

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

Course Name - Data Structure and Algorithm

Course Code - DCSE203(BL) / DECE203(BL)

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Answer all the questions. Each question carry one mark.

9. 1. How many children does a binary tree have?

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- 2
- 0 or 1 or 2
- any number of children
- 0 or 1

10. 2. Traversal of a linked list always starts from the \_\_\_\_\_

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- First Node
- Middle Node
- Last Node
- None of the above

11. 3. Evaluate the postfix expression  $3574-2^{*}+$

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41

48

45

50

12. 4.  $O(1)$  means computing time is \_\_\_\_\_

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constant

Quadratic

Linear

Cubic

13. 5. The data structure which is one ended is .....

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queue

stack

tree

graph

14. 6. What is the average case time complexity of selection sort?

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- $O(n \log n)$
- $O(\log n)$
- $O(n)$
- $O(n^2)$

15. 7. If the sequence of operations – push (1), push (2), pop, push (1), push (2), pop, pop, pop, push (2), pop are performed on a stack, the sequence of popped out values.

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- 2,2,1,1,2
- 2,2,1,2,2
- 2,1,2,2,1
- 2,1,2,2,2

16. 8. A linear list in which each node has pointers to point to the predecessor and successors nodes is called as

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- Singly Linked List
- Circular Linked List
- Doubly Linked List
- Linear Linked List

17. 9. If several elements are competing for the same bucket in the hash table, what is it called?

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- Diffusion
- Replication
- Collision
- Duplication

18. 10. Which of the following uses FIFO method?

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- Queue
- Stack
- Hash table
- Linked List

19. 11. Linked list is generally considered as an example of type of memory allocation.

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- Dynamic
- Compile Time
- Static
- None of these

20. 12. Process of inserting an element in stack is called \_\_\_\_\_

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- Create
- Push
- Evaluation
- Pop

21. 13. Which of the following is non-linear data structure?

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- Stacks
- List
- Trees
- Strings

22. 14. Quicksort can be categorized into which of the following?

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- Brute Force technique
- Divide and conquer
- Greedy algorithm
- Dynamic programming



23. 15. If in a linked list address of first node is 1020 then what will be the address of node at 5th position?

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- 1036
- 1028
- 1038
- Cannot determined

24. 16. Which among the below specified condition is applicable if the Queue is non – empty?

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- rear > front
- rear < front
- rear = front
- Unpredictable

25. 17. What does a node possessing zero degree in Trees known as?

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- Branch Node
- Root Node
- Leaf node
- Trunk node

26. 18. The situation when in a linked list  $START=NULL$  is

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- underflow
- Overflow
- housefull
- saturated

27. 19. In linked list each node contain minimum of two fields. One field is data field to store the data second field is?

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- Pointer to character
- Pointer to integer
- Pointer to node
- Pointer to float

28. 20. 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

29. 21. Which matrix has most of the elements (not all) as Zero?

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- Identity Matrix
- Unit Matrix
- Sparse Matrix
- Zero Matrix

30. 22. Which of the following is the fastest ways to store and retrieve data?

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- Sorting
- Hashing
- Indexing
- Both A and B

31. 23. Which term is not related to queue?

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- PUSH
- FRONT
- REAR
- CIRCULAR

32. 24. If the elements "A", "B", "C" and "D" are placed in a queue and are deleted one at a time, in what order will they be removed?

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- ABCD
- DCBA
- DCAB
- ABDC

33. 25. AVL Tree is

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- a tree which is balanced and is a height balanced tree
- a tree which is unbalanced and is a height balanced tree
- a tree with three children
- a tree with atmost 3 children

34. 26. Postfix form of the expression:  $D + (E * F)$

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- EF\*D+
- DEF\*+
- DEF+\*
- EFD\*+

35. 27. The given array is  $arr = \{3,4,5,2,1\}$ . The number of iterations in bubble sort is,

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5

4

2

1

36. 28. There are different ways of traversing a binary tree. What are those traversing technique?

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Prefix, infix, postfix

Pre-traversal, in-traversal, post-traversal

Pre-order, in-order, post-order

None of the above

37. 29. Finding the location of a given item in a collection of items is called

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Discovering

Finding

Searching

Mining

38. 30. Which among the following belongs to the category of a pre-Order Traversal?

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- Root -> Left Sub Tree -> Right Sub Tree
- Left Sub Tree -> Root -> Right Sub