

CMR INSTITUTE OF TECHNOLOGY



Session wise – Course Plan

Department of Electrical and Communication Engineering

SEMESTER : V NAME OF THE FACULTY : Mr. Mrinal Jyoti Sarma
 BRANCH : ECE DATE OF COMMENCEMENT : 12/8/16
 SUBJECT : EDPM DATE OF CLOSING : 09.11.2016
 SUBJECT CODE : 10AL51 CLASS STRENGTH : 61
 NO OF HRS/WK : 5 TOTAL HRS : 52

S.No	Chapter no (No of hrs planed for the chapter)	DATE	Topics planned for the session	Teaching Aids	Assignments/ Tests planned for the chapter	Topics covered As per plan
1	1/1	12/8/16	Unit –1 MANAGEMENT: Introduction - Meaning - nature and characteristics of Management	Board, chalk, Duster		
2	2/1	17/8/16	Scope and functional areas of Management - Management as a Science, Art or Profession Management & Administration	„		
3	3/1	18/8/16	Roles of Management, Levels of Management	„		
4	4/1	22/8/16	Development of Management Thought-Early Management Approaches	„	Assignment- I	
5	5/1	24/8/16	Development of Management Thought-Early Management Approaches (contd..)	„		
6	6/1	25/8/16	-Modern Management Approaches	„		
7	1/2	25/8/16	Unit –2 PLANNING: Nature, importance and purpose of planning process - Objectives			

8	2/2	29/8/16	Group activity—planning and management	„		
9	3/2	29/8/16	Types of plans	Board, chalk, Duster		
10	4/2	31/8/16	Decision making - Importance of planning	„	Assignment - II	
11	5/2	01/9/16	steps in planning	„		
12	6/2	10/9/16	planning premises, Hierarchy of plans	„		
13	1/3	14/9/16	Unit –3 ORGANISING AND STAFFING: Nature and purpose of organization	„		
15	2/3	14/9/16	Principles of organization - Types of organization			
16	3/3	15/9/16	Departmentation - Committees – Centralisation Vs Decentralisation of authority	„		
17	4/3	15/9/16	responsibility - Span of control	Board, chalk, Duster		
18	5/3	19/9/16	MBO and MBE	„	Assignment –III	
19	6/3	19/9/16	Nature and importance of Staffing	„		
20	7/3	21/9/16	Process of Selection & Recruitment	„		
21	1/5	22/9/16	Unit –5 ENTREPRENEUR: Meaning of Entrepreneur; Evolution of the Concept	„		
22	2/5	22/9/16	Functions of an Entrepreneur, Types of Entrepreneur	„		
23	3/5	26/9/16	Intrapreneur - an emerging Class. Concept of Entrepreneurship			
24	4/5	26/9/16	Evolution of Entrepreneurship, Development of Entrepreneurship	„	Assignmmt – IV	
25	5/5	28/9/16	Stages in entrepreneurial process	„		
26	6/5	28/9/16	Role of entrepreneurs in Economic Development	„		
27	7/5	29/9/16	Entrepreneurship in India	„		

28	8/5	29/9/16	Entrepreneurship – its Barriers.	Board, chalk, Duster		
29	1/6	03/10/16	Unit –6 SMALL SCALE INDUSTRY: Definition; Characteristics; Need and rationale: Objectives; Scope , role of SSI in Economic Development	„	Assignment - V	
30	2/6	5/10/16	Advantages of SSI Steps to start an SSI - Government policy towards SSI;	„		
31	3/6	06/10/16	Different Policies of S.S.I.; Government Support for S.S.I. during 5 year plans			
32	4/6	10/10/16	Impact of Liberalization, Privatization, Globalization on S.S.I., Effect of WTO/GATT Supporting Agencies of Government for S.S.I			
33	5/6	12/10/16	Nature of Support; Objectives; Functions; Types of Help			
34	6/6	13/10/16	Ancillary Industry and Tiny Industry	„		
35	1/7	17/10/16	Unit –7 Different Schemes; TECKSOK	„		
36	2/7	19/10/16	KIADB	„		
37	3/7	20/10/16	KSSIDC; KSIMC	„		
38	4/7	20/10/16	DIC Single Window Agency	„	Assignment - VI	
39	5/7	24/10/16	DIC Single Window Agency (contd..)	„		
40	6/7	24/10/16	SISI; NSIC; SIDBI; KSFC	„		
41	7/7	26/10/16	SISI; NSIC; SIDBI; KSFC (contd)	„		
42	1/4	27/10/16	Unit –4 DIRECTING & CONTROLLING: Meaning and nature of directing - Leadership styles, Motivation Theories	Board, chalk, Duster		
43	2/4	27/10/16	Communication - Meaning and importance	„	Assignment –VII&VIII	

