

7	16/4/15	Introduction to frequency domain specifications	<u>IV</u>	CR	
1	17/4/15	construction of Bode plot - gain margin, phase margin	<u>IV</u>	CR	
7	23/4/15	problems on Bode plot and determining the stability of systems	<u>IV</u>	CR	
1	24/4/15	polar plot explanation and stability analysis	<u>IV</u>	CR	
6	27/4/15	Rules to construct nyquist plot	<u>IV</u>	CR	
5	28/4/15	problems on nyquist plot to determine the stability	<u>IV</u>	CR	
7	30/4/15	problems on nyquist plots	<u>IV</u>	CR	
6	4/5/15	concept of state variable, state space vector, state model i.e. $AX+Bu, Cx+Du$	<u>V</u>	CR	
	4/5/15	Determining state transition matrix	<u>V</u>	CR	
	5/5/15	Derivation of state model from trans-	<u>V</u>	CR	
	5/5/15	ferfunction and block diagrams	<u>V</u>	CR	
	7/5/15	concept of controllability and problems	<u>V</u>	CR	
	8/5/15	concept of observability and problems	<u>V</u>	CR	
	11/5/15	lag compensator	<u>V</u>	CR	

# LESSON PLAN

Period	Date (Tentative)	Topic	Unit No.	Teaching Methodology	Remarks
5	5/3/15	Time response of under damped and critically damped cases	<u>II</u>	CR	
7	20/3/15	Time domain specifications: $t_d, t_p, t_r, M_p$ and its derivation	<u>II</u>	CR	
1	27/3/15	problems on steady state error, time error constants, time domain specifications	<u>II</u>	CR	
6	30/3/15	Effects of proportional, PD, PI controller	<u>II</u>	CR	
5	31/3/15	Effects of PID controller DC servo motor	<u>II</u>	CR	
7	2/4/15	AC servo motor - synchro transmitter and receiver	<u>II</u>	CR	
1	3/4/15	concept of stability - Absolute stable, marginal stable system stability,	<u>III</u>	CR	
6	6/4/15	Routh's array concept and problem on it	<u>III</u>	CR	
5	7/4/15	problems on conditional stability	<u>III</u>	CR	
7	9/4/15	constructional rules for root locus	<u>III</u>	CR	
1	10/4/15	problems on root locus	<u>III</u>	CR	
6	13/4/15	construction of root loci - effects of adding poles and zeros to $G(s)H(s)$	<u>III</u>	CR	
	14/4/15	problems on root locus	<u>III</u>	CR	

# LESSON PLAN

Period	Date (Tentative)	Topic	Unit No.	Teaching Methodology	Remarks	C
6	2/2/15	Introduction to control systems and transfer function.	I	CR		
7	3/2/15	open loop and closed loop control systems	I	CR		
6	5/2/15	Transfer function of several electrical n/w's	I	CR		
1	6/2/15	Block diagram of closed loop systems, only	I	CR		
6	9/2/15	Determination of transfer function from block diagrams	I	CR		
5	10/2/15	Mason's formula for solving signal flow graphs	I	CR		
7	12/2/15	problems on signal flow graphs	I	CR		
1	13/2/15	Determination of transfer function of signal flow graphs	I	CR		
6	16/2/15	Translatory motion- determination of T/F for mechanical systems	I	CR		
7	19/2/15	Force-voltage and force-current Analogs	I	CR		
1	20/2/15	Rotatory motion- determination of T/F for mechanical systems	I	CR		
6	23/2/15	problems on conversion of electrical network from mechanical systems	I	CR		
5	24/2/15	Standard test signals	II	CR		
7	27/2/15	Error constants, type of system				
1	2/3/15	Time response for first order systems	II	CR		
6	3/3/15	Time response for 2nd order systems- overdamped	II	CR		