Benha University
Faculty of Engineering (Shoubra)
Electrical Engineering Department

3rd year Computer Systems
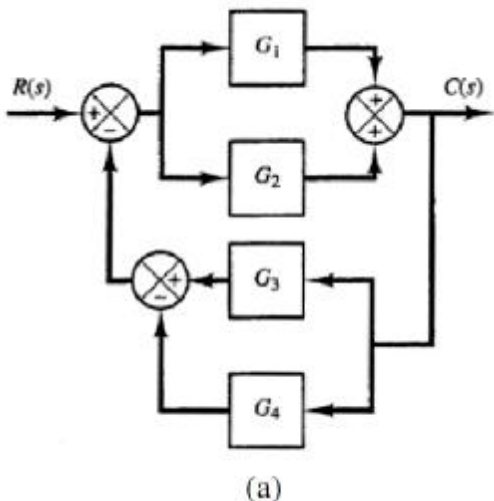**1st Semester, 2015-2016**
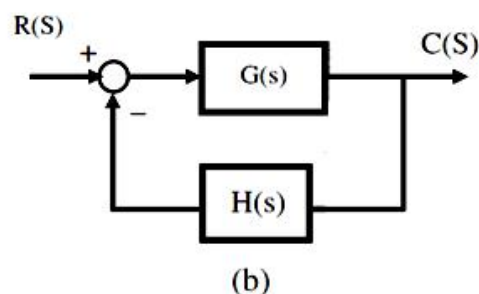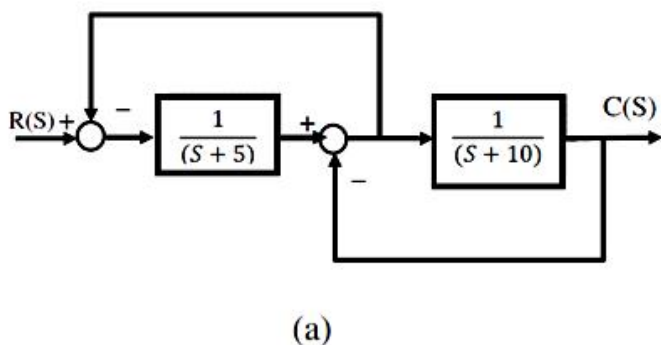**Subject: Automatic Control**

Sheet (3)

