LESSON PLAN-2022-2023
SWAMI VIVEKANANDA SCHOOL OF ENGG & TECH, BBSR

Discipline- ELECTRICAL	Semester-6TH	Name of teaching faculty-ANIL KU. BISWAL
SUBJECT- CSE	No of days/ per week class alloted-	SEM From date-2/20/23 No of weeks-
Week	**Class day**	**Theory Topics**
		SIGNAL FLOW GRAPH
4TH	2/20/2023	1.1 Review of block diagrams and transfer functions of multivariable systems.
	2/21/2023	1.1 Review of block diagrams and transfer functions of multivariable systems.
	2/22/2023	1.2 Construction of signal flow graph.
	2/23/2023	solve problem regarding sfg
	2/24/2023	solve problem regarding sfg
	2/25/2023	1.3 Basic properties of signal flow graph.
	2/27/2023	1.5 Construction of signal flow graph for control system.
	2/28/2023	**TIME RESPONSE ANALYSIS.**
1ST	3/01/2023	2. 1 Time response of control system.
	3/02/2023	2. 2 Standard Test signal.
	3/03/2023	2.2.1. Step signal,
	3/04/2023	2.2.2. Ramp Signal
2ND	3/06/2023	2.2.3. Parabolic Signal
	3/07/2023	2.2.4. Impulse Signal
	3/09/2023	2 . 3 Time Response of first order system with:2.3.1. Unit step response
	3/10/2023	2.3.2. Unit impulse response.
	3/11/2023	2 . 4 Time response of second order system to the unit step input.
3RD	3/13/2023	2.4.1. Time response specification.
	3/14/2023	2.4.2. Derivation of expression for rise time, peak time, peak overshoot
	3/15/2023	Settling time and steady state error.
	3/16/2023	2.4.3. Steady state error and error constants.
	3/17/2023	2 . 5 Types of control system.[Steady state errors in Type-0, Type-1, Type-2 system
	3/18/2023	continue
4TH	3/20/2023	2. 6 Effect of adding poles and zero to transfer function.
	3/21/2023	2. 7 Response with P, PI, PD and PID controller.
	3/22/2023	continue
	3/23/2023	continue
	3/24/2023	ANALYSIS OF STABILITY BY ROOT LOCUS TECHNIQUE

	3/25/2023	3. 1 Root locus concept.
5TH	3/27/2023	3. 2 Construction of root loci.
	3/28/2023	3. 3 Rules for construction of the root locus.
	3/29/2023	solving numericals
	3/31/2023	solving numericals
1ST	4/3/2023	solving numericals
	4/4/2023	3. 4 Effect of adding poles and zeros to G(s) and H(s)
	4/5/2023	FREQUENCY RESPONSE ANALYSIS.
	4/6/2023	4. 1 Correlation between time response and frequency response.
	4/8/2023	4. 2 Polar plots.
2ND	4/10/2023	examples
	4/11/2023	continue
	4/12/2023	solving numericals
	4/13/2023	solving numericals
	4/15/2023	4. 3 Bode plots.
3RD	4/17/2023	continue
		continue
	4/18/2023	solving numericals
	4/19/2023	solving numericals
	4/20/2023	4. 4 All pass and minimum phase system.
	4/21/2023	4. 5 Computation of Gain margin and phase margin.
	4/22/2023	4. 6 Log magnitude versus phase plot.
4TH	4/24/2023	4. 7 Closed loop frequency response.
	4/25/2023	NYQUIST PLOT
	4/26/2023	5.5 Assessment of relative stability.
	4/27/2023	5.1 Principle of argument.
	4/28/2023	5.2 Nyquist stability criterion.
	4/29/2023	5.3 Niquist stability criterion applied to inverse polar plot.
1ST	5/1/2023	5.4 Effect of addition of poles and zeros to G(S) H(S) on the shape of Niquist plot.
	5/2/2023	5.6 Constant M and N circle
	5/3/2023	continue
	5/4/2023	continue
	5/5/2023	5.7 Nicholas chart.
	5/6/2023	5.7 Nicholas chart.
	5/8/2023	solving numericals
	5/9/2023	doubt clearing class

HOD   PRINCIPAL