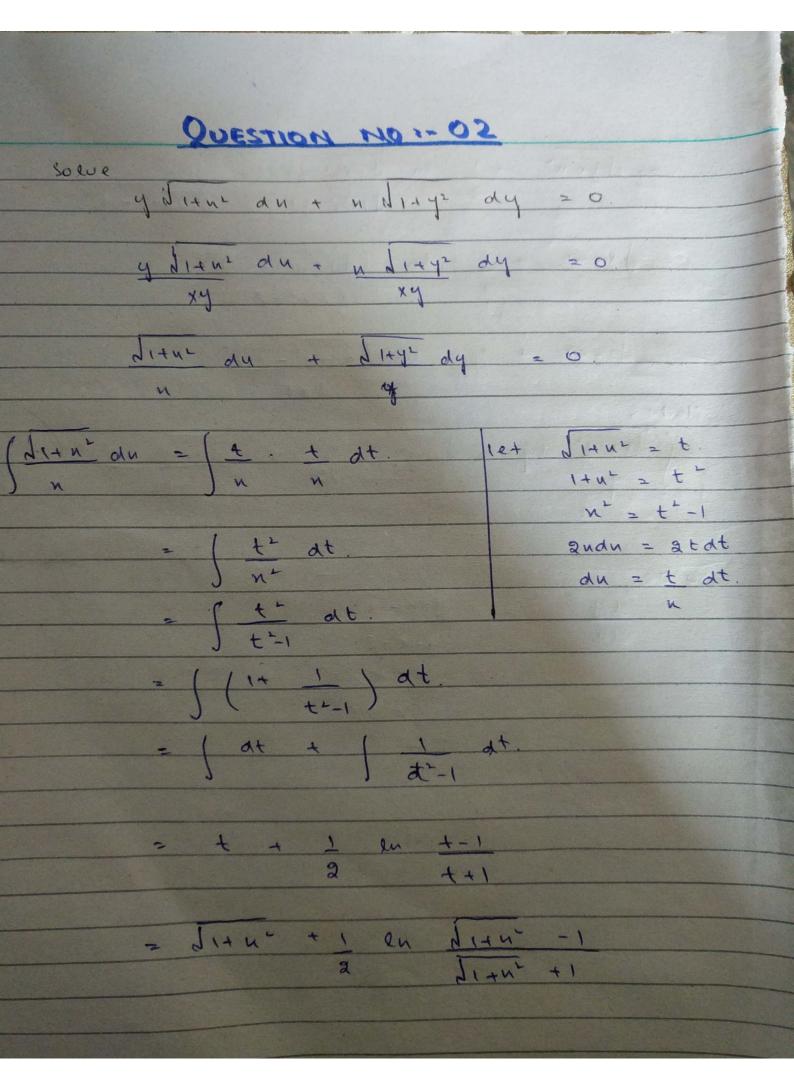
QUESTION NO:- 01 solve the initial value problem (3x+ 8) (y2+4) dx - 4y (n2+5x+6) dy = 0 : 4 (1) = 9 (3x+8) (y2+4) du - uy (n2+ 2n+3n+6) ody - 4y (n(n+2)+3(n+2)) dy (34+8)(y+4) du = 4y(1+3)(2+2) dy $\begin{cases} 348 & du. = \begin{cases} 4y & dy \\ (n+3)(N+2) & y^2+4 \end{cases}$ = 2 24 dy = lu (y2+4)+c Let 34+8 = A + 8 (n+3)(n+2) X+3 X+2 3 n + 8 = A (n + 2) + B (N + 3) X +3 = 0 => X=-3 -9+8 / F - 1+6 4 13/9 -9+8 = A (-3+2)

-1 = 4 (-1) let 42-2 34+8 2 A(4+2) +B(4+3) 3(-2)+8 = B(-2+3) -6+8 = B 3n+8 = 1 (n+3)(n+2) n+3 n+2 $\int_{u+3}^{u+3} du = 2 \ln(y^2 + u) + c$ 1 du + (2:1 du 2 2 en (y'+4) + c ln (u+3) + 2 ln (u+2) = 2 ln (y+4) + c N=1, y=2 lu (1+3) + 2 lu (1+2) = 2 lu (4+4) + C lu 4 2 lu 3 = 2 lu 8 + c = e

