**TALLER MATLAB CORTE 2**

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1.

c)

Código

s=tf('s');

Ta=3/(s^2+3.2\*s+3);

s=tf('s');

Tb=(-1.8\*(s-1))/(s^2+5.2\*s+5);

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

step(Ta)%Respuesta al escalon

step(1/s,Ta)%Respuesta a la rampa

impulse(Ta)%Respuesta a la parabola

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

plot(step\_a.time,step\_a.data(:,1),'r')

xlabel('Time')

ylabel('Amplitude')

hold on

plot(step\_a.time,step\_a.data(:,2),'b')

xlabel('Time')

ylabel('Amplitude')

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

plot(ramp\_a.time,ramp\_a.data(:,1),'r')

xlabel('Time')

ylabel('Amplitude')

hold on

plot(ramp\_a.time,ramp\_a.data(:,2),'b')

xlabel('Time')

ylabel('Amplitude')

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

plot(parab\_a.time,parab\_a.data(:,1),'r')

xlabel('Time')

ylabel('Amplitude')

hold on

plot(parab\_a.time,parab\_a.data(:,2),'b')

xlabel('Time')

ylabel('Amplitude')

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

step(Tb)%Respuesta al escalon

step(Tb / s)%Respuesta a la rampa

impulse(Tb)%Respuesta a la parabola

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

plot(step\_b.time,step\_b.data(:,1),'r')

xlabel('Time')

ylabel('Amplitude')

hold on

plot(step\_b.time,step\_b.data(:,2),'b')

xlabel('Time')

ylabel('Amplitude')

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

plot(ramp\_b.time,ramp\_b.data(:,1),'r')

xlabel('Time')

ylabel('Amplitude')

hold on

plot(ramp\_b.time,ramp\_b.data(:,2),'b')

xlabel('Time')

ylabel('Amplitude')

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

plot(parab\_b.time,parab\_b.data(:,1),'r')

xlabel('Time')

ylabel('Amplitude')

hold on

plot(parab\_b.time,parab\_b.data(:,2),'b')

xlabel('Time')

ylabel('Amplitude')

STEP a)



RAMP a)



PARABLE a)



STEP b)



RAMP b)



PARABLE b)



Indicadores de desempeño a)









Indicadores de desempeño b)









2.

c)

Código

s=tf('s');

Kp=1;%Kp mayor a -14/40

G=40\*Kp/(s^2+3\*s+14+40\*Kp);

step(G)

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

plot(Controler.time,Controler.data(:,1),'r')

xlabel('Time')

ylabel('Amplitude')

hold on

plot(Controler.time,Controler.data(:,2),'b')

xlabel('Time')

ylabel('Amplitude')



Indicadores de desempeño









d)

Código

s=tf('s');

Kp=-0.5;%Kp menor a -14/40

G=40\*Kp/(s^2+3\*s+14+40\*Kp);

step(G)

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

plot(Controler.time,Controler.data(:,1),'r')

xlabel('Time')

ylabel('Amplitude')

hold on

plot(Controler.time,Controler.data(:,2),'b')

xlabel('Time')

ylabel('Amplitude')

Kp=-0.5



Indicadores de desempeño

No posee indicadores de desempeño debido a que es inestable.

3.



Indicadores de desempeño







