CONTROL SYSTEMS - 7th SEMESTER - DCSE - ASSIGNMENT 1

DUE DATE: OCTOBER 16, 2022

Assignment should be hand written.
Write your name, registration no. and section, or else your assignment may not be marked.
Copied assignments will be awarded 0 marks.
Staple your pages properly (binding is not required)

Question 1:

Consider the following transfer functions

- Calculate poles and zeros of system
- Draw the pole-zero map
- Determine stability of system

a) $\boldsymbol{G(s) = \frac{s}{(s+1)(s+2)(s+3)}}$ **b)** $\boldsymbol{G(s) = \frac{(s+3)^2}{s+10}}$ **c)** $\boldsymbol{G(s) = \frac{s(s-3)}{(s-10)(s-1)}}$

Question 2:

Find the state equations and output equation for the phase variable representation of the transfer function

$$\boldsymbol{G(s) = \frac{2s+1}{s^2+7s+9}}$$