44	3/4	31/10/16	Coordination, meaning and importance and Techniques of Co-ordination. Meaning and steps in controlling	„		
45	4/4	31/10/16	Coordination, meaning and importance and Techniques of Co-ordination. Meaning and steps in controlling (cont)	„		
46	5/4	2/11/16	Essentials of a sound control system - Methods of establishing control.	„		
47	6/4	3/11/16	Essentials of a sound control system - Methods of establishing control. (cont)	„		
48	1/8	3/11/16	Unit –8 PREPARATION OF PROJECT: Meaning of Project; Project Identification; Project Selection	„		
49	2/8	7/11/16	Project Report; Need and Significance of Report; Contents; formulation; Guidelines by Planning Commission for Project report	„		
50	3/8	7/11/16	Network Analysis; Errors of Project Report; Project Appraisal	„		
51	4/8	9/11/16	Identification of Business Opportunities - Market Feasibility Study	„		
52	5/8	9/11/16	Technical Feasibility Study, Financial Feasibility Study & Social Feasibility Study			

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Department of Electronics & Communication

SEMESTER :V
BRANCH :ECE
SUBJECT :Digital Signal Processing
SUBJECT CODE :10EC52
NO OF HRS/WK:6

NAME OF THE FACULTY: Mr.Krishna Teja
DATE OF COMMENCEMENT:25.07.2016
DATE OF CLOSING:19.11.2016
CLASS STRENGTH:67
TOTAL HRS:68

Sessi on No	Chapter no (No of hrs planed for the chapter)	DATE	Topics planned for the session	Teaching Aids	Assign ments/ Tests planned for the chapter	Topics covered As per plan
1	1/0	1 Aug 2016	Review of Signals and Systems	Board, chalk, duster	A1	
2	2/0	2 Aug 2016	Periodicity of sinusoids	..		
3	3/0	3 Aug 2016	Properties of systems	..		
4	4/0	4 Aug 2016	Convolution	..		
5	5/0	5 Aug 2016	Problems on convolution	..		
6	6/0	8 Aug 2016	Complex exponential as Eigen Function of LTI systems.	..	A2	
7	7/0	9 Aug 2016	Introduction to Fourier Representation of Signals	..		
8	8/0	10 Aug 2016	A problem on Fourier Series, discussion on nature of the spectrum	..		

9	9/0	11 Aug 2016	Trigonometric Fourier Series	..		
10	10/0	12 Aug 2016	Properties of Fourier series, Dirichlet Conditions, Parsevals theorem.	..		
11	11/0	10 Aug 2016	Introduction to Fourier Transform. 1 problem.	..		
12	12/0	12 Aug 2016	Problems on Fourier Transform, Dirac delta function.	..		
13	13/0	13 Aug 2016	Problems on FT	..		
14	14/0	16 Aug 2016	DTFS	..		
15	15/0	17 Aug 2016	Problems on DTFS, Discussion on DTFT	..		
16	1/1	18 Aug 2016	Frequency domain sampling, DFT	..	A3	
17	2/1	19 Aug 2016	DFT and some properties, magnitude and phase spectrum.	..		
18	3/1	20 Aug 2016	Problems on DFT	..		
19	4/1	22 Aug 2016	DFT as linear transformation, some problems.	..		
20	5/1	23 Aug 2016	Recap of DFT as linear transformation, properties of W_n , relationship of DFT to DTFS.	..		
21	6/1	24 Aug 2016	Relationship between DFT and Z transform, DFT and CTFS coefficients, DFT and DTFT	..		
22	1/2	25 Aug 2016	Parsevals theorem, Circular symmetry of a sequence	..		
23	2/2	26 Aug 2016	Circular Symmetries of a sequence	..	A4	

