

JEE MAIN INTEGRALS — REDUCTION FORMULAE, LEIBNITZ RULE AND DEFINITE INTEGRAL INEQUALITIES (JEE) — PYQS

Max. Marks: 8
Questions: 2

Section A (MCQ) — 2 questions

Q.1 Let $f: [1, \infty) \rightarrow \mathbb{R}$ be a differentiable function defined as $f(x) = \int_1^x f(t) dt + (1-x)(\log_e x - 1) + e$. Then the value of $f(f(1))$ is :

[JEE Main 2026 (Online) 5th April Evening Shift]

- (1) $(1 + e^e)$ (2) $(1 + e)$
 (3) $(1 + e + e^e)$ (4) $1 + 2e$

Scan or tap for the
full solution



Q.2 Let f be a real valued continuous function defined on the positive real axis such that $g(x) = \int_0^x t f(t) dt$. If

$g(x^3) = x^6 + x^7$, then value of $\sum_{r=1}^{15} f(r^3)$ is :

[JEE Main 2025 (Online) 28th January Evening Shift]

- (1) 270 (2) 340 (3) 310 (4) 320

Scan or tap for the
full solution



ANSWER KEY

Ques.	1	2									
Ans.	1	3									