

# Online Assessment (Even Sem/Part-I/Part-II Examinations 2019 - 2020)

Course Name - Data Structures and Algorithm

Course Code - BCA202(BL)\_BCS202(BL)

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Answer all the questions. Each question carry one mark.

9. 1. Which of these best describes an array?

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- A data structure that shows a hierarchical behaviour
- Container of objects of similar types
- Arrays are immutable once initialised
- Array is not a data structure

10. 2. The number of colors used by a proper coloring graph is called?

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- k coloring graph
- x coloring graph
- m coloring graph
- n coloring graph

11. 3. The postfix form of  $A*B+C/D$  is

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- \*AB/CD+
- AB\*CD/+
- A\*BC+/D
- ABCD+/\*

12. 4. Which type of linked list contains a pointer to the next node in the sequence?

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- Singly Linked List
- Circular Linked List
- Doubly Linked List
- All of these.

13. 5. The best data structure to evaluate an arithmetic expression (in postfix form) is

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- Queue
- Stack
- Tree
- linked list

14. 6. A normal queue is implemented using an array of size MAX\_SIZE, gets full when

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- Rear = MAX\_SIZE - 1
- Front = (rear + 1)mod MAX\_SIZE
- Front = rear + 1
- Rear = front

15. 7. Which expressions are also regarded as ' Reverse Polish Notations '?

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- Prefix
- Postfix
- Infix
- None of these

16. 8. Which of the following methods can be used to solve n-queen's problem?

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- greedy algorithm
- divide and conquer
- iterative improvement
- backtracking

17. 9. How many possible solutions exist for an 8-queen problem?

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- 100
- 98
- 92
- 88

18. 10. Which search is better?

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- Linear
- Binary
- both Linear & Binary
- None of these

19. 11. The complexity of Floyd warshall algorithm is

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$O(V^2)$

$O(V^3)$

$O(E^2)$

$O(E^3)$

20. 12. The problem of placing n queens in a chessboard such that no two queens attack each other is called as?

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n-queen problem

eight queens puzzle

four queens puzzle

1-queen problem

21. 13. The retrieval of items in a stack is ..... operation.

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Push

Pop

Retrieval

access

22. 14. What is a full binary tree?

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- Each node has exactly zero or two children
- Each node has exactly two children
- All the leaves are at the same level
- Each node has exactly one or two children

23. 15. The elements are removed from a stack in ..... order.

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- Reverse
- Hierarchical
- Alternative
- Sequential

24. 16. In how many directions do queens attack each other?

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- 1
- 2
- 3
- 4

25. 17. Before inserting into the stack one must check the condition .....

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- Overflow
- Underflow
- Maximum elements
- Existing elements

26. 18. .... is a collection of elements such that each element has been assigned a processing priority.

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- Priority queue
- Procedure queue
- Main queue
- Interrupt queue

27. 19. In ....., search starts at the beginning of the list and checks every element in the list

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- Linear search
- Binary search
- Hash Search
- Binary Tree search



28. 20. The operation of processing each element in the list is known as .....

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- Sorting
- Merging
- Inserting
- traversal

29. 21. To insert a new node in the linked list free node will be available in .....

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- Available list
- Avail list
- Free node list
- Memory space list

30. 22. A doubly linked list is also called as .....

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- linked list
- one way chain
- two way chain
- right link

31. 23. Where is the n-queens problem implemented?

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- carom
- chess
- ludo
- cards

32. 24. What does 'stack underflow' refer to?

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- accessing item from an undefined stack
- adding items to a full stack
- removing items from an empty stack
- index out of bounds exception

33. 25. To obtain a prefix expression, which of the tree traversals is used?

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- Level-order traversal
- Pre-order traversal
- Post-order traversal
- In-order traversal

34. 26. Which type of traversal of binary search tree outputs the value in sorted order?

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- Pre-order
- In-order
- Post-order
- None of these

35. 27. The process of accessing data stored in a serial access memory is similar to manipulating data on a

*Mark only one oval.*

- heap
- queue
- stack
- binary tree

36. 28. Which of the following data structures is linear data structure?

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- Trees
- Graphs
- Arrays
- None of these

37. 29. A BST is traversed in the following order recursively: Right, root, left The output sequence will be in

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- Ascending order
- Descending order
- Bitonic sequence
- No specific order

38. 30. The data structure required to check whether an expression contains balanced parenthesis is?

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- Stack
- Queue
- Array
- Tree

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