S.E.(Electronics / Electronics & Telecommunication Engineering)
CONTROL SYSTEMS
(2019Pattern) (Semester-II)

1. Sketch the root locus of the system with:
    G(s) = k/s (s+4) (s+5)   , H (s) = 1.

2. For the system with closed loop transfer
    $G(s) = 4/ s^2 + 2s + 4$ Determine resonant peak, resonant frequency, damping factor.

3. Find whether the system is controllable and Observable
    A= [− 2 1 0 − 3 1 − 3 − 4 − 5], B = [0 0 1], C = [0 1 0] , D =[0]

4. Draw and explain block diagram of digital control system.

5. Write short note on concept of Industrial Automation.

6. Draw Bode plot of the system with:
    G(s) = 50/ s (s+4) (s+40)

7. Obtain State Transition Matrix Ẋ= [− 2 1 0 − 2] x(t)

8. Explain properties of State Transition Matrix.

9. Write a note on P, PI, PD, PID controller. Draw the response for step input.

10. Explain ON OFF controller and concept of Dead Zone

11. Obtain the expression for state transition matrix using Laplace transform method.

12. State properties of state transition matrix.