MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR (M.P.)

A Govt. Added UGC Autonomous and NAAC Accredited Institute, Affiliated to R.G.P.V, Bhopal

DEPARTMENT OF ELECTRONICS ENGINEERING

Multiple Mode Teaching Learning Pattern

Name of Course with Code: Digital Communication (140412)		Class: B. Tech. II Year		Session: Jan-June 2023
S. No.	**Unit**	**Content to be Covered**	**Teaching Session**	**Mode**
1.	Unit 1	Introduction to Digital Communication	1	Offline & Open discussions
2.		Sampling theorem for Low pass signal	2	Offline & activity based learning
3.		Ideal sampling, Natural sampling and Flat top sampling	3	Offline & Open discussions
4.		Generation and detection of PAM, PPM and PWM	4-5	Offline & Experiment with problem solving in group based learning
5.		Time division Multiplexing	6	Online & demonstration based learning
6.		Problem Solving Session	7	Offline & Open discussions
7.	Unit 2	Quantization, Quantization noise	8-9	Offline & problem solving based learning
8.		Pulse Code Modulation	10	Offline & problem solving based learning
9.		Companding	11	Offline & problem solving based learning
10.		Delta modulation	12	Online & demonstration based learning
11.		Adaptive delta modulation	13	Offline & problem solving based learning
12.		DPCM	14	Offline & problem solving based learning
13.		Eye pattern	15	Offline & Experiment with problem solving in group based learning
14.		Problem Solving Session	16	Offline & Open discussions
15.		Band Pass Data Transmission, ASK	17	Offline & Onsite/ field visit based Learning
16.		Binary phase shift keying (BPSK)	18	Offline & Onsite/ field visit based Learning
17.		Quadrature phase shift keying (QPSK)	19	Offline & Open discussions
18.		Differential phase shift keying (DPSK)	20	Online & demonstration

	Unit 3			based learning
19.		Coherent and Non coherent BFSK.	21-22	Offline & Onsite/ field visit based Learning
20.		Problem Solving Session	23	Offline & Open discussions
21.		Concept of information theory	24	Online & demonstration based learning
22.		Entropy and Information rate	25-26	Online & demonstration based learning
23.		Channel capacity	27	Offline & Open discussions
24.	Unit 4	Shannon's theorem	28	Online & demonstration based learning
25.		Shannon Hartley theorem	29	Online & demonstration based learning
26.		Concept of coding	30	Offline & Open discussions
27.		Coding Efficiency	31	Offline & activity based learning
28.		Shannon Fano coding	32	Online & demonstration based learning
29.		Huffman coding	33	Offline & Experiment with problem solving in group based learning
30.	Unit 5	Problem Solving Session	34	Offline & Open discussions
31.		Problem Solving Session	35	Offline & Onsite/ field visit based Learning

Online	Offline						
	Black Board Teaching	Group based Learning	Learning through projects	Learning through demonstration	Learning through experimentation	Activity based Learning	Onsite/field based learning
20.93%	69.77%	37.21%	13.95	27.90%	48.84.%	13.95%	08.30%

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