

Department of Electronics & Communication Engineering

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

Course with Code: Principles of Communication Systems – BEC402				Faculty: Guruprasad K N			Semester & Section: 4 th B	
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-1								
1.		Bridge Course: Basics of signals	Chalk and Talk	1.				
2.		Bridge Course: Basics of Probability	PPT	2.				
3.		Bridge Course: Introduction to Communication system	Chalk and Talk	3.				
4.		Module-1: Random Variables and Processes: Introduction.	Chalk and Talk	4.				
5.		Conditional Probability, Random variables	Chalk and Talk	5.				
6.		Statistical Averages: Function of a random variable, Moments	Chalk and Talk	6.				
7.		Random Processes, Mean, Correlation	Chalk and Talk	7.				
8.		Covariance function: Properties	Chalk and Talk	8.				
9.		Autocorrelation function: Properties	Chalk and Talk	9.				
10.		Cross-correlation functions: Properties	Chalk and Talk	10.				
11.		Gaussian Process: Gaussian Distribution Function	Chalk and Talk	11.				

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MODULE-2								
12.		Module 2: Amplitude Modulation Fundamentals: AM Concepts	Chalk and Talk	12.				
13.		Modulation index and Percentage of Modulation	Chalk and Talk	13.				
14.		Sidebands and the frequency domain	Chalk and Talk	14.				
15.		AM Power, Single Sideband Modulation	PPT	15.				
16.		AM Circuits: Amplitude Modulators: Diode Modulator, Transistor Modulator, collector Modulator	Chalk and Talk	16.				
17.		Demodulators: Diode Detector, Balanced Modulators: Lattice Modulators	PPT	17.				
18.		Frequency Division Multiplexing: Transmitter-Multiplexer	PPT	18.				
19.		Receiver-Demultiplexer	PPT	19.				

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MODULE-3								
20.		Module 3: Fundamentals of Frequency Modulation: Basic Principles	PPT	20.				
21.		Principles of Phase Modulation, Modulation index and sidebands	Chalk and Talk	21.				
22.		Noise Suppression Effects of FM	Chalk and Talk	22.				
23.		Frequency Modulation versus Amplitude Modulation	PPT	23.				
24.		Frequency Modulators: Voltage Controlled Oscillators	PPT	24.				
25.		Frequency Demodulators: Slope Detectors, Phase Locked Loops	PPT	25.				
26.		Communication Receiver: Super heterodyne receiver	PPT	26.				
27.		Frequency Conversion: Mixing Principles, JFET Mixer	PPT	27.				

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MODULE-4								
28.		Module 4: Digital Representation of Analog Signals:	PPT	28.				
29.		Introduction, The Sampling process, Why Digitize Analog Sources?	PPT	29.				
30.		Pulse Amplitude Modulation, Time-Division Multiplexing	PPT	30.				
31.		Pulse Position Modulation: Generation and Detection of PPM wave	PPT	31.				
32.		The Quantization Process. Pulse Code Modulation	PPT	32.				
33.		Sampling, Quantization, Encoding	PPT	33.				
34.		Line Codes, Differential encoding	PPT	34.				
35.		Regeneration, Decoding, filtering, multiplexing	PPT	35.				

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MODULE-5								
36.		Module 5: Baseband Transmission of Digital signals	PPT	36.				
37.		Inter-symbol Interference, Eye Pattern	PPT	37.				
38.		Nyquist criterion for distortion less Transmission	PPT	38.				
39.		Baseband M-ary PAM Transmission	PPT	39.				
40.		Noise: Signal to Noise Ratio, External Noise, Internal Noise	PPT	40.				
41.		Semiconductor Noise, Expressing Noise Levels	PPT	41.				
42.		Noise in Cascade Stages	Chalk and Talk	42.				
43.		Numerical problems related to noise	Chalk and Talk	43.				

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	Activity	Planned	Actual	Remarks
1	Theory Classes			
2	Assignments/ Quizzes/ Self-study			
3	Tutorials/ Extra classes			
4	Internal Assessments			
5	ICT based Teaching (% of usage in Curriculum)			
Planning			Execution	
Faculty Signature:			Faculty Signature:	
HoD Signature:			HoD Signature:	