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DEPARTMENT : Mechanical Engineering

```
1 function [dmdt] = Abas(t,m)
2
3 dmdt(1) = -((15/500)*m(1)) + ((5/1000)*m(2)) + 1;
4 dmdt(2) = ((15/500)*m(1)) - ((18/1000)*m(2)) + ((3/400)*m(3));
5 dmdt(3) = ((13/1000)*m(2)) - ((13/400)*m(3));
6
7 dmdt = dmdt';
8 end
```

```
1 commandwindow
2 clear
3 clc
4 closeall
5 width= [0:1:1200];
6 initial=[0 00];
7 [t,Q]=ode45(@Abas ,width,initial);
8 figure(1)
9 subplot(3,1,1)
10 plot(t,Q(:,1),'go-')
11 xlabel('Time(min)')
12 ylabel('Volume(litres)')
13 legend('Tank 1', 'Location','South')
14 gridon
15 axis tight
16 title('Figure 1:Dynamic Responses of theTanks')
17 subplot(3,1,2)
18 plot(t,Q(:,2),'b*--')
19 xlabel('Time(min)')
20 ylabel('Volume(litres)')
21 legend('Tank2', 'Location','South')
22 gridon
23 axis tight
24 subplot(3,1,3)
25 plot(t,Q(:,3),'r+--')
26 xlabel('Time(min)')
27 ylabel('Volume(litres)')
28 legend('Tank 3', 'Location', 'South')
29 gridon
30 axis tight
```

Figure 1: Dynamic Responses of the Tanks

