Name:Pratik Sao

Batch:B3

Roll no:242

Amplitude Modulation

Code:

```
clc
close all
clear all

%Modulating Signal
m = 2/5;
Am = 2;
fa = 1000;
Ta = 1/(fa*3);
t = 0:Ta/999:6*Ta;
ym = Am*sin(2*pi*fa*t);
figure(1)
subplot(3,1,1)
plot(t,ym)
title('Modulating Signal')

%Carrier signal
Ac = 5;
fc = 2*pi*3000;
Tc = 1/fc;
yc = Ac*sin(2*pi*fc*t);
subplot(3,1,2)
plot(t,yc)
grid on;
title('Carrier Signal')

%AM Modulation
y = Ac + (1+m*sin(2*pi*fa*t)).*sin(2*pi*fc*t)
subplot(3,1,3)
plot(t,y)
title('Amplitude Modulated Signal')
grid on;
```

Output:

MATLAB R2022a - academic use

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FILE NAVIGATE CODE ANALYZE SECTION RUN

C: ▸ New folder ▸ New folder ▸

Current Folder

Name

html
All_signals.fig
All_signals.m
audio1.wav
Ayush.mp3
back.wav
BloodCancer.fig
BloodCancer.m
Butterworth_HighPass.wav
Butterworth_LowPass.wav
Chebyshev1_HighPass.wav
Chebyshev1_LowPass.wav
ControlSystemDesignerSess...
CS_LAb1_1.m
CS_LAb1.m
CS_LAb2_Con_Obse.m
CS_LAb2_Con_Obse.pdf
CS_LAb2_Ramp_step.m
CS_LAb2_Ramp_step.pdf
CS_LAb2.m
CS_LAb3_rootlocus.m
CS_LAb5.asv
CS_LAb5.m
CS_LAb5.pdf
CS_LAb7b.m
cslab1.slx
dsp_blood.m
Dsp_bloodcancer.m
DSP_car.m
Dsp_coding.pdf
Dsp_coding_ayush.pdf
dsp_codingactivity.m

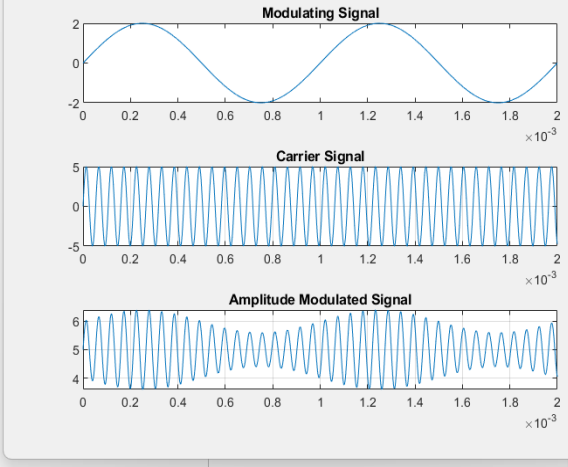
Editor - C:\New folder\New folder\pcslab1_amplitudemodulation.m

+31 DSP_GUI.m CS_LAb7b.m Dsp_lab1_IDFT.m dspprac.m

```
5   %Modulating Signal
6   m = 2/5;
7   Am = 2;
8   fa = 1000;
9   Ta = 1/(fa*3);
10  t = 0:Ta/999:6*Ta;
11  ym = Am*sin(2*pi*fa*t);
12  figure(1)
13  subplot(3,1,1)
14  plot(t,ym)
15  title('Modulating Signal')
16
17  %Carrier signal
18  Ac = 5;
19  fc = 2*pi*3000;
20  Tc = 1/fc;
21  yc = Ac*sin(2*pi*fc*t);
22  subplot(3,1,2)
23  plot(t,yc)
24  grid on;
25  title('Carrier Signal')
26
27  %AM Modulation
28  y = Ac + (1+m*sin(2*pi*fa*t)).*sin(2*pi*fc*t)
29  subplot(3,1,3)
30  plot(t,y)
```

