

JEE MAIN INTEGRALS — FUNDAMENTAL THEOREM OF CALCULUS — PYQS

Max. Marks: 8
Questions: 2

Section A (MCQ) — 2 questions

Q.1 Let f be a polynomial function such that $f(x^2 + 1) = x^4 + 5x^2 + 2$, for all $x \in \mathbb{R}$.

Then $\int_0^3 f(x) dx$ is equal to

[JEE Main 2026 (Online) 28th January Morning Shift]

- (1) $\frac{33}{2}$ (2) $\frac{5}{3}$ (3) $\frac{27}{2}$ (4) $\frac{41}{3}$

Scan or tap for the full solution



Q.2 Let $f(x) + 2f\left(\frac{1}{x}\right) = x^2 + 5$ and

$2g(x) - 3g\left(\frac{1}{2}\right) = x$, $x > 0$. If $\alpha = \int_1^2 f(x) dx$, and

$\beta = \int_1^2 g(x) dx$, then the value of $9\alpha + \beta$ is :

[JEE Main 2025 (Online) 4th April Evening Shift]

- (1) 0 (2) 10 (3) 1 (4) 11

Scan or tap for the full solution



ANSWER KEY

Ques.	1	2											
Ans.	1	4											