



TUTORIAL SHEET

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SHEET No....

Campus: PCE

Course: B.Tech.

Class/Section: V Sem.

Date: 12 Sept.2020

Name of Faculty: Mr. Tarun Mishra

Name of Subject: Control System

Code: 5EC4-03

Name of Student:

Scheduled & Actual Date of H.A. Submission: 21 September, 2020

FIRST 20 MT CLASS QUESTIONS	Questions Q.1 Determine the transfer function.	CO	PO
2 HRS. SOLVABLE HOME ASSIGNMENT (H.A.)	Q. 1 Consider the block diagram shown in the following figure. Let us simplify (reduce) this block diagram using the block diagram reduction rules.	1	1,2,
OTHER IMPORTANT QUESTIONS	Q 1. Determine the transfer function $Y_2(s)/R_1(s)$. Q.2 Convert block diagram to signal flow graph	1	1,2

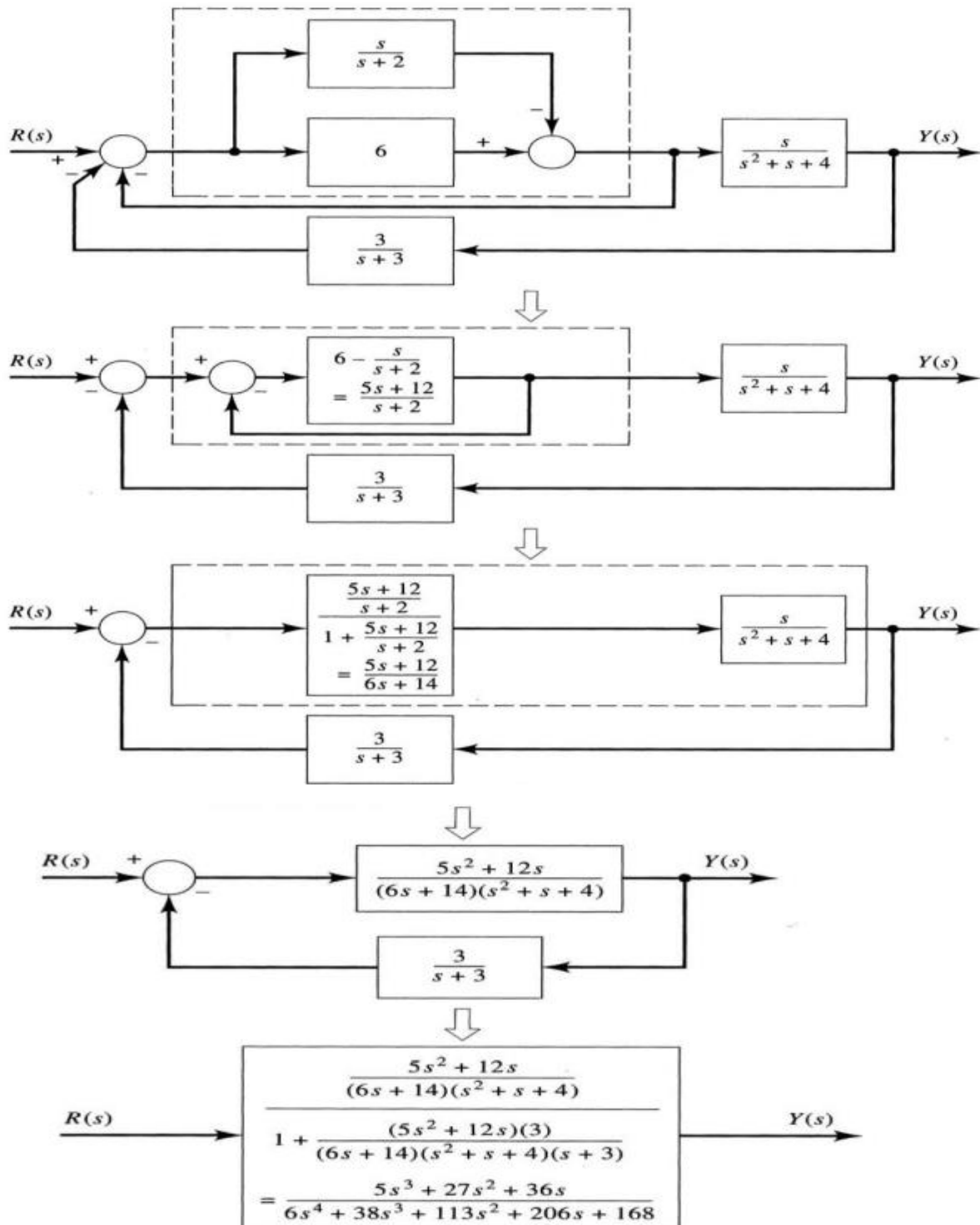
Dr. Mahesh Bunde

 B.E., M.E., Ph.D.

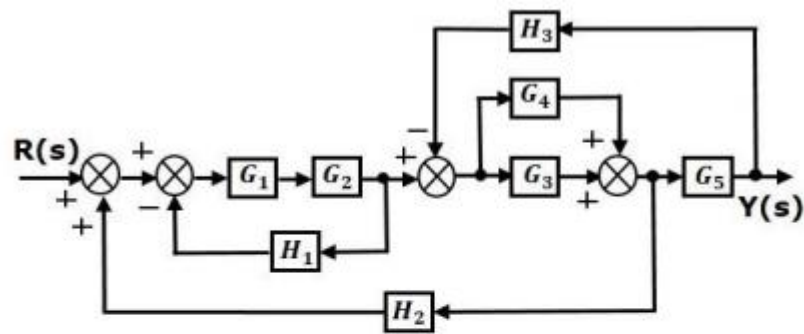
Answers

Q1

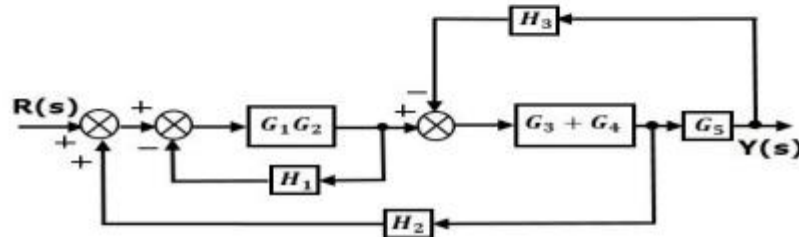
Ans 1



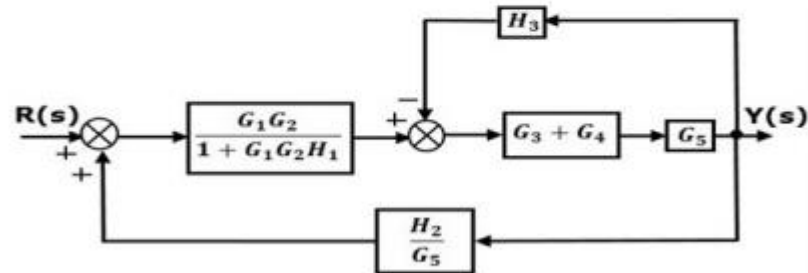
Q1.



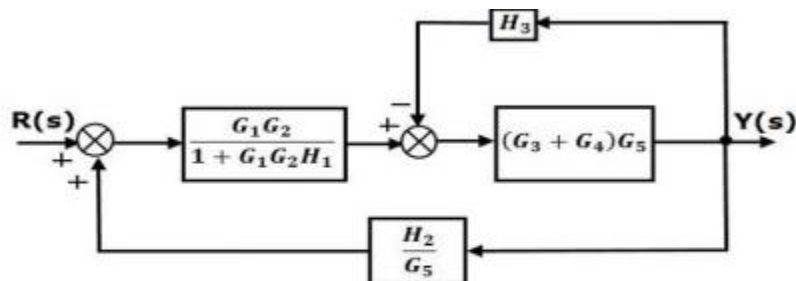
Step 1 – Use Rule 1 for blocks G_1 and G_2 . Use Rule 2 for blocks G_3 and G_4 . The modified block diagram is shown in the following figure.



