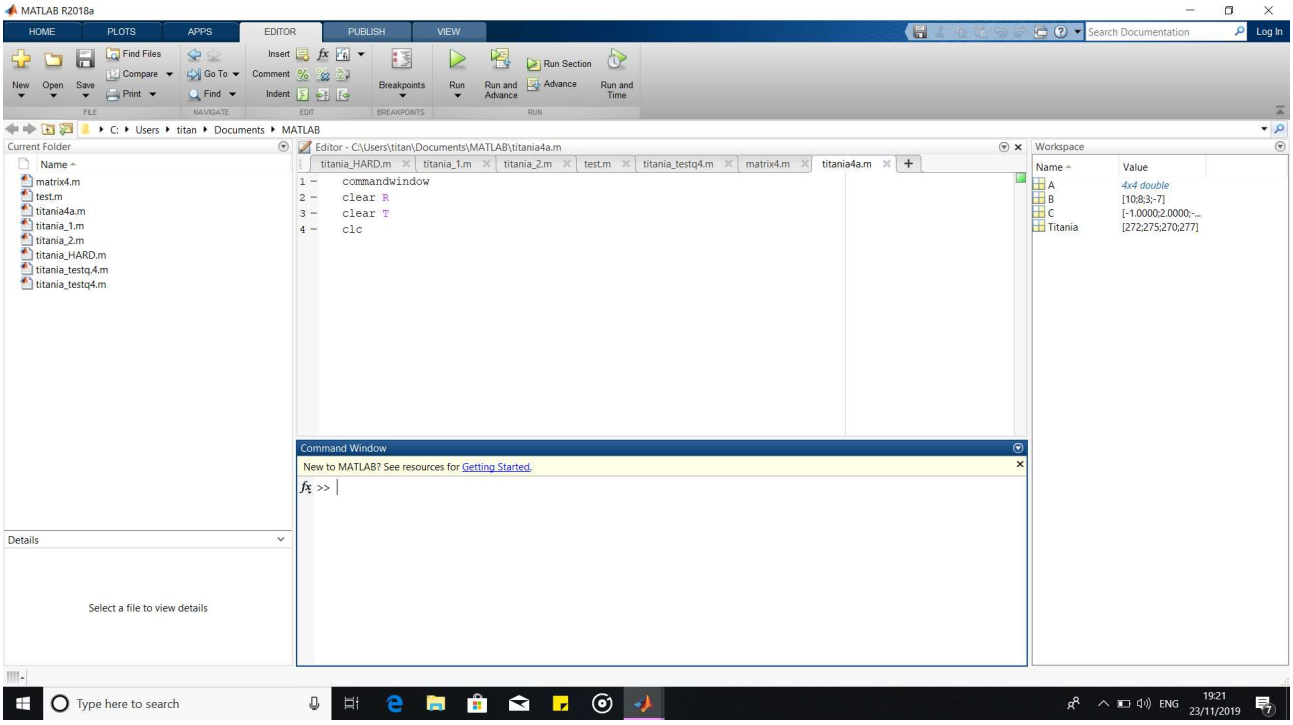
Name: Harding-Udoh Titania B.

