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**MATRICNUMBER:17/ENG04/071**

**DEPARTMENT:ELECT/ELECT**

1function[dmdt]=UGAH(t,m)

2

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

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

5dmdt(3)=((13/1000)\*m(2))-((13/400)\*m(3));

6

7 dmdt=dmdt';

8 end1 commandwindow

2 clear

3 clc

4 closeall

5width=[0:1:1200];

6 initial=[000];

7 [t,Q]=ode45(@UGAH,width,initial);

8 figure(1)

9 subplot(3,1,1)

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

11 xlabel('Time(min)')

12 ylabel('Volume(litres)')

13 legend('Tank1','Location','South')

14 gridon

15 axistight

16 title('Figure1:DynamicResponsesoftheTanks')

17 subplot(3,1,2)

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

19 xlabel('Time(min)')

20 ylabel('Volume(litres)')

21 legend('Tank2', 'Location','South')

22 gridon

23 axistight

24 subplot(3,1,3)

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

26 xlabel('Time(min)')

27 ylabel('Volume(litres)')

28 legend('Tank3','Location','South')

29 gridon

30 axistight