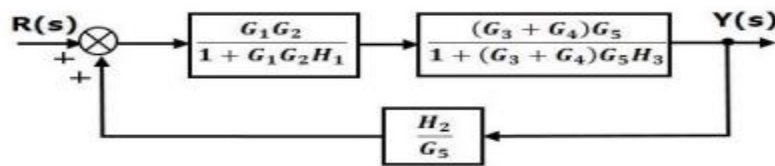
Step 2 – Use Rule 3 for blocks G_1G_2 and H_1 . Use Rule 4 for shifting take-off point after the block G_5 . The modified block diagram is shown in the following figure.



Step 3 – Use Rule 1 for blocks $(G_3 + G_4)$ and G_5 . The modified block diagram is shown in the following figure.

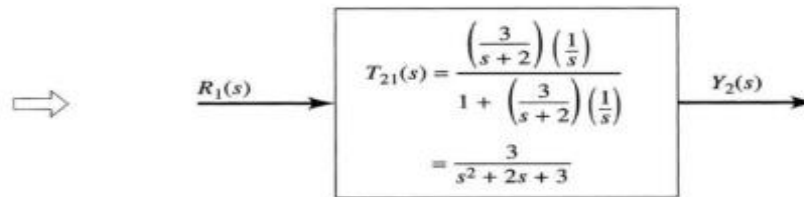
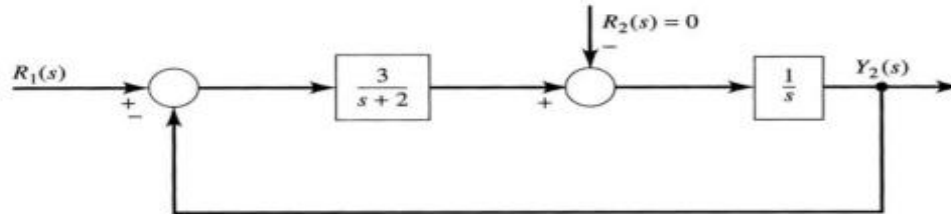


Step 4 – Use Rule 3 for blocks $(G_3 + G_4)G_5$ and H_3 . The modified block diagram is shown in the following figure.

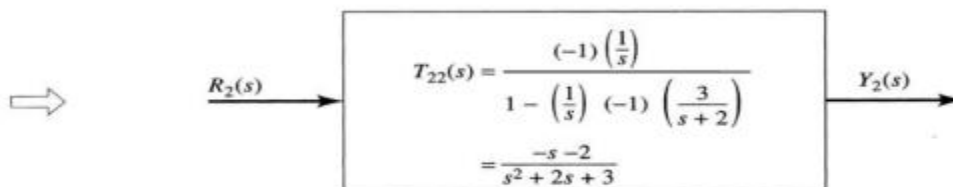
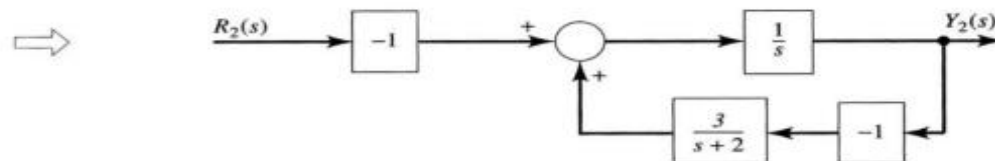
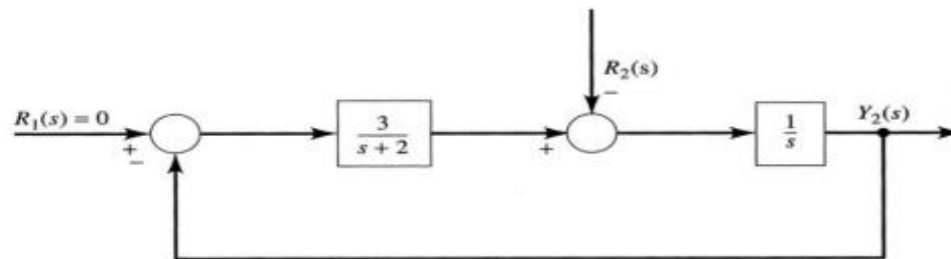


Step 5 – Use Rule 1 for blocks connected in series. The modified block diagram is shown in the following figure.

Q1



(a)



(b)

Q2.