24	3/2	27 Aug 2016	Circular Convolution, derivation, problem solving methods	..		
25	4/2	29 Aug 2016	Additional properties of DFT	..		
26	5/2	30 Aug 2016	Correlation, parsevals theorem, linear convolution using circular convolution.	..		
27	1/3	31 Aug 2016	Filtering of long data sequences, overlap add method	..		
28	2/3	29 Aug 2016	Overlap save method, problem	..		
29	3/3	1 Sep 2016	Introduction to FFT algorithms	..	A5	
30	1/4	2 Sep 2016	Radix 2 DIT FFT algorithm	..		
31	2/4	9 Sep 2016	Problems on DIT FFT algorithm	..		
32	3/4	10 Sep 2016	Problems on DIT FFT algorithm	..		
33	4/4	13 Sep 2016	Problems on DIT FFT algorithm	..		
34	5/4	14 Sep 2016	Computational complexity of DIT FFT, Derivation of DIF FFT	..		
35	6/4	15 Sep 2016	Problems on DIF FFT	..		
36	7/4	16 Sep 2016	Problems on DIF FFT	..		
37	8/4	17 Sep 2016	DIT -IFFT, Goertzel algorithm	..	A6	
38	9/4	19 Sep 2016	Chirp Z transform	..		
39	9/4	20 Sep 2016	DFT of 2 real sequences, DFT of 2N point sequence.	..		

40	1/5	21 Sep 2016	Impulse response of ideal filters.	„	A7	
41	2/5	22 Sep 2016	Basics of filter design, impulse response from even and odd parts.	„		
42	3/5	23 Sep 2016	relationship between real and imaginary parts of frequency response, types of filters	„		
43	4/5	24 Sep 2016	FIR filters, linear phase, different types of FIR filters	„		
44	5/5	26 Sep 2016	Different types of FIR filters, z transforms and frequency response	„		
45	6/5	27 Sep 2016	FIR filter design using windows	„		
46	7/5	28 Sep 2016	Problems on FIR filter design	„		
47	8/5	29 Sep 2016	Problems on FIR filter design	„		
48	9/5	3 Oct 2016	FIR Filter Design using Kaiser window	„		
49	10/5	4 Oct 2016	FIR Filter Design using Kaiser window	„		
50	1/6	5 Oct 2016	IIR filter design, laplace transform, z transform	„	A8	
51	2/6	6 Oct 2016	Introduction to IIR filter design from analog filters	„		
52	3/6	7 Oct 2016	Properties of mapping functions. Introduction to IIR filter design using impulse invariance method	„		
53	4/6	8 Oct 2016	IIR filter design by approximation of derivatives	„		
54	5/6	13 Oct 2016	Approximation of derivatives, problems	„		

55	7/6	14 Oct 2016	Bilinear Transformation	„		
56	8/6	17 Oct 2016	Problems on Bilinear Transformation	„		
57	9/6	18 Oct 2016	Problems on bilinear transformation, matched z transform	„		
58	1/7	19 Oct 2016	Butterworth filter design- derivations	„	A9	
59	2/7	20 Oct 2016	Problems on butterworth filter design	„		
60	3/7	21 Oct 2016	Problems on butterworth filter design	„		
61	4/7	22 Oct 2016	Analog frequency transformations	„		
62	5/7	27 Oct 2016	Chebyshev Filter Design	„		
63	6/7	28 Oct 2016	Chebyshev Filter Design problems	„		
64	7/7	2 Nov 2016	Design of Digital IIR filters	„		
65	1/8	3 Nov 2016	Direct form I and II realization of systems.	„	A10	
66	2/8	4 Nov 2016	Parallel Form, Cascade Form,	„		
67	3/8	5 Nov 2016	Linear Phase FIR structures, Lattice structure realization of filters.	„		
68	4/8	6 Nov 2016	Problems on Linear Phase FIR structures, Lattice structure realization of filters.	„		

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Department of Electronics and Communication