Matno.: 18/ENG08/007

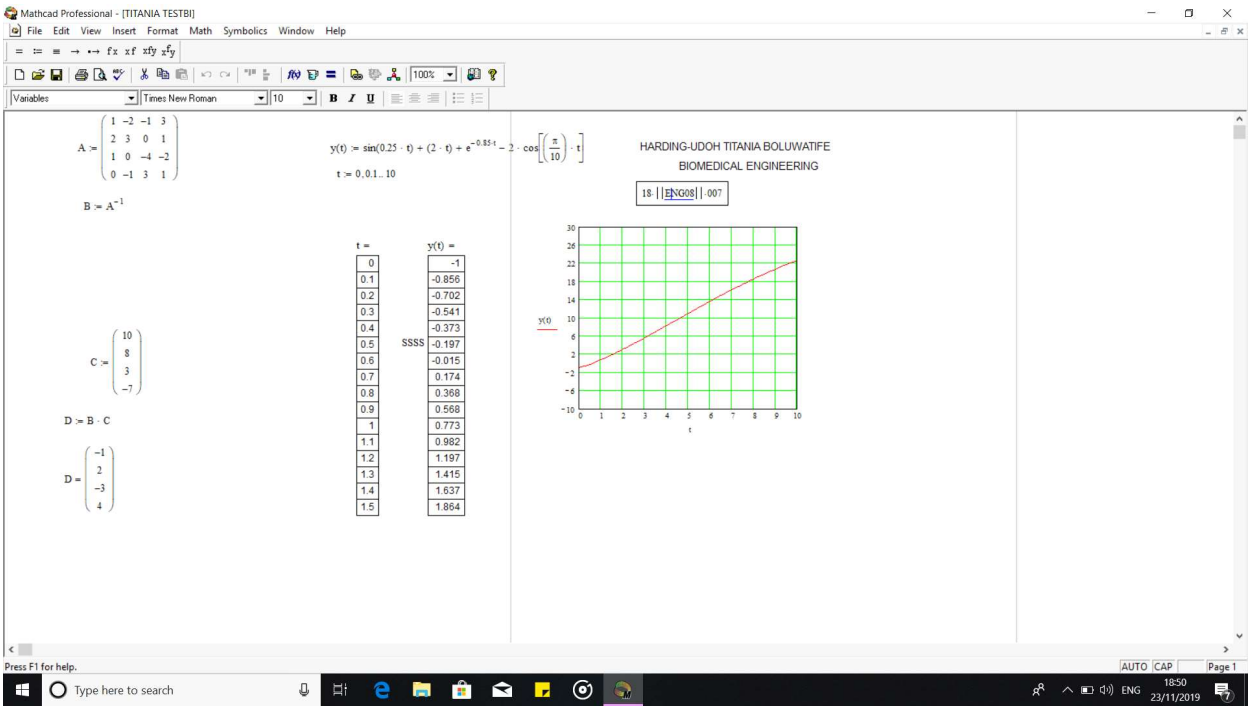
Department: Biomedical Engineering

mid-semester test q. 4

4(a)



4(b)i


Mathcad Professional - [TITANIA TESTBI]
File Edit View Insert Format Math Symbolics Window Help
HARDING-UDOH TITANIA BOLUWATIFE
BIOMEDICAL ENGINEERING
18 ENG08 007
t = y(t) =
0 -1
0.1 -0.856
0.2 -0.702
0.3 -0.541
0.4 -0.373
0.5 -0.197
0.6 -0.015
0.7 0.174
0.8 0.368
0.9 0.568
1 0.773
1.1 0.982
1.2 1.197
1.3 1.415
1.4 1.637
1.5 1.864
SSSS
Press F1 for help.
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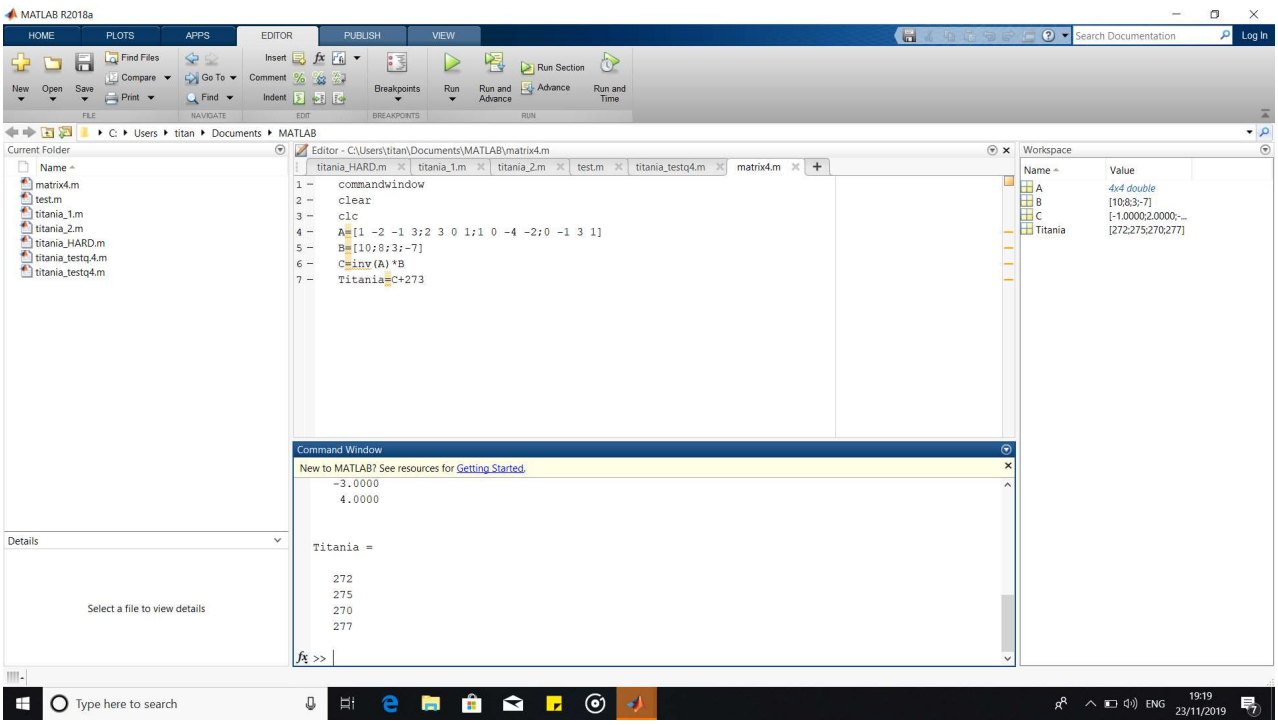
ENG 18:50 23/11/2019

