Malik Zohaib Mustafa	
Enrollment: 01-134192-030	
Section: BSCS-4B	h
Q#1	
$An^{2} + By^{2} = 1$ $d \left[Ax^{2} + By^{2}\right] = d \cdot 1$ $dx \left[Ax^{2} + By^{2}\right] = d \cdot 1$	
dx l dx	
2Ax + 2 Byy' - 0 2(Ax + Byy') = 0	
Ax + Byy' = 0 - 0	
Again Differentiating	
$\frac{d}{dx} \left[\frac{Ax + Byy'}{dx} \right] = \frac{d}{dx} (0)$	
A+B[yy"+y'y']=0	
A+B[(y')'+ yy"] =0 -2	
From eg (2) value of A	
A= -B[(y')+yy"] -B[(y')+yy"]x + Byy" -0	
Byy' = B[(y') + yy"] x	
yy'=(y') x + xyy"	

$$xyy'' + x(y') - yy' = 0$$

$$y' = y - xy^3 e^{-2x}$$

$$y' + (-1)y = (-xe^{-2x})y^3$$

$$d_x + (-1)y = (-xe^{-2x})y^3$$

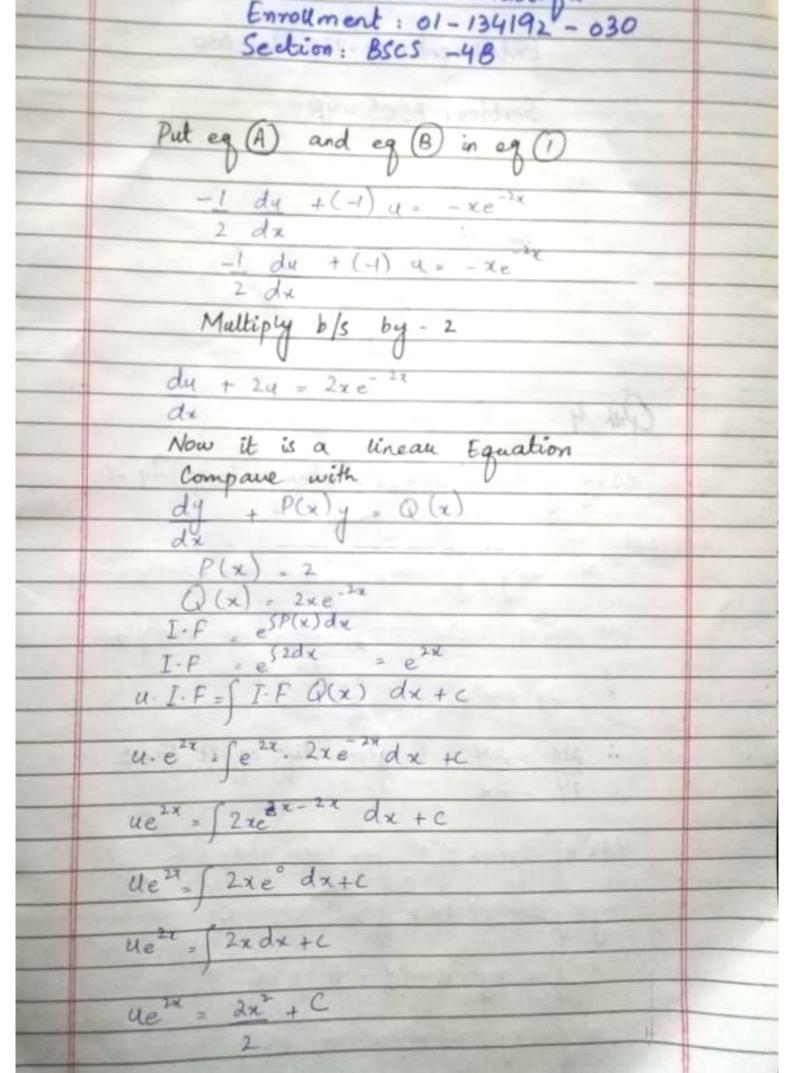
$$d_x + (-1)y = (-xe^{-2x})y^3$$

$$y' = (-xe^{-2x})y^3$$

