

DUAT07 Model Question Paper

M.Tech. Computer Science and Engineering

Model Set - 10 MCQs

Instructions: Choose the most appropriate answer from the four options given.

1. Choose the correct preposition to complete the sentence: "The algorithm was tested ___ multiple datasets before deployment."

- A. in
- B. on
- C. at
- D. by

2. Find the next term in the series: 4, 10, 22, 46, 94, ___

- A. 142
- B. 178
- C. 190
- D. 196

3. A software licence costing Rs. 12,000 is offered at a discount of 15%. What is the discounted price?

- A. Rs. 9,800
- B. Rs. 10,000
- C. Rs. 10,200
- D. Rs. 10,500

4. If $A = \{2, 4, 6, 8\}$ and $B = \{1, 2, 3, 4, 5\}$, then $A \cup B$ is:

- A. $\{2, 4\}$
- B. $\{1, 2, 3, 4, 5, 6, 8\}$
- C. $\{6, 8\}$
- D. $\{1, 3, 5\}$

5. If $f(x) = x^3 - 5x + 2$, then $f'(x)$ is:

- A. $3x^2 - 5$
- B. $x^2 - 5$
- C. $3x - 5$
- D. $x^3 - 5$

6. Which data structure follows the Last-In-First-Out principle?

- A. Queue
- B. Stack
- C. Graph
- D. Tree

7. Which of the following sorting algorithms has average-case time complexity $O(n \log n)$?

- A. Bubble sort
- B. Selection sort
- C. Merge sort
- D. Linear search

8. In an operating system, a deadlock occurs when:

- A. A process completes execution successfully

- B. Two or more processes wait indefinitely for resources held by one another
- C. The CPU executes only one instruction
- D. Memory is permanently deleted

9. In the relational model of databases, a primary key is used to:

- A. Store duplicate records
- B. Uniquely identify each record in a table
- C. Compress the database
- D. Remove all foreign keys

10. In machine learning, overfitting refers to a model that:

- A. Performs well on training data but poorly on unseen data
- B. Performs poorly on both training and test data
- C. Uses no features during training
- D. Cannot be trained using labelled data