

# TCET 2026 Test Series:

## Questions:

### Technical

Q.1) What is a graph in data structures?

[A] A collection of nodes and edges where nodes are connected by edges.

[B] A hierarchical structure with a root node.

[C] A collection of elements arranged in a linear order.

[D] A set of disjoint sets used for union-find problems.

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Q.2) Which of the following is true about a directed graph?

[A] Every edge has a direction associated with it.

[B] Edges are bidirectional.

[C] There are no edges.

[D] Every node is directly connected to every other node.

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Q.3) What is an adjacency matrix?

[A] A way to represent a graph using a 2D array.

[B] A method to find connected components in a graph.

[C] A list of edges in the graph.

[D] A way to traverse a graph.

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Q.4) In a graph, what is a cycle?

[A] A sequence of vertices starting and ending at the same vertex with no repetition of edges or vertices except the start/end vertex.

[B] A graph with no edges.

[C] A connected graph with no cycles.

[D] A graph where every node is reachable from every other node.

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Q.5) What is the main difference between a tree and a graph?

[A] A tree has cycles, whereas a graph does not.

[B] A graph has cycles, whereas a tree does not.

[C] A graph must be connected, but a tree does not have to be.

[D] A tree must be directed, but a graph cannot be.

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Q.6) What is the primary difference between DFS and BFS?

[A] DFS uses a queue, while BFS uses a stack.

[B] BFS explores all neighbors at the current depth before going deeper, while DFS explores as far as possible along a branch before backtracking.

[C] DFS is only applicable to directed graphs, while BFS is only applicable to undirected graphs.

[D] BFS is faster than DFS in all cases.

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Q.7) Which data structure is used in the implementation of DFS?

[A] Queue

[B] Stack

[C] Priority Queue

[D] Deque

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Q.8) Which data structure is used in the implementation of BFS?

[A] Stack

[B] Queue

[C] Priority Queue

[D] Array

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Q.9) Which traversal technique can be used to determine if a graph is connected?

[A] BFS only

[B] DFS only

[C] Both BFS and DFS

[D] Neither BFS nor DFS

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Q.10) Which sorting algorithm uses the 'divide and conquer' approach?

[A] Bubble Sort

[B] Selection Sort

[C] Merge Sort

[D] Insertion Sort

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Q.11) What is the primary difference between Linear Search and Binary Search?

[A] Linear Search works only on sorted arrays, while Binary Search works on both sorted and unsorted arrays.

[B] Binary Search is faster but requires the array to be sorted, while Linear Search does not.

[C] Binary Search uses a stack, while Linear Search uses a queue.

[D] Linear Search divides the array into two halves, while Binary Search does not.

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Q.12) Which of the following searching techniques is most efficient for large datasets?

[A] Linear Search

[B] Binary Search

[C] Jump Search

[D] Exponential Search

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Q.13) What does asymptotic notation describe?

- [A] The exact runtime of an algorithm.
- [B] The approximate running time of an algorithm for small input sizes.
- [C] The behavior of an algorithm as the input size approaches infinity.
- [D] The memory usage of an algorithm.

Q.14) What does Big-O notation represent?

- [A] The best-case time complexity of an algorithm.
- [B] The average-case time complexity of an algorithm.
- [C] The worst-case time complexity of an algorithm.
- [D] The exact time complexity of an algorithm.

Q.15) What type of data structure is used in recursion?

- [A] Queue
- [B] Stack
- [C] Linked List
- [D] Tree

# TCET 2026 Test Series:

## Answers:

### Technical

Q.1)A    Q.2)A    Q.3)A    Q.4)A    Q.5)B    Q.6)B    Q.7)B    Q.8)B    Q.9)C    Q.10)C    Q.11)B    Q.12)B    Q.13)C    Q.14)C    Q.15)B

# TCET 2026 Test Series:

## Explanations:

### Technical

Q.1) Explanation:  
Multiple Choice Type Question: \*\* Explanation not Available \*\*

Q.2) Explanation:  
Multiple Choice Type Question: \*\* Explanation not Available \*\*

Q.3) Explanation:  
Multiple Choice Type Question: \*\* Explanation not Available \*\*

Q.4) Explanation:  
Multiple Choice Type Question: \*\* Explanation not Available \*\*

Q.5) Explanation:  
Multiple Choice Type Question: \*\* Explanation not Available \*\*

Q.6) Explanation:

Multiple Choice Type Question: \*\* Explanation not Available \*\*

Q.7) Explanation:

Multiple Choice Type Question: \*\* Explanation not Available \*\*

Q.8) Explanation:

Multiple Choice Type Question: \*\* Explanation not Available \*\*

Q.9) Explanation:

Multiple Choice Type Question: \*\* Explanation not Available \*\*

Q.10) Explanation:

Multiple Choice Type Question: \*\* Explanation not Available \*\*

Q.11) Explanation:

Multiple Choice Type Question: \*\* Explanation not Available \*\*

Q.12) Explanation:

Multiple Choice Type Question: \*\* Explanation not Available \*\*

Q.13) Explanation:

Multiple Choice Type Question: \*\* Explanation not Available \*\*

Q.14) Explanation:

Multiple Choice Type Question: \*\* Explanation not Available \*\*

Q.15) Explanation:

Multiple Choice Type Question: \*\* Explanation not Available \*\*

# TCET 2026 Test Series:

## Answers And Explanations:

### Technical

Q.1) A

Explanation:

Multiple Choice Type Question: \*\* Explanation not Available \*\*

Q.2) A

Explanation:

Multiple Choice Type Question: \*\* Explanation not Available \*\*

Q.3) A

Explanation:

Multiple Choice Type Question: \*\* Explanation not Available \*\*

Q.4) A

Explanation:

Multiple Choice Type Question: \*\* Explanation not Available \*\*

Q.5) B

Explanation:

Multiple Choice Type Question: \*\* Explanation not Available \*\*

Q.6) B

Explanation:

Multiple Choice Type Question: \*\* Explanation not Available \*\*

Q.7) B

Explanation:

Multiple Choice Type Question: \*\* Explanation not Available \*\*

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Q.8) B

Explanation:

Multiple Choice Type Question: \*\* Explanation not Available \*\*

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Q.9) C

Explanation:

Multiple Choice Type Question: \*\* Explanation not Available \*\*

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Q.10) C

Explanation:

Multiple Choice Type Question: \*\* Explanation not Available \*\*

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Q.11) B

Explanation:

Multiple Choice Type Question: \*\* Explanation not Available \*\*

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Q.12) B

Explanation:

Multiple Choice Type Question: \*\* Explanation not Available \*\*

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Q.13) C

Explanation:

Multiple Choice Type Question: \*\* Explanation not Available \*\*

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Q.14) C

Explanation:

Multiple Choice Type Question: \*\* Explanation not Available \*\*

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Q.15) B

Explanation:

Multiple Choice Type Question: \*\* Explanation not Available \*\*

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