

MATHEMATICS QUESTION PAPER
CLASS XII

Time Allowed: 1.15 hours

SET B

Maximum Marks: 40

General Instruction

1. The question paper contains five sections A, B, C, D and E. Each section is compulsory. However, there are internal choices in some questions.
2. Section A has 9 MCQ's and 2 Assertion-Reason based questions of 1 mark each.
3. Section B has 3 Very Short Answer (VSA)-type questions of 2 marks each.
4. Section C has 3 Short Answer (SA)-type questions of 3 marks each.
5. Section D has 1 Long Answer (LA)-type questions of 5 marks each.
6. Section E has 2 source based/case based/passage based/integrated units of assessment (4 marks) with sub parts.

Section A

1. The function $f: \mathbb{Z} \rightarrow \mathbb{Z}$, $f(x) = x^4$ is
(a) One – one (b) Onto
(c) One – one and onto (d) Neither one – one nor onto
2. The relation $R = \{(x, y) : x \in \mathbb{Z}, y \in \mathbb{Z}, x - y \text{ is divisible by } 3\}$ is
(a) Reflexive
(b) Reflexive and transitive
(c) Symmetric and transitive
(d) An equivalence relation
3. The value of $\operatorname{cosec}^{-1}(-\sqrt{2}) + \sin^{-1}(-\sqrt{2})$ is
(a) $\frac{3\pi}{4}$ (b) π (c) $\frac{\pi}{2}$ (d) 2π
4. The value of $\tan^{-1}(1) - \cot^{-1}(-1)$ is
(a) $\frac{\pi}{2}$ (b) $-\frac{\pi}{2}$ (c) $\frac{\pi}{4}$ (d) $\frac{3\pi}{4}$
5. If $A = \begin{bmatrix} 1 & 0 & 4 \end{bmatrix}$ and $B = \begin{bmatrix} 2 \\ 5 \\ 6 \end{bmatrix}$ find AB .
(a) $[10]$ (b) $[12]$ (c) $[31]$ (d) $[26]$

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RM Cervero



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