ATME College of Engineering

Department of EEE
Emitting Elite Energy

Department of Electrical and Electronics Engineering

Lesson Plan –BEE602-Control System, AY: 2025-26

Course with Code: BEE602-Control System				Faculty: Dr.Praveen Kumar M			Semester & Section: Sec A	
Class No.	**Date planned (DD/MM)**	**Topics to be covered**	**TLP Planned**	**Class No.**	**Date of Conduction (DD/MM)**	**Topics Covered**	**TLP Executed**	**Remarks if any deviation**
MODULE-1								
1		Bridge course on Laplace Transform, Physical System, Mathematical Preliminaries, Matlab coding	ICT+ Chalk & Talk					
2		Introduction, Classification of control systems	Chalk & Talk					
3		Open loop, closed loop, comparisons, Components of Closed loop systems	Chalk & Talk					
4		Advantages of Transfer function (T.F) of SISO, Characteristic Equation, Poles & Zeros of T.F, Disadvantages of T.F	ICT+ Chalk & Talk					
5		Basic of Modelling of translational mechanical system to derive transfer functions	Chalk & Talk					
6		Modelling of translational mechanical system to derive transfer functions	Chalk & Talk					
7		Modelling of Rotational mechanical system to derive transfer functions	ICT+ Chalk & Talk					
8		Modelling of electrical system Force-Voltage analogy & Force-current analogy to obtain equivalent electrical system	ICT+ Chalk & Talk					
9		Transfer function of servomotors, transfer functions	Chalk & Talk					
10		Transfer functions of synchro's, gear trains, VTU QP discussion & SRS Conduction	ICT+ Chalk & Talk					

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MODULE-2								
11		Procedure for drawing block diagram and block diagram reduction to find transfer function.	ICT+ Chalk & Talk					
12		Numerical on block diagram reduction to find transfer function.	Chalk & Talk					
13		Numerical on block diagram reduction to find transfer function.	Chalk & Talk					
14		Numerical on block diagram reduction to find transfer function.	Chalk & Talk					
15		Numerical on block diagram reduction to find transfer function.	Chalk & Talk					
16		Construction of signal flow graphs, basic properties of signal flow graph	ICT+ Chalk & Talk					
17		Numerical on signal flow graphs Obtaining the transfer function of a system by using Mason’s gain formula.	ICT+ Chalk & Talk					
18		Numerical on signal flow graphs Obtaining the transfer function of a system by using Mason’s gain formula.	Chalk & Talk					
19		Numerical on signal flow graphs Obtaining the transfer function of a system by using Mason’s gain formula.	Chalk & Talk					
20		Numerical on signal flow graphs Obtaining the transfer function of a system by using Mason’s gain formula. VTU QP discussion & SRS Conduction	ICT+ Chalk & Talk					

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MODULE-3								
21		Time domain analysis: Introduction to standard test signals	ICT+ Chalk & Talk					
22		Time domain analysis: Time response of first order system.	ICT+ Chalk & Talk					
23		Time response of second order system and time specifications of the response	Chalk & Talk					
24		Numerical on Time domain specification	Chalk & Talk					
25		Steady state errors and error constants	Chalk & Talk					
26		Numerical on Steady state errors and error constants	ICT+ Chalk & Talk					
27		Routh Stability criterion: Necessary conditions for stability of a system, difficulties in formulation of Routh table	ICT+ Chalk & Talk					
28		Solving the numerical on RH criterion.	Chalk & Talk					
29		Solving the numerical on RH criterion.	Chalk & Talk					
30		Solving the numerical on RH criterion., VTU QP discussion & SRS Conduction	ICT+ Chalk & Talk					

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MODULE-4								
31		Introduction, Rules for the construction of root locus	ICT+ Chalk & Talk					
32		Solving numerical on root locus	Chalk & Talk					
33		Solving numerical on root locus	Chalk & Talk					
34		Introduction to frequency response analysis	Chalk & Talk					
35		Introduction to frequency response analysis	Chalk & Talk					
36		Bode plots: Basic factors G(iw)/H(jw),	ICT+ Chalk & Talk					
37		General procedure for constructing bode plots, computation of gain margin and phase margin.	ICT+ Chalk & Talk					
38		Solving numerical on Bode plots	Chalk & Talk					
39		Solving numerical on Bode plots	Chalk & Talk					
40		Solving numerical on Bode plots, VTU QP & SRS Conduction	ICT+ Chalk & Talk					

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MODULE-5								
41		Nyquist Plot: Introduction, Nyquist stability criterion, Assessment of relative of relative stability using Nyquist criterion.	ICT+ Chalk & Talk					
42		Solving numerical on Nyquist stability criterion	Chalk & Talk					
43		Proportional controller, Derivative controller, Integral controller	Chalk & Talk					
44		Design of Phase-Lead, Phase- Lag, Lead-Lag Controller	ICT+ Chalk & Talk					
45		Design of PD, PI, PID controller	ICT+ Chalk & Talk					
46		State space model- Concepts of State, State variable and State model	Chalk & Talk					
47		State Model for linear continuous time systems	Chalk & Talk					
48		Transfer Function from State Space Model	Chalk & Talk					
49		State Transition Matrix and its Properties, Solution of state equation	ICT+ Chalk & Talk					
50		State Transition Matrix and its Properties, Solution of state equation VTU QP & SRS Conduction	ICT+ Chalk & Talk					

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	Activity	Planned	Actual	Remarks
1	Theory Classes	50		
2	Assignments/ Quizzes/ Self-study	3		
3	Tutorials/ Extra classes			
4	Internal Assessments	3		
5	ICT based Teaching (% of usage in Curriculum)	46%		
Planning			**Execution**	
Faculty Signature:			**Faculty Signature:**	
HoD Signature:			**HoD Signature:**	