

B.Tech III Year 6th Semester

Year (2023)

Branch ECE

Subject : Control System

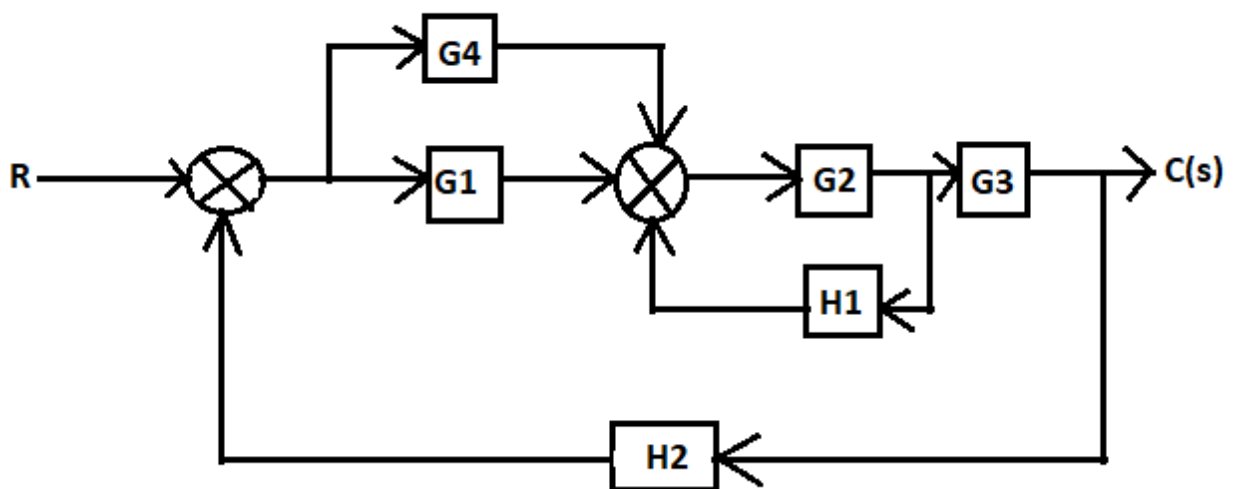
CT-1

Time : 1Hour

M.M : 30

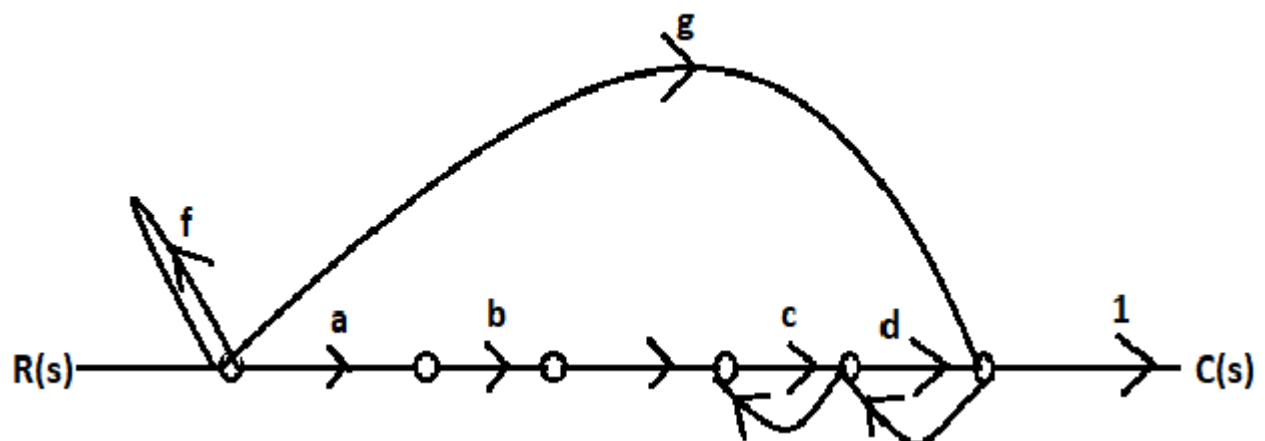
Note : Attempt All question

1. (i) Find the overall transfer function for the following block diagram.



- (ii) Verify by signal flow graph also (block diagram to SFG)

2. (i) Find Δ for the signal flow graph shown in figure.



- (ii) Prove that the closed loop system is more robust than open loop.

3. (i) Define the F-V analogy if R , L , C & are connected in series.

- (ii) Define standard test signals. What is the necessity of standard test signals?

4. (i) Derive steady state error. Find out the relation between steady state error and type of system.
(ii) Differentiate open loop and closed loop control system.

5 The open loop transfer function of a system is $G(s)H(s)=k(s+4)(s+2)/(s+2)(s+3)$. Determine the complete root locus and comment on the stability of close loop system.