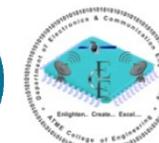


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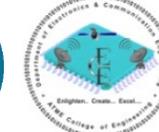
Lesson Plan & Work-done Diary for AY: 2025-26, ODD Semester

Course with Code: Digital Communication--- BEC503			Faculty: Mrs. Keerthi A Kumbar and Mrs. Nandini G S				Semester:5 th A & Bsec	
Class No.	Date planned (DD/MM)	Topics to be covered	TLP Planned	Class No.	Date of Conduction (DD/MM)	Topics Covered	TLP Executed	Remarks if any deviation
MODULE-0								
1		Introduction to System Analysis	PPT					
2		Probability Theory basics	PPT					
3		Introduction to Linear Algebra	PPT					
4		Error Detection and Correction	PPT					
5		Signals and Systems basics	PPT					



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MODULE-1								
1		Introduction to Course and syllabus discussion	PPT					
2		Bandpass Signals to Equivalent Low pass: Hilbert Transform,	PPT					
3		Pre-envelopes	PPT					
4		Complex envelopes of Bandpass Signals,	PPT					
5		Canonical Representation of Bandpass signals	PPT					
6		Signaling over AWGN Channels- Introduction, Geometric representation of signals	PPT					
7		Gram- Schmidt Orthogonalization procedure	PPT					
8		Conversion of the continuous AWGN channel into a vector channel	PPT					
9		ML Decoding, Correlation receiver	PPT					
10		Matched filter receiver. & Summary	PPT					



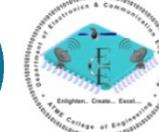
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MODULE-2								
11		Modulation Techniques Phase shift Keying: Generation and Detection	PPT					
12		Error probabilities of BPSK	PPT					
13		Error probabilities of QPSK	PPT					
14		M-ary PSK	PPT					
15		M-ary QAM	PPT					
16		BFSK- Generation and Detection	PPT					
17		Error probabilities of BFSK	PPT					
18		BFSK using Noncoherent Detection,	PPT					
19		Differential Phase Shift Keying.	PPT					
20		Summary, SRS-1, Quiz- M1 & M2	PPT					



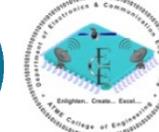
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MODULE-3								
21		Information theory:Introduction	PPT					
22		Entropy,	PPT					
23		Source Coding Theorem	PPT					
24		Lossless Data Compression Algorithms	PPT					
25		Discrete Memoryless Channels,	PPT					
26		Mutual Information	PPT					
27		Channel capacity	PPT					
28		Channel Coding Theorem,	PPT					
29		Information Capacity Law (Statement).	PPT					
30		Summary, SRS-2, Quiz- M3	PPT					



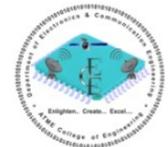
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MODULE-4								
31		Error Control Coding: Error Control Using Forward error Correction,	PPT					
32		Linear Block Codes: Definitions	PPT					
33		Matrix Descriptions	PPT					
34		Syndrome and its properties	PPT					
35		Minimum distance Considerations,	PPT					
36		Syndrome Decoding, Hamming Codes.	PPT					
37		Cyclic Codes: Properties	PPT					
38		Generator and Parity Check Polynomial and matrices	PPT					
39		Encoding, Syndrome computation,	PPT					
40		Examples and Summary & Quiz-M4	Chalk and Talk					



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MODULE-5								
41		Convolutional Codes: Convolutional Encoder,	PPT					
42		Code tree,	PPT					
43		Trellis Graph	PPT					
44		State graph,	PPT					
45		Recursive systematic Convolutional codes	PPT					
46		Optimum decoding of Convolutional codes	PPT					
47		Maximum Likelihood Decoding of Convolutional codes: Introduction	PPT					
48		The Viterbi Algorithm,	PPT					
49		Example Problems and Quiz- M5	Chalk and Talk					
50		Summary and VTU QP discussion.	Oral Discussion and PPT					



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Sl. No	Activity	Planned	Actual	Remarks
1	Theory Classes	50		
2	Assignments/ Quizzes/ Self-study	5		
3	Tutorials/ Extra classes	5		
4	Internal Assessments	3		
5	ICT based Teaching (% of usage in Curriculum)	100		
Planning			Execution	
Faculty Signature:			Faculty Signature:	
HoD Signature:			HoD Signature:	