ackroyd, World Satellite Communication and earth station Design, BSP professional Books, 1990.
8. G.B. Bleazard, Introducing Satellite communications, NCC Publication, 1985.

PERI INSTITUTE OF TECHNOLOGY

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2020-2021 EVEN SEMESTER

Sub. Code /Sub.Name : EC8094- SATELLITE COMMUNICATION

Regulation : R2017

Class/Sem/Sec : IV/VIII/A2

Staff In-charge :Sreedevi B

S.No	Topic to be Covered	Proposed Date	Actual Date	Teaching Method	Reference Material
UNIT I SATELLITE ORBITS					
46.	Introduction Satellite Communication	4.3.21	4.3.21	Online	T1 & R1
47.	Kepler"s Laws, Newton"s law	5.3.21	5.3.21	Online	T1 & R1
48.	Orbital parameters, orbital perturbations	9.3.21	9.3.21	Online	T1 & R1
49.	Station keeping, geo stationary,	10.3.21	10.3.21	Online	T1 & R1
50.	Non Geo-stationary orbits	10.3.21	10.3.21	Online	T1 & R1
51.	Look Angle Determination, Limits of visibility	11.3.21	11.3.21	Online	T1 & R1
52.	Eclipse-Sub satellite point	11.3.21	11.3.21	Online	T1 & R1
53.	Sun transit outage	15.3.21	15.3.21	Online	T1 & R1
54.	Launching Procedures -,launch vehicles and propulsion.	15.3.21	15.3.21	Online	T1 & R1
UNIT II : SPACE SEGMENT					
55.	Spacecraft Technology-Structure	18.3.21	18.3.21	Online	T1 & R1
56.	Primary power, Attitude and Orbit control	19.3.21	19.3.21	Online	T1 & R1
57.	Thermal control and Propulsion	22.3.21	22.3.21	Online	T1 & R1
58.	Communication Payload and	24.3.21	24.3.21	Online	T2 & R2
59.	Supporting subsystems	25.3.21	25.3.21	Online	T2 & R2
60.	Telemetry	26.3.21	26.3.21	Online	T2 & R2
61.	Tracking and command	29.3.21	29.3.21	Online	T2 & R2
62.	Transponders	30.3.21	30.3.21	Online	T2 & R2
63.	The Antenna Subsystem.	31.3.21	31.3.21	Online	T2 & R2
UNIT III SATELLITE LINK DESIGN					

64.	Basic link analysis	1.4.21	1.4.21	Online	R1
65.	Interference analysis	6.4.21	6.4.21	Online	R1
66.	Interference analysis contd	7.4.21	7.4.21	Online	R1
67.	Rain induced attenuation	13.4.21	13.4.21	Online	R1
68.	Rain induced interference	15.4.21	15.4.21	Online	R1
69.	Ionospheric characteristics	21.4.21	21.4.21	Online	R1
70.	Ionospheric characteristics contd	22.4.21	22.4.21	Online	R1
71.	Link Design with frequency reuse	27.4.21	27.4.21	Online	R1
72.	Link Design without frequency reuse	28.4.21	28.4.21	Online	R1
UNIT IV SATELLITE ACCESS AND CODING METHODS					
73.	Modulation and Multiplexing	29.4.21	29.4.21	Online	R6
74.	Voice, Data, Video	18.5.21	18.5.21	Online	R6
75.	Analog – digital transmission system	20.5.21	20.5.21	Online	R6
76.	Digital video Broadcast	24.5.21	24.5.21	Online	R6
77.	Multiple access: FDMA, TDMA	25.5.21	25.5.21	Online	R6
78.	CDMA	26.5.21	26.5.21	Online	R6
79.	DAMA Assignment Methods,compression	26.5.21	26.5.21	Online	R6
80.	Encryption	27.5.21	27.5.21	Online	R6
81.	Coding Schemes	27.5.21	27.5.21	Online	R6
UNIT V SATELLITE APPLICATIONS					
82.	INTELSAT Series	28.5.21	28.5.21	Online	R7
83.	INSAT, VSAT	28.5.21	28.5.21	Online	R7
84.	Mobile satellite services: GSM,	28.5.21	28.5.21	Online	R7
85.	GPS, INMARSAT	29.5.21	29.5.21	Online	R7
86.	LEO, MEO	29.5.21	29.5.21	Online	R7
87.	Satellite Navigational System	5.6.21	5.6.21	Online	R7
88.	GPS Position Location Principles	5.6.21	5.6.21	Online	R7
89.	Differential GPS	12.6.21	12.6.21	Online	R7
90.	Direct Broadcast satellites (DBS/DTH).	12.6.21	12.6.21	Online	R7

Text Books:

