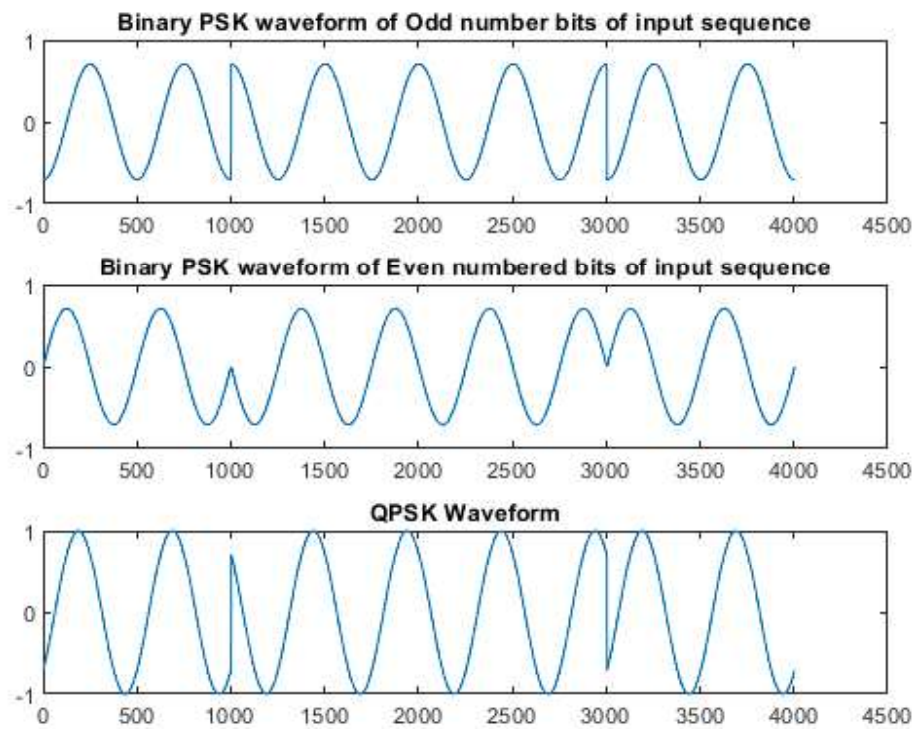# Experiment no:- 07

```matlab
% Name: Prajwal Dhopre
% Roll no: 53
% Batch: A3

% Aim:- To Study QPSK modulation

% Objective:-Generate QPSK waveform for inphase and quadratal component of
 QPSK signal produced by the input and binary sequence.

clc;
M=4;
i=1:M;
t=0:0.001:1;
for i=1:M
    s1(i,:)=cos(2*pi*2*t)*cos((2*i-1)*pi/4);
    s2(i,:)=-sin(2*pi*2*t)*cos((2*i-1)*pi/4);
end
A1=[];
A2=[];
A= [];
input_sequence=[0,1,1,0,1,0,0,0,0];
m=[3,1,1,2];
for i=1:length(m)
    A1=[A1 s1(m(i),:)];
    A2=[A2 s2(m(i),:)];
end
    A=A1+A2;
    subplot(3,1,1);
    plot(A1);
    title("Binary PSK waveform of Odd number bits of input sequence");
    subplot(3,1,2);
    plot(A2);
    title("Binary PSK waveform of Even numbered bits of input sequence");
    subplot(3,1,3);
    plot(A);
    title("QPSK Waveform");
```

Binary PSK waveform of Odd number bits of input sequence

Binary PSK waveform of Even numbered bits of input sequence

QPSK Waveform

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