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 (140514)			**Class:** B. Tech. III 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 and Band pass signals	2-3	Offline & activity based learning
3.		Ideal sampling, Natural sampling and Flat top sampling, Crosstalk	4	Offline & Open discussions
4.		Aliasing and its effects	5	Offline & Experiment with problem solving in group based learning
5.		Time division multiplexing	6	Online & demonstration based learning
6.		PAM, PWM and PPM: Generation and detection.	7	Offline & Open discussions
7.	**Unit 2**	Problem Session	8	Online & demonstration based learning
8.		Pulse Code Modulation	9-10	Online & demonstration based learning
9.		Quantization, Quantization noise, Companding,	11-12	Offline & problem solving based learning
10.		Inter symbol interference, Eye pattern	13-14	Online & demonstration based learning
11.		Delta modulation	15-16	Offline & problem solving based learning
12.		Adaptive delta modulation	17-18	Offline & problem solving based learning
13.		DPCM	19-20	Offline & Experiment with problem solving in group based learning
14.		Problems Session.	21-22	Offline & Open discussions
15.	**Unit 3**	Amplitude Shift Keying (ASK)	23	Offline & Onsite/ field visit based Learning
16.		Binary phase shift keying (BPSK)	24	Offline & Onsite/ field visit based Learning
17.		QPSK, DPSK	25	Offline & Open discussions
18.		Coherent BFSK.	26	Online & demonstration based learning
19.		Non coherent BFSK.	27	Offline & Onsite/ field visit based Learning
20.		Problems Session	28	Offline & Open discussions

21.		Concept of information theory	29	Online & demonstration based learning
22.		Entropy and Information rate	30	Online & demonstration based learning
23.		Channel capacity, Shannon's theorem	31	Offline & Open discussions
24.		Shannon Hartley theorem.	32	Online & demonstration based learning
25.	**Unit 4**	Problem Session	33	Offline & Open discussions
26.		Introduction to Coding	34	Offline & Open discussions
27.		Source Coding Theorem	35	Offline & activity based learning
28.		Coding Efficiency	36	Online & demonstration based learning
29.		Shannon Fano coding	37	Offline with problem solving in group based learning
30.		Huffman coding.	38	Offline & Open discussions
31.	**Unit 5**	Problem Session	39-40	Offline & Open discussions

Online	**Offline**						
	Black Board Teaching	Group based Learning	Learning through projects	Learning through demonstration	Learning through experimentation	Activity based Learning	Onsite/field based learning
19.93%	68.77%	37.21%	14.95%	27.90%	48.84.%	14.95%	09.30%

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