1- Simplify the following control systems using block diagram reduction, and then find the transfer function $C(s) / R(s)$.
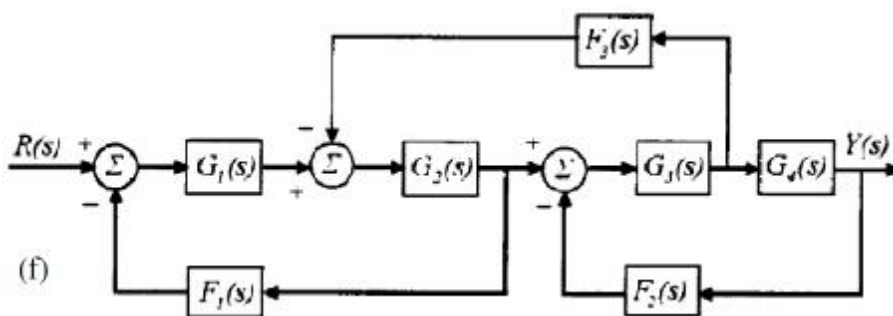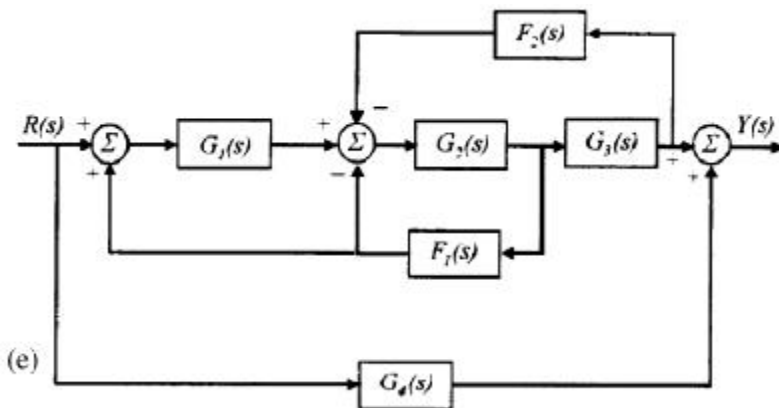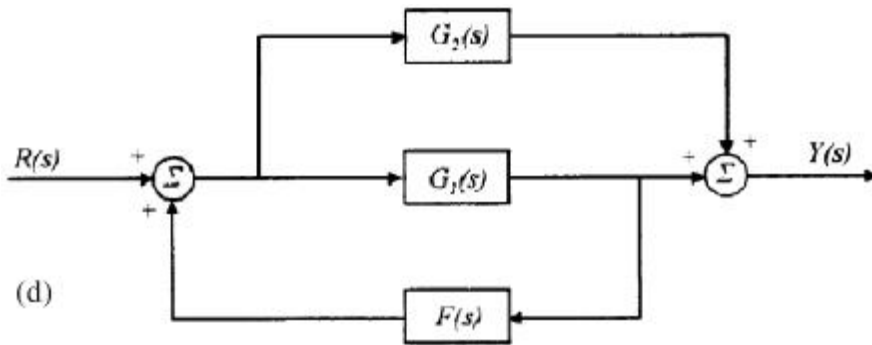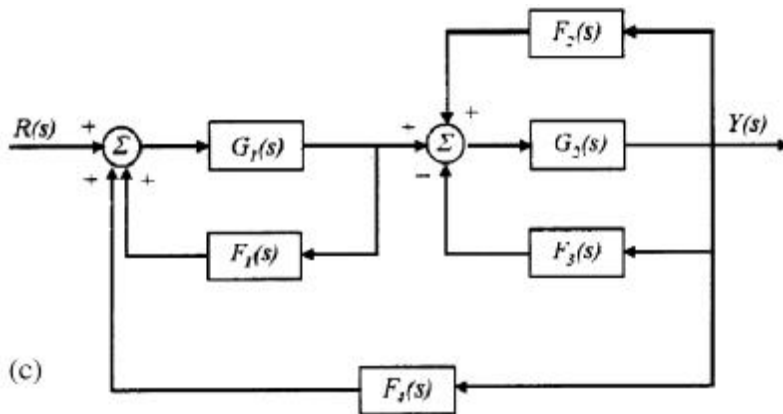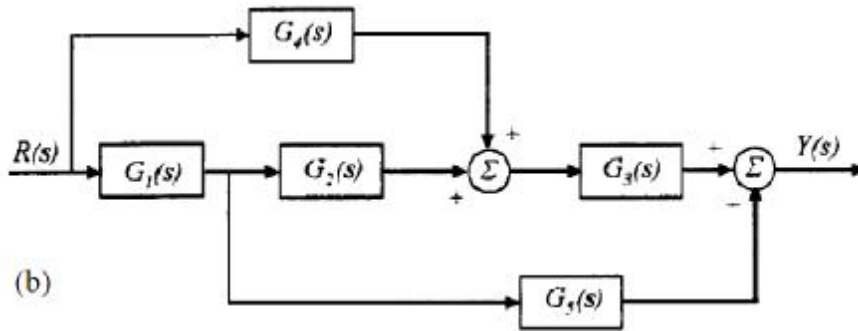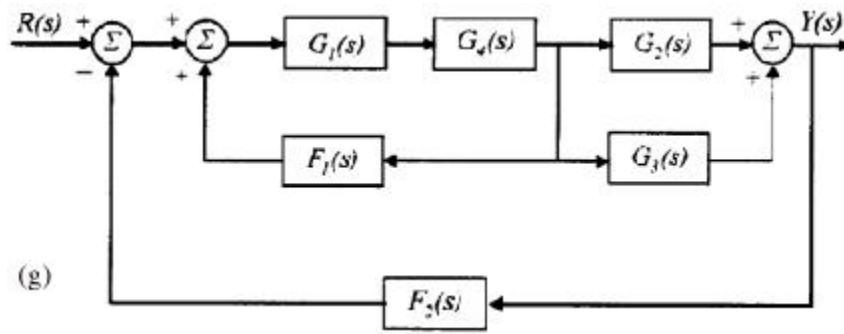

(a)   (b)
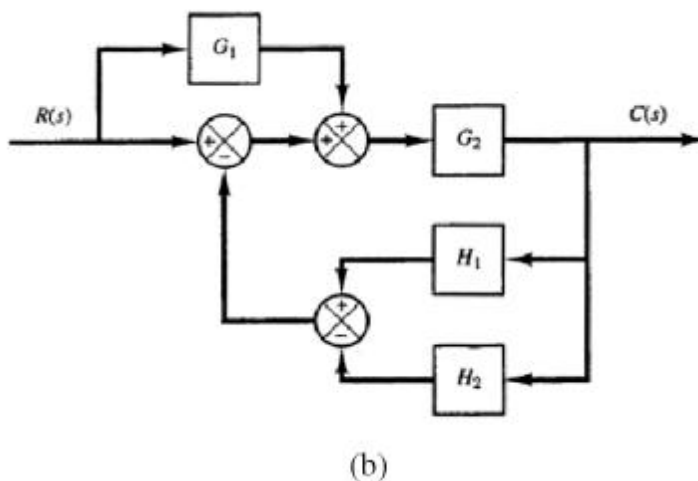
2- For the control system shown in Fig. (b) below,
   a) Determine G(s) and H(s) that are equivalent to the block diagram of fig. (a)
   b) Determine the transfer function C(s)/R(s)

(a)   (b)

3- Simplify the following control systems using block diagram algebra, and then find the Closed loop transfer function $Y(s) / R(s)$.
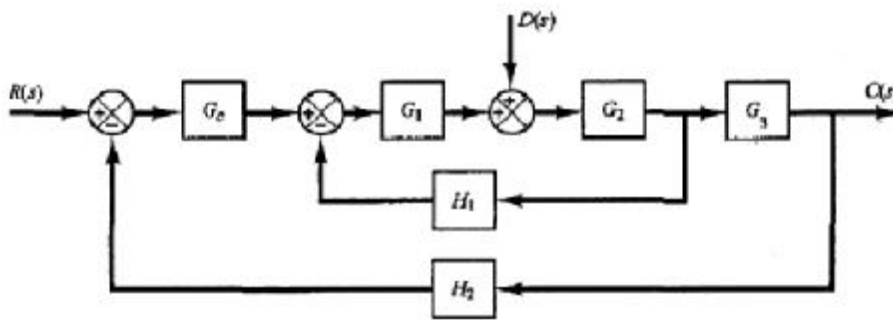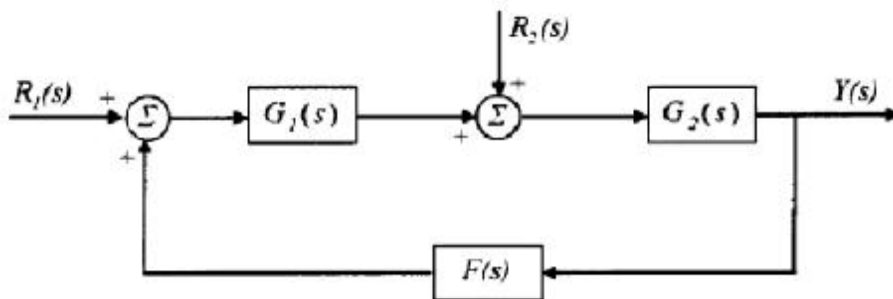

(a)

1

(b)

(c)

(d)

(e)

(f)

2

(g)
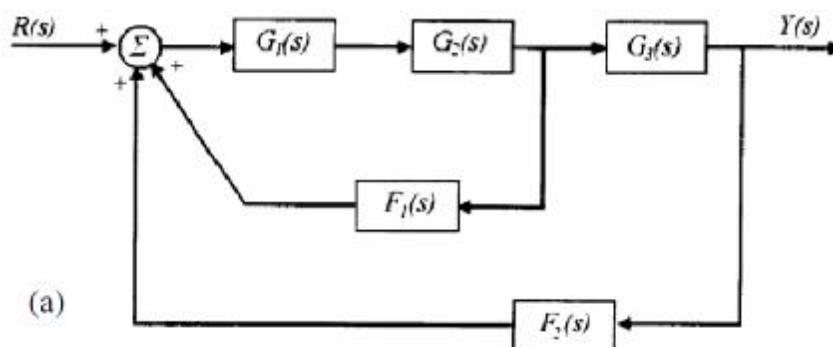
4- - For the control systems shown in figures below,
a)Obtain the transfer functions $C(s)/R(s)$ and $C(s)/D(s)$ of the system shown in Fig.(a).
b)Obtain the transfer functions $Y(s)/R1(s)$ and $Y(s)/R2(s)$ of the system shown in Fig.(b).

(a)

(b)

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3