

ORISSA SCHOOL OF ENGINEERING & POLYTECHNIC
DEPARTMENT OF ELECTRONICS AND TELECOMMUNICATION

LESSON PLAN FOR THE SESSION- 2023-24

SUBJECT- CONTROL SYSTEMS & COMPONENT

BRANCH-E&TC

NAME OF THE FACULTY- ER. SIBA RANJAN NAYAK

SEMESTER-6TH

UNIT	DATE	LECTURE NO.	TOPIC TO BE COVERED
1	14/02/2023	1	Classification of Control system
	14/02/2023	2	Open loop system & Closed loop system and its comparison
	17/02/2023	3	Effects of Feed back
	21/02/2023	4	Standard test Signals(Step, Ramp, Parabolic, Impulse Functions)
	22/02/2023	5	Servomechanism
	24/02/2023	6	Regulators (Regulating System)
2	28/02/2023	7	Transfer Function of a system & Impulse response
	28/02/2023	8	Properties, Advantages & Disadvantages of Transfer Function
	03/03/2023	9	Poles & Zeroes of transfer Function
	10/03/2023	10	Representation of poles & Zero on the s-plane
	13/03/2023	11	Problems of transfer function of network
3	14/03/2023	12	Components of Control System
	14/03/2023	13	Potentiometer, Synchros, Diode modulation & demodulator
	17/03/2023	14	DC motors, Ac Servomotors
	20/03/2023	15	Modelling of Electrical System (R, L, C Analogous systems)
4	21/03/2023	16	Definition: Basic Elements of Block Diagram
	21/03/2023	17	Canonical Form of Closed loop Systems
	24/03/2023	18	Rules for Block diagram reduction

	27/03/2023	19	Procedure for of Reduction of Block Diagram
	28/03/2023	20	Simple Problem for equivalent transfer function
	28/03/2023	21	Basic Definition in Signal Flow Graph & properties
	31/03/2023	22	Step for solving Signal Flow graph
	03/04/2023	23	Mason's Gain formula
	04/04/2023	24	Simple problems in Signal flow graph for network
5	04/04/2023	25	Definition of Time, Stability, steady-state response, accuracy.
	04/04/2023	26	Definition of transient accuracy, In-sensitivity and robustness.
	10/04/2023	27	System Time Response
	11/04/2023	28	Analysis of Steady State Error
	11/04/2023	29	Types of Input & Steady state Error(Step ,Ramp, Parabolic)
	11/04/2023	30	Parameters of first order system & second-order systems
	17/04/2023	31	Derivation of time response Specification (Delay time, Rise time)
	18/04/2023	32	Derivation of time response Specification (Peak time, Setting time Peak over shoot)
6	18/04/2023	33	Effect of parameter variation in Open loop System
	18/04/2023	34	Effect of parameter variation in Closed loop Systems
	21/04/2023	35	Introduction to Basic control Action Basic modes of feedback control: proportional, integral and derivative
	24/04/2023	36	CLASS TEST - I
	25/04/2023	37	Effect of feedback on overall gain, Stability
	25/04/2023	38	Realisation of Controllers(P, PI,PD,PID) with OPAMP
	25/04/2023	39	CLASS TEST QUESTION DISCUSSION & DISTRIBUTION OF EVALUATED ANSWER SHEET TO THE STUDENT FOR THEIR REFERENCES
7	28/04/2023	40	Effect of location of poles on stability
	29/04/2023	41	Routh Hurwitz stability criterion.
	01/05/2023	42	Steps for Root locus method
	02/05/2023	43	Root locus method of design

8	02/05/2023	44	Frequency response
	02/05/2023	45	Relationship between time & frequency response
	06/05/2023	46	Methods of Frequency response
	08/05/2023	47	Polar plots & Steps for polar plot
	09/05/2023	48	Bodes plot & steps for Bode plots
	09/05/2023	49	Stability in frequency domain
	09/05/2023	50	Gain Margin & Phase margin
	12/05/2023	51	Nyquist plots. Nyquist stability criterion.
	15/05/2023	52	Simple problems as above
9	16/05/2023	53	Concepts of state variable, state model,
	16/05/2023	54	Concepts of state model
	16/05/2023	55	State models for linear continuous time functions (Simple)
	20/05/2023	56	PREVIOUS SEMESTER QUESTION DISCUSSION
	22/05/2023	57	DISCUSSION OF ASSIGNMENT QUESTION
	23/05/2023	58	CLASS TEST-II
	23/05/2023	59	OMR TEST
	23/05/2023	60	CLASS TEST QUESTION DISCUSSION & DISTRIBUTION OF EVALUATED ANSWER SHEET TO THE STUDENT FOR THEIR REFERENCES

Sibaranjan Nayak


H.O.D., E.T.C. Dept.
O.S.E., Berhampur,


Principal
Orissa School of Engineering
Berhampur (Gm.)