SEMESTER	:V	NAME OF THE FACULTY	: Aritri
BRANCH	: ECE	DATE OF COMMENCEMENT	: 28.07.2016
SUBJECT	: Analog Communication	DATE OF CLOSING	: 9.11.2016
SUBJECT CODE	: 10EC53	CLASS STRENGTH	: 67 n 68
NO OF LECTURES/WK	: 6	TOTAL HRS	: 60

Session No	Chapter no (No of hrs planed for the chapter)	DATE	Topics planned for the session	Teaching Aids	Assignments/ Tests planned for the chapter	Topics covered As per plan
1	1/3	29.07.2016	UNIT - 1 RANDOM PROCESS: Random variables:	Board		
2	2/3	01.08.2016	Several random variables,	„		
3	3/3	02.08.2016	Statistical averages:	„		
4	1/7	3.08.2016	Function of Random variables, moments, Mean, Correlation and Covariance function:			
5	2/7	05.08.2016	Principles of autocorrelation, cross - correlation functions.			
6	3/7	06.08.2016	Central limit theorem,		Assignment- I	
7	4/7	08.08.2016	Properties of Gaussian process.			
8	5/7	09.08.2016	UNIT-2 AMPLITUDE MODULATION: Introduction,			
9	6/7	10.08.2016	AM: Time & Frequency - Domain description.			
10	7/7	12.08.2016	square law modulator			
11	1/5	16.08.2016	switching modulator			
12	2/5	17.08.2016	square law detector			
13	3/5	18.08.2016	envelop detector, coherent detector			
14	4/5	19.08.2016	DSBSC Time & Frequency-Domain representation,			

15	5/5	22.08.2016	Generation of DSBSC waves: balanced modulator,			
16	1/8	23.08.2016	ring modulator.		Assignment -II	
17	2/8	24.08.2016	Coherent detection of DSBSC modulated waves			
18	3/8	25.08.2016	Costas loop			
19	4/8	26.08.2016	UNIT - 3 SINGLE SIDE-BAND MODULATION (SSB): Quadrature carrier multiplexing,			
20	5/8	29.08.2016	Hilbert transform, properties of Hilbert transform			
21	6/8	30.08.2016	Preenvelope, Canonical representation of band pass signals			
22	7/8	31.08.2016	Single side-band modulation, Time & Frequency-Domain description			
23	8/8	01.09.2016	Phase discrimination method for generating an SSB modulated wave			
			Demodulation of SSB waves			
24	1/3	13.09.2016	UNIT - 4 VESTIGIAL SIDE-BAND MODULATION (VSB): Time & Frequency – Domain description,			
25	2/3	14.09.2016	Generation of VSB modulated wave,			
26	3/3	15.09.2016	Envelop detection of VSB			
27	1/11	16.09.2016	Comparison of amplitude modulation techniques		Assignment -III	
28	2/11	19.09.2016	Frequency translation			
29	3/11	20.09.2016	Frequency division multiplexing			
30	4/11	21.09.2016	Application: Radio broadcasting			
31	5/11	22.09.2016	AM radio			
32	6/11	23.09.2016	UNIT - 5 ANGLE MODULATION (FM)-I: Basic definitions, FM			
33	7/11	26.09.2016	narrow band FM			
34	8/11	27.09.2016	wide band FM, transmission bandwidth of FM			
35	9/11	28.09.2016	generation of FM waves: indirect FM			
36	10/11	29.09.2016	direct FM			
37	11/11	03.10.2016	UNIT - 6 ANGLE MODULATION (FM)-II: Demodulation of FM waves			
38	1/6	05.10.2016	FM stereo multiplexing			
39	2/6	06.10.2016	Phase-locked loop		Assignm	

					ent -IV	
40	3/6	07.10.2016	Nonlinear model of the phase – locked loop			
41	4/6	08.10.2016	Linear model of the phase – locked loop			
42	5/6	13.10.2016	Nonlinear effects in FM systems			
43	6/6	17.10.2016	UNIT - 7 NOISE: Introduction, shot noise, thermal noise, white noise			
44	1/5	18.10.2016	Noise equivalent bandwidth, Narrow bandwidth,			
45	2/5	19.10.2016	Noise Figure, Equivalent noise temperature,			
46	3/5	20.10.2016	cascade connection of two-port networks.			
47	4/5	21.10.2016	UNIT - 8 NOISE IN CONTINUOUS WAVE MODULATION SYSTEMS: Introduction, Receiver model			
48	5/5	22.10.2016	Noise in DSB-SC receivers			
			Noise in SSB receivers			
49	1/5	28.10.2016	Noise in AM receivers		Assignment -V	
50	2/5	02.11.2016	Threshold effect			
	3/5	03.11.2016	Noise in FM receivers			
51	4/5	04.11.2016	FM threshold effect			
52	5/5	07.11.2016	Pre-emphasis and De-emphasis in FM			

