

Name: Finbarrs-Ezema Bernard

Matric No: 16/ENG03/027

Department: Civil Engineering

ENG 281 Assignment V

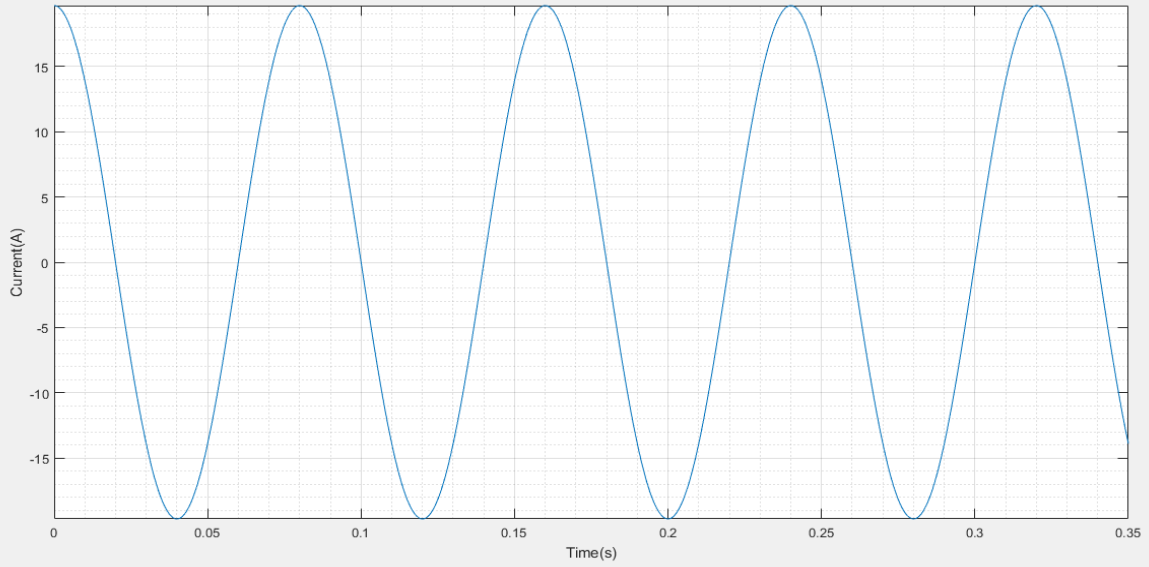
## MATLAB code

```
commandwindow
clear
clc
close all
syms t
Qt = 0.25*sin(25*pi*t);
Vt = 0.5*cos(0.25*pi*t);
tn = (0:0.00001:0.35);
I = diff(Qt);
P = Vt*I;
In = subs(I,tn);
Pn = subs(P,tn);
figure(1)
plot(tn,In)
grid on
grid minor
axis tight
xlabel('Time(s)')
ylabel('Current(A)')
figure(2)
plot(tn,Pn)
```

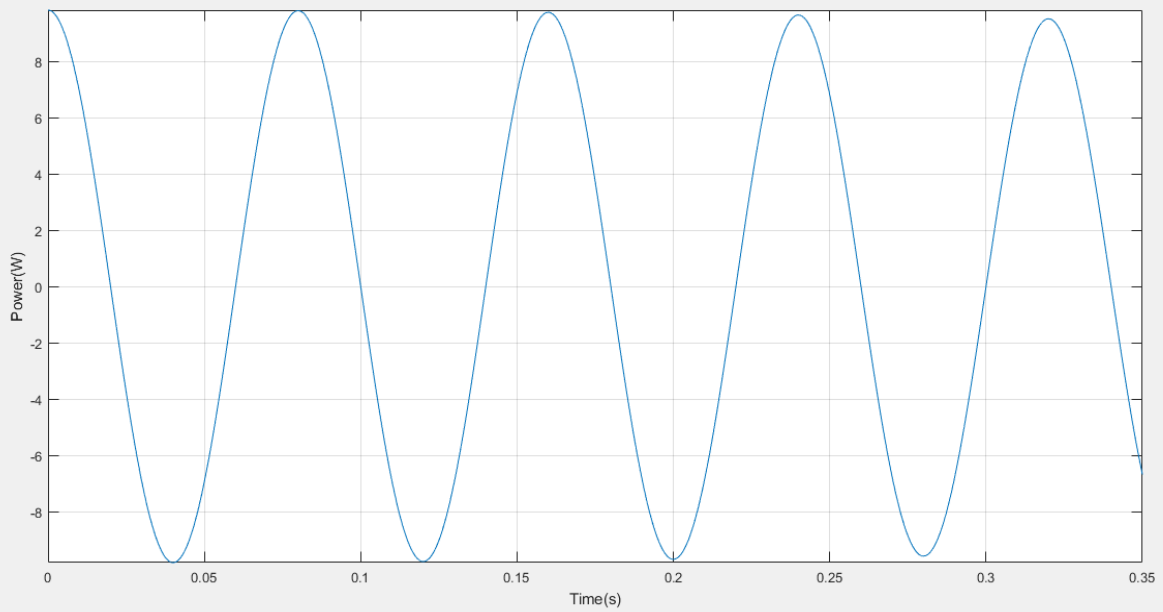
```
grid on
grid minor
axis tight
xlabel('Time(s)')
ylabel('Power(W)')
grid on
grid minor
axis tight
figure(3)
plot(tn,In,tn,Pn)
grid on
grid minor
axis tight
xlabel('variable')
ylabel('Time(s)')
legend('Power(W)', 'Current(A)')
```

## Output obtained

**Figure 1**



**Figure 2**



**Figure 3**

