

**NAME; ELUWA TOCHUKWU DIVINE JESSICA**

**MATRIC NUMBER; 17/ENG07/010**

**DEPARTMENT; PETROLEUM ENGINEERING**

**COURSE CODE; ENG382**

**COURSE TITLE; ENGINEERING MATHEMATICS 4, ASSIGNMENT 5**

**TO BE SUBMITTED TO; PROF GIWA**

1A) commandwindow

clearvars

clc

format short g

syms t kp td tp

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

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

t1= mdata(:,1);

v=mdata(:,2);

v1=round(mdata(900,2),1)

t0=ones(length(v),1);

t= [t0 t1]

y=log(v)

data=regress(y,t)

a0=data(1)

a1=data(2)

a2=data(3)

kp=10^a0

tp=-kp/a1

td=a2\*tp/-kp

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

mcoeff

manova

rsquaredvalue=mcoeff(2)

plot(t,y,’green-o’)

grid on

1b)

commandwindow

clearvars

clc

format short g

syms t kp td tp

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

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

t1 = mdata(:,1);

v = mdata(:,2);

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

t0 = ones(length(v),1)

t = [t0 t1]

y=log(v)

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

mcoeff

rsquaredvalue = mcoeff(1)

mcoeff

manova

kp = V1

td = -mcoeff(1)

tp = mcoeff(2)

plot(t,y(:,1));

grid on

grid minor

Beta0 = [t0 t1]

Beta = nlinfit(V,t,y,beta0)

Plot(t,Beta)