

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: Linear Control Theory (140413)		Class: B. Tech. II Year	Session: Jan-June 2023	
S. No.	Unit	Content to be Covered	Teaching Session	Mode
1.	Unit 1	Basic control system terminology, Open loop and Closed loop system	1	Offline&Opendiscussions
2.		Feedback control,Different modeling of physical systems	2-3	Offline & problem solving based learning
3.		Linear approximation of physical systems. Transfer function of linear systems	4-5	Offline & problem solving based learning
4.		Block diagram algebra	6-7	Offline & problem solving based learning
5.		Signal flow graphs, Effects of negative feedback	8-9	Offline & problem solving based learning
6.	Unit 2	Test input signals, First order systems	10	Online&demonstrationbasedlearning
7.		Second order systems	11-12	Offline & problem solving based learning
8.		Effects of addition of poles and zeros to open and closed loop transfer functions, Steady state error	13-14	Offline & problem solving based learning
9.		Constant and error coefficients for type 0, 1, and 2 systems	15	Online&demonstrationbasedlearning
10.	Unit 3	Concept of stability of linear systems, Relation between the closed loop poles and stability	16	Online&demonstrationbasedlearning
11.		Relative stability, Absolute stability	17	Online&demonstrationbasedlearning
12.		Routh Hurwitz criteria and its applications	18-19	Offline & problem solving based learning
13.	Unit 4	Root locus plot	20-24	Offline & problem solving based learning
14.		Performance specifications in frequency domain, Co-relation between frequency domain and time domain	25	Online&demonstrationbasedlearning
15.		Polar plots	26	Offline & problem solving based learning
16.		Bode plots of transfer function	27-29	Offline & problem solving based learning

17.		Nyquist stability criterion, Assessment of relative stability	30-31	Offline&demonstrationbasedlearning
18.	Unit 5	Introduction to Proportional, Integral, and Derivative controller	32	Offline&Open discussions
19.		PD controller, PI controller, PID controller	33	Offline & problem solving based learning
20.		Design of various controllers and their limitations	34-35	Offline & problem solving 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
14.28%	85.71%	37.21%	13.95	27.90%	48.84.%	13.95%	-%



D. K. Parsediya