Name: Usman Mustapha A.

Dept: Mechanical

MATRIC NO: 17/ENG06/087

Course code: ENG 382

Course title: Engineering Mathematics iv

1 function [dydt] = mustyfun(t,y)

3 dydt(1)= -((15/500)\*y(1))+ ((5/1000)\*y(2))+1;

4 dydt(2)= ((15/500)\*y(1))-((18/1000)\*y(2))+ ((3/400)\*y(3));

5 dydt(3)= ((13/1000)\*y(2))-((13/400)\*y(3));

6

1. dydt=dydt';
2. end
   1. commandwindow
   2. clear
   3. clc
   4. closeall

5 width= [0:1:1200];

1. initial=[0 0 0];
2. [t,Q] = ode45('mustyfun',width,initial);
3. figure(1)
4. subplot(3,1,1)

10 plot(t,Q(:,1),'go-')

1. x label('Time(min)')
2. y label('Volume(litres)')
3. legend('Tank 1', 'Location','South')
4. grid on
5. axis tight
6. title('Figure 1:Dynamic Responses of theTanks')
7. subplot(3,1,2)

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

1. x label('Time(min)')
2. y label('Volume(litres)')
3. legend('Tank2','Location','South')
4. grid on
5. axis tight
6. subplot(3,1,3)

25 plot(t,Q(:,3),'r+--')

1. x label('Time(min)')
2. y label('Volume(litres)')
3. legend('Tank 3', 'Location', 'South')
4. grid on
5. axis tight

