

CUET PG 2026 Data Science/AI Question Paper

Time Allowed :1 Hour 30 Minutes	Maximum Marks :300	Total Questions :75
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General Instructions

Read the following instructions very carefully and strictly follow them:

- The Question Paper consists of 75 Multiple Choice Questions (MCQs).
- Total marks for the exam is 300.
- The total duration is 90 minutes; a timer on the screen will display the remaining time, and the exam will automatically submit when the time reaches zero.
- For every correct answer, 4 marks (+4) will be awarded to the candidate, and a 1 mark (-1) will be deducted for every incorrect answer.
- Question papers are available in both English and Hindi.

1. What is the time complexity of building a heap from an unsorted array of size n ?

- (A) $O(n \log n)$
- (B) $O(n)$
- (C) $O(\log n)$
- (D) $O(n^2)$

2. In Operating Systems, which condition ensures that a process cannot be pre-empted from its resource until it completes its task?

- (A) Mutual Exclusion
- (B) Hold and Wait
- (C) No Preemption
- (D) Circular Wait

3. If a relation is both symmetric and antisymmetric, what must be true about the elements in that relation?

- (A) All elements must be comparable
- (B) The relation must be transitive
- (C) Only pairs of the form (a, a) can exist
- (D) The relation must contain all ordered pairs

4. Which activation function is zero-centered and ranges between -1 and 1 ?

- (A) Sigmoid
 - (B) ReLU
 - (C) Tanh
 - (D) Softmax
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5. What is the determinant of an identity matrix of any order n ?

- (A) 0
 - (B) 1
 - (C) n
 - (D) -1
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6. In Linear Regression, what is the primary goal of the Ordinary Least Squares (OLS) method?

- (A) Maximize the variance of predictions
 - (B) Minimize the sum of squared residuals
 - (C) Maximize the correlation between variables
 - (D) Minimize the number of features
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7. Which data structure is used by the system to implement recursion?

- (A) Queue
 - (B) Stack
 - (C) Linked List
 - (D) Heap
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8. A high variance in a machine learning model is a primary indicator of which problem?

- (A) Underfitting
 - (B) Overfitting
 - (C) High bias
 - (D) Data normalization
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9. In a Binary Search Tree, which traversal method produces the elements in non-decreasing order?

- (A) Preorder Traversal
 - (B) Inorder Traversal
 - (C) Postorder Traversal
 - (D) Level Order Traversal
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10. What is the probability of getting a sum of 9 when two fair dice are rolled simultaneously?

- (A) $\frac{1}{12}$
 - (B) $\frac{1}{9}$
 - (C) $\frac{1}{8}$
 - (D) $\frac{1}{6}$
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11. Which layer of the OSI model is responsible for IP addressing and routing?

- (A) Data Link Layer
 - (B) Network Layer
 - (C) Transport Layer
 - (D) Session Layer
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12. How many edges are there in a complete graph with n vertices?

- (A) $n(n-1)$
 - (B) $\frac{n(n-1)}{2}$
 - (C) n^2
 - (D) $\frac{n(n+1)}{2}$
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13. In SQL, which clause is used to filter the results of an aggregate function?

- (A) WHERE
 - (B) GROUP BY
 - (C) HAVING
 - (D) ORDER BY
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14. What is the value of $(AB)^T$ in matrix algebra?

- (A) $A^T B^T$
 - (B) $B^T A^T$
 - (C) AB
 - (D) $A^T B$
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15. Which ensemble technique reduces variance by training multiple trees on different subsets of data?

- (A) Boosting
 - (B) Bagging
 - (C) Stacking
 - (D) Gradient Descent
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