EZEOBIDI CLEMENTINA ONYINYECHUKWU
17/ENG04/027 elect/elect
ENG 281

Assignment 3

1) Commandwindow
2) Clear
3) Clc
4) Close all
5) Syms t
6) V(t) = 110*cos(120*pi*t)
7) i = diff(v)
8) p = diff(i)
9) t = 0:0.01:0.35
10) Vn = subs(v)
11) Vnn = double(Vn)
12) in = subs(i)
13) inn = double(in)
14) Pn = subs(P)
15) Pnn = double(Pn)
16) Plot(t, Vnn, 'blue')
17) hold on
18) Plot(t, inn, 'red')
19) hold on
20) plot(t, Pnn 'black')
21) xlabel('time(sec)')
22) Ylabel('variable
23) legend('Voltage(volt)', 'current(ampere)', 'Power(watt)')
24) grid on
25) grid minor
~~26) Run~~

=> Output Obtained.

V(t) = 110*cos(120*pi*t)

i(t) = -13200*pi*sin(120*pi*t)

P(t) = -1584000*pi^2*cos(120*pi*t)

t =

Columns 1 through 12

0 0.0100 0.0200 0.0300 0.0400 0.0500 0.0600 0.0700 0.0800 0.0900 0.1000 0.1100

Columns 13 through 24

0.1200 0.1300 0.1400 0.1500 0.1600 0.1700 0.1800 0.1900 0.2000 0.2100 0.2200 0.2300

Columns 25 through 36

0.2400 0.2500 0.2600 0.2700 0.2800 0.2900 0.3000 0.3100 0.3200 0.3300 0.3400 0.3500

Vn(t) = [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, 110, -(55*5^(1/2))]

Vnn =

Columns 1 through 12

110.0000 -88.9919 33.9919 33.9919 -88.9919 110.0000 -88.9919 33.9919 33.9919 -88.9919 110.0000 -88.9919

Columns 13 through 24

33.9919 33.9919 -88.9919 110.0000 -88.9919 33.9919 -88.9919 110.0000 -88.9919 33.9919 33.9919 -88.9919

Columns 25 through 36

-88.9919 110.0000 -88.9919 33.9919 33.9919 -88.9919 110.0000 -88.9919 33.9919 33.9919 -88.9919 110.0000

In(t)

[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)+5)^(1/2), -3300

Inn = 1.0e+04 *

Columns 1 through 12

0 2.4375 -3.9439 3.9439 -2.4375 0 2.4375 0 2.4375 -3.9439 3.9439 -2.4375 0 2.4375

Columns
-3.9439
0 2.4375
Columns
-2.4375
-3.9439
Pn(t)
[-1584000
1/4 = 1/4;
Pnn =
Columns
-1.563
1.264
Columns
-0.48
1.26
Columns
1.264
-0.4

Columns 13 through 24

-3.9439 3.9439 -2.4375 0 2.4375 -3.9439 3.9439 -2.4375

0 2.4375 -3.9439 3.9439

Columns 25 through 36

-2.4375 0 2.4375 -3.9439 3.9439 -2.4375 0 2.4375

-3.9439 3.9439 -2.4375 0

Pn(t) =

[-158400*Pi^2, 158400*Pi^2*(5^(1/2)/4 + 1/4), -158400*Pi^2*(5^(1/2)

/4 - 1/4, -1584000*Pi^2*(5^(1/2)/4, 1584000

Pnn = 1.0e+07*

Columns 1 through 12

-1.5633 1.2648 -0.4831 -0.4831 1.2648 -1.5633 1.2648 -0.4831

1.2648 -1.5633 1.2648

Column 13 through 24

-0.4831 -0.4831 1.2648 -1.5633 1.2648 -0.4831 1.2648 -1.5633

1.2648 -0.4831 -0.4831

Column 25 through 36

1.2648 -1.5633 1.2648 -0.4831 1.2648 -1.5633 1.2648 -0.4831

-0.4831 -0.4831 1.2648 -1.5633