TEXT BOOKS:

1. **Communication Systems**, Simon Haykins, 5th Edition, John Willey, India Pvt. Ltd, 2009.
2. **An Introduction to Analog and Digital Communication**, Simon Haykins, John Wiley India Pvt. Ltd., 2008

REFERENCE BOOKS:

1. **Modern digital and analog Communication systems** B. P. Lathi, Oxford University Press., 4th ed, 2010,
2. **Communication Systems**, Harold P.E, Stern Samy and A Mahmond, Pearson Edn, 2004.
3. **Communication Systems:** Singh and Sapre: Analog and digital TMH 2nd , Ed 2007.

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Department of Electronics and Communication

SEMESTER : V
BRANCH : ECE
SUBJECT : MWR
SUBJECT CODE: 10EC54
NO OF HRS/WK: 5

NAME OF THE FACULTY : T Ninikrishna
DATE OF COMMENCEMENT : 25.07/2016
DATE OF CLOSING : 9.11.2016
CLASS STRENGTH : 61/62
TOTAL HRS : 52

Sessi on No	Chapter no (No of hrs planed for the chapter)	DATE	Topics planned for the session	Teaching Aids	Assign ments/ Tests planned for the chapter	Topics covere d As per plan
1	1/1	28/7/2016	Unit 1: MICROWAVE TRANSMISSION LINES Introduction	Board, chalk, duster		
2	2/1	29/7/2016	Transmission lines equations and Basics	„		
3	3/1	30/7/2016	Solutions of Transmission lines			
4	4/1	1/8/2016	Reflection and transmission coefficients, Standing Waves and SWR	„		
5	5/1	2/8/2016	Line impedance and Line admittance	„		
6	6/1	3/8/2016	Smith chart and problems related to smith chart	„		
7	7/1	4/8/2016	Impedance matching using single stubs	„		
8	8/1	5/8/2016	Microwave coaxial connectors			
9	1/2	6/8/2016	UNIT - 2 MICROWAVE WAVEGUIDES AND COMPONENTS: Introduction	„	Assignm ent- I	

10	2/2	8/8/2016	TE, TM and TEM modes , Rectangular waveguides: Introduction	Board, chalk, duster		
11	3/2	9/8/2016	Solution of wave equations in Rectangular waveguides (TE and TM modes)	„		
12	4/2	10/8/2016	Circular waveguides: Introduction	„		
13	5/2	11/8/2016	Solution of wave equations in Circular waveguides (TE and TM modes)	„		
14	6/2	12/8/2016	Microwave cavities	„		
15	7/2	16/8/2016	Microwave hybrid circuits	„	Assignm ent -II	
16	8/2	17/8/2016	Directional couplers	„		
17	9/2	18/8/2016	Circulators and Isolators.			
18	1/4	19/8/2016	UNIT - 4 Microwave network theory and passive devices			
19	2/4	20/8/2016	Symmetrical Z and Y parameters			
20	3/4	22/8/2016	Symmetrical Z and Y parameters for reciprocal Networks	„		
21	4/4	23/8/2016	S matrix representation of multi port networks.	„	Assignm ent –III	
22	1/5	24/8/2016	UNIT - 5 Microwave passive devices	„		
23	2/5	25/8/2016	Coaxial connectors and adapters	„		
24	3/5	26/8/2016	Phase shifters	„		
25	4/5	27/8/2016	Attenuators,			
26	5/5	28/8/2016	Waveguide Tees	Board, chalk, duster		
27	6/5	1/9/2016	Magic tees	„		
28	1/6	2/9/2016	UNIT - 6 STRIP LINES: Introduction	„		

