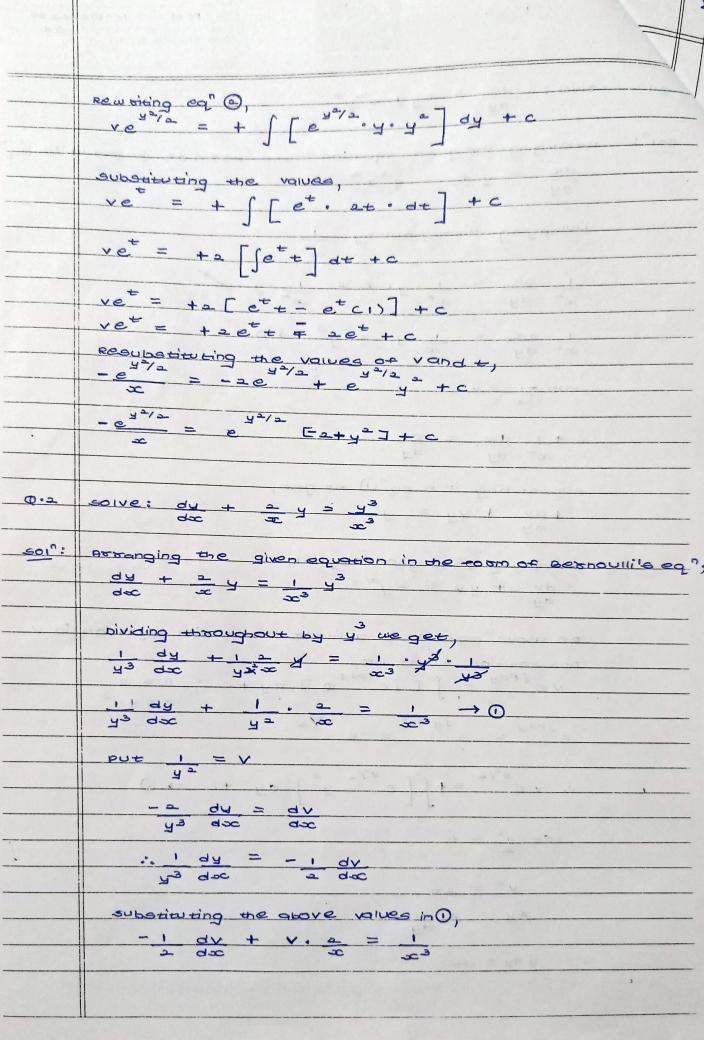


Batch: P6-1 Roll No.16010422234 Experiment / assignment / tutorial No. 64 Grade: AA/AB/BB/BC/CC/CD/DD

Signature of the Faculty In-Charge with date doc = ocy + ocy 3 0.1 soive: versording the diver ednation in the torm of Bernonling ed Multipying throughout by substituting it in eq " O we get, The above equation is a linear differential 7 97 = 9F

K.J. Somaiya College of Engineering, Vidyavihar (E), Mumbai - 400 077.





Batch: PG-1 Roll No tGO 10422224 Experiment / assignment / tutorial No. Q4 Grade: AMAB / BB / BC / CC / CD / DD

Signature of the Faculty In-Charge with date

```
Muldplying throughout by - a,
       + 1 (-+) = -0
The above eq" is a linear DE in V;
re solution would be:
                x+ ( x 3 ) dx+c
        ... Eresubstituting the value of v
           1-ex109x [1+109x]
           K.J. Somaiya College of Engineering, Vidyavihar (E), Mumbai - 400 077.
```

```
L'HOSPITAIS TUIS
Periying
 T = lim
     1400
                       e 109x (1+109x)
I = 1im
  20+1
I = 2
.. tim
  20-0001+1 1+x
                  10g (x-a)
            lim
x+a
       1im 10g (-a-a)
 Applying L'Hospital's sule
      tim
               (x-a)
       x \rightarrow a
               a 169a
              (x-a) a = 10g a
       tim
       x +a
Applying L'Hospital's suie,
                a 109a - 0
    = lim
              10ga [ a 10ga (x-a) + ax]
      xta
               1000 [ax1000 (x-a)+ ax]
         aª
                  =
                                    - Colat
                              1 601 1 1
Hence, proved.
```