

BT MRE-VII-02.21-1317

IX. The open loop transfer function of a unity feedback control system is given (20)

by $\frac{K(s+2)}{s(s-2)(s^2+5s+16)}$. Using Routh Hurwitz criteria, find the

stability of the closed loop system as a function of K . Find the value of K for sustained oscillations and the corresponding oscillating frequencies?

OR

X. Analyse the given system using the steps for the Root locus method and find the limiting value of K and the corresponding frequencies for the unity feedback system with open loop transfer function given by, (20)

$$G(s) = \frac{K}{s(s^2 + 8s + 32)}$$