29	2/6	9/9/2016	Microstrip lines	„	Assignm nt –IV	
30	3/6	10/9/2016	Parallèle strip lines	„		
31	4/6	13/9/2016	Coplanar strip lines	„		
32	5/6	14/9/2016	Shielded strip Lines	„		
33	1/7	15/9/2016	UNIT - 7 AN INTRODUCTION TO RADAR Introduction	„		
34	2/7	16/9/2016	Basic Radar, The simple form of the Radar equation	„		
35	3/7	17/9/2016	Radar block diagram, Radar frequencies	Board, chalk, duster	Assignm ent -V	
36	4/7	19/9/2016	Application of Radar, Oorigins of Radar	„		
37	1/8	20/9/2016	UNIT - 8 MTI AND PULSE DOPPLER RADAR Introduction to Doppler and MTI Radar	„		
38	2/8	21/9/2016	delay line Cancellers,	„		
39	3/8	22/9/2016	digital MTI processing,	„	Assignm ent -VI	
40	4/8	23/9/2016	Moving target detector,	„		
41	5/8	24/9/2016	pulse Doppler Radar.,	„		
42	1/3	26/9/2016	UNIT - 3 MICROWAVE DIODES, Transfer electron devices: Introduction	„		
43	2/3	27/92016	GUNN effect diodes – GaAs diode	„	Assignm ent -VII	
44	3/3	28/9/2016	RWH theory, Modes of operation	„		
45	4/3	29/9/2016	Avalanche transit time devices: READ diode, IMPATT diode, BARITT diode,	„		
46	5/3	3/10/2016	Parametric amplifiers	„	Assignm ent -VIII	
47	6/3	4/10/2016	Other diodes: PIN diodes, Schottky barrier diodes	„		

48	-	5/10/2016 to 22/10/2016	Discussion on VTU question papers	„		
49	-	27/10/2016	Revision-1			
50	-	28/10/2016	Revision-2			
51	-	2/11/2016	Revision-3			
52	-	3/11/2016	Revision-4			

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Department of Electronics & Communication Engineering

SEMESTER	: V	NAME OF THE FACULTY	: Mr. Harsha B.K. Dr. Sudharshan Shinde
BRANCH	: ECE	DATE OF COMMENCEMENT	: 25.07.2016
SUBJECT	: ITC	DATE OF CLOSING	: 09.11.2016
SUBJECT CODE	: 10EC55	CLASS STRENGTH	: 45
NO OF HRS/WK	: 5	TOTAL HRS	: 62

No	Chapter no (No of hrs planed for the chapter)	Date	Topics planned for the session	Teaching Aids	Assignments/Tests planned for the chapter	Topics covered As per plan
1	-	25-07	Model of communication system, Introduction to Probabilities, Joint probabilities,	Board, chalk, duster		
2	-	26-07	Probability distribution function, Random variables, Discrete random variables,	“_”		
3	-	27-07	Continuous random variables, Random process, Noise in communication system Perquisite	“_”		
4	1/1	28-07	Information theory: Introduction, Measure of information, Average information content of symbols in long independent sequences.	“_”		
5	2/1	29-07	Problems on information content, Calculation of entropy.	“_”		
6	3/1	01-08	Information rate, average information rate. Numerical calculations.	“_”		
7	4/1	02-08	Average information	“_”		

