

JEE MAIN MATRICES — MULTIPLICATION OF MATRICES AND ITS PROPERTIES — PYQS

Max. Marks: 12
Questions: 3

Section A (MCQ) — 2 questions

Q.1 Let M be a 3×3 matrix such that

$$M \begin{bmatrix} 1 \\ 0 \\ 0 \end{bmatrix} = \begin{bmatrix} 1 \\ 2 \\ 3 \end{bmatrix}, \quad M \begin{bmatrix} 0 \\ 1 \\ 0 \end{bmatrix} = \begin{bmatrix} 0 \\ 1 \\ 2 \end{bmatrix} \quad \text{and} \quad M \begin{bmatrix} 0 \\ 0 \\ 1 \end{bmatrix} = \begin{bmatrix} -1 \\ 1 \\ 1 \end{bmatrix}. \quad \text{If}$$

$$M \begin{bmatrix} x \\ y \\ z \end{bmatrix} = \begin{bmatrix} 1 \\ 7 \\ 11 \end{bmatrix}, \quad \text{then } x + y + z \text{ equals :}$$

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

- (1) 4 (2) 5 (3) 7 (4) 11

Scan or tap for the full solution


Q.2 Let $A = [a_{ij}]$ be a 3×3 matrix such that

$$A \begin{bmatrix} 0 \\ 1 \\ 0 \end{bmatrix} = \begin{bmatrix} 0 \\ 0 \\ 1 \end{bmatrix}, \quad A \begin{bmatrix} 4 \\ 1 \\ 3 \end{bmatrix} = \begin{bmatrix} 0 \\ 1 \\ 0 \end{bmatrix} \quad \text{and} \quad A \begin{bmatrix} 2 \\ 1 \\ 2 \end{bmatrix} = \begin{bmatrix} 1 \\ 0 \\ 0 \end{bmatrix}, \quad \text{then}$$

$$a_{23} \text{ equals :}$$

[JEE Main 2025 (Online) 23rd January Evening Shift]

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

Scan or tap for the full solution



Section B (Numerical) — 1 question

Q.3 The number of 3×2 matrices A , which can be formed using the elements of the set $\{-2, -1, 0, 1, 2\}$ such that the sum of all the diagonal elements of $A^T A$ is 5, is _____

[JEE Main 2026 (Online) 24th January Morning Shift]

Scan or tap for the full solution



ANSWER KEY

Section A (MCQ) — 2 questions

Ques.	1	2										
Ans.	2	2										

Section B (Numerical) — 1 question

Ques.	3							
Ans.	312							