

GOVT. POLYTECHNIC MAYURBHANJ LESSON PLAN- 2025/26 (Winter)

Discipline : ELECTRICAL		Semester: 4th Sem	Name of the Teaching Faculty :Hemanta Ku. Sethi	
Subject : Linear Control System		No. of Days / per week class allotted	Semester From date : 22.12.2025 18.04.2026 To Date :	
MONTH	Week	Day	Unit	Topics
DECEMBER	4th	1st (Mon)	UNIT-1	1. INTRODUCTION TO LAPLACE TRANSFORM: Commencement of Classes
		3rd (Wed)	UNIT-1	Laplace Transform of standard signals
		4th (Thu)	UNIT-1	Inverse Laplace Transform and properties
	5th	1st (Mon)	UNIT-1	OPEN LOOP AND CLOSED LOOP SYSTEMS: Definitions
		3rd (Wed)	UNIT-1	Feedback principle and its effects
		4th (Thu)	UNIT-1	Transfer function of LTI systems
		1st (Mon)	UNIT-1	Mechanical and Electromechanical systems
JANUARY	1st	3rd (Wed)	UNIT-1	Force voltage and force current analogy
		4th (Thu)	UNIT-1	Block diagram representation
		1st (Mon)	UNIT-1	Block diagram reduction rules
	2nd	3rd (Wed)	---	HOLIDAY: MAKAR SANKRANTI (14.01.2026)
		4th (Thu)	UNIT-1	Signal flow graph - Mason's gain formula
	3rd	1st (Mon)	UNIT-1	Characteristic equation and Unit-1 Revision
		3rd (Wed)	UNIT-2	2. CONTROL SYSTEM COMPONENTS: DC servo motors
		4th (Thu)	UNIT-2	AC servo motors and Synchros
	4th	1st (Mon)	UNIT-2	Gyroscope and Stepper motor
		3rd (Wed)	UNIT-2	Tacho generator
		4th (Thu)	---	HOLIDAY: NETAJI JAYANTI / BASANTA PANCHAMI
	5th	1st (Mon)	---	HOLIDAY: REPUBLIC DAY (26.01.2026)
		3rd (Wed)	UNIT-2	TIME DOMAIN ANALYSIS: Transient and steady state response
		4th (Thu)	UNIT-2	Time domain specifications

FEBRUARY	1st	1st (Mon)	---	MONTHLY TEST - 1 (02.02.2026)
		3rd (Wed)	UNIT-2	First order systems response
		4th (Thu)	UNIT-2	Second order systems step response
	2nd	1st (Mon)	UNIT-2	Step response of second order systems (Cont.)
		3rd (Wed)	UNIT-3	3. ERROR ANALYSIS: Steady-state error analysis
		4th (Thu)	UNIT-3	Static error coefficients of type 0, 1, 2 systems
	3rd	1st (Mon)	---	1st INTERNAL ASSESSMENT / IA-1
		3rd (Wed)	UNIT-3	Dynamic error coefficients
		4th (Thu)	UNIT-3	CONCEPT OF STABILITY: Time response for pole locations
	4th	1st (Mon)	UNIT-3	Stability of feedback system
		3rd (Wed)	UNIT-3	Routh's stability criterion
		4th (Thu)	UNIT-3	Numerical problems on Routh's criterion
MARCH	1st	1st (Mon)	UNIT-4	4. ROOT LOCUS AND POLAR PLOT: General rules
		3rd (Wed)	---	HOLIDAY: DOLA PURNIMA / HOLI (03.03 & 04.03)
		4th (Thu)	UNIT-4	Construction of Root loci
	2nd	1st (Mon)	UNIT-4	Stability from root loci
		3rd (Wed)	UNIT-4	Effect of addition of poles and zeros
		4th (Thu)	UNIT-4	Lag, Lead and Lead-Lag compensators
	3rd	1st (Mon)	UNIT-4	Nyquist stability criterion
		3rd (Wed)	UNIT-4	Nichols chart
		4th (Thu)	UNIT-4	Non-minimum phase system
	4th	1st (Mon)	---	2nd INTERNAL ASSESSMENT WEEK
		3rd (Wed)	UNIT-4	Transportation lag
		4th (Thu)	UNIT-5	5. FREQUENCY DOMAIN ANALYSIS: Introduction
APRIL	1st	1st (Mon)	UNIT-5	Frequency domain specifications
		3rd (Wed)	---	HOLIDAY: UTKAL DIVAS (01.04.2026)
		4th (Thu)	UNIT-5	Analysis based on Bode plot
	2nd	1st (Mon)	UNIT-5	Log magnitude vs. phase plot
		3rd (Wed)	UNIT-5	State space model
		4th (Thu)	UNIT-5	State Transition matrix
	3rd	1st (Mon)	---	MONTHLY TEST - 2 (CBT) (13.04.2026)
		3rd (Wed)	UNIT-5	MONTHLY TEST - 2 (CBT) (15.04.2026)
		4th (Thu)	UNIT-5	Revision and Semester Question Discussion
	4th	1st (Mon)	---	CLOSING OF ATTENDANCE (18.04.2026)