1. Dennis Roddy, Satellite Communication, 4th Edition, Mc Graw Hill International, 2006.
2. Timothy, Pratt, Charles, W. Bostain, Jeremy E. Allnutt, "Satellite Communication, 2nd Edition, Wiley Publications, 2002

References:

1. Wilbur L. Pritchard, Hendri G. Suyderhoud, Robert A. Nelson, Satellite Communication Systems Engineering, Prentice Hall/Pearson, 2007.
2. N. Agarwal, Design of Geosynchronous Space Craft, Prentice Hall, 1986.
3. Bruce R. Elbert, The Satellite Communication Applications, Hand Book, Artech House Boston London, 1997.
4. Tri T. Ha, Digital Satellite Communication, II nd edition, 1990.
5. Emanuel Fthenakis, Manual of Satellite Communications, Mc Graw Hill Book Co., 1984.
6. Robert G. Winch, Telecommunication Trans Mission Systems, Mc Graw-Hill Book Co., 1983.
7. Brian Ackroyd, World Satellite Communication and earth station Design, BSP professional Books, 1990.
8. G.B. Bleazard, Introducing Satellite communications, NCC Publication, 1985.

PERI INSTITUTE OF TECHNOLOGY

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ACADEMIC YEAR 2020-2021 EVEN SEMESTER

Sub. Code /Sub.Name : EC 8652 **WIRELESS COMMUNICATION**

Regulation : R2017

Class/Sem/Sec : III A

StaffIn-charge : Mrs. SUNDARI B

Lecture No.	Topic	Proposed Date	Actual Date	Teaching Aid	Reference Book
UNIT-1-WIRELESS CHANNEL					
1.	Introduction to radio wave propagation,	18.2.21	18.2.21	ONLINE	T1 &R1
2.	Free space model	20.2.21	20.2.21	ONLINE	T1 &R1
3.	Ground reflection (two ray) model	22.2.21	22.2.21	ONLINE	T1 &R1
4.	Link Budget design- Log-distance Path loss, Log-normal shadowing and determination of coverage area	23.2.21	23.2.21	ONLINE	T1 &R1
5.	Small scale fading and factors influencing small scale fading.	24.2.21	24.2.21	ONLINE	T1 &R1
6.	Parameters of multipath channels- time dispersion parameters and coherence bandwidth	25.2.21	25.2.21	ONLINE	T1 &R1
7.	Doppler spread & Coherence time	27.2.21	27.2.21	ONLINE	T1 &R1
8.	Fading due to Multipath time delay spread – flat fading and frequency selective fading	1.3.21-2.3.21	1.3.21-2.3.21	ONLINE	T1 &R1
9.	Fading due to Doppler spread – fast fading – slow fading	3.3.21-4.3.21	3.3.21-4.3.21	ONLINE	T1 &R1
UNIT II CELLULAR ARCHITECTURE					4.3.21-8.3.21
10.	Introduction to multiple access technique, FDMA	9.3.21	9.3.21	ONLINE	T1 &R1
11.	TDMA and its efficiency	10.3.21	10.3.21	ONLINE	T1 &R1
12.	CDMA, capacity of cellular CDMA and CDMA with multiple cells	11.3.21	11.3.21	ONLINE	T1 &R1
13.	Introduction to cellular concept, frequency reuse and channel assignment	13.3.21	13.3.21	ONLINE	T1 &R1
14.	Handoff strategies, prioritizing handoffs and practical handoff considerations	15.3.21	15.3.21	ONLINE	T1 &R1

