

PART 1 - MATHEMATICS

Topic : Limits and derivatives

SECTION-A : (Maximum Marks : 4)

This section contains **ONE** question.

Each question has **FOUR** options (A), (B), (C) and (D). **ONLY ONE** of these four options is the correct answer.

For each question, choose the option corresponding to the correct answer.

Answer to each question will be evaluated according to the following marking scheme :

Full Marks : +4 If **ONLY** the correct option is chosen;

Zero Marks : 0 If none of the options is chosen (i.e. the question is unanswered);

Negative Marks : -1 In all other cases.

1. Let $k \in \mathbb{R}$. If $\lim_{x \rightarrow 0^+} (\sin(\sin kx) + \cos x + x)^{\frac{2}{x}} = e^6$, then the value of k is

(A) 1

(B) 2

(C) 3

(D) 4

[JEE Advanced 2024 Paper 2]

Scan or tap for the
full solution

Space for Rough Work

JEE ADVANCED LIMITS AND DERIVATIVES — LIMITS OF EXPONENTIAL AND LOGARITHMIC FUNCTIONS — PYQS

Test Pattern : JEE (Advanced)

ANSWER KEY

SECTION-A																									
Ques.	1																								
Ans.	B																								