# CUET PG 2026 Data Science Question Paper(Memory Based)

| **Time Allowed :**1 Hour 30 Mins | **Maximum Marks :**300 | **Total Questions :**75 |
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## General Instructions

**Read the following instructions very carefully and strictly follow them:**

- The exam lasts 90 minutes (1 hour 30 minutes).
- There are 75 Multiple Choice Questions (MCQs) to be answered.
- +4 marks for every correct answer. -1 mark (negative marking) for every incorrect answer. 0 marks for unanswered or un-attempted questions.
- For any discrepancy in questions, the English version is considered final (except for language-specific papers).
- Click one of the four options to choose an answer.
- You must click "Save Next" to confirm your response. Only saved answers are considered for evaluation.
- Use "Mark for Review Next" to flag a question for later. You can unselect or change your answer using the "Clear Response" button.
- All calculations must be done on the Rough Sheets provided at the centre. These must be returned to the invigilator after the exam.

**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) $O(n^2)$

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**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

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**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

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**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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