

# DRSNACHARYA

KHENTAWAS, FARRUKHNAGAR, GURGAON, HR

Department: ECS

Academic Session: 2017-18 (Jan-June 2018)

Lesson Plan for the Semester started w.e.f 08.01.2018

Subject with code: Control System Engineering(EC-611-F)

Name of Faculty with designation : Mrs. Dimple Sapru(Associate Professor)

Month	Date & Day	Sem-Class	Unit	Topic/Chapter covered	Academic activity	Test / assignment
January	08.01.2018 Monday	VI ECS	A	System/Plant model, types of models, illustrative examples of plants and their inputs and outputs, controller, , regulating system, linear time-invariant (LTI) system, time-varying system, causal system, open loop control system, closed loop control system, illustrative examples of open-loop and feedback control systems, continuous time and sampled data control systems	.....	
January	10.01.2018 Wednesday	VI ECS	A	Servomechanism,Field Control &Armature Control		
January	12.01.2018 Friday	VI ECS	B	Block diagram algebra		Assignment 1 given
January	15.01.2018 Monday	VI ECS	B	Block diagram algebra, Numerical		
January	17.01.2018 Wednesday	VI ECS	B	Mason's gain formula & its application,		
January	19.01.2018 Friday	VI ECS	B	Mason's gain formula,Numericals		Assignment 2 given
January	24.01.2018 (Wednesday)	VI ECS	B	Test / Discussion on Question of Assignment1 &2		
January	29.01.2018 Monday	VI ECS	B	Characteristic equation, Derivation of transfer functions of electrical and electromechanical systems		
February	02.02.2018 Friday	VI ECS	B	Transfer functions of cascaded and non-loading cascaded elements.Introduction to state variable analysis and design		Assignment 3 given
February	05.02.2018 Monday	VI ECS	B	Typical test signals, time response of first order systems Step I/P		
February	07.02.2018 Wednesday	VI ECS	B	Time response of 2nd order system to step input,		

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February	09.02.2018 Friday	VI ECS	B	Time response of 2nd order system to step input, relationship between location of roots of characteristics equation, $\omega$ and $\omega_n$ , time domain specifications of a general and an under-damped 2nd Steady state error and error constants, Hurwitz stability criterion order system		Assignment 4 given
February	19.02.2018 Monday	VI ECS	A	Effects of feedback on sensitivity (to parameter variations), stability, external disturbance (noise), overall gain etc. Introductory remarks about non-linear control systems.		
February	21.02.2018 Wednesday	VI ECS	C	Root locus concept,		
February	23.02.2018 Friday	VI ECS	C	Development of root loci for various systems, stability considerations		Assignment 5 given
February	26.02.2018 Monday	VI ECS	C	Numericals of Root Locus,		
February	28.02.2018 Wednesday	VI ECS		Test / Discussion on Question of Assignment 3&4		
March	05.03.2018 Monday	VI ECS	C	Dominant closed loop poles, concept of stability, pole zero configuration and stability, Bode plots		
March	07.03.2018 Wednesday	VI ECS	C	Bode plots, stability, Gain-margin and Phase Margin, relative stability, frequency response specifications.		
March	09.03.2018 Friday	VI ECS	C	Numericals of Bode Plot		Assignment 6 given
March	12.03.2018 Monday	VI ECS	C	Numericals of Bode Plot		
March	14.03.2018 Wednesday	VI ECS	C	Nyquist		
March	16.03.2018 Friday	VI ECS	C	Nyquist & Discussion on Question of Assignment 5&6		Assignment 7 given
March	26.03.2018 Monday	VI ECS	C	Relationship between frequency response and time-response for 2nd order system, polar, Nyquist		
March	28.03.2018 Wednesday	VI ECS	D	Necessity of compensation, compensation networks, application of lag and lead compensation		

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April	02.04.2018 Monday	VI ECS	D	basic modes of feedback control, proportional, integral and derivative controllers, illustrative examples.		Assignment 8 given
April	04.04.2018 Wednesday	VI ECS	D	Synchros, AC and DC techo-generators, servomotors, stepper motors, & their applications,		
April	06.04.2018 Friday	VI ECS	D	stepper motors, & their applications, magnetic amplifier.		Assignment 9 given
April	09.04.2018 Monday	VI ECS		Revision		