NAME : PRATHAPANI SATWIKA

REG.NO. : 20BCD7160

EXPERIMENT NO. : APPLICATIONS TO VECTOR CALCULUS

1.

```
clc
clear all
syms x y z t
f=x-3*(y^2)+z;
var=[x,y,z];
Par=[t,t,t];
F=subs(f,var,Par);
dr=[diff(Par(1),t),diff(Par(2),t),diff(Par(3),t)];
modr=norm(dr);
I = int(F*modr,t,0,1);
fprintf('20BCD7160 Prathapani Satwika \n')
disp('Line integral along the given curve is')
disp(I)
```

Command Window

```
20BCD7160 Prathapani Satwika
Line integral along the given curve is
0

fx >>
```

2.

```
1 -  clc
2 -  clear all
3 -  syms t
4 -  x = t^2; .
5 -  y = t;
6 -  z = sqrt(t);
7 -  f=[z,x*y,-(y^2)];
8 -  r = [x,y,z];
9 -  dr = [diff(r(1),t),diff(r(2),t),diff(r(3),t)];
10 - F = dot(f,dr);
11 - I = int(F,t,0,1);
12 - fprintf('20BCD7160 Prathapani Satwika')
13 - disp('Line integral along the given curve is')
14 - disp(I)
```

COMMAND WINDOW

New to MATLAB? See resources for Getting Started

```
20BCD7160 Prathapani SatwikaLine integral along the given curve is
17/20

>>
```