15.	Interference and system capacity-co-channel interference and system capacity	16.3.21	16.3.21	ONLINE	T1 &R1
16.	Channel planning for wireless systems, adjacent channel interference and power control for reducing interference	17.3.21	17.3.21	ONLINE	T1 &R1
17.	Trunking and grade of service	18.3.21	18.3.21	ONLINE	T1 &R1
18.	Coverage and capacity improvement- cell splitting, sectoring, repeaters for range extension and microcell zone concept	21.3.21-23.3.21	21.3.21-23.3.21	ONLINE	T1 &R1
UNIT III DIGITAL SIGNALING FOR FADING CHANNELS					
19.	Structure of a wireless communication link- Transceiver block structure and simplified models	24.3.21	24.3.21	ONLINE	T1 &R1
20.	Principles of Offset-Quadrature Phase Shift Keying	25.3.21	25.3.21	ONLINE	T1 &R1
21.	p/4-Differential Quadrature Phase Shift Keying	29.3.21	29.3.21	ONLINE	T1 &R2
22.	Minimum Shift Keying and Gaussian Minimum Shift Keying	30.3.21	30.3.21	ONLINE	
23.	Error performance in fading channels- Average BER-Channel-classical computation method, alternative method	7.4.21	7.4.21	ONLINE	T1 &R2
24.	Error probability in delay and frequency dispersive fading channels	12.4.21	12.4.21	ONLINE	T1 &R2
25.	Principle of OFDM, Implementation of Transceivers, MC-CDMA system	13.4.21	13.4.21	ONLINE	T1 &R2
26.	Cyclic Prefix and Windowing	15.4.21	15.4.21	ONLINE	T1 &R2
27.	PAPR- origin of PAPR and PAPR reduction techniques	19.4.21-21.4.21	19.4.21-21.4.21	ONLINE	T1 &R2
UNIT IV: MULTIPATH MITIGATION TECHNIQUES					
28.	Introduction to Equalisation- Linear equalization	22.4.21	22.4.21	ONLINE	T1 &R2
29.	Nonlinear equalization- Decision feed back and MLSE equalisation	24.4.21	24.4.21	ONLINE	T1 &R2
30.	Adaptive equalization- Zero forcing and LMS algorithms	26.4.21	26.4.21	ONLINE	T1 &R2
31.	Diversity –Micro and Macrodiversity	27.4.21	27.4.21	ONLINE	T1 &R2
32.	Diversity combining techniques,	28.4.21	28.4.21	ONLINE	T1 &R2
33.	Error probability in fading channels with diversity reception,	29.4.21	29.4.21	ONLINE	T1 &R2
34.	Rake receiver	10.5.21	10.5.21	ONLINE	T1 &R2
UNIT V MULTIPLE ANTENNA TECHNIQUES					
35.	Introduction to MIMO systems	12.5.21-18.5.21	12.5.21-18.5.21	ONLINE	T1 &R2
36.	Spatial Multiplexing and system model	18.5.21	18.5.21	ONLINE	T1 &R2
37.	Precoding	19.5.21	19.5.21	ONLINE	T1 &R2
38.	Transmitter diversity	20.5.21	20.5.21	ONLINE	T1 &R2
39.	Beamforming	24.5.21	24.5.21	ONLINE	T1 &R2
40.	Receiver diversity- Channel state information	25.5.21	25.5.21	ONLINE	T1 &R2
41.	Capacity in flat fading channels	26.5.21	26.5.21	ONLINE	T1 &R2

42.	Capacity in non-fading channels	27.5.21	27.5.21	ONLINE	T1 &R2
43.	Comparison of beamforming, receiver diversity and transmitter diversity	27.5.21	27.5.21	ONLINE	T1 &R2

TEXT BOOKS:

1. Rappaport, T.S., —Wireless communications, Pearson Education, Second Edition, 2010. (UNIT I, II, IV)
2. Andreas.F. Molisch, —Wireless Communications, John Wiley – India, 2006. (UNIT II, V)

REFERENCES:

1. Wireless Communication –Andrea Goldsmith, Cambridge University Press, 2011
2. Van Nee, R. and Ramji Prasad, —OFDM for wireless multimedia communications, Artech House, 2000
3. David Tse and Pramod Viswanath, —Fundamentals of Wireless Communication, Cambridge University Press, 2005.
4. Upena Dalal, —Wireless Communication, Oxford University Press, 2009.

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Regulation : R2017

Class/Sem/Sec : III B

StaffIn-charge : Mrs. ABISHA BENELYN

Lecture No.	Topic	Proposed Date	Actual Date	Teaching Aid	Reference Book
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3.	Ground reflection (two ray) model	22.2.21	22.2.21	ONLINE	T1 &R1
4.	Link Budget design- Log-distance Path loss, Log-normal shadowing and determination of	23.2.21	23.2.21	ONLINE	T1 &R1
5.	Small scale fading and factors influencing small scale fading.	24.2.21	24.2.21	ONLINE	T1 &R1
6.	Parameters of multipath channels- time dispersion parameters and coherence	25.2.21	25.2.21	ONLINE	T1 &R1
7.	Doppler spread & Coherence time	27.2.21	27.2.21	ONLINE	T1 &R1
8.	Fading due to Multipath time delay spread – flat fading and frequency selective fading	1.3.21-2.3.21	1.3.21-2.3.21	ONLINE	T1 &R1
9.	Fading due to Doppler spread – fast fading – slow fading	3.3.21-4.3.21	3.3.21-4.3.21	ONLINE	T1 &R1
UNIT II CELLULAR ARCHITECTURE					4.3.21-8.3.21
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20.	Principles of Offset-Quadrature Phase Shift Keying	25.3.21	25.3.21	ONLINE	T1 &R1
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31.	Diversity –Micro and Macrodiversity	27.4.21	27.4.21	ONLINE	T1 &R2
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35.	Introduction to MIMO systems	12.5.21-18.5.21	12.5.21-18.5.21	ONLINE	T1 &R2

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