CUET 2026 May 25 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. A bag contains 5 red and 3 blue balls. Two balls are drawn at random without replacement. The probability that both are red is:

(A) $\frac{5}{14}$

(B) $\frac{10}{28}$

(C) $\frac{5}{28}$

(D) $\frac{15}{56}$

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2. A die is thrown twice. The probability of getting a sum equal to 8 is:

(A) $\frac{1}{12}$

(B) $\frac{5}{36}$

(C) $\frac{1}{6}$

(D) $\frac{7}{36}$

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3. Evaluate: $\int x \cdot e^x \, dx$

(A) $xe^x + C$

(B) $e^x(x-1) + C$

(C) $e^x(x+1) + C$

(D) $x^2e^x + C$

4. If $y = \log(\sin x) + \log(\cos x)$, then $\frac{dy}{dx}$ is:

(A) $\cos x - \sin x$

(B) $\sin x - \cos x$

(C) $\cot x - \tan x$

(D) $-\sin x - \cos x$

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5. Evaluate: $\int_0^{\pi/2} \sin x \, dx$

(A) 0

(B) 1

(C) 2

(D) $\frac{\pi}{2}$

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6. If $A = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$, then adj$(A)$ is:

(A) $\begin{bmatrix} 4 & -2 \\ -3 & 1 \end{bmatrix}$

(B) $\begin{bmatrix} 1 & -2 \\ -3 & 4 \end{bmatrix}$

(C) $\begin{bmatrix} 4 & 2 \\ 3 & 1 \end{bmatrix}$

(D) $\begin{bmatrix} -4 & 2 \\ 3 & -1 \end{bmatrix}$

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7. For any square matrix A, $A \cdot$ adj$(A) =$

(A) A

(B) $|A|I$

(C) I

(D) $|A|^2 A$

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8. The feasible region of an LPP is always:

(A) Circle

(B) Triangle only

(C) Convex polygon

(D) Straight line

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9. Find the maximum value of $f(x) = -x^2 + 4x + 1$

(A) 3

(B) 4

(C) 5

(D) 6

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10. Evaluate: $\int \frac{1}{1+x^2}\,dx$

(A) $\sin^{-1} x + C$

(B) $\tan^{-1} x + C$

(C) $\log(1 + x^2) + C$

(D) $\sec^{-1} x + C$