			content of symbols in long dependent sequences.			
8	5/1	03-08	Problems.	“_”		
9	6/1	04-08	Markoff statistical model for information source.	“_”		
10	7/1	05-08	Entropy and Information rate of markoff source.	“_”		
11	8/1	08-08	Problems on markoff sources. Key points.	“_”	Assignment 1	
12	1/2	09-08	Source Coding: Introduction Encoding of the source output, Shannon’s first theorem(Noiseless coding theorem)	“_”		
13	2/2	10-08	Shannon’s encoding algorithm, Numericals.	“_”		
14	3/2	11-08	Shannon Fano encoding algorithm.	“_”		
15	4/2	12-08	Numericals	“_”		
16	5/2	17-08	Communication Channels,	“_”		
17	6/2	18-08	Discrete communication channels,	“_”		
18	7/2	19-08	Numericals	“_”		
19	8/2	20-08	Continuous channels.	“_”		
20	9/2	22-08	Numericals	“_”	Assignment 2	
21	1/3	24-08	Fundamental Limits on Performance: Source coding theorem,	“_”		
22	2/3	25-08	Huffman coding.	“_”		
23	3/3	26-08	Discrete memory less Channels,	“_”		
24	4/3	27-08	Numericals	“_”		
25	5/3	29-08	Mutual information,	“_”		
26	6/3	31-08	Channel Capacity.	“_”		
27	7/3	01-09	Channel Capacity contd.	“_”	Assignment 3	
28	1/4	02-09	Continuous channels: Channel Coding Theorem.	“_”		
29	2/4	09-09	Differential entropy.	“_”		
30	3/4	10-09	Mutual information for continuous ensembles.	“_”		
31	4/4	14-09	Numericals	“_”		
32	5/4	15-09	Channel capacity theorem	“_”		
33	6/4	16-09	Numericals	“_”		
34	7/4	17-09	Numericals	“_”		
35	8/4	19-09	Numericals	“_”	Assignment 4	
36	1/5	21-09	Introduction to Error Control Coding:	“_”		

			Types of errors, examples.			
37	2/5	22-09	Types of Linear Block Codes	“_”		
38	3/5	23-09	Matrix description,	“_”		
39	4/5	24-09	Numericals	“_”		
40	5/5	26-09	Numericals	“_”		
41	6/5	28-09	Error detection and correction,	“_”		
42	7/5	29-09	Numericals	“_”		
43	8/5	03-10	Numericals	“_”		
44	9/5	04-10	Standard arrays and table look up for decoding.	“_”		
45	10/5	05-10	Numericals	“_”		
46	11/5	07-10	Numericals	“_”	Assignment 5	
47	1/6	08-10	Binary Cyclic Codes: Introduction to bcc	“_”		
48	2/6	13-10	Algebraic structures of cyclic codes,	“_”		
49	3/6	14-10	Encoding using an (n-k) bit shift register,	“_”		
50	4/6	17-10	Numericals	“_”		
51	5/6	18-10	Syndrome calculation, BCH codes.	“_”		
52	6/6	19-10	Numericals	“_”	Assignment 6	
53	1/7	20-10	Other Error Control Codes: RS Codes.	“_”		
54	2/7	21-10	Golay codes.	“_”		
55	3/7	22-10	Shortened cyclic codes,	“_”		
56	4/7	27-10	Burst error correcting codes,	“_”		
57	5/7	02-11	Burst and Random Error correcting codes.	“_”		
58	1/8	03-11	Convolution Codes: Introduction, Time domain approach	“_”	Assignment 7	
59	2/8	04-11	Transform domain approach	“_”		
60	3/8	05-11	State table, state transition table.	“_”		
61	4/8	07-11	State diagram. Code tree	“_”	Assignment 8	
62	5/8	09-11	Revision	“_”		

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Signature of HOD

Signature of Principal

Department of Electronics and communication

SEMESTER : V A & B
BRANCH : ECE
SUBJECT : Fundamental of CMOS VLSI
SUBJECT: 10EC56
TOTAL HRS : 61

NAME OF THE FACULTY : Mr CHETAN H
DATE OF COMMENCEMENT : 25.07.2016
DATE OF CLOSING :
NO OF HRS/WK : 5

Session No	Chapter no (No of hrs planed for the chapter)	DATE	Topics planned for the session	Teaching Aids	Assignments/ Tests planned for the chapter	Topics covered As per plan
1.	1/17	2/8/16	Unit-1 :Integrated Circuit's Era, PMOS and NMOS transistors	Board, chalk, duster		
2.	2/17	2/8/16	Metal Oxide Semiconductor (MOS) and Related VLSI Technology	Board, chalk, duster		
3.	3/17	3/8/16	Basic MOS Transistors ,	Board, chalk, duster		
4.	4/17	5/8/16	Modes of operation	Board, chalk, duster,,		
5.	5/17	6/8/16	Enhancement mode transistor action	Board, chalk, duster,,		
6.	6/17	9/8/16	nMOS Fabrication Process	Board, chalk, duster,,		
7.	7/17	9/8/16	CMOS Fabrication Process	Board, chalk, duster,,		
8.	8/17	10/8/16	BiCMOS Technology	Board, chalk, duster,,		
9.	9/17	12/8/16	Production of E-beam Processing Thermal aspects of of processing	Board, chalk, duster		
10	10/17	13/8/16	Threshold Voltage equations Body Effect	Board, chalk,		

