

# LESSON PLAN

Period	Date (Tentative)	Topic	Unit No.	Teaching Methodology	Remarks	Corrective Action Upon Review
7	6/12/16	Introduction to control system	I	CR		
1	7/12/16	and classification of control systems with examples	I	CR		
5	8/12/16	Transfer function of different circuits	I	CR		
7	13/12/16	Translational Mechanical systems	I	CR		
1, 2	14/12/16	Rotational Mechanical Systems - Transfer	I	CR		
5	15/12/16	function of different systems	I	CR		
7	20/12/16	Block diagram rules	I	CR		
1, 2	21/12/16	problems on determination of transfer function by block diagram reduction method	I	CR		
7	27/12/16	problems on block diagrams	I	CR		
1, 2	28/12/16	Introduction to signal flow graph	I	CR		
5	29/12/16	Mason's gain formula and problems on signal flow graph to find transfer function	I	CR		
7	3/1/17	conducting exam on unit-I	I	CR		

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Period	Date (Tentative)	Topic	Unit No.	Teaching Methodology	Remarks	Corrective Action Upon Review
1,2	4/1/17	Introduction to DC servo motor and its operation, characteristics	<u>II</u>	CR		
7	10/1/17	Transfer function of Armature controlled DC servo motor	<u>II</u>	CR		
7	17/1/17	Transfer function of field controlled DC servo motor	<u>II</u>	CR		
1,2	18/1/17	AC servomotor operation characteristics	<u>II</u>	CR		
7	24/1/17	Synchro transmitter operation	<u>II</u>	CR		
1,2	25/1/17	Synchro Receiver operation - error signal.	<u>II</u>	CR		
7	31/1/17	Introduction of test signals -	<u>II</u>	CR		
1,2	1/2/17	Time response of 1 <sup>st</sup> order system.	<u>II</u>	CR		
5	2/2/17	Time response of Second order systems	<u>II</u>	CR		
7	7/2/17	Derivation of time domain	<u>II</u>	CR		
1,2	8/2/17	Specifications, $t_d$ , $t_r$ , $t_p$ , %M <sub>p</sub> , $t_s$ .	<u>II</u>	CR		
5	9/2/17	Problems on $t_d$ , $t_r$ , $t_p$ , %M <sub>p</sub> , $t_s$ .	<u>II</u>	CR		



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1, 2	10/2/17	Steady state error- error constants	<u>II</u>	CR		
7	14/2/17	problems on Steady state error and error constants	<u>II</u>	CR		
1, 2	15/2/17	proportional, P D, P I controller.	<u>II</u>	CR		
5	16/2/17	PID controller	<u>II</u>	CR		
7	21/2/17	Concept of stability types	<u>III</u>	CR		
		Routh's Hurwitz's array,	<u>III</u>	CR		
1, 2	22/2/17	problems on unstable marginally stable systems	<u>III</u>	CR		
5	23/2/17	Determination of 'K' values for all type of systems.	<u>III</u>	CR		
7	28/2/17	Root locus rules	<u>III</u>	CR		
1, 2	1/3/17	problems on Root locus diagram	<u>III</u>	CR		
5	2/3/17	problems on Root locus diagram	<u>III</u>	CR		

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1	8/3/17	Effects of adding poles and zeros	<u>III</u>	CR		
2	8/3/17	to $G(s)$ , $H(s)$ on root loci	<u>III</u>	CR		
7	14/3/17	Introduction to frequency domain	<u>IV</u>	CR		
		Specifications - derivations.				
1, 2	15/3/17	Bode diagram - introduction -	<u>IV</u>	CR		
		Magnitude and phase angle plots				
5	16/3/17	problems on Bode plot - determi-	<u>IV</u>	CR		
		nation of phase, gain margin.				
7	21/3/17	Determination of K for given P.M.	<u>IV</u>	CR		
		and G.M				
1, 2	22/3/17	polar plots - finding G.M, P.M.	<u>IV</u>	CR		
5	23/3/17	problems on polar plots - G.M - P.M.	<u>IV</u>	CR		
7	28/3/17	Introduction to Nyquist plots.	<u>IV</u>	CR		
1, 2	30/3/17	Rules of Nyquist plots.	<u>IV</u>	CR		
7	4/4/17	problems on Nyquist plots.	<u>IV</u>	CR		



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Period	Date (Tentative)	Topic	Unit No.	Teaching Methodology	Remarks	Corrective Action Upon Review
7	4/4/17	Introduction to State, state variable State model.	<u>V</u>	CR		
5	6/4/17	Derivation of Transfer function and $\phi/p$ response.	<u>V</u>	CR		
1	7/4/17	state transition matrix - problem on $e(t)$ , $x(t)$ , $\dot{x} = Ax + Bu$ .	<u>V</u>	CR		
2	7/4/17	Concept on controllability, observability	<u>V</u>	CR		
7	11/4/17	Problems on control and observability	<u>V</u>	CR		
8	11/4/17	Introduction to lag compensator and problems.	<u>V</u>	CR		
1	12/4/17	Introduction to lead compensator and problems.	<u>V</u>	CR		
2	12/4/17	Introduction to lead-lag compensator and problems.	<u>V</u>	CR		
5	13/4/17	Finding $k$ for given G.M. & P.M.	<u>V</u>	CR		
5	13/4/17	of lag, lead compensator.	<u>V</u>	CR		lg soln