

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 (140123)		Class: B. Tech. I Year (ECSection-A)		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.	Unit 3	Theorem equivalent circuits based problems	15,16	Offline& Experiment withproblem solvingin groupbasedlearning	
14.		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&demonstrationbased learning
21.		Steady state analysis – concept of phasor and vector	25-26	Online&demonstrationbased learning
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&demonstrationbased learning
24.		Resonance and Q-factor.	29	Online&demonstrationbased learning
25.		Unit 5	Concept of Ports	30
26.	Network functions of one port & two ports		31	Offline & activity based learning
27.	Calculation of network functions for one port		32	Online&demonstrationbased learning
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%


 Pooja Sahoo