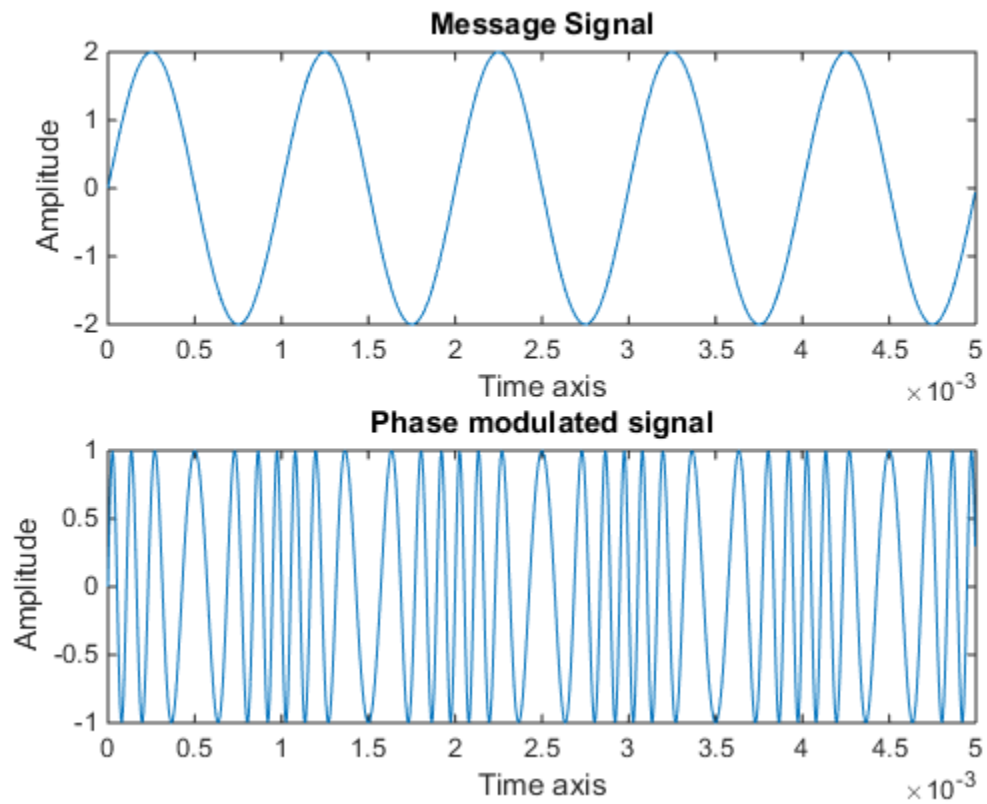```
% HARSHIT RAI
% 2017152
```

Message signal

```
clear all;
clc;

fs=200*1000; % Sampling frequency of original signal : almost continuous
ts=1/fs;
n=1000;      % Generate 1000 cycles
t= 0:ts:n*ts-ts ;  % From 0 to ts in step of (n*ts-ts)

fm=1*1000;  % Frequency of message signal
tm=1/fm;
am=2;  % Amplitude of message signal
mt=am*sin(2*pi*fm*t);  % Message signal

subplot(2,1,1)
plot(t,mt)
title('Message Signal')
xlabel('Time axis');
ylabel('Amplitude');
hold on;
```
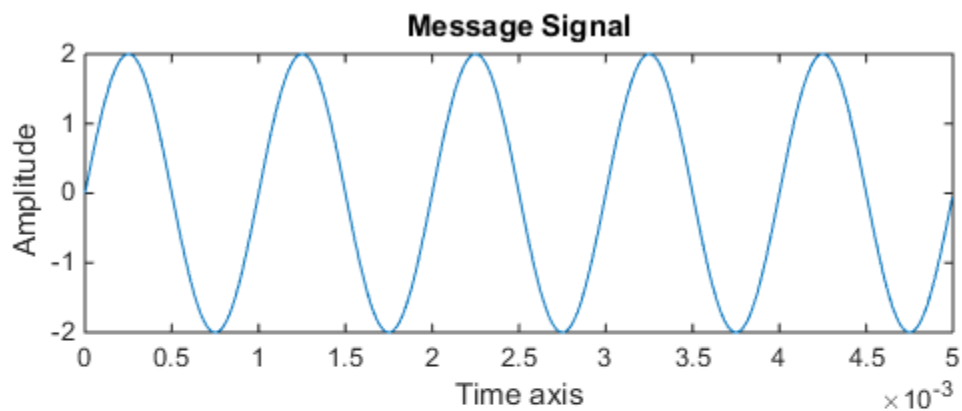

Phase modulated signal

```
fc=6.5*1000;   % Frequency of carrier signal
tc=1/fc;
kp=pi/2;   % Phase modulation index
ac=1;   % Amplitude of carrier signal
pt=ac*sin((2*pi*fc*t)+(kp*mt));   % Phase modulated signal

subplot(2,1,2)
plot(t,pt)
title('Phase modulated signal')
xlabel('Time axis');
ylabel('Amplitude');
hold on;
```

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