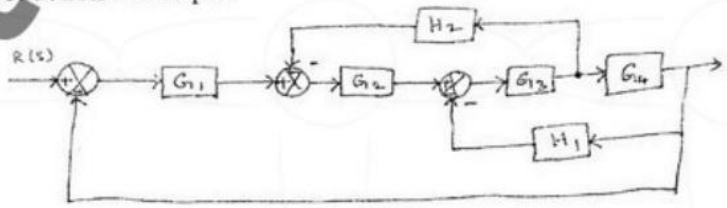
1. Define control systems.
2. Differentiate between Open loop and closed loop control systems.
3. What are the effects of negative feedback systems on the control systems?
4. Write the analogous table.
5. Explain the closed loop system with suitable examples.
6. a. Determine the overall transfer function $\frac{C(S)}{R(S)}$ for the system shown in Fig.Q.3(a) using block diagram reduction technique. **(10 Marks)**



7. Find the overall T.F by Mason's gain formula for the SFG given in the Fig.Q.3(b).

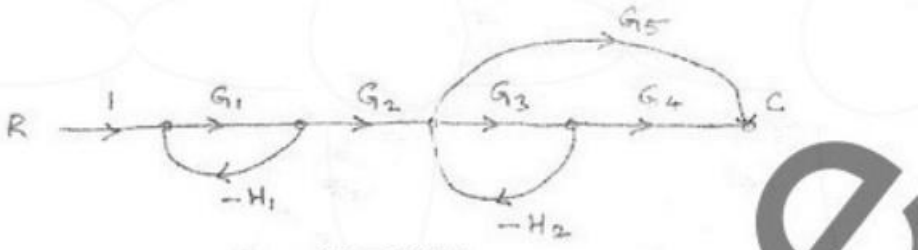


Fig.Q.3(b)

8. Obtain the transfer function of the system shown in Fig. Q3 (a) using block diagram reduction technique. **(10 Marks)**

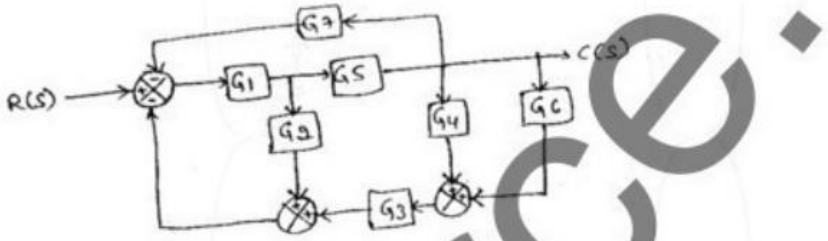


Fig. Q3 (a)

9. Draw the corresponding SFG for the block diagram shown in Fig. Q3 (b) and obtain the transfer function using Mason's gain formula. **(10 Marks)**

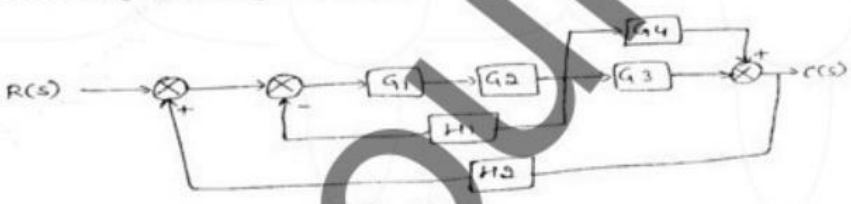


Fig. Q3 (b)

10.

OR

Draw the corresponding block diagram, for the signal flow graph shown in Fig. Q4 (a). Obtain the transfer function, T(s) = C(s)/R(s) of the system using block diagram reduction technique. (10 Marks)

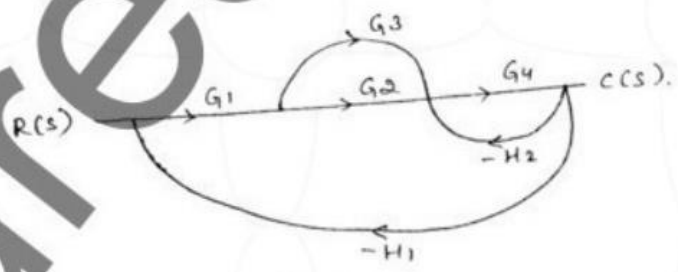


Fig. Q4 (a)

11.

Obtain the transfer function using Mason's gain formula. (Refer Fig. Q4 (b)) (10 Marks)

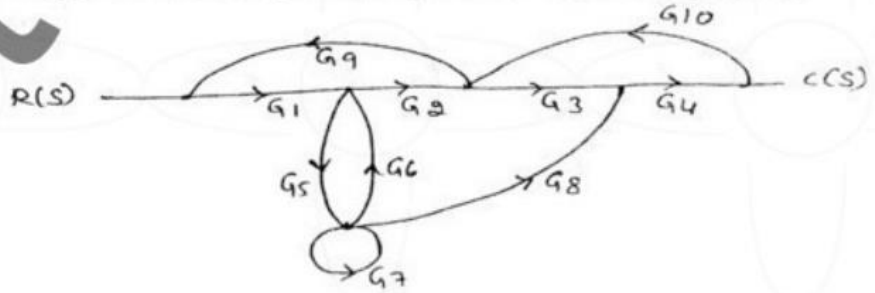


Fig. Q4 (b)