SAMPLE PRINTOUT:

Title: Simulation Study of Performance Evaluation of BPSK
Name:
Roll No:_____ Division: TE- Batch:_____

CODE:

```
clc;
close all;
data_bits=1000000; % no. of bits assumed
b = (randn(1, data_bits) > .5); %random 0's and 1's
s=2*b-1;%conversion of data into bipolar format for BPSK modulation
SNRdB=0:9; % Assumed SNR in dB
for(k=1:length(SNRdB))%BER (error/bit) calculation for different SNR
y=s+awgn(s,SNRdB(k));
error=0;
for(c=1:1:data_bits)
if (y(c)>0&&s(c)==-1)||(y(c)<0&&s(c)==1)%logic according to BPSK
error=error+1;
end
end
BER(k)=error/data_bits; %Calculate error/bit
end
figure(1); %plot start
semilogy(SNRdB,BER,'r','linewidth',2);
grid on;
hold on;
SNR=10.^(SNRdB/10); % conversion of SNR to Linear value
BER_thBPSK=(1/2)*erfc(sqrt(SNR));
semilogy(SNRdB,BER_thBPSK,'k','linewidth',2);
BER_thQPSK=erfc(sqrt(SNR));
semilogy(SNRdB,BER_thQPSK,'b','linewidth',2);
legend('PR-SNR','BPSK','QPSK')
```

OUTPUT: