ATME College of Engineering

Department of Mechanical Engineering

Lesson Plan & Work-done Diary for AY:2024-25, ODD Semester

Course with Code: Control Engineering – 21ME72					Faculty: Mr. Rohith S		Semester: 7th	
Module	**Class No.**	**Date planned (DD/MM)**	**Topics to be covered**	**TLP Planned**	**Date of Conduction (DD/MM)**	**Topics Covered**	**TLP Executed**	**Remarks if any deviation**
MODULE-1	1		Bridge Course, Introduction to Scheme and Syllabus	PPT				
	2		Components of a control system	Chalk & Talk				
	3		Open loop control systems with examples	Chalk & Talk				
	4		Closed loop control systems with examples	Chalk & Talk				
	5		Comparison between OLCS and CLCS, Requirements of CS	Chalk & Talk				
	6		Types of controllers: Proportional, Integral, Differential	Chalk & Talk				
	7		Types of controllers: PI, and PID controllers	Chalk & Talk				
	8		Modelling of Physical Systems: Mathematical Models of Mechanical Systems	Chalk & Talk				
	9		Modelling of Physical Systems: Mathematical Models of Electrical systems	Chalk & Talk				
	10		Revision and Quiz 1	PPT				

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MODULE-3	11		Introduction to Block diagram and Reduction rule	Chalk & Talk				
	12		Numerical on Reduction rule	Chalk & Talk				
	13		Numerical on Reduction rule	Chalk & Talk				
	14		Numerical on Reduction rule	Chalk & Talk				
	15		Signal flow graphs	Chalk & Talk				
	16		Numerical on Signal flow graphs	Chalk & Talk				
	17		Gain formula for signal flow graphs	Chalk & Talk				
	18		Numerical on Gain formula for signal flow graphs	Chalk & Talk				
	19		State diagram from differential equations	Chalk & Talk				
	20		Revision and Quiz 2	PPT				

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MODULE-4	21		Stability of linear control systems - Introduction to Routh's criterion	Chalk & Talk				
	22		Numerical on Routh's criterion	Chalk & Talk				
	23		Numerical on Routh's criterion	Chalk & Talk				
	24		Numerical on Routh's criterion	Chalk & Talk				
	25		Introduction to Root locus	Chalk & Talk				
	26		Concept of phase and gain margin using root locus	Chalk & Talk				
	27		Numerical on root locus	Chalk & Talk				
	28		Numerical on root locus	Chalk & Talk				
	29		Numerical on root locus	Chalk & Talk				
	30		Revision and Quiz 3	PPT				

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MODULE-5	31		Introduction to Bode plot	Chalk & Talk				
	32		Concept of phase and gain margin using Bode plot	Chalk & Talk				
	33		Numerical on Bode plot	Chalk & Talk				
	34		Numerical on Bode plot	Chalk & Talk				
	35		Numerical on Bode plot	Chalk & Talk				
	36		Introduction and Numerical on Polar Plot	Chalk & Talk				
	37		Numerical on Polar Plot	Chalk & Talk				
	38		Introduction and Numerical on Nyquist Plot	Chalk & Talk				
	39		Numerical on Nyquist Plot	Chalk & Talk				
	40		Revision and Quiz 4	PPT				

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MODULE-2	41		Time domain performance of control systems	Chalk & Talk				
	42		Typical test signal	Chalk & Talk				
	43		Unit step response and time domain specifications of first order	Chalk & Talk				
	44		Unit step response and time domain specifications of second order	Chalk & Talk				
	45		Concept of Steady state error, Static error constants	Chalk & Talk				
	46		Analysis of TYPE 0, 1 & 2 system	Chalk & Talk				
	47		Transient Response Specifications - Derivations	Chalk & Talk				
	48		Numerical on Transient Response	Chalk & Talk				
	49		Numerical on Transient Response	Chalk & Talk				
	50		Revision and Quiz 5	PPT				

	Activity	Planned	Actual	Remarks
1	Theory Classes	50		
2	Assignments/ Quizzes/ Self-study	3/5/1		
3	Tutorials/ Extra classes	-		
4	Internal Assessments	3		
5	ICT based Teaching (% of usage in Curriculum)			
Planning			**Execution**	
Faculty Signature:			**Faculty Signature:**	
HoD Signature:			**HoD Signature:**	