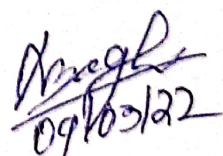


| SL NO. | WEEK NO | DATE | TOPICS TO BE COVERED | NO OF PERIODS |
|--------|---------|-----------------------|--|---------------|
| 1 | 1 | 10.03.2022-11.03.2022 | 1. FUNDAMENTAL OF CONTROL SYSTEM 1.1. Classification of Control system 1.2. Open loop system & Closed loop system and its comparison 1.3. Effects of Feed back 1.4. Standard test Signals(Step, Ramp, Parabolic, Impulse Functions) 1.5. Servomechanism | 5 |
| 2 | 2 | 14.03.2022-19.03.2022 | 2. MATHEMATICAL MODEL OF A SYSTEM 2.1. Transfer Function & Impulse response, 2.2. Properties, Advantages & Disadvantages of Transfer Function 2.3. Poles & Zeroes of transfer Function 2.4. Simple problems of transfer function of network. | 4 |
| 3 | 3 | 21.03.2022-26.03.2022 | 2.5. Mathematical modeling of Electrical Systems(R, L, C, Analogous systems) 3. CONTROL SYSTEM COMPONENTS 3.1. Components of Control System 3.2. Gyroscope, Synchros, Tachometer. | 5 |
| 4 | 4 | 28.03.2022-02.03.2022 | 3.2. DC servomotors, Ac Servomotors. 4. BLOCK DIAGRAM ALGEBRA & SIGNAL FLOW GRAPHS 4.1. Definition: Basic Elements of Block Diagram 4.2. Canonical Form of Closed loop Systems 4.3. Rules for Block diagram reduction | 4 |
| 5 | 5 | 04.04.2022-09.04.2022 | 4.4. Procedure for of Reduction of Block Diagram 4.5. Simple Problem for equivalent transfer function 4.6. Basic Definition in Signal Flow Graph & properties 4.7. Construction of Signal Flow graph from Block diagram 4.8. Mason's Gain formula 4.9. Simple problems in Signal flow graph for network | 4 |
| 6 | 6 | 11.04.2022-16.04.2022 | 5. TIME RESPONSE ANALYSIS. 5 . 1 Time response of control system. 5 . 2 Standard Test signal. 5.2.1. Step signal, 5.2.2. Ramp Signal 5.2.3. Parabolic Signal 5.2.4. Impulse Signal | 4 |

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| 7 | 7 | 18.04.2022- 23.04.2022 | 5 . 3 Time Response of first order system with: 5.3.2. Unit impulse response. 5 . 4 Time response of second order system to the unit step input. 5.4.1. Time response specification. | 5 |
| 8 | 8 | 25.04.2022- 30.04.2022 | 5.4.2. Derivation of expression for rise time, peak time, peak overshoot, settling time and steady state error.VI Sem Electrical Page 11 of 28 5.4.3. Steady state error and error constant5 . 5 Types of control system.[Steady state errors in Type-0, Type-1, Type-2 system] | 5 |
| 9 | 9 | 02.05.2022- 07.05.2022 | 5 . 6 Effect of adding poles and zero to transfer function. 5 . 7 Response with P, PI, PD and PID controller. 6. ANALYSIS OF STABILITY BY ROOT LOCUS TECHNIQUE. 6 . 1 Root locus concept. 6 . 2 Construction of root loci. | 4 |
| 10 | 10 | 09.05.2022- 14.05.2022 | 6 . 3 Rules for construction of the root locus. 6 . 4 Effect of adding poles and zeros to $G(s)$ and $H(s)$. 7. FREQUENCY RESPONSE ANALYSIS. 7 . 1 Correlation between time response and frequency response. 7 . 2 Polar plots. | 5 |
| 11 | 11 | 17.05.2022- 21.06.2022 | 7 . 5 Computation of Gain margin and phase margin. 7 . 6 Log magnitude versus phase plot. 7 . 7 Closed loop frequency response. | 4 |
| 12 | 12 | 23.05.2022- 28.06.2022 | 7 . 3 Bode plots. 7 . 4 All pass and minimum phase system. 8. NYQUIST PLOT 8.1 Principle of argument. | 5 |
| 13 | 13 | 30.05.2022- 04.06.2022 | 8.2 Nyquist stability criterion. 8.3 Niquist stability criterion applied to inverse polar plot. 8.4 Effect of addition of poles and zeros to $G(S)$ $H(S)$ on the shape of Niquist plot. | 5 |
| 14 | 14 | 06.06.2022- 10.06.2022 | 8.5 Assessment of relative stability. 8.6 Constant M and N circle 8.7 Nicholas chart. REVISION | 5 |

for

09/03/22
H.O.D (ELECTRICAL)