



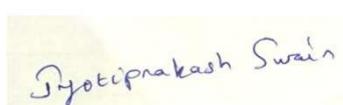
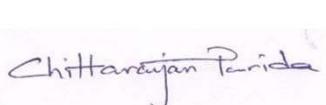
# UTKAL INSTITUTE OF ENGINEERING & TECHNOLOGY

DISCIPLINE:	SEMESTER:			
Electronics& TeleCommunication	6THSem	NAME OF THE TEACHING FACULTY: Er.BISIKESAN SAHOO		
SUBJECT:	Semester From Date: 16/01/2024			
Th.2-CONTROL SYSTEMS & COMPONENT	To Date: 26/04/2024 No. Of Weeks: 15			
WEEK	CLASS DAY	THEORY TOPICS	REMARKS	
1 <sup>st</sup>	1 <sup>st</sup>	Fundamental of Control System: Classification of Control system	Date	Dean/Principal
	2 <sup>nd</sup>	Open loop system & Closed loop system and its comparison		
	3 <sup>rd</sup>	Effects of Feedback		
	4 <sup>th</sup>	Standard test Signals (Step, Ramp, Parabolic, Impulse Functions)		
2nd	1 <sup>st</sup>	Servomechanism, Regulators (Regulating systems)		
	2 <sup>nd</sup>	Transfer Function of a system		
	3 <sup>rd</sup>	Transfer Function of Impulse response,		
	4 <sup>th</sup>	Properties, Advantages of Transfer Function		
3 <sup>rd</sup>	1 <sup>st</sup>	Properties Disadvantages of Transfer Function		
	2 <sup>nd</sup>	Poles & Zeros of transfer Function		
	3 <sup>rd</sup>	Poles & Zeros of transfer Function		
	4 <sup>th</sup>	Representation of poles & Zeros on the s-plane		
	1 <sup>st</sup>	Simple problems of transfer function of network		

4 <sup>th</sup>	2 <sup>nd</sup>	ControlsystemComponents& mathematical modelling of physical System :Components ofControl System		
	3 <sup>rd</sup>	Potentiometer,Synchros, Diode modulator & demodulator ,		
	4 <sup>th</sup>	Potentiometer,Synchros, Diode modulator & demodulator ,		
5th	1 <sup>st</sup>	DCmotors,ACServomotors		
	2 <sup>nd</sup>	ModellingofElectrical Systems(R,L,C,Analogous systems)		
	3 <sup>rd</sup>	DefinitionofBasicElementsof aBlockDiagram		
	4 <sup>th</sup>	CanonicalFormofClosedloop Systems		
6th	1 <sup>st</sup>	RulesforBlock diagram Reduction		
	2 <sup>nd</sup>	ProcedureforofReductionof Block Diagram		
	3 <sup>rd</sup>	SimpleProblemfor equivalent transferfunction		
	4 <sup>th</sup>	BasicDefinitioninSFG& properties		
7th	1 <sup>st</sup>	Mason'sGainformula:Steps foesolvingSignalflow Graph		
	2 <sup>nd</sup>	SimpleproblemsinSignalflow graphfor network		
	3 <sup>rd</sup>	DefinitionofTime,Stability, steady-state response, accuracy		
	4 <sup>th</sup>	Definitionoftransient accuracy, In-sensitivityandrobustness		
8th	1 <sup>st</sup>	System Time Response		
	2 <sup>nd</sup>	AnalysisofSteadyState Error		
	3 <sup>rd</sup>	TypeeofInput& Steady state Error(Step,Ramp, Parabolic)		
	4 <sup>th</sup>	Parametersoffirstorder system & second-order systems		

9th	1 <sup>st</sup>	Derivation of time response Specification(Delaytime,Rise time, Peak time,Setting time,Peakover shoot)		
	2 <sup>nd</sup>	Derivation of time response Specification(Delaytime,Rise time, Peak time,Setting time,Peakover shoot)		
	3 <sup>rd</sup>	Effect of parameter variation inOpenloopSystem&Closed loopSystems		
	4 <sup>th</sup>	IntroductiontoBasiccontrol Action& Basic modes of feedbackcontrol		
10th	1 <sup>st</sup>	proportional,integral and derivative		
	2 <sup>nd</sup>	Effectof feedbackon overall gain,Stability		
	3 <sup>rd</sup>	RealisationofControllers(P, PI,PD,PID)with OPAMP		
	4 <sup>th</sup>	RealisationofControllers(P, PI,PD,PID)with OPAMP		
11th	1 <sup>st</sup>	Stabilityconcept&Rootlocus Method:Effectoflocationof poleson stability		
	2 <sup>nd</sup>	RouthHurwitzstability criterion		
	3 <sup>rd</sup>	StepsforRootlocus method		
	4 <sup>th</sup>	StepsforRootlocus method		
12th	1 <sup>st</sup>	Rootlocusmethodof design(Simpleproblem)		
	2 <sup>nd</sup>	Rootlocusmethodof design(Simpleproblem)		
	3 <sup>rd</sup>	Rootlocusmethodof design(Simpleproblem)		
	4 <sup>th</sup>	ASSIGNMENT		
13th	1 <sup>st</sup>	Frequencyresponse,Relationship between time & frequency response		
	2 <sup>nd</sup>	MethodsofFrequency response		
	3 <sup>rd</sup>	Polarplots& stepsforpolar plot		
	4 <sup>th</sup>	Bodesplot&stepsforBode plots		

14th	1 <sup>st</sup>	Stabilityinfrequencydomain, Gain Margin& Phase margin		
	2 <sup>nd</sup>	Nyquistplots.Nyquiststability criterion		
	3 <sup>rd</sup>	Simpleproblems as above		
	4 <sup>th</sup>	StatevariableAnalysis9.1 Concepts of state, state variable,state model,		
15th	1 <sup>st</sup>	Statevariable Analysis9.1 Conceptsofstate,state variable, state model,		
	2 <sup>nd</sup>	statemodelsforlinear continuous time functions(Simple)		
	3 <sup>rd</sup>	statemodelsforlinear continuous time functions(Simple)		
	4 <sup>th</sup>	DOUBTCLEARCLASS		


HOD

DEAN

PRINCIPAL