

# **ENGINEERING MATHS**

## **FIRST YEAR (SEM-2)**

### **DIFFERENTIAL EQUATION OF FIRST ORDER & FIRST DEGREE**



## **QUESTION BANK (VOLUME - I)**

## **ALL UNIVERSITIES**

**YT Channel: SAURABH DAHIVADKAR**

## Differential Eq<sup>n</sup> of Fo/FD

V-I

• Question Bank •

• All Universities •

1) Solve:  $2(1+x^2\sqrt{y})y dx + (x^2\sqrt{y}+2)x dy = 0$

2) Solve:  $\left[1+\log(xy)\right] dx + \left(1+\frac{x}{y}\right) dy = 0$

3) Solve:  $(x+y\sqrt{1-x^2y^2}) dx + (x\sqrt{1-x^2y^2}-y) dy = 0$

4) Solve:  $\frac{dy}{dx} = \frac{\tan y - 2xy - y}{x^2 - x + \tan^2 y + \sec^2 y}$

5) Solve:  $x \sin x dy + [y(x \cos x - \sin x) - 2] dx = 0$

6) Solve:  $(x^4 e^x - 2mxy^2) dx + 2mx^2y dy = 0$

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

8) Solve:  $(2x^2y + e^x)y dx - (e^x + y^3) dy = 0$

9) Solve:  $\frac{dy}{dx} = -\frac{x^3y^3 + 2y}{2x - 2x^3y^2}$

10) Solve:  $\frac{dy}{dx} = -\frac{x^3y^3+2y}{2x-2x^3y^2}$

11) Solve:  $y(\sin xy + xy \cos xy) dx + x(xy \cos xy - \sin xy) dy = 0$

12) Solve:  $y(x+y) dx - x(y-x) dy = 0$

13) Solve:  $(3xy - 2ay^2) dx + (x^2 - 2axy) dy = 0$

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