4(b)ii


MATLAB R2018a
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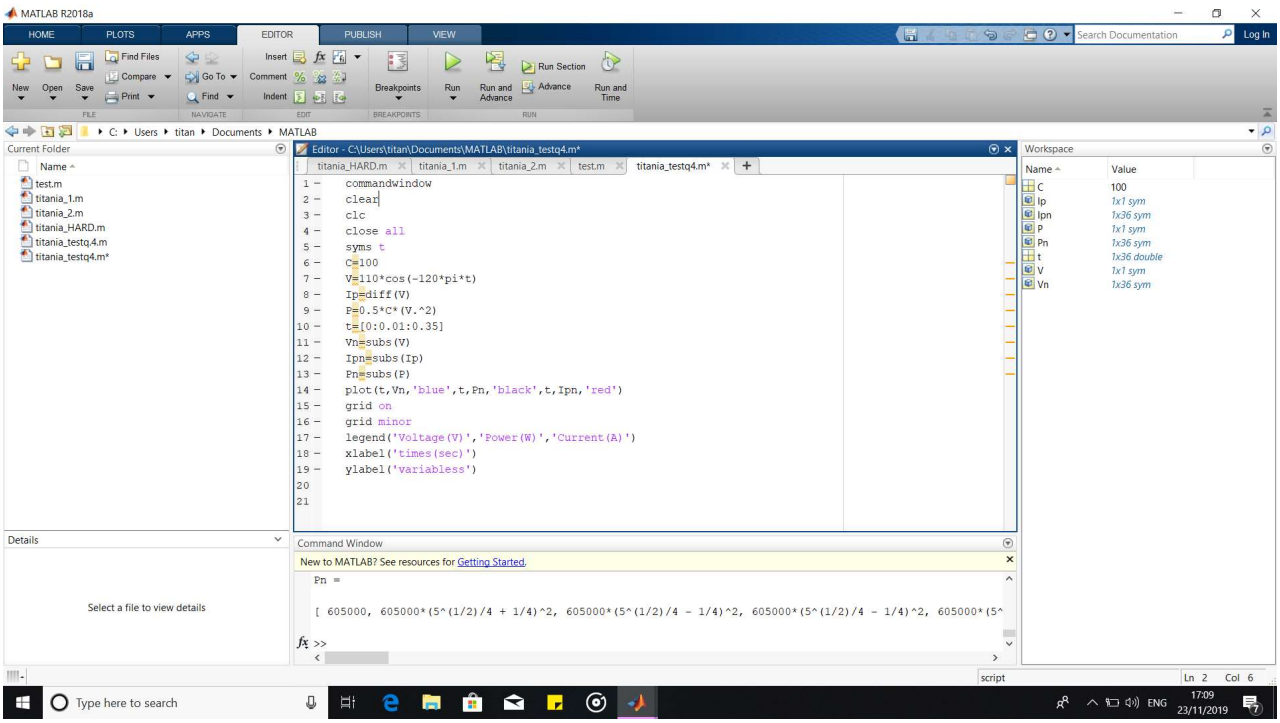
Current Folder
matrix4.m
test.m
titania_1.m
titania_2.m
titania_HARD.m
titania_testq.4.m
titania_testq4.m
Editor - C:\Users\titan\Documents\MATLAB\matrix4.m
titania_HARD.m titania_1.m titania_2.m test.m titania_testq4.m matrix4.m
1 commandwindow
2 clear
3 clc
4 A=[1 -2 -1 3;2 3 0 1;1 0 -4 -2;0 -1 3 1]
5 B=[10;8;3;-7]
6 C=inv(A)*B
7 Titania=C+273
Workspace
Name Value
A 4x4 double
B [10;8;3;-7]
C [-1.0000;2.0000;-...
Titania [272;275;270;277]
Command Window
New to MATLAB? See resources for Getting Started.
-3.0000
4.0000
Titania =
272
275
270
277
Details
Select a file to view details
Type here to search
ENG 19:19 23/11/2019

