

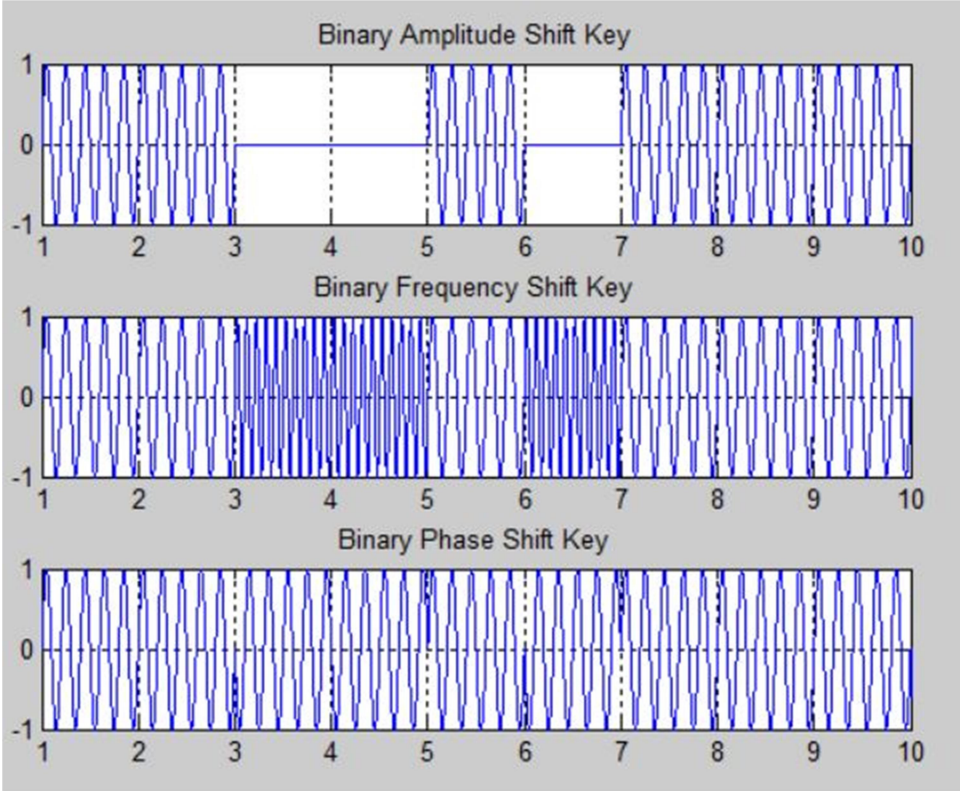


American International University- Bangladesh
Department of Computer Science

Lab Report Cover Sheet

Course Name	Data Communication
Lab Report No.	05
Lecturer Name	Md. Navid Bin Anwar
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Section	B
Group No.	10

Student Name	Student ID	Contribution (out of 100%)
1. Kaif Al Kabid	18-38144-2	20%
2. Fahim Mahtab	18-38626-2	20%
3. Nusrat Alam Chaiti	18-37417-1	20%
4. MD. Sibbir Hossain	18-38828-3	20%
5. Tanvir Ahamed	18-37519-1	20%
Lecturer Remarks (Only for teacher)		

CODE	OUTPUT
<pre>1.Code for (BASK,BFSK,BPSK): close all; clc; % 18-38144-2 % DEF = 814 = 1100101110 f = 5; f2 = 10; x = [1 1 0 0 1 0 1 1 1 0]; % input signal nx = size (x,2); i = 1; while i<nx+1 t = i:0.001:i+1; if x(i)==1 bask = sin(2*pi*f*t); bfsk = sin(2*pi*f*t); bpsk = sin(2*pi*f*t); else bask = zeros(size(t)); bfsk = sin(2*pi*f2*t); bpsk = sin(2*pi*f*t+pi); end subplot(3,1,1) plot(t,bask); hold on; grid on; axis ([1 10 -1 1]); title('Binary Amplitude Shift Key'); subplot(3,1,2) plot(t,bfsk); hold on; grid on; axis ([1 10 -1 1]); title('Binary Frequency Shift Key'); subplot(3,1,3) plot(t,bpsk); hold on; grid on; axis ([1 10 -1 1]); title('Binary Phase Shift Key'); i = i+1; end</pre>	 <p>The output displays three vertically stacked plots illustrating different binary modulation techniques over a time interval from 1 to 10. Each plot has a y-axis ranging from -1 to 1.</p> <ul style="list-style-type: none">Binary Amplitude Shift Key (BASK): The top plot shows a signal where the amplitude is 1 for binary '1' and 0 for binary '0'. The signal is high for the first two time units, drops to zero for the next two, rises again for the next two, drops for the next two, and rises for the final two.Binary Frequency Shift Key (BFSK): The middle plot shows a signal where the frequency is higher for binary '1' and lower for binary '0'. The signal alternates between high and low frequencies corresponding to the input sequence.Binary Phase Shift Key (BPSK): The bottom plot shows a signal where the phase is 0 for binary '1' and π (inverted) for binary '0'. The signal alternates between positive and negative values corresponding to the input sequence.

2.Code for (QPSK):

```
close all;
```

```
clc;
```

```
% 18-38144-2
```

```
% DEF = 814 = 1100101110
```

```
f = 10;
```

```
x = [ 11 00 10 11 10 ];
```

```
x1 = [ 1 0 1 1 1 ];
```

```
x2 = [ 1 0 0 1 0 ];
```

```
nx = size (x1,2);
```

```
i = 1;
```

```
while i<nx+1
```

```
    t = i:0.001:i+1;
```

```
    if x1(i)==1
```

```
        psk1=sin(2*pi*f*t);
```

```
    else
```

```
        psk1=sin(2*pi*f*t+pi);
```

```
    end
```

```
    if x2(i)==1
```

```
        psk2=sin(2*pi*f*t+pi/2);
```

```
    else
```

```
psk2=sin(2*pi*f*t+pi+pi/2);
```

```
    end
```

```
    QPSK = psk1+psk2;
```

```
    subplot(3,1,1);
```

```
    plot(t,psk1);
```

```
    hold on;
```

```
    grid on;
```

```
    axis([1 4 -1 1]);
```

```
    title('PSK1')
```

```
    subplot(3,1,2);
```

```
    plot(t,psk2);
```

```
    hold on;
```

```
    grid on;
```

```
    axis([1 4 -1 1]);
```

```
    title('PSK2')
```

```
    subplot(3,1,3);
```

```
    plot(t,QPSK);
```

```
    hold on;
```

```
    grid on;
```

```
    axis([1 4 -2 2]);
```

```
    title('QPSK')
```

```
    i=i+1;
```

```
end
```

