# Premier University
## Department of CSE

Course Code : EEE 202

Course Title : Signals and Systems Laboratory

Report No. : 04

Report Name : Waveform generation for discrete signal.

Submission Date : 23.07.2023

| Remarks |
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| Personal Information | |
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| Section | : B |
| Semester | : 4th |

## Objective : To waveform generation for discrete signal.

## Waveform to be generated :

1. Unit Impulse Signal
2. Unit Step Signal
3. Exponential Signal
4. Unit Ramp Signal
5. Sinusoidal Signal
6. Random Signal

### Input :

```
%Unit impulse signal
clc;
clear all;
close all;
N=5;
t1=-5:5;
x1=[zeros(1,N),ones(1,1),zeros(1,N)];
subplot(2,3,1);
stem(t1,x1);
xlabel('time');
ylabel('amplitude');
title('Unit Impulse Signal');


%Unit step signal
t2=0:4;
x2=ones(1,5);
subplot(2,3,2);
stem(t2,x2);
xlabel('time');
ylabel('amplitude');
title('Unit Step Signal');


%Exponential Signal
t3=0:1:20;
x3=exp(+t3);
subplot(2,3,3);
```

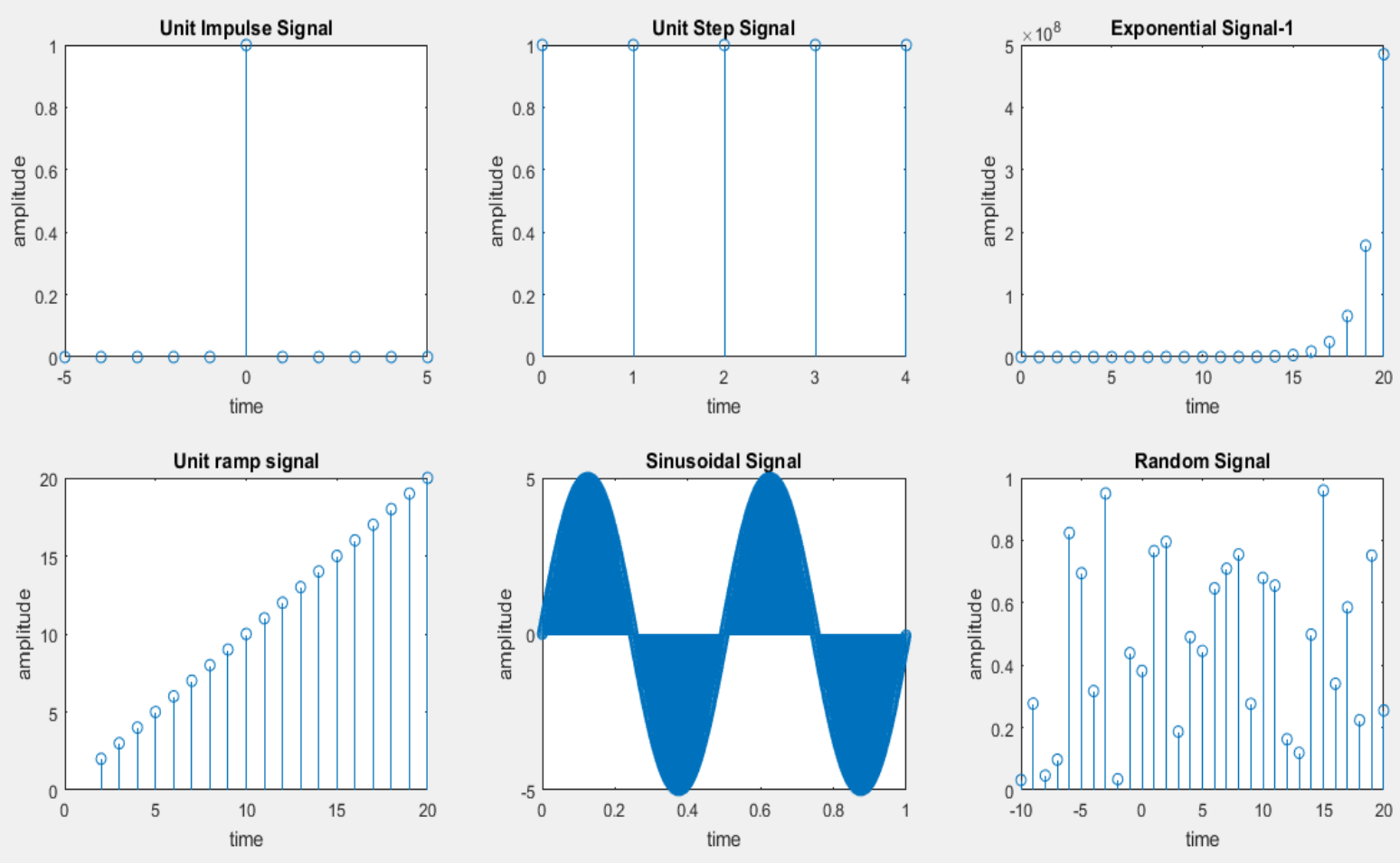
```
stem(t3,x3);
xlabel('time');
ylabel('amplitude');
title('Exponential Signal-1');

%Unit ramp signal
t4=2:1:20;
x4=t4;
subplot(2,3,4);
stem(t4,x4);
xlabel('time');
ylabel('amplitude');
title('Unit ramp signal');


%Sinusoidal Signal
A=5; F=2;
t5=0.0001:0.001:1;
x5=A*sin(2*pi*F*t5);
subplot(2,3,5);
stem(t5,x5);
xlabel('time');
ylabel('amplitude');
title('Sinusoidal Signal');


%Random Signal
t6=-10:1:20;
x6=rand(1,31);
subplot(2,3,6);
stem(t6,x6);
xlabel('time');
ylabel('amplitude');
title('Random Signal');
```

## Output :


Unit Impulse Signal
amplitude
time
Unit Step Signal
amplitude
time
×10^8
Exponential Signal-1
amplitude
time
Unit ramp signal
amplitude
time
Sinusoidal Signal
amplitude
time
Random Signal
amplitude
time