**EKPO, DEBORAH JOSEPH**

**17/ENG02/019**

**COMPUTER ENGINEERING**

**ENG 382-ASSIGNMENT IV**

**Function file code**

1. function [dmdt]= derby(t,m)
2. dmdt (1) = -((15/500)\*m(1)) + ((5/1000)\*m(2))+1;
3. dmdt(2) = ((15/500)\*m(1))-((18/1000)\*m(2))+ ((3/400)\*m(3));
4. dmdt(3) = ((13/1000)\*m(2))-((13/400)\*m(3));
5. dmdt=dmdt’;
6. end

**SIMULATION FILE CODE**

* 1. commandwindow
  2. clear
  3. clc
  4. close all

5 width= [0:1:1200];

1. initial=[0 0 0];
2. [t,Q]= brains(@maths,width,initial);
3. figure(1)
4. subplot(3,1,1)

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

1. xlabel('Time (min)')
2. ylabel('Volume(litres)')
3. legend('Tank 1', 'Location', 'South')
4. grid on
5. axis tight
6. title('Figure 1:Dynamic Responses of the Tanks')
7. subplot(3,1,2)

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

1. xlabel('Time (min)')
2. ylabel('Volume(litres)')
3. legend('Tank 2', 'Location', 'South')
4. grid on
5. axis tight
6. subplot(3,1,3)

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

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

