Experiment No. 6

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% Name: Prajwal Dhopre
% Roll No.: 53
% Batch: A3

% Aim: To Study Digital Modulation Techniques

% Objective: Plot Amplitude shift keying, frequency shift keying, phase shift
 keying signal

clc;
f1 = 60000;
f2 = 10000;
t = [0:0.001:3];
c = 6*sin(2*3.14*f1*t);

subplot(5,1,1);
plot(t,c);
title("Carrier Wave");
xlabel("Time");
ylabel("Amplitude");

m=3*square(2*3.14*f2*t)+3;
subplot(5,1,2);
plot(t,m);
title("Modulating Wave");

% Generation of ASK signal
ask= m.*c;
subplot(5,1,3);
plot(t,ask);
title("ASK Wave");
xlabel("Time");
ylabel("Amplitude");

% Generation of PSK signal
mp=6*square(2*3.14*f2*t);
cp=6*sin(2*3.14*f1*t);
psk=mp.*cp;
subplot(5,1,4);
plot(t,psk);
title("PSK Wave");
xlabel("Time");
ylabel("Amplitude");

% Generation of FSK signal
af=[1,0,1,0,1,0];
x=size(af,2);
i=1;
for z=i : (x-1)
    t1=[z:0.001:z+1];
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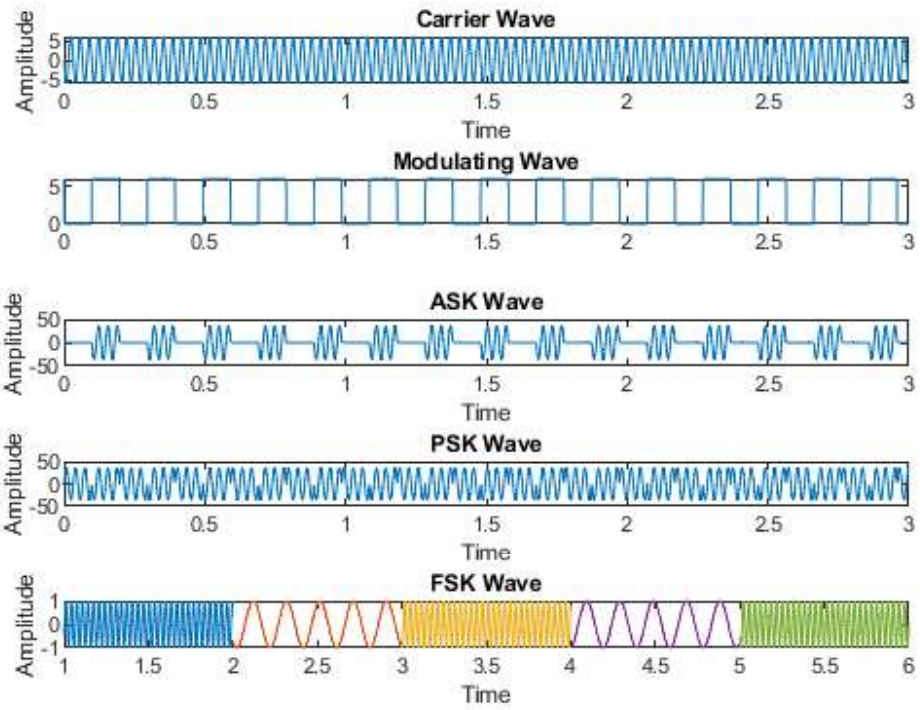
    if(af(z)==1)
        s=sin(2*3.14*f1*t1);
    else
        s=sin(2*3.14*f2*t1);
    end

subplot(5,1,5);
plot(t1,s);
title("FSK Wave");
xlabel("Time");
ylabel("Amplitude");
hold on;
end;
```



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