SIR CV RAMAN COACHING CENTRE- IDAPPADI ,

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XII- MATHS EXCERISE 10.1 . SLIP TEST QUESTION PAPER – 2024

SECTION – A (20 X 3 =60 M)

1.Determine the order and degree (if exists) of the following differential equations:

$$\left(\frac{d^3y}{dx^3}\right)^{\frac{2}{3}} - 3\frac{d^2y}{dx^2} + 5\frac{dy}{dx} + 4 = 0$$

2. .Determine the order and degree (if exists) of the following differential equations

$$3y^2\left(\frac{dy}{dx}\right)^3 - \frac{d^2y}{dx^2} = \sin x^2.$$

3. Determine the order and degree (if exists) of the following differential equations

$$\sqrt{1+\left(\frac{dy}{dx}\right)^2} = y\frac{d^3y}{dx^3} .$$

4. . Determine the order and degree (if exists) of the following differential equations

$$\sin\left(\frac{dy}{dx}\right) + \frac{d^2y}{dx^2} + 3x = 0 .$$

5. . Determine the order and degree (if exists) of the following differential equations

$$e^{\frac{d^2y}{dx^2}} + \sin(x)\frac{dy}{dx} = 2 .$$

6. . Determine the order and degree (if exists) of the following differential equations

$$\log\left(\frac{d^2y}{dx^2}\right)+\frac{dy}{dx}=0$$

7. Determine the order and degree (if exists) of the following differential equations

$$\cos\left(\frac{d^3y}{dx^3}\right)+2\frac{d^2y}{dx^2}=0.$$

8. Determine the order and degree (if exists) of the following differential equations

$$10(y''')^4+7(y'')^5+\sin(y')+5=0$$

9. Determine the order and degree (if exists) of the following differential equations

$$\cos(y')y'''+5y''+7y'=\sin x$$

10. Determine the order and degree (if exists) of the following differential equations

$$\frac{dy}{dx}=x+y+5$$

11. . Determine the order and degree (if exists) of the following differential equations

$$\frac{d^2y}{dx^2}+3\left(\frac{dy}{dx}\right)^2=x^2\log\left(\frac{d^2y}{dx^2}\right)$$

12. . Determine the order and degree (if exists) of the following differential equations

$$3\left(\frac{d^2y}{dx^2}\right)=\left[4+\left(\frac{dy}{dx}\right)^2\right]^{\frac{3}{2}}$$

13. Determine the order and degree (if exists) of the following differential equations

$$dy+(xy-\cos x)dx=0$$

14. Determine the order and degree (if exists) of the following differential equations

$$\left(\frac{d^3y}{dx^3}\right)^{\frac{2}{3}} - 3\frac{d^2y}{dx^2} + 5\frac{dy}{dx} + 4 = 0$$

15. Determine the order and degree (if exists) of the following differential equations

$$\left(\frac{d^2y}{dx^2}\right)^2 + \left(\frac{dy}{dx}\right)^2 = x\sin\left(\frac{d^2y}{dx^2}\right)$$

16. . Determine the order and degree (if exists) of the following differential equations

$$\sqrt{\frac{dy}{dx}} - 4\frac{dy}{dx} - 7x = 0$$

17. . Determine the order and degree (if exists) of the following differential equations

$$y\left(\frac{dy}{dx}\right) = \frac{x}{\left(\frac{dy}{dx}\right) + \left(\frac{dy}{dx}\right)^3}$$

18. . Determine the order and degree (if exists) of the following differential equations

$$\frac{d^2y}{dx^2} + 5\frac{dy}{dx} + \int y\,dx = x^3$$

19 Determine the order and degree (if exists) of the following differential equations

$$x^2\frac{d^2y}{dx^2} + \left[1 + \left(\frac{dy}{dx}\right)^2\right]^{\frac{1}{2}} = 0$$

20. Determine the order and degree (if exists) of the following differential equations

$$x = e^{xy\left(\frac{dy}{dx}\right)}$$

21. . Determine the order and degree (if exists) of the following differential equations

$$\frac{d^2y}{dx^2} = xy + \cos\left(\frac{dy}{dx}\right)$$

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