Experiment  A discrete time signal x(n) is shown in figure. Sketch the signal x[n], y[n]=x[n-4] and x[n+4], derived from x[n].



**Solution:**

clc;

clear;

n = -5:5;

x= [0 -1 -.5 .5 1 1 1 1 .5 0 0]

subplot(3,1,1);

stem (n,x);

xlabel('Time Sample');

ylabel('Amplitude');

title('Original Signal');

axis([-7 7 min(x)-2 max(x)+2]);

grid on;

grid minor;

m = n+4;

subplot(3,1,2);

stem (m,x);

xlabel('Time Sample');

ylabel('Amplitude');

title('Time right shifted signal');

axis([-7-2+4 7+2+4 min(x)-2 max(x)+2]);

grid on;

grid minor;

l = n-4;

subplot(3,1,3);

stem (l,x);

xlabel('Time Sample');

ylabel('Amplitude');

title('Time left shifted signal');

axis([-7-2-4 7+2-4 min(x)-2 max(x)+2]);

grid on;

grid minor;