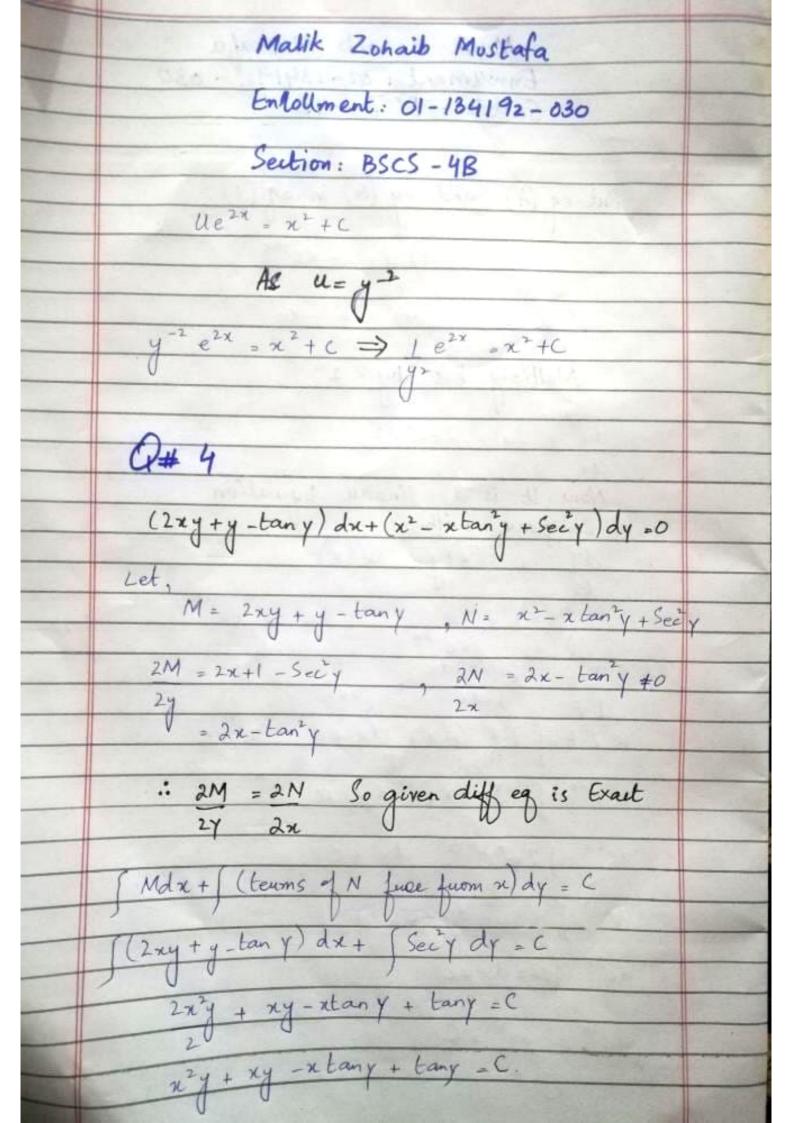
$$d_x + (-1)y = (-xe^{-2x})y^3$$

$$y' = (-xe^{-2x})y^3$$

$$y$$



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Malik Zohaib Mustafa Encollment: 01-134192-030 Section: BSCS-4B 0#5 dP = KP dt $\int \int dP = \int Kdt$ InP = kt + c P= Aekt .: e = A Initially the population P= 575 0000 A = 5000 000 t= 10 years 5750000 = 5000000 elok 5750000 5000000 (1.15) = e 10K Take In on both Sides In (1.15) = In (e10k) k = ln (1.15)

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Matik Zohaib Mustafa. Encollment: 01-134192-030 Section: BSCS - 4B 0# 2 2x + 6yy' = (x2+3y2)y' 2xy + 6y2y' = (x2+3y2)y' y' [6y2-x2-3y2] = -2ny y' (3y2-x2) = -2xy y' = - 2xy 3y2-x2 y'= 2xy 72-03y2