

PART 1 - MATHEMATICS

Topic : Differential equations

SECTION-B : (Maximum Marks : 4)

- This section contains **ONE** question.
- The answer to each question is a **NUMERICAL VALUE**.
- For each question, enter the correct numerical value of the answer (in decimal notation, truncated / rounded-off to the **SECOND DECIMAL PLACE**; e.g. 6.25, 7.00, -0.33, -.30, 30.27, -127.30) in the place designated to enter the answer.
- Answer to each question will be evaluated according to the following marking scheme :
 Full Marks : +4 If ONLY the correct answer is entered;
 Zero Marks : 0 In all other cases.

1. Let $y(x)$ be the solution of the differential equation

$$x^2 \frac{dy}{dx} + xy = x^2 + y^2, \quad x > \frac{1}{e},$$

satisfying $y(1) = 0$. Then the value of $2 \frac{(y(e))^2}{y(e^2)}$ is _____.

[JEE Advanced 2025 Paper 2]

Scan or tap for the
full solution



Space for Rough Work

**JEE ADVANCED DIFFERENTIAL EQUATIONS —
HOMOGENEOUS DIFFERENTIAL EQUATIONS — PYQS**

Test Pattern : JEE (Advanced)

ANSWER KEY

SECTION-B

Ques.	1														
Ans.	0.7 to 0.8														