ANNAI VIOLET ARTS AND SCIENCE COLLEGE
DEPARTMENT OF MATHEMATICS

CONTINUOUS INTERNAL ASSESSMENT – I (ODD SEM.)
SUBJECT : DIFFERENTIAL EQUATIONS

Class : II B.Sc (MATHS) **Date : 05.09.2022-FN**
Max.Marks : 50 **Sub. Code: SM23B**

PART A (5 · 2 = 10 Marks)
Answer any FIVE questions

1. Designate differential equation.
2. Clear up,$dy/dx+(1-y^2/1-x^2)^{1/2}=0$.
3. Give the necessary and sufficient condition for an differential equation to be an exact.
4. Examine the differential equation.$dy/dx =(x-y+3)/(2x-2y+5)$.
5. Verify the equation $(xe^{xy}+2y)dy+ye^{xy}dx=0$ is exact or not.
6. Print the solution of the linear differential equation.
7. Write the order and degree of the differential equation.$(d^2y/dx^2)^3+dy/dx+y =\sin x$.

PART B – (2 · 5 = 10 Marks)
Answer any TWO questions

8. Compose the integrating factor of the differential equation $(x^2y-2xy^2)dx-(x^3-3x^2y)dy = 0$.
9. Briefly explain about homogenous differential equation.
10. Solve:$dy/dx = (3x-y+7) / (x-7y-3)$.

PART C – (3 · 10 = 30 Marks)
Answer ALL questions

11. Determine: $y^2+x^2dy/dx = xydy/dx$.
12. Do : $dy/dx = (2x+y+3) / (x+2y+1)$.
13. Solve:$dy/dx-y\tan x = \sin x\cos^2x/y^2$.

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