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DEPARTMENT: Biomedical Engineering

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COUSE TITLE: Engineering Mathematic IV

ASSIGNMENT IV

**CODES**

1. ***Function Ode code***

function f= oyinodefun(t,q)

f(1)=(((-15/500)\*q(1))+((5/1000)\*q(2))+1);

f(2)=(((15/500)\*q(1))-((18/1000)\*q(2))+((3/400)\*q(3)));

f(3)=(((13/1000)\*q(2))-((13/400)\*q(3)));

f=f';

1. ***Matlab graph code***

commandwindow

clear

clc

close all

[t,q]=ode45('oyinodefun',[0:40:1200], [0 0 0 ]);

figure(1)

subplot(3,1,1)

plot(t,q(:,1),'o-g')

xlabel('Time(min)')

ylabel('Volume(Litre)')

legend('Tank')

grid on

subplot(3,1,2)

plot(t,q(:,2),'\*-b')

xlabel('Time(min)')

ylabel('Volume(Litre)')

legend('Tank2')

grid on

subplot(3,1,3)

plot(t,q(:,1),'\*-r')

xlabel('Time(min)')

ylabel('Volume(Litre)')

legend('Tank3')

grid on



Figure 1: Dynamic response of the tanks



Function Ode code



Matlab graph code



 Dynamic Response of the tanks