**CODES :**

**ASCII TO BINARY :**

function dn = asc2bn(txt)

dec=double(txt); %Text to ASCII (decimal)

p2=2.^(0:-1:-7); % 2^0,2^-1,.......,2^-7

B=mod(floor(p2'\*dec),2); %Decimal to binary conversion

%Columns of B are bits of chars

dn=reshape(B,1,numel(B));%Bytes to serial conbversion

end

**BINARY TO ASCII :**

function txt = bin2asc(dn)

%bin2asc Serial binary to ASCII to text conversion

% 8 bits per char , LSB first

% >> txt= bin2asc(dn) <<

% where dn is binary input sequence

% txt is output text string

L=length(dn); %Length of input string

L8=8\*floor(L/8); %Multiple of 8 Length

B=reshape(dn(1:L8),8,L8/8); %Cols of B are bits of chars

p2=2.^(0:7); %power of 2

dec=p2\*B; %Binary to decimal conversion

txt=char(dec); %ASCII (decimal) to txt

end

**MODULATION AND DEMODULATION :**

clc;

clear all;

close all;

Transmitted\_Message= 'Red'

%Converting Information Message to bit%

x=asc2bn(Transmitted\_Message); % Binary Information

bp=.000001;

% bit period

disp(' Binary information at Trans mitter :');

disp(x);

%XX representation of transmitting binary information as

digital signal XXX

bit=[];

for n=1:1:length(x)

if x(n)==1;

se=5\*ones(1,100);

else x(n)==0;

se=zeros(1,100);

end

bit=[bit se];

end

t1=bp/100:bp/100:100\*length(x)\*(bp/100);

subplot(4,1,1);

plot(t1,bit,'lineWidth',2.5);grid on;

axis([ 0 bp\*length(x) -.5 6]);

ylabel('amplitude(volt)');

xlabel(' time(sec)');

title('Transmitting information as digital signal');

%XXXXXXXXXXXXXXXXXXXXXXX Binary-ASK modulation

XXXXXXXXXXXXXXXXXXXXXXXXXXX%

A1=5; % Amplitude of carrier signal for

information 1

A2=0; % Amplitude of carrier signal for

information 0

br=1/bp;

% bit rate

f=br\*10; %

carrier frequency

t2=bp/99:bp/99:bp;

ss=length(t2);

m=[];

for (i=1:1:length(x))

if (x(i)==1)

y=A1\*cos(2\*pi\*f\*t2);

else

y=A2\*cos(2\*pi\*f\*t2);

end

m=[m y];

end

t3=bp/99:bp/99:bp\*length(x);

subplot(4,1,2);

plot(t3,m);

axis([ 0 bp\*length(x) -6 6]);

xlabel('time(sec)');

ylabel('amplitude(volt)');

title('Modulated Signal at Transmitter');

%XXXXXXXXXXXXXXXXXXXX Binary ASK demodulation

XXXXXXXXXXXXXXXXXXXXXXXXXXXXX

mn=[];

for n=ss:ss:length(Rec)

t=bp/99:bp/99:bp;

y=cos(2\*pi\*f\*t); %

carrier siignal

mm=y.\*Rec((n-(ss-1)):n);

t5=bp/99:bp/99:bp;

z=trapz(t5,mm) ;

% intregation

zz=round((2\*z/bp));

if(zz>2.5) % logic level =

(A1+A2)/2=7.5

a=1;

else

a=0;

end

mn=[mn a];

end

disp(' Binary information at Reciver :');

disp(mn);

%XXXXX Representation of binary information as digital signal

which achived

%after ASK demodulation

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

bit=[];

for n=1:length(mn);

if mn(n)==1;

se=5\*ones(1,100);

else mn(n)==0;

se=zeros(1,100);

end

bit=[bit se];

end

t5=bp/100:bp/100:100\*length(mn)\*(bp/100);

subplot(4,1,4)

plot(t5,bit,'LineWidth',2.5);grid on;

axis([ 0 bp\*length(mn) -.5 6]);

ylabel('amplitude(volt)');

xlabel(' time(sec)');

title('Demodulated signal at receiver');

%Converting Information bit to Message%

Received\_Message=bin2asc(mn)

%>>>>>>>> end of program >>>>>>>>>>>>>>>>%