Figure 1

File Edit View Insert Tools Desktop Window Help



Workspace

Name	Value
Ac	5
Am	2
fa	1000
fc	1.8850e+04
m	0.4000
t	1x5995 double
Ta	3.3333e-04
Tc	5.3052e-05
y	1x5995 double
yc	1x5995 double
ym	1x5995 double

Command Window

```
Columns 5,989 through 5,995

   4.1553    4.1345    4.1150    4.0968    4.0800    4.0646    4.0507

>>
```

Zoom: 100% UTF-8 CRLF script Ln 5

22°C Haze

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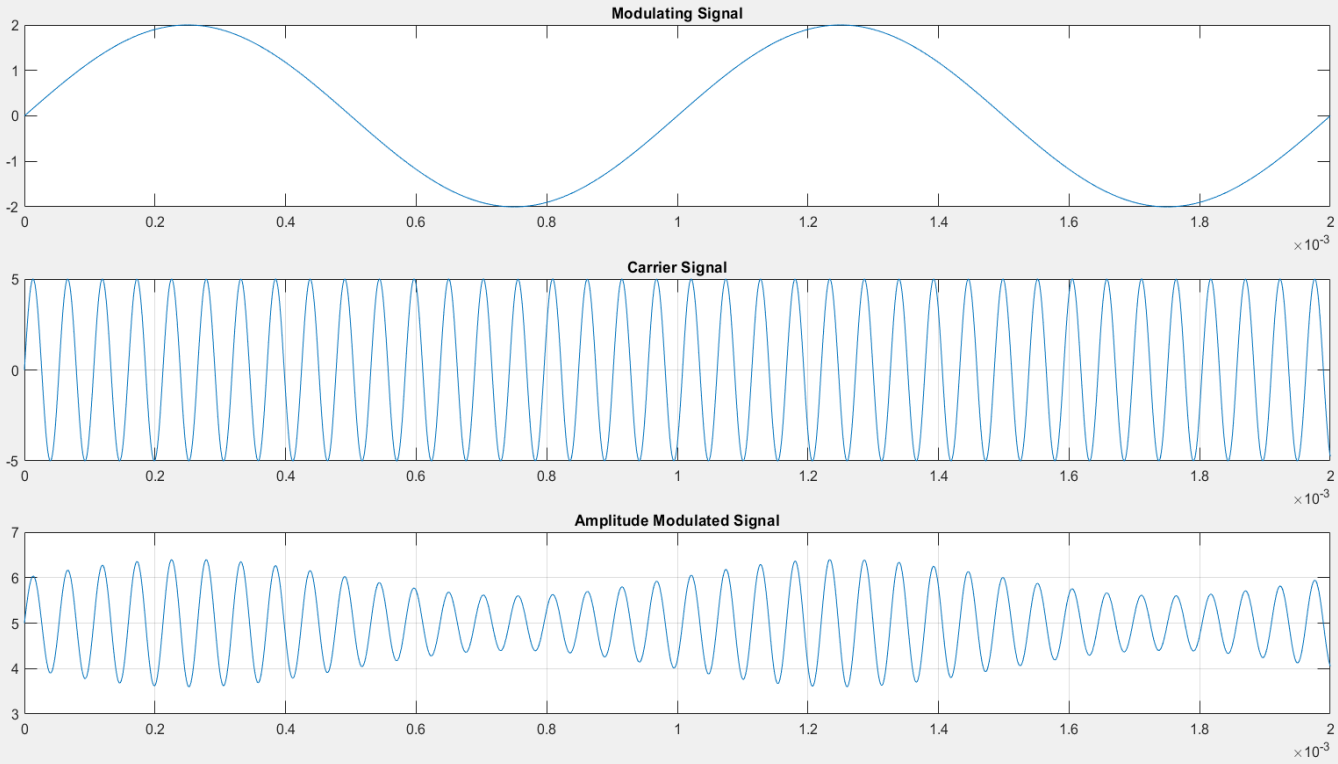

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