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**Matric Number: 17/ENG0/067**

**Department: Mechanical engineering**

**ENG 382 ASSIGNMENT V**

Simulation File

commandwindow

clearvars

clc

format short g

syms t kp td tp

v = kp\*(1-exp(-((t-td)/tp)));

mdata = xlsread(' 1587203818odevbesdata', 'data1');

t1 = mdata(:,1);

v = mdata(:,2);

V1 = round(mdata(900,2),1)

t0 = ones(length(v),1)

t = [t0 t1]

[mcoeff, mcoeffint, mresid, mresidint, manova] = regress(v,t);

% mcoeff

% rsquaredvalue=mcoeff(1)

plot(t,v);

xlabel('Time (min)')

ylabel('Volume (m^3)')

grid on



**G**

commandwindow

clearvars

clc

format short g

syms t kp td tp

v = kp\*(1-exp(-((t-td)/tp)));

mdata = xlsread(' 1587203818odevbesdata', 'data1');

t1 = mdata(:,1);

v = mdata(:,2);

V1 = round(mdata(900,2),1)

t0 = ones(length(v),1)

t = [t0 t1]

[mcoeff, mcoeffint, mresid, mresidint, manova] = regress(v,t);

% mcoeff

% rsquaredvalue=mcoeff(1)

plot(t,v(:,1), 'g-0', 'Marketindices',([1:40::length(t)]);

xlabel('Time (min)')

ylabel('Volume (m^3)')

grid on

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**RAPH**