RAMA STUDY CENTRE WHATSAPP - 8754834606

XII - STANDARD - MATHEMATICS

CHAPTER - 10 [IMPORTANT QUESTIONS]

If you need answer means cost Rs-25/-

1) Determine the order and degree (if exists) of the following differential equation $dy + (xy - \cos x)dx = 0$

2) Assume that a spherical rain drop evaporates at a rate proportional to its surface area. Form a differential equation involving the rate of change of radius of the rain drop

3) Find the differential equation for the family of all straight lines passing through the origin.

4) Find the differential equation of the family of all the parabola with latus rectum $4a$ and whose axes are parallel to the x-axis

5) Show that $y = mx + 7/m, m \neq 0$, is a solution of the differential equation $xy' + 7/y' - y = 0$

6) Show that $y = e^{-x} + mx + n$ is a solution of the differential equation $e^x\left(\frac{d^2y}{dx^2}\right) - 1 = 0$

7) Solve $(1+x^2)\, dy/dx = 1 + y^2$

8) Solve $dy/dx = \frac{x - y + 5}{2(x-y)+7}$

9) Solve i) $dy/dx = \sqrt{1-y^2}/1-x^2$ ii) $dy/dx - x\sqrt{25-x^2} = 0$

10) Solve $y^2 + x^2\, dy/dx = xy\, dy/dx$

11) Solve i) $dy/dx + 2y = e^{-x}$ ii) $x\frac{dy}{dx} + y = x\log x$

12) The growth of a population is proportional to the number present. If the population of a colony doubles in 50 years, in how many years will the population become triple?

13) The rate of increase in the number of bacteria in a certain bacteria culture is proportional to number present. Given that the number triples in 5 hours, find how many bacteria will be present after 10 hours?

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