# VITEEE 2021 Memory Based Questions and Answers for <span style="color:red">31 May Slot 1</span>

Q: Perpendicular distance of the point P (3, 5, 6) from y-axis is:
1. $\sqrt{7}$
2. 7
3. 6
4. $\sqrt{45}$

Q: For what values of 'a' the function
F (x) = $-x^3 + 4ax^2 + 2x - 5$ is decreasing for all real x
1. (3, 4)
2. (-1, 1)
3. No value of a
4. (1, 2)

Q: Find the independent solution of the differential equation:

$$\frac{d^2y}{dx^2-3} + \frac{dy}{dx} - 4y = 0$$

Q: The solution of the equation $\frac{dy}{dx} - e^{x-y} = 1 \ is$
1. $(x+c) \ e^{x-y} - 1 = 0$
2. $(x+c) \ e^{x-y} = 0$
3. $(x+y) \ e^{x-y} = 0$
4. $(x+c) \ e^{x-y} + 1 = 0$

Q: p→(p →q) logically equivalent to?

Q: The truth table shown below is which gate?

| A | B | Y |
|---|---|---|
| 1 | 1 | 0 |
| 1 | 0 | 1 |
| 0 | 1 | 1 |
| 0 | 0 | 1 |

1. NAND

2. XOR
3. AND

Q: Find $\cos 8^\circ \cos 10^\circ \cos 12^\circ - \sin 8^\circ \sin 10^\circ \cos 12^\circ = \sin 18^\circ \sin 12^\circ$

$$\left(1 + x^2\right) \frac{dy}{dx} = x\left(1 - y\right), \ y\left(0\right) = \frac{4}{3}$$

$$\text{then, } y\left(\sqrt{8}\right) - \frac{1}{3} = ?$$

Q:
1. 3
2. 1
3. 5
4. 7