T.E.(Electrical Engineering)
CONTROL SYSTEM ENGINEERING
(2019Pattern) (Semester-VI)

1. Sketch the root locus of the system with:
    G(s) = k/s (s+4) (s+5)   , H (s) = 1.
2. Derive the correlation between time and frequency domain specifications.

3. Explain in brief polar Plot.

4. Write a note on P, PI, PD, PID controller.

5. For the system with closed loop transfer function
    $G(s) = 4/ s^2 + 2s + 4$
    Determine resonant peak, resonant frequency, damping factor.
6. Write short note on Nyquist plot.

7. Draw Bode plot of the system with:
    G(s) = 50/ s (s+4) (s+40)
8. Write short note on design of PID controller by Root Locus.

9. Draw Polar plot of the system with:
    G(s)H(s) = 40/ (s+1) (s+2) (s+4) .
10. Draw Nyquist plot of the system with:
    G(s) H(s) = (s+2)/ (s+4) (s-4)
11. Design PID controller for unity feedback system given below using Ziegler-Nichol Methods
    G(s) = 2/ s (s+2) (s+4)
12. Write short note on Working principle and transfer function of Lag network, lead network.