

CUET 2026 May 15 Shift 1 Mathematics

Question Paper (Memory-Based)

Conducted by National Testing Agency (NTA)

**General Instructions**

- (i) The examination will be conducted in Computer-Based Test (CBT) mode.
- (ii) Each question carries +5 marks for correct answer and -1 mark for wrong answer.
- (iii) The total number of questions are 50.
- (iv) Duration of the exam is 1 hour (60 minutes).

1. Let $A = \{1, 2, 3\}$ and $B = \{2, 4, 6\}$. A function $f : A \rightarrow B$ is defined by $f(x) = 2x$. The function is:

- (A) One-one only
- (B) Onto only
- (C) Both one-one and onto
- (D) Neither one-one nor onto

2. If $A = \begin{pmatrix} 1 & 2 \\ 3 & 4 \end{pmatrix}$, then A^{-1} is:

- (A) $\begin{pmatrix} -2 & 1 \\ \frac{3}{2} & -\frac{1}{2} \end{pmatrix}$
- (B) $\begin{pmatrix} 2 & 1 \\ \frac{3}{2} & -\frac{1}{2} \end{pmatrix}$
- (C) $\begin{pmatrix} 2 & 1 \\ \frac{3}{2} & \frac{1}{2} \end{pmatrix}$
- (D) $\begin{pmatrix} -2 & 1 \\ -\frac{3}{2} & -\frac{1}{2} \end{pmatrix}$

3. Evaluate: $\begin{vmatrix} 1 & 2 & 3 \\ 0 & 1 & 4 \\ 5 & 6 & 0 \end{vmatrix}$

- (A) 1
(B) -1
(C) 5
(D) 10
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4. A bag contains 5 red balls and 3 blue balls. Two balls are drawn at random without replacement. The probability that both are red is:

- (A) $(\frac{5}{14})$
(B) $(\frac{8}{56})$
(C) $(\frac{5}{28})$
(D) $(\frac{15}{56})$
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5. If $f(x) = \begin{cases} x^2 + k, & x \leq 1 \\ 2x + 1, & x > 1 \end{cases}$ is continuous at $x = 1$, then the value of k is:

- (A) 1
(B) 2
(C) 3
(D) 4
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6. Solve: $\frac{dy}{dx} = 3x^2$

- (A) $y = x^3 + C$
(B) $y = 3x + C$
(C) $y = x^2 + C$
(D) $y = 9x + C$
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7. The feasible region of a linear programming problem is always:

- (A) Circular
 - (B) Open
 - (C) Convex
 - (D) Irregular
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8. The principal value of $\tan^{-1}(1)$ is:

- (A) (0)
 - (B) $(\frac{\pi}{6})$
 - (C) $(\frac{\pi}{4})$
 - (D) $(\frac{\pi}{2})$
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9. Differentiate: $y = x^2 \sin x$

- (A) $(2x \sin x)$
 - (B) $(x^2 \cos x)$
 - (C) $(2x \sin x + x^2 \cos x)$
 - (D) $(2x \cos x)$
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10. Evaluate: $\int_0^1 (2x + 1) dx$

- (A) 1
 - (B) 2
 - (C) 3
 - (D) 4
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