

PART 1 - MATHEMATICS

Topic : Continuity and differentiability

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 R denote the set of all real numbers. Let $f: R \rightarrow R$ and $g: R \rightarrow (0, 4)$ be functions defined by

$$f(x) = \log_e(x^2 + 2x + 4), \text{ and } g(x) = \frac{4}{1 + e^{-2x}}.$$

Define the composite function $f \circ g^{-1}$ by $(f \circ g^{-1})(x) = f(g^{-1}(x))$, where g^{-1} is the inverse of the function g .

Then the value of the derivative of the composite function $f \circ g^{-1}$ at $x = 2$ is _____.

[JEE Advanced 2025 Paper 2]

Scan or tap for the
full solution



Space for Rough Work

JEE ADVANCED CONTINUITY AND DIFFERENTIABILITY — DERIVATIVES OF COMPOSITE FUNCTIONS (CHAIN RULE) — PYQS

Test Pattern : JEE (Advanced)

ANSWER KEY

SECTION-B

Ques.	1													
Ans.	0.2 to 0.3													