				duster,		
11	11/17	14/8/16	Second order effects	Board, chalk, duster,,		
12	12/17	16/8/16	MOS device design equations , Small signal AC Characteristics	„		
13	13/17	17/8/16	CMOS inverter DC Characteristics	Board, chalk, duster	I	
14	14/17	18/8/16	CMOS inverter DC Characteristics	„		
15	15/17	18/8/16	Static load inverters	„		
16	16/17	19/8/16	Differential inverter, Tristate Inverter	„		
17	17/17	20/8/16	Transmission Gate	„		
18	1/7	22/8/16	Unit-2 :MOS layers, Stick diagrams.			
19	2/7	23/8/2016	Design rules and layout – lambda- based design and other rules.	Board, chalk, duster		
20	3/7	25/8/16	Examples. Layout diagrams.	„		
21	4/7	25/8/2016	Symbolic diagrams	„	II	
22	5/7	26/8/16	Physical design of simple logic gates	„		
23	6/7	29/8/16	Physical design of simple logic gates	„		
24	7/7	30 and 31/8/16	Physical design of simple logic gates	„		
25	1/6	9/ 9/16	Unit-3: CMOS Complementary Logic	„		
26	2/6	10/9/16	Bi CMOS Logic, Pseudo-nMOS Logic	„		
27	3/6	13/9/16	Dynamic CMOS Logic	„		
28	4/6	14/9/2016	Clocked CMOS Logic	„		
29	5/6	15/9/ 2016	Pass Transistor Logic	„		

30	6/6	16/9/16	CMOS Domino Logic Cascaded Voltage Switch Logic (CVSL)	„		
31	1/7	17/9/16	Unit-5: Architectural issues	„		
32	2/7	19/9/16	Gate logic	„		
33	3/7	20/9/16	Switch logic	„		
34	4/7	22/9/16	Design examples – combinational logic	„	III	
35	5/7	24/9/16	Clocked circuits, Other system considerations.	„		
36	6/7	27/9/16	Clocking strategies	„		
37	7/7	28/9/16	Clocking strategies	„		
38	1/5	3/10/16	Unit-7: Timing considerations			
39	2/5	4/10/16	Memory elements			
40	3/5	5/10/16	Memory cell arrays			
41	4/5	6/10/16	Memory cell arrays			
42	5/5	7/10/16	Memory cell arrays			
43	1/8	13/10/16	Unit-6: General considerations, Process illustration, Process illustration			
44	2/8	14/10/16	ALU subsystem.			

45	3/8	17/10/16	Adders	Projector		
46	4/8	18/10/16	Adders	„		
47	5/8	19/10/16	Adders	„		
48	6/8	20/10/16	Multipliers	„		
49	7/8	21/10/16	Multipliers	„		
50	8/8	22/10/16	Multipliers	„		
51	1/6	27/10/16	Unit-4: Sheet resistance, Area capacitances Capacitance calculations	„		
52	2/6	28/10/16	The delay unit, Inverter delays, Driving capacitive loads	„		
53	3/6	2/11/16	Propagation delays, Wiring capacitances	„		
54	4/6	3/11/16	Scaling models and factors	„		
55	5/6	4/11/16	Limits on scaling	„		
56	6/6	5/11/16	Limits due to current density and noise	„		
57	1/5	7/11/16	Unit-8: Performance parameters Layout issues I/O pads	„		
58	2/5	7/11/16	Real estate and System delays	Board, chalk, duster		
59	3/5	8/11/16	Ground rules for design	„		
60	4/5	8/11/16	Test and testability	„		
61	5/5	9/11/16	Test and testability	„		

Note: From time to time, assignments will be posted on

<https://sites.google.com/a/cmrit.ac.in/sophiya-susan/home>

Chetan H
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