Name of the Teaching faculty: KISHORE CHANDRA PRUSTY

Semester:**6**th

No. of periods per week: **5**

semester Exam: **80**

Total Marks: **100**

Discipline / Dept.: **EE**

Subject (Theory): **CSE**

Total Periods**: 75**

Class Test:**20**

Week	Period	U N I T / C H A P T E R	Topic to be covered
1ST	1st	FUNDAMENTAL OF CONTROL	Introduction to CS. Classification of Control system
	2nd	FUNDAMENTAL OF CONTROL	Open loop & Closed loop system and its comparison
	3rd	FUNDAMENTAL OF CONTROL	Effects of Feed back
	4th	FUNDAMENTAL OF CONTROL	Standard test Signals. Servomechanism
	5th	TUTORIAL CUM DOUBT CLEAR	Discussion about different test signals.
2ND	1st	MATHEMATICAL MODEL OF A	Transfer Function & Impulse response
	2nd	MATHEMATICAL MODEL OF A	Properties, Advantages & Disadvantages of T.F
	3rd	MATHEMATICAL MODEL OF A	Poles & Zeroes of T.F. Problems Dis TF of network.
	4th	MATHEMATICAL MODEL OF A	Mathematical modeling of Electrical Systems.
	5th	TUTORIAL CUM DOUBT CLEAR	Discussion of formulas of Laplace Transform.
3RD	1st	CONTROL SYSTEM COMPONENTS	Components of Control System
	2nd	CONTROL SYSTEM COMPONENTS	Gyroscope, Synchros,
	3rd	CONTROL SYSTEM COMPONENTS	Tachometer, DC servomotors
	4th	CONTROL SYSTEM COMPONENTS	Ac Servomotors
	5th	TUTORIAL CUM DOUBT CLEAR	Simple Problem Discussion on Laplace Transform
4TH	1st	BLOCK DIAGRAM ALGEBRA	Basic Elements of Block Diagram
	2nd	BLOCK DIAGRAM ALGEBRA	Canonical Form of Closed loop Systems
	3rd	BLOCK DIAGRAM ALGEBRA	Rules for Block diagram reduction
	4th	BLOCK DIAGRAM ALGEBRA	Procedure for Reduction of Block Diagram
	5th	TUTORIAL CUM DOUBT CLEAR	Examples problems of Block Diagram reduction
5TH	1st	BLOCK DIAGRAM ALGEBRA	Problem for equivalent transfer function
	2nd	SIGNAL FLOW GRAPHS	Signal Flow Graph & properties
	3rd	SIGNAL FLOW GRAPHS	Construction of SFG from Block diagram
	4th	SIGNAL FLOW GRAPHS	Mason's Gain formula. problems on Signal flow graph
	5th	TUTORIAL CUM DOUBT CLEAR	Examples problems of Signal Flow Graph
6TH	1st	TIME RESPONSE ANALYSIS	Time response of control system
	2nd	TIME RESPONSE ANALYSIS	Standard Test signal
	3rd	TIME RESPONSE ANALYSIS	Time Response of 1st order system with Unit step res.
	4th	TIME RESPONSE ANALYSIS	Time Response of 1st order system with Unit impulse res
	5th	TUTORIAL CUM DOUBT CLEAR	Simple Problem Discussion on Time Response Analysis
7TH	1st	TIME RESPONSE ANALYSIS	Time response of 2nd order system to the unit step input
	2nd	TIME RESPONSE ANALYSIS	Time response of 2nd order system to the unit step input
	3rd	TIME RESPONSE ANALYSIS	Types of errors in control system
	4th	TIME RESPONSE ANALYSIS	Types of errors in control system
	5th	TUTORIAL CUM DOUBT CLEAR	Simple Problem Discussion on Time Response Analysis.
8TH	1st	TIME RESPONSE ANALYSIS	Effect of adding poles and zero to transfer function
	2nd	TIME RESPONSE ANALYSIS	Response with P, PI, PD and PID controller
	3rd	ROOT LOCUS TECHNIQUE	Root locus concept
	4th	ROOT LOCUS TECHNIQUE	Routh hurwitz criterion
	5th	TUTORIAL CUM DOUBT CLEAR	Examples problems of Routh hurwitz criterion
9TH	1st	ROOT LOCUS TECHNIQUE	Construction of root loci
	2nd	ROOT LOCUS TECHNIQUE	Rules for construction of the root locus with example
	3rd	ROOT LOCUS TECHNIQUE	Rules for construction of the root locus with example
	4th	ROOT LOCUS TECHNIQUE	Effect of adding poles and zeros to G(s) and H(s)
	5th	TUTORIAL CUM DOUBT CLEAR	Objective questions on basics of Control System
10TH	1st	ROOT LOCUS TECHNIQUE	Examples problems of Root locus Diagram
	2nd	ROOT LOCUS TECHNIQUE	Examples problems of Root locus Diagram
	3rd	ROOT LOCUS TECHNIQUE	Examples problems of Root locus Diagram
	4th	ROOT LOCUS TECHNIQUE	Examples problems of Root locus Diagram

	5th	TUTORIAL CUM DOUBT CLEAR	Objective questions on basics of Control System
11TH	1st	FREQUENCY RESPONSE OF SYSTEM	Correlation between time & frequency response
	2nd	FREQUENCY RESPONSE OF SYSTEM	Polar plots
	3rd	FREQUENCY RESPONSE OF SYSTEM	Bode plots.
	4th	FREQUENCY RESPONSE OF SYSTEM	All pass and minimum phase system
	5th	TUTORIAL CUM DOUBT CLEAR	Objective questions on basics of Control System
12TH	1st	FREQUENCY RESPONSE OF SYSTEM	Computation of Gain margin and phase margin
	2nd	FREQUENCY RESPONSE OF SYSTEM	Log magnitude versus phase plot.
	3rd	FREQUENCY RESPONSE OF SYSTEM	Closed loop frequency response
	4th	FREQUENCY RESPONSE OF SYSTEM	Examples problems of Bode Plot
	5th	TUTORIAL CUM DOUBT CLEAR	Objective questions on basics of Control System
13th	1st	FREQUENCY RESPONSE OF SYSTEM	Examples problems of Bode Plot
	2nd	FREQUENCY RESPONSE OF SYSTEM	Examples problems of Bode Plot
	3rd	NYQUIST PLOT	Principle of argument
	4th	NYQUIST PLOT	Niquist stability criterion
	5th	TUTORIAL CUM DOUBT CLEAR	Objective questions on basics of Control System
14th	1st	NYQUIST PLOT	Niquist stability criterion applied to inverse polar plot
	2nd	NYQUIST PLOT	addition of poles and zeros to G(S) H(S)
	3rd	NYQUIST PLOT	Effect on the shape of Nyquist plot by pole zero addition
	4th	NYQUIST PLOT	Assessment of relative stability
	5th	TUTORIAL CUM DOUBT CLEAR	Doubts of Control System.
15th	1st	NYQUIST PLOT	Constant M and N circle
	2nd	NYQUIST PLOT	Nicholas chart.
	3rd	NYQUIST PLOT	Examples problems of Nyquist Plot
	4th	NYQUIST PLOT	Examples problems of Nyquist Plot
	5th	TUTORIAL CUM DOUBT CLEAR	Doubts of Control System.

The lesson plan prepared by the concerned faculty.

KISHORE CHANDRA PRUSTY
GF, ELECTRICAL DEPARTMENT