

Karnataka PGCET MCA 2025 Question Paper

Time Allowed :2 Hours 30 Minutes	Maximum Marks :100	Total Questions :75
----------------------------------	--------------------	---------------------

General Instructions

Read the following instructions very carefully and strictly follow them:

1. The duration of the test is 150 minutes.
2. MCA PGCET Paper is divided into 2 parts- Part-A and Part-B
3. Each question will be asked in a multiple-choice (Objective) type format, wherein each question will have four different options.
4. In Part A, there will be 50 questions that will carry one mark each.
5. In Part B, there will be 25 questions that will carry two marks each. Hence, there will be 75 questions and the total mark is 100

1. Which of the following data structures is most suitable for implementing a priority queue?

- (A) Array
- (B) Stack
- (C) Binary Heap
- (D) Linked List

2. What is the time complexity of accessing an element in a hash table (assuming a good hash function)?

- (A) $O(1)$
- (B) $O(\log n)$
- (C) $O(n)$
- (D) $O(n^2)$

3. Which of the following is a correct statement regarding object-oriented programming (OOP)?

- (A) OOP is based on functions rather than data
- (B) In OOP, objects can have both data and methods
- (C) In OOP, the program is written as a sequence of instructions
- (D) OOP does not support inheritance

4. Which of the following sorting algorithms has the worst-case time complexity of $O(n^2)$?

- (A) Merge Sort
 - (B) Quick Sort
 - (C) Bubble Sort
 - (D) Heap Sort
-

5. Which of the following is true about the SQL JOIN operation?

- (A) It combines rows from two or more tables based on a related column
 - (B) It only works on columns with unique values
 - (C) It is used for updating data in a table
 - (D) It can only be used to select data from one table at a time
-

6. Which of the following is NOT a characteristic of the C programming language?

- (A) It supports low-level memory manipulation
 - (B) It is a high-level, structured language
 - (C) It allows direct access to hardware
 - (D) It does not support recursion
-

7. In the context of network protocols, what does the acronym "TCP" stand for?

- (A) Transfer Control Protocol
 - (B) Transport Control Protocol
 - (C) Transmission Control Protocol
 - (D) Time Control Protocol
-

8. Which of the following is the correct sequence of memory hierarchy from fastest to slowest?

- (A) Registers > Cache > RAM > Disk
 - (B) Disk > RAM > Cache > Registers
 - (C) RAM > Registers > Disk > Cache
 - (D) Registers > Disk > RAM > Cache
-

9. Which of the following is a feature of the "Stack" data structure?

- (A) Follows a First-In-First-Out (FIFO) order
- (B) Allows elements to be inserted and removed at both ends

- (C) Follows a Last-In-First-Out (LIFO) order
 - (D) Does not allow random access to elements
-

10. In object-oriented programming, which of the following is true about "Polymorphism"?

- (A) It allows objects of different classes to be treated as objects of a common superclass
 - (B) It refers to the ability of a class to inherit properties from more than one class
 - (C) It refers to the ability to define a function with the same name but different signatures
 - (D) It allows data to be encapsulated in the class
-

11. Which of the following algorithms is based on the divide and conquer technique?

- (A) Selection Sort
 - (B) Quick Sort
 - (C) Insertion Sort
 - (D) Bubble Sort
-

12. Which of the following sorting algorithms is stable?

- (A) Quick Sort
 - (B) Merge Sort
 - (C) Heap Sort
 - (D) Selection Sort
-

13. What is the worst-case time complexity of the Binary Search algorithm?

- (A) $O(1)$
 - (B) $O(n)$
 - (C) $O(\log n)$
 - (D) $O(n^2)$
-

14. Which of the following is a characteristic of the "Queue" data structure?

- (A) Follows a Last-In-First-Out (LIFO) order
 - (B) Allows insertion at both ends
 - (C) Follows a First-In-First-Out (FIFO) order
 - (D) Does not allow deletion of elements
-