4(c)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Run Section
Advance
Run and Time
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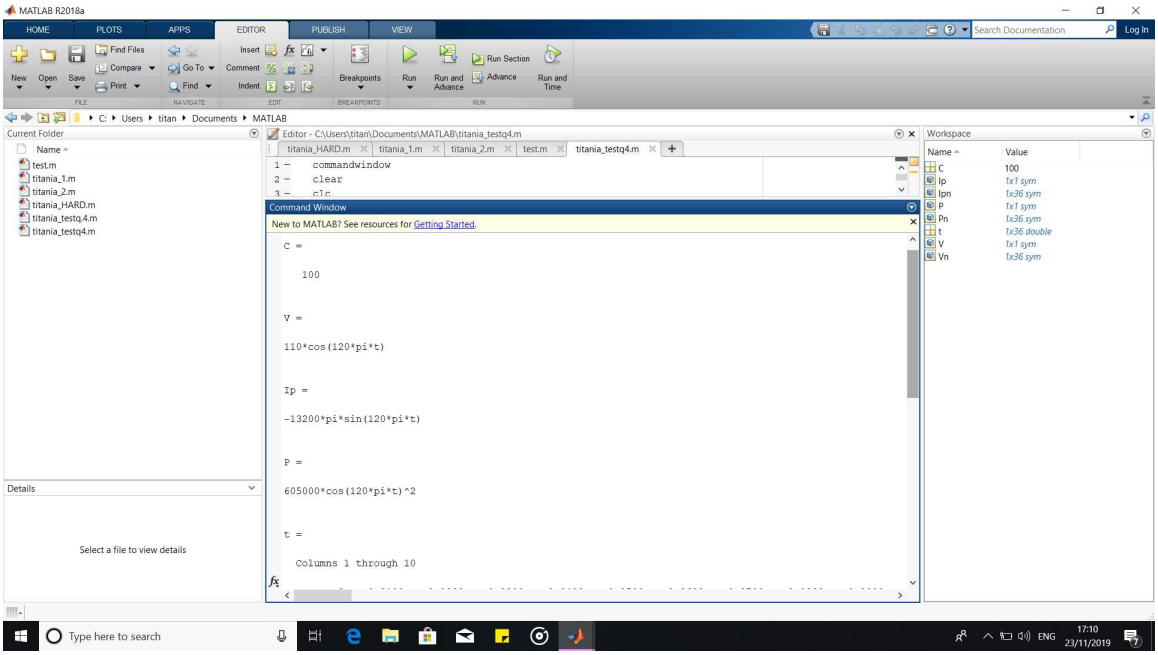
Current Folder
Name
test.m
titania_1.m
titania_2.m
titania_HARD.m
titania_testq.4.m
titania_testq4.m*
Editor - C:\Users\titan\Documents\MATLAB\titania_testq4.m*
titania_HARD.m
titania_1.m
titania_2.m
test.m
titania_testq4.m*
1 – commandwindow
2 – clear
3 – clc
4 – close all
5 – syms t
6 – C=100
7 – V=110*cos(-120*pi*t)
8 – Ip=diff(V)
9 – P=0.5*C*(V.^2)
10 – t=[0:0.01:0.35]
11 – Vn=subs(V)
12 – Ipn=subs(Ip)
13 – Pn=subs(P)
14 – plot(t,Vn,'blue',t,Pn,'black',t,Ipn,'red')
15 – grid on
16 – grid minor
17 – legend('Voltage(V)','Power(W)','Current(A)')
18 – xlabel('times(sec)')
19 – ylabel('variabless')
20
21
Workspace
Name
Value
C 100
Ip 1x1 sym
Ipn 1x36 sym
P 1x1 sym
Pn 1x36 sym
t 1x36 double
V 1x1 sym
Vn 1x36 sym
Details
Select a file to view details
Command Window
New to MATLAB? See resources for Getting Started.
Pn =
[605000, 605000*(5^(1/2)/4 + 1/4)^2, 605000*(5^(1/2)/4 - 1/4)^2, 605000*(5^(1/2)/4 - 1/4)^2, 605000*(5^
fx >>
script
Ln 2 Col 6
Type here to search
ENG
17:09
23/11/2019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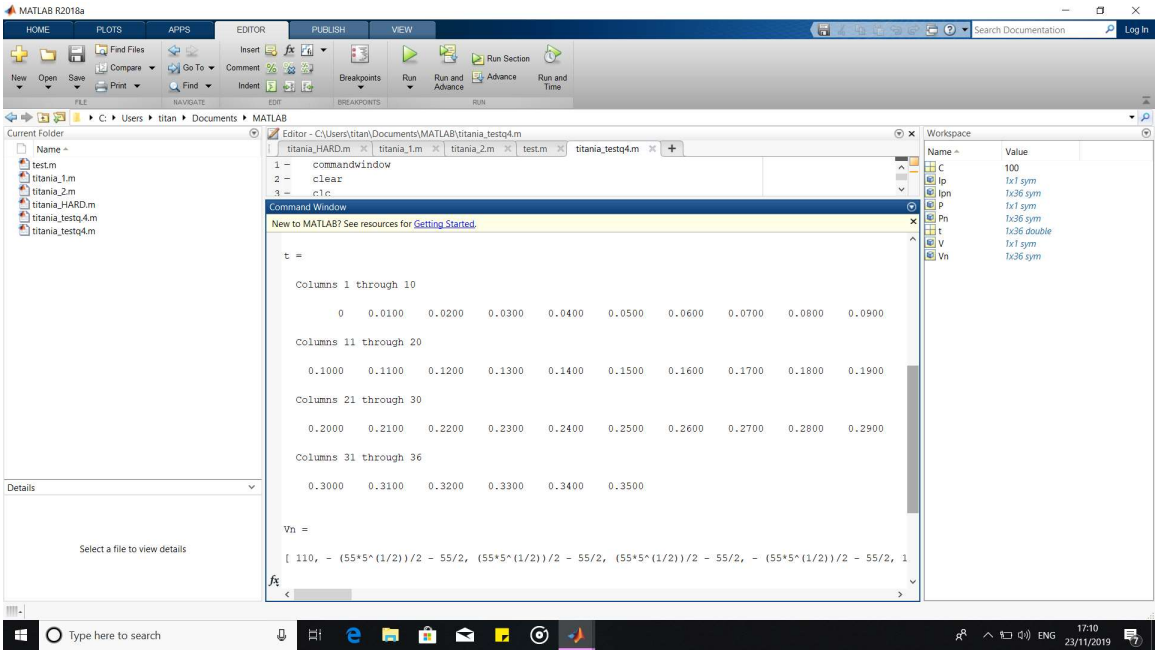
Current Folder
Name
test.m
titania_1.m
titania_2.m
titania_HARD.m
titania_testq.4.m
titania_testq4.m
Editor - C:\Users\titan\Documents\MATLAB\titania_testq4.m
titania_HARD.m
titania_1.m
titania_2.m
test.m
titania_testq4.m
1 – commandwindow
2 – clear
3 – clc
Workspace
Name
Value
C 100
Ip 1x1 sym
Ipn 1x36 sym
P 1x1 sym
Pn 1x36 sym
t 1x36 double
V 1x1 sym
Vn 1x36 sym
Command Window
New to MATLAB? See resources for Getting Started.
C =
100
V =
110*cos(120*pi*t)
Ip =
-13200*pi*sin(120*pi*t)
P =
605000*cos(120*pi*t)^2
t =
Columns 1 through 10
Details
Select a file to view details
Type here to search
ENG
17:10
23/11/2019


