

OGBONNA VICTOR CHIBUZO

17/ENG04/048

ELECTRICAL/ELECTRONICS ENGINEERING
ENGINEERING MATHEMATICS IV

Assignment

- Function command

```
function dydt = victorn_fun(t,y)
dydt(1) = (-0.03*y(1)) + (0.005*y(2)) + 1;
dydt(2) = (0.03*y(1)) - (0.018*y(2)) + (0.075*y(3));
dydt(3) = (0.013*y(2)) - (0.0325*y(3));
end
```

* Simulation in file editor

- Command window

clear all

clc

close all

```
[t,y] = ode45(victorn_fun, [0:45:200], [200, 2000]);
```

Figure (1)

- subplot(3,1,1)

```
plot(t,y(:,1), 't-g')
```

```
xlabel('Time (min)')
```

```
ylabel('Volume (litre)')
```

```
legend('Tank 1')
```

```
grid on
```

```
grid minor
```

```
axis tight
```

- subplot(3,1,2)

```
plot(t,y(:,2), 'x-b')
```

```
xlabel('Time (min)')
```

```
ylabel('Volume (litre)')
```

```
legend('Tank 2')
```

```
grid on
```

grid minor
axis tight

```
- subplot(3,1,2)
  plot(t, y(:,2), '*-b')
  x label ('Time (min)')
  y label ('Volume (litre)')
  legend ('Tank 3')
  grid on
  grid minor
  axis tight
```

In order to avoid error or confusion, I replaced Q_1, Q_2 & Q_3 with y_1, y_2 & y_3 .

Figure 1

File Edit View Insert Tools Desktop Window Help

