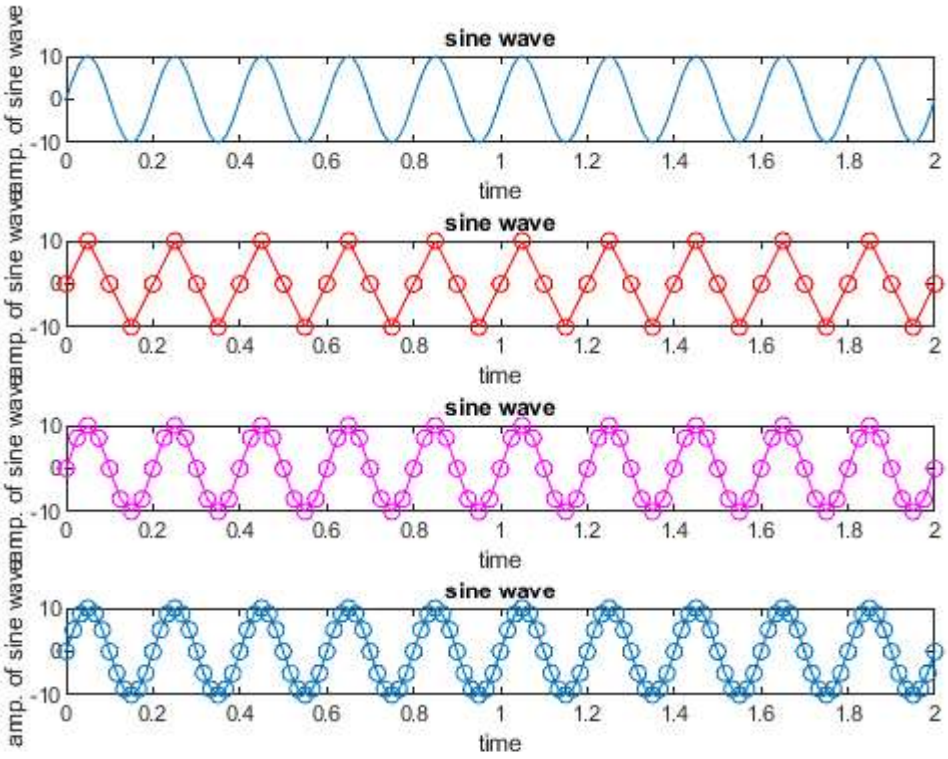
Experiment No. 1

```
% Name: Prajwal Dhopre
% Roll No.: 53
% Batch: A3
% Date: 20-01-2023

% Aim: To Generate Sampled Signal
%
% Objective: Generation of Sampled Signal at Frequency fs1=20Hz, fs2=40Hz,
 fs3=60Hz consider signal carrier frequency fc=5Hz

clc;
t=0:0.01:2;
fc=5;
x=10*sin(2*pi*fc*t);                                % Amplitude of sinewave
subplot(4,1,1);
plot(t,x);
title("sine wave");
xlabel("time");
ylabel("amp. of sine wave");

% Sampled at frequency fs1=20Hz
fs1=20;
t1=0:(1/fs1):2;
w1=10*sin(2*pi*fc*t1);                                % Amplitude of sinewave
subplot(4,1,2);
plot(t1,w1,'ro-');
title("sine wave");
xlabel("time");
ylabel("amp. of sine wave");

% Sampled at frequency fs2=40Hz
fs2=40;
t2=0:(1/fs2):2;
w2=10*sin(2*pi*fc*t2);                                % Amplitude of sinewave
subplot(4,1,3);
plot(t2,w2,'mo-');
title("sine wave");
xlabel("time");
ylabel("amp. of sine wave");

% Sampled at frequency fs3=60Hz
fs3=60;
t3=0:(1/fs3):2;
w3=10*sin(2*pi*fc*t3);                                % Amplitude of sinewave
subplot(4,1,4);
plot(t3,w3,'o-');
title("sine wave");
xlabel("time");
ylabel("amp. of sine wave");
```



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