MATLAB R2018a
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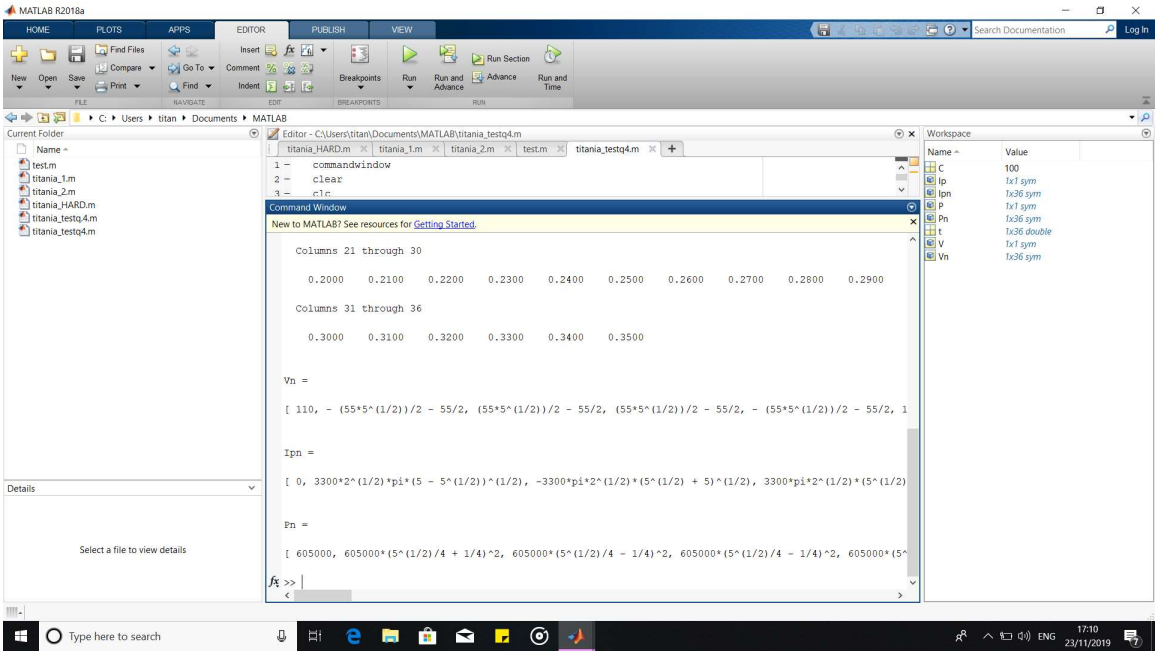
Find Files
Compare
Print
Go To
Find
Insert
Comment
Indent
Breakpoints
Run
Run and Advance
Run Section
Advance
Run and Time
C: ▸ Users ▸ titan ▸ Documents ▸ MATLAB
Current Folder
Name
test.m
titania_1.m
titania_2.m
titania_HARD.m
titania_testq.4.m
titania_testq4.m
Details
Select a file to view details
Editor - C:\Users\titan\Documents\MATLAB\titania_testq4.m
titania_HARD.m
titania_1.m
titania_2.m
test.m
titania_testq4.m
1 — commandwindow
2 — clear
3 — clc
Command Window
New to MATLAB? See resources for Getting Started.
t =
Columns 1 through 10
0 0.0100 0.0200 0.0300 0.0400 0.0500 0.0600 0.0700 0.0800 0.0900
Columns 11 through 20
0.1000 0.1100 0.1200 0.1300 0.1400 0.1500 0.1600 0.1700 0.1800 0.1900
Columns 21 through 30
0.2000 0.2100 0.2200 0.2300 0.2400 0.2500 0.2600 0.2700 0.2800 0.2900
Columns 31 through 36
0.3000 0.3100 0.3200 0.3300 0.3400 0.3500
Vn =
[110, - (55*5^(1/2))/2 - 55/2, (55*5^(1/2))/2 - 55/2, (55*5^(1/2))/2 - 55/2, - (55*5^(1/2))/2 - 55/2, 1
Workspace
Name
Value
C 100
Ip 1x1 sym
Ipn 1x36 sym
P 1x1 sym
Pn 1x36 sym
t 1x36 double
V 1x1 sym
Vn 1x36 sym
Type here to search
ENG
17:10
23/11/2019


