

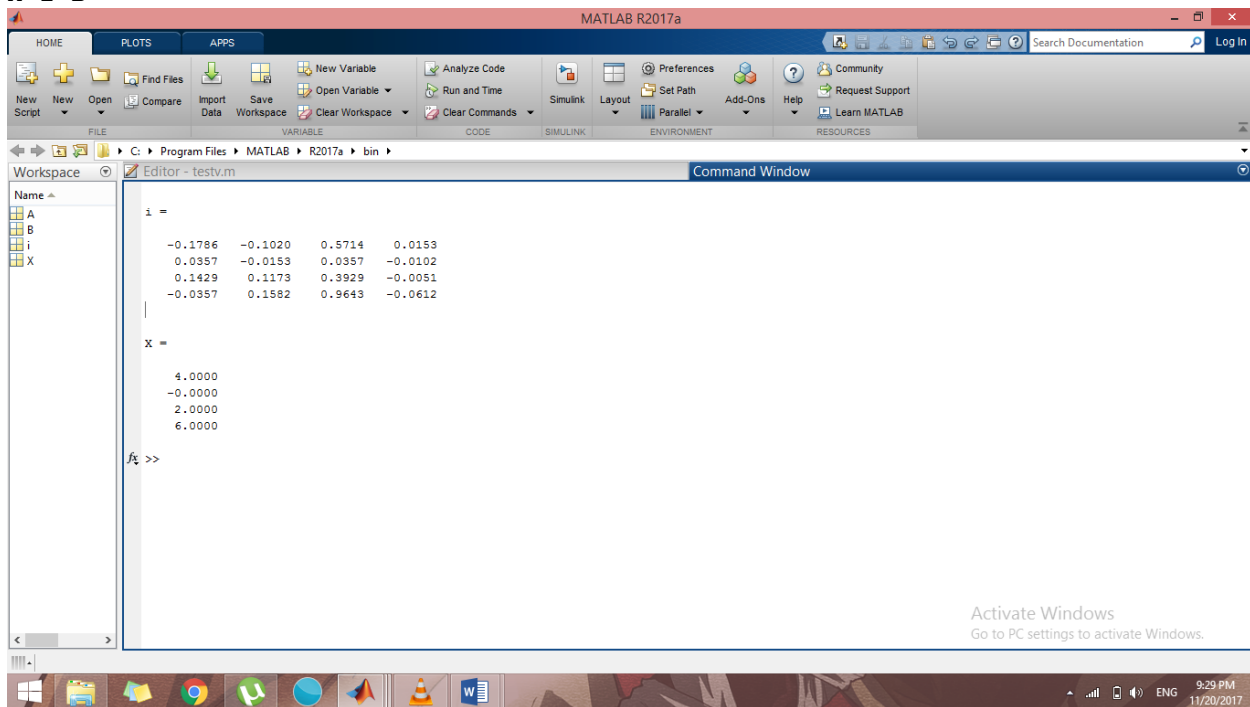
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MATRIC NO: 16/ENG05/002

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QUESTION 1

```
commandwindow
clear
clc
A=[0,10,4,-2;-3,-17,1,2;1,1,1,0;8,-34,16,-10];
B=[-4;2;6;4];
i=inv(A)
X=i*B
```



The screenshot shows the MATLAB R2017a interface. The Command Window displays the following output:

```
i =
   -0.1786   -0.1020    0.5714    0.0153
    0.0357   -0.0153    0.0357   -0.0102
    0.1429    0.1173    0.3929   -0.0051
   -0.0357    0.1582    0.9643   -0.0612

X =
    4.0000
   -0.0000
    2.0000
    6.0000

fi >>
```

The Workspace window shows variables A, B, i, and X. The Windows taskbar at the bottom shows the time as 9:29 PM on 11/20/2017.

QUESTION 2

```
commandwindow
clear
clc
close all
syms t
d = 1.5 * exp(-0.75* t) * sin(0.85* t)+0.375 * t;
tn =[0:0.01:2.5];
v = diff(d);
vn = subs(v,tn);
figure(1)
plot(tn,vn)
xlabel("time (minutes)")
```

```

ylabel("velocity")
title("velocity against time graph")
grid on
grid minor

a = diff(v);
an = subs(a,tn);
figure(2)
plot(tn,an)
xlabel("time (minutes)")
ylabel("acceleration")
title("acceleration against time graph")
grid on
grid minor

```

```

figure(3)
plot(tn,an,tn,vn)
xlabel("time (minutes)")
ylabel("velocity/acceleration")
title("velocity/acceleration against time graph")
grid on
grid minor

```

