## MID TERM EXAMINATION-FEB 2024

## Applied Mathematics-II

## **MATH 122**

Time: 01Hr

Maximum marks: 20

Note: Attempt any four questions. Each question carries equal marks.

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

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

3. Solve: 
$$(D^2 + 3D + 2)y = e^{e^x}$$

4. Solve: 
$$\frac{d^2y}{dx^2} + 4y = x^2 + \cos 2x$$

5. Solve: 
$$x^2 \frac{d^2y}{dx^2} + x \frac{dy}{dx} - y = x^3$$