MATLAB R2018a
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APPS
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Log In
New
Open
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Find Files
Compare
Print
Go To
Find
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Breakpoints
Run
Run and Advance
Run Section
Advance
Run and Time
C: ▸ Users ▸ titan ▸ Documents ▸ MATLAB
Current Folder
Name
test.m
titania_1.m
titania_2.m
titania_HARD.m
titania_testq.4.m
titania_testq4.m
Details
Select a file to view details
Editor - C:\Users\titan\Documents\MATLAB\titania_testq4.m
titania_HARD.m
titania_1.m
titania_2.m
test.m
titania_testq4.m
1 — commandwindow
2 — clear
3 — clc
Command Window
New to MATLAB? See resources for Getting Started.
Columns 21 through 30
0.2000 0.2100 0.2200 0.2300 0.2400 0.2500 0.2600 0.2700 0.2800 0.2900
Columns 31 through 36
0.3000 0.3100 0.3200 0.3300 0.3400 0.3500
Vn =
[110, - (55*5^(1/2))/2 - 55/2, (55*5^(1/2))/2 - 55/2, (55*5^(1/2))/2 - 55/2, - (55*5^(1/2))/2 - 55/2, 1
Ipn =
[0, 3300*2^(1/2)*pi*(5 - 5^(1/2))^(1/2), -3300*pi*2^(1/2)*(5^(1/2) + 5)^(1/2), 3300*pi*2^(1/2)*(5^(1/2)
Pn =
[605000, 605000*(5^(1/2)/4 + 1/4)^2, 605000*(5^(1/2)/4 - 1/4)^2, 605000*(5^(1/2)/4 - 1/4)^2, 605000*(5^
>>
Workspace
Name
Value
C 100
Ip 1x1 sym
Ipn 1x36 sym
P 1x1 sym
Pn 1x36 sym
t 1x36 double
V 1x1 sym
Vn 1x36 sym
Type here to search
ENG
17:10
23/11/2019

