**Exponential**

1.

clc

clear all

close all

t=-10:10;

a=0.9;

c=5;

x=c\*exp(-(a\*t));

plot(t,x,'r','LineWidth',2)

grid on

title('Decaying exponential for continuous time');

xlabel('----->t');

ylabel('----->x[t]');

2.

clc

clear all

close all

n=-10:10;

a=0.9;

c=5;

x=c\*exp(-(a\*n));

stem(n,x,'r.','MarkerSize',20)

grid on

title('Decaying exponential for discrete time');

xlabel('------>n');

ylabel('........>x[n]');

1.

clc

clear all

close all

t=-10:10;

a=0.9;

c=5;

x=c\*exp((a\*t));

plot(t,x,'r','LineWidth',2)

grid on

title('Growing exponential for continuous time');

xlabel('----->t');

ylabel('----->x[t]');

2.

clc

clear all

close all

n=-10:10;

a=0.9;

c=5;

x=c\*exp((a\*n));

stem(n,x,'r.','MarkerSize',20)

grid on

title('Growing exponential for discrete time');

xlabel('------>n');

ylabel('........>x[n]');

**Signum signal**

clc

clear all

close all

t = -100:100;

for i = 1:201

if t(i) > 0

x(i) = 1;

elseif t(i) == 0

x(i) = 0;

else

x(i) = -1;

end

end

plot(t, x, 'r', 'LineWidth', 2)

grid on

title('Signum Signal')

xlabel('----->t')

ylabel('sgn(t)')

clc

clear all

close all

n= -10:10;

for i = 1:21

if n(i) > 0

x(i) = 1;

elseif n(i) == 0

x(i) = 0;

else

x(i) = -1;

end

end

stem(n,x,'r.','Markersize',15)

grid on

title('Signum Signal for Discrete Time')

xlabel('----->n')

ylabel('sgn(n)')

**Sinc signal**

clc

clear all

close all

t=-5:0.01:5

x=sinc(t)

plot(t,x,'r','LineWidth',2)

grid on

title('Sinc Signal for Continuous time')

xlabel('----->t')

ylabel('sinc (t)')

clc

clear all

close all

n=-5:0.1:5

x=sinc(n)

stem(n,x,'r.','MarkerSize',15)

grid on

title('Sinc Signal for discrete time')

xlabel('---->n')

ylabel('sinc [n]')

**Unit Step Signal**

**1.**

clc

clear all

close all

n=-10:10;

for i= 1:21

if n(i) < 0

x(i)=0;

else

x(i)=1;

end

end

stem(n,x,'r.','MarkerSize',20)

grid on

title('Unit step function for discrete time');

xlabel('------>n');

ylabel('------->x[n]');

2.

clc

clear all

close all

t=-100:100;

for i= 1:201

if t(i) < 0

x(i)=0;

else

x(i)=1;

end

end

%stem(t,x,'r.','MarkerSize',20)

plot(t,x,'r','LineWidth',3)

grid on

title('Unit step function for Continuous time');

xlabel('------>t');

ylabel('------>x[t]');

**Unit Impulse signal**

1.

clc

clear all

close all

n=-10:10;

for i= 1:21

if n(i)==0

x(i)=1;

else

x(i)=0;

end

end

stem(n,x,'r.','MarkerSize',20)

%plot(n,x,'r','LineWidth',3)

grid on

title('Unit Impulse function for Discrete time');

xlabel('------>n');

ylabel('------>x[n]');

2.

clc

clear all

close all

t=-10:10;

for i= 1:21

if t(i)==0

x(i)=1;

else

x(i)=0;

end

end

%stem(n,x,'r.','MarkerSize',20)

plot(t,x,'r','LineWidth',1)

grid on

title('Unit Impulse function for Continuous time');

xlabel('------>t');

ylabel('------>x[t]');

**Ramp Function**

**1.**

clc

clear all

close all

n=-10:10;

for i= 1:21

if n(i)<=0

x(i)=0;

else

x(i)=n(i);

end

end

stem(n,x,'r.','MarkerSize',20)

%plot(t,x,'r','LineWidth',2)

grid on

title('Ramp function for Discrete time');

xlabel('------>n');

ylabel('------>x[n]');

**2.**

clc

clear all

close all

t=-10:10;

for i= 1:21

if t(i)<=0

x(i)=0;

else

x(i)=t(i);

end

end

%stem(n,x,'r.','MarkerSize',20)

plot(t,x,'r','LineWidth',2)

grid on

title('Ramp function for Continuous time');

xlabel('------>t');

ylabel('------>x[t]');

**Sinusoidal Function**