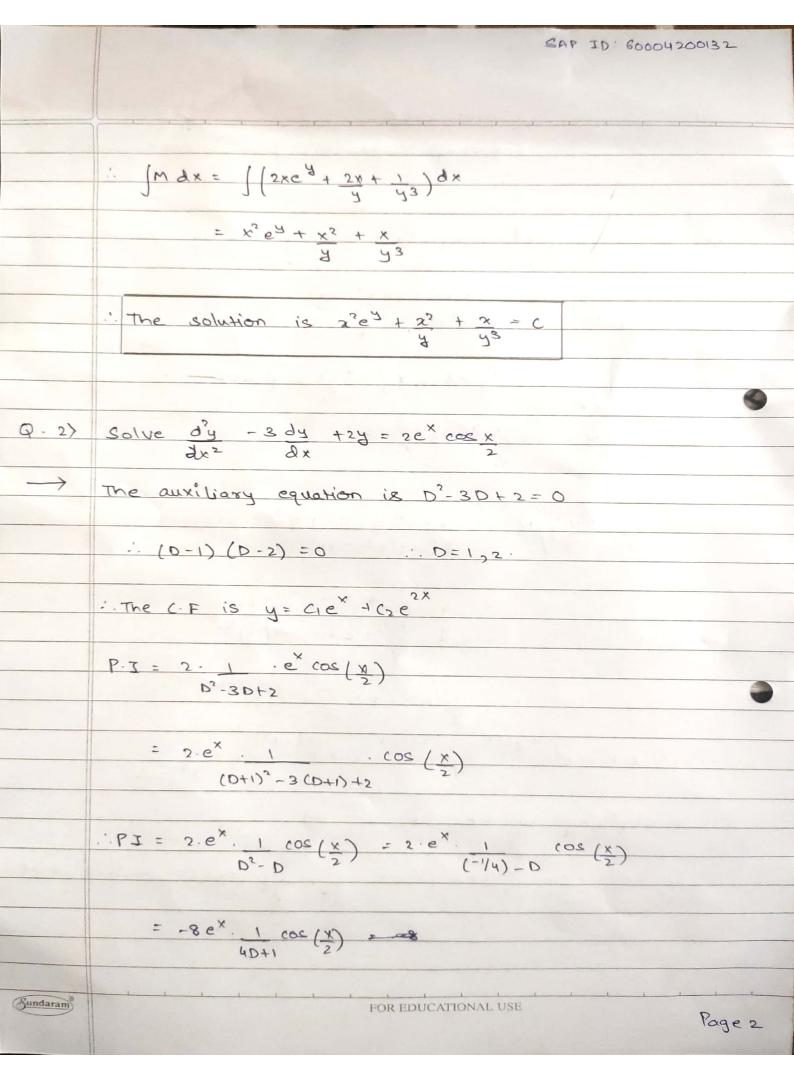
Name: Ayush Jain SAPID: 60004200132 Div: 31 Branch: Computer Engineering 24/08/2021 Term. Test 2 Engineering Mathematics - 2 Solve (2xy4e8 + 2xy3+y)dx + (x2y4e8 - x2y2-3x)dy=0 We have, M = 2xy = + 2xy 3 + 4 and $N = x^2y^4e^3 - x^2y^3 - 3x$: 2M = 2x (44e8 + 443e4) + 6x42+1 and 2N = 2xy4e8 - 2xy2 - 3 $\frac{3x + 3x}{(3y - 3w)} = -8xx_3 - 4 - 8xx_3 - 4$ = -4. (2x3g3 + 2xy2+1) = -4 = f(4) :. I.F = e = e = 1 -4 109 4 109 (1/44) multiplying by the I.F, we get (2xe3+2x+13)dx+ (x2e3-x2-3x)dy=0 which is exact. FOR EDUCATIONAL USE (Sundaram) Page 1



.. The complete solution is:

$$\rightarrow$$
 Put $3x+2=V \Rightarrow x=(v-2)/3$

$$\frac{\partial^2 x}{\partial x} = \frac{\partial x}{\partial x} \left(\frac{\partial x}{\partial x} \right) = \frac{\partial x}{\partial x} \left(\frac{\partial x}{\partial y} \right)$$

$$\frac{d^2y}{dx^2} = 9\frac{d^2y}{dx^2}$$

(Sundaram)