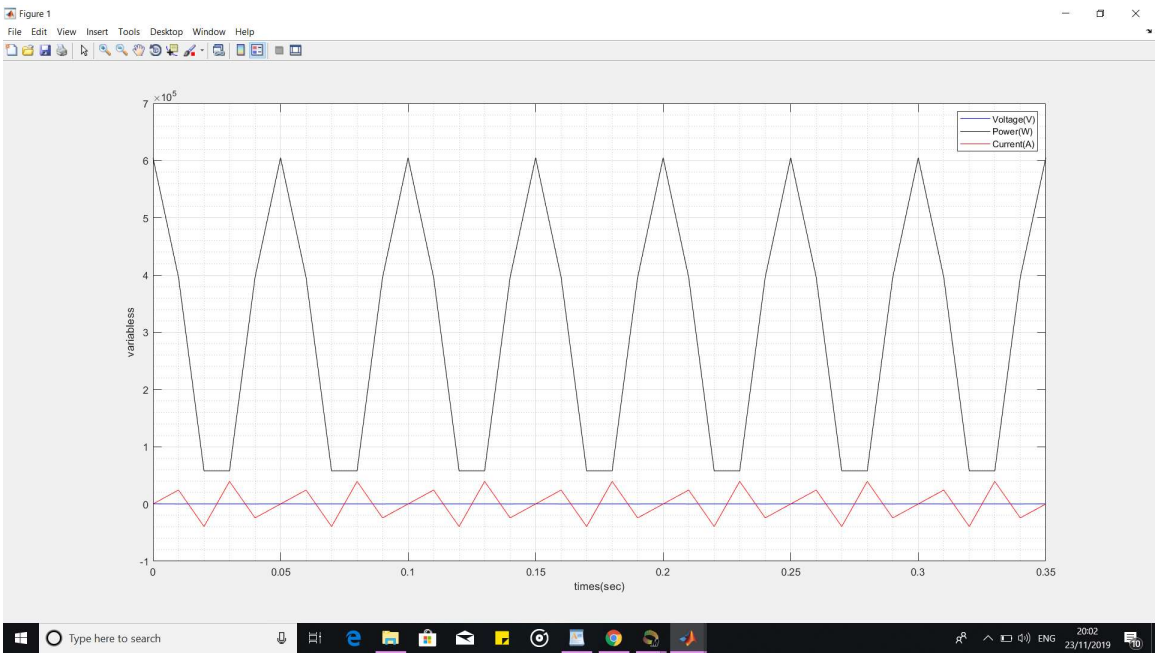
Figure 1
File Edit View Insert Tools Desktop Window Help
×10^5
7
6
5
4
3
2
1
0
-1
variabless
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
times(sec)
Voltage(V)
Power(W)
Current(A)
Type here to search
ENG
20:02
23/11/2019

4(d)