Name: Devashish Dewalkar

Batch: K5

Rollno: 32117

clc;

F=10;

x=0:1/1000:3/F;

y=sin(2\*pi\*F\*x);

subplot(4,1,1)

plot(x,y)

xlabel('t')

ylabel('y')

title('Analog signal')

fs1=20;

n=0:1/fs1:3/F;

xn=sin(2\*pi\*n\*F);

subplot(4,1,2)

plot(x,y,'g--')

hold on

stem(n,xn)

xlabel('n')

ylabel('xn1')

title('fc=2fm')

fs2=25;

n=0:1/fs2:3/F;

xn=sin(2\*pi\*n\*F);

subplot(4,1,3)

plot(x,y,'b--')

hold on

stem(n,xn)

xlabel('n')

ylabel('xn2')

title('fc>2fm')

fs3=15;

n=0:1/fs3:3/F;

xn=sin(2\*pi\*n\*F);

subplot(4,1,4)

plot(x,y,'r--')

hold on

stem(n,xn)

xlabel('n')

ylabel('xn3')

title('fc<2fm')