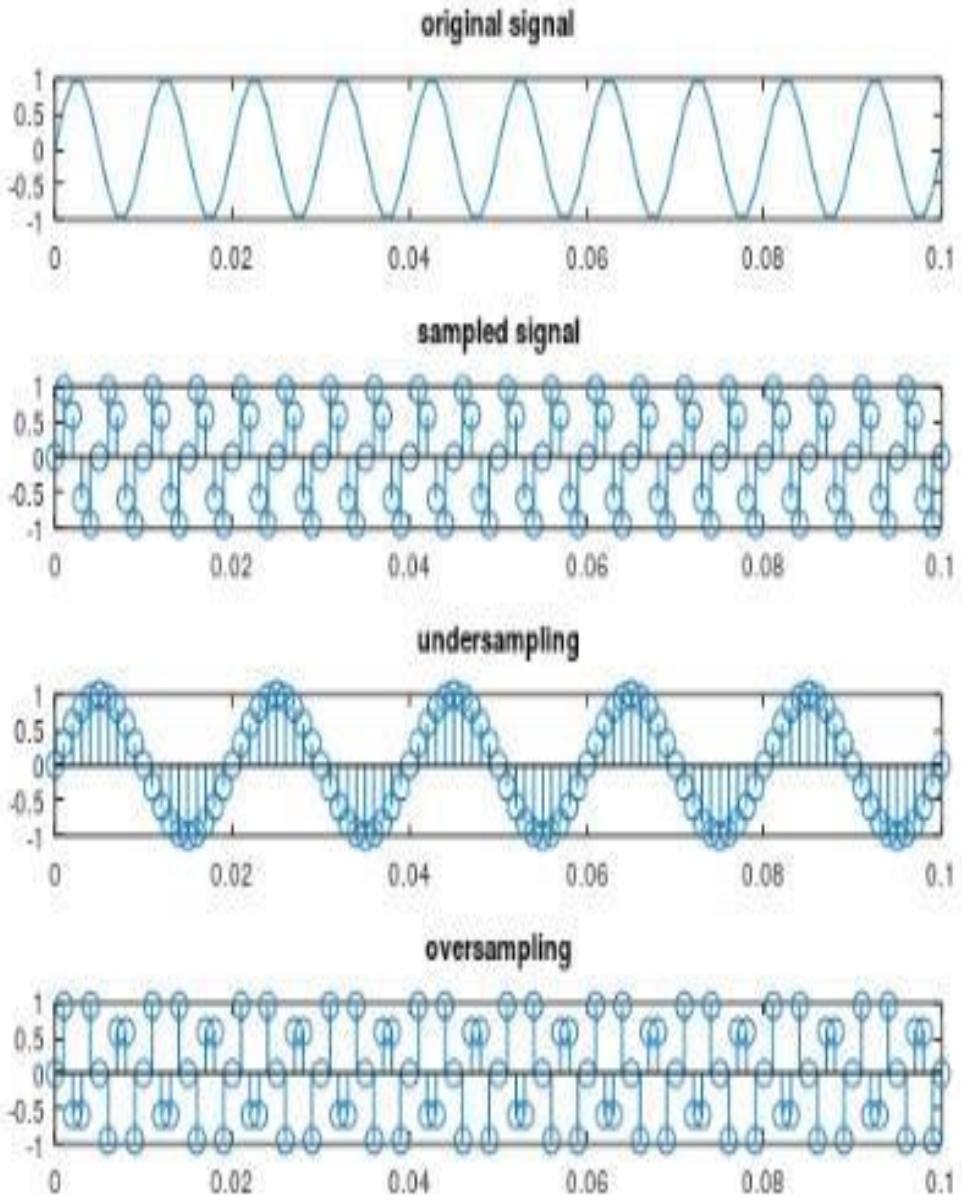
Experiment-07
SAMPLING THEOREM

```
clear all;
clc;
t=0:0.001:0.1;
fm=sin(200*pi*t);
subplot(4,1,1);
plot(t,fm);
title("original signal");
t=0:0.001:0.1;
fs1=sin(400*pi*t);
subplot(4,1,2);
stem(t,fs1);
title("sampled signal");
t=0:0.001:0.1;
fs2=sin(100*pi*t);
subplot(4,1,3);
stem(t,fs2);
title("undersampling");
t=0:0.001:0.1;
fs3=sin(600*pi*t);
subplot(4,1,4);
stem(t,fs3);
title(“oversampling”);
```


original signal
sampled signal
undersampling
oversampling
1
0.5
0
-0.5
-1
0
0.02
0.04
0.06
0.08
0.1