

Mathematics - 1

CHAPTER - ODE (Ordinary Differential Equations)

Q1. Solve : $y e^{xy} dx + (x e^{xy} + 2y) dy = 0$

Q2. Solve : $(\sec x \tan x \tan y - e^x) dx + \sec x \cdot \sec^2 y dy = 0$

Q3. Solve : $(x - y^2) dx + 2xy dy = 0$

Q4. Solve : $(3xy^2 - y^3) dx - (2x^2y - xy^2) dy = 0$

Q5. Solve : $(x^2 + y^2 + 2x) dx + 2y dy = 0$

Q6. Solve : $(y^4 + 2y) dx + (xy^3 + 2y^4 - 4x) dy = 0$

Q7. Solve : $y(2xy + 1) dx + x(1 + 2xy - x^3y^3) dy = 0$

Q8. Solve : $p(p + y) = x(x + y)$

Q9. Solve : $p^2 + 2py \cot x = y^2$

Q10. Solve : $y = 2px + y^2p^3$

Q11. Solve : $y - 2px = \tan^{-1}(xp^2)$

Q12. Solve : $\frac{dy}{dx} + y = 3e^x y^3$

Q13. Solve : $(x+1) \frac{dy}{dx} - y = e^x (x+1)^2$

Q14. Solve : $2 \frac{dy}{dx} = \frac{y}{x} + \frac{y^2}{x^2}$

Q15. Solve : $\frac{dy}{dx} + y \tan x = y^3 \cos x$