0.860 lu (u+2) (u+3) · 2 lu (y2+4) + 0.86



= JI+n' + 1 2n JI+n' -1 x di+n' -1

2 JI+n' +1 JI+n' -1 = J1+n= + 1 ln (J1+n=-1)= = di+n + 1/2 en (di+n -1)2 Similarly;

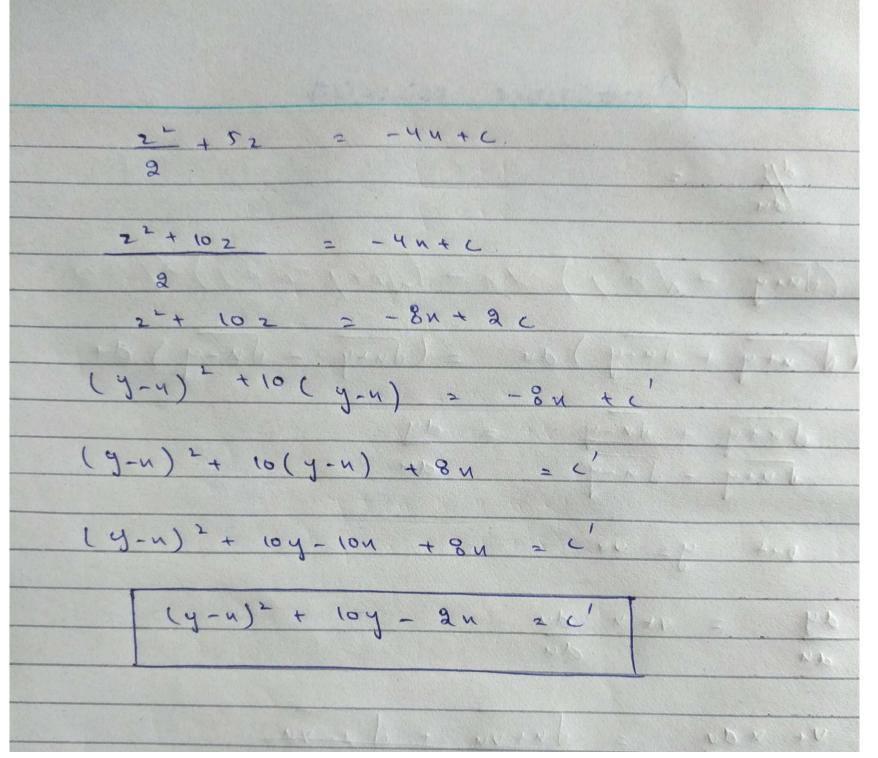
(Lity dy = Lity + 1/2 ln dity -1 Solve = 4-n+5 + 7-7-9 = 4-n+5 + 7-7-9 4-n+5 7-n+5

QUESTION NO :- 03

$$\frac{dy}{du} = \frac{dz}{du}$$

$$\frac{dy}{du} = \frac{dz}{du} + 1 \qquad - (3).$$

$$dz = \frac{z+1-z-5}{z+5}$$
 $\frac{z-4}{z+5}$



QUESTION NO:-04
de =
(Juty + Jn-y) dn - (Jn+y-Jn-y)dy =0
(d'nty + Jn-y) du = (dnty - Jn-y) dy
Juty + 1/4-7 = dy Juty - Ju-y = dy
p4+ 9= vx
dy = vt u du du du
N+ Nav = JN+VN + JN-VN JN+VX - JN-VX
v+udu = 5t [1+v + 51-v] du = 5t [1+v + 51-v]
= (1+v)+(1-v)+2(J1+v J1-v)
((+0)(1-0)
2 2 + 2 d 1 - v 2 2
2.

