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

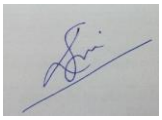
Multiple Mode Teaching Learning Pattern

Name of Course with Code: Network Theory (200123)	**Class:** B. Tech. I Year (ET)	**Session:** November 2022 – March 2023

S. No.	Unit	Content to be Covered	Teaching Session	Mode
1.	Unit 1	Introduction to Circuit Elements	1	Offline & Open discussions
2.		Characterization of Resistors, Capacitors & Inductors in Terms of their linearity & time dependence features	2	Offline & activity based learning
3.		Characteristics of Independent & Dependent Sources	3	Offline&Open discussions
4.		KCL & KVL for circuits with dependent & independent sources	4-5	Offline& Experiment withproblem solvingin groupbasedlearning
5.		Dot convention for coupled inductor and their characteristics	6	Online&demonstrationbase dlearning
6.		co-efficient of coupling	7	Offline&Open discussions
7.	Unit 2	Superposition theorem	8	Offline & problem solving based learning
8.		Thevenin Theorem	9	Offline & problem solving based learning
9.		Norton Theorem	10	Offline & problem solving based learning
10.		Milliman Theorem	11	Online&demonstrationbase dlearning
11.		Reciprocity Theorem	12	Offline & problem solving based learning
12.		Maximum power transfer theorem	13,14	Offline & problem solving based learning
13.		Theorem equivalent circuits based problems	15,16	Offline& Experiment withproblem solvingin groupbasedlearning
14.	Unit 3	The Laplace transform	17	Offline& Onsite/ field visit based Learning
15.		use of Laplace transform for the solution of integro differential equation	18	Offline& Onsite/ field visit based Learning
16.		Initial and final value theorem	19	Offline&Open discussions
17.		Transforms of wave forms synthesized with step, Ramp functions.	20	Online&demonstrationbase dlearning

18.		Transforms of wave forms synthesized with gate and sinusoidal functions.	21-22	Offline& Onsite/ field visit based Learning
19.	**Unit 4**	Transient analysis, Transients in RL, RC circuits, initial conditions, time constants	23	Offline&Open discussions
20.		Transient analysis, Transients in RLC circuits, initial conditions, time constants	24	Online&demonstrationbasedlearning
21.		Steady state analysis – concept of phasor and vector	25-26	Online&demonstrationbasedlearning
22.		Steady state analysis – concept of impedance and admittance	27	Offline&Opendiscussions
23.		Node and mesh analysis of RL, RC and RLC networks with sinusoidal and driving sources	28	Online&demonstrationbasedlearning
24.		Resonance and Q-factor.	29	Online&demonstrationbasedlearning
25.	**Unit 5**	Concept of Ports	30	Offline&Open discussions
26.		Network functions of one port & two ports	31	Offline & activity based learning
27.		Calculation of network functions for one port	32	Online&demonstrationbasedlearning
28.		Calculation of network functions for two port	33	Offline& Experiment withproblem solvingin groupbasedlearning
29.		Pole & zeros of network of different kinds	34	Offline&Open discussions
30.		Two port parameters – Z& Y Parameters	35	Offline& Onsite/ field visit based Learning
31.		Two port parameters –hybrid and chain Parameters	36	Offline& Onsite/ field visit based Learning
32.		Relationship between Parameters	37-38	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
20.93%	69.77%	37.21%	13.95	27.90%	48.84.%	13.95%	09.30%



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