

# **LAB PRACTICE # 6**

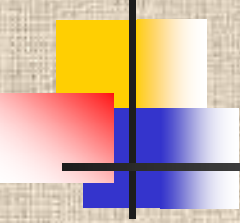
## **Time response of control systems**

Subject: - Feedback Control Systems

By: - Engr. Imtiaz Hussain Kalwar

4/11/2005

# Step Response



---

$$G(S) = \frac{100}{S^2 + 14S + 100}$$

To find the step response of the system

*num = 100;*

*den = [1 14 100];*

*step(num,den)*

# Impulse Response



---

$$G(S) = \frac{100}{S^2 + 14S + 100}$$

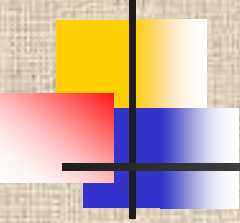
To find the step response of the system

*num = 100;*

*den = [1 14 100];*

*impulse(num, den)*

# Ramp Response



---

$$G(S) = \frac{100}{S^2 + 14S + 100}$$

To find the ramp response of the system

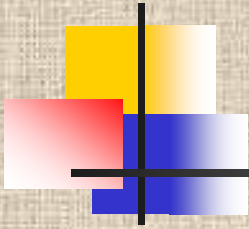
***$t = 0:0.01:10$***

***$r = t;$***

***$num = 100;$***

***$den = [1 \ 14 \ 100];$***

***$lsim(num,den,r,t)$***



**Exercise:** For the transfer function given below find time response of the system.

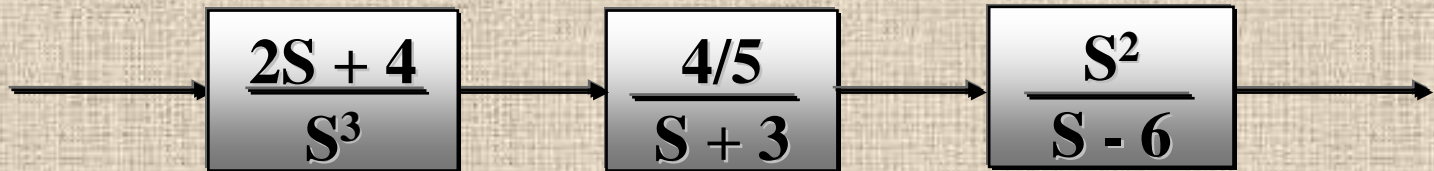
$$G(S) = \frac{S^2 + 3S + 5}{S^3 + 4S + 10}$$



## Exercise:

---

Reduce following block diagram into a single block form. Find time response of the system





## Exercise:

---

Find time response of the system

