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Mechanical Engineering

I6/ENG06/041

ENG 281

commandwindow

clear

clc

syms t

$q = 0.25 * \sin(25 * \pi * t);$

$tn = [0:0.0001:0.35];$

$qn = \text{subs}(q,tn);$

figure(1)

plot(tn, qn)

xlabel("Time(s)");

ylabel("Charge(Q)");

title("Charge against Time Graph");

grid on

grid minor

$v = 0.5 * \cos(0.2 * \pi * t);$

$w = v * q;$

$wn = \text{subs}(w,tn);$

figure(2)

plot(tn, wn)

xlabel("Time(s)");

ylabel("Work(J)");

title("Work against Time Graph");

grid on

grid minor

figure(3)

plot(tn, wn,tn, qn)

xlabel("Time(s)");

```
ylabel("Charge(Q) & Work(J)");  
title("Charge/Work against Time Graph");  
grid on  
grid minor  
legend("Power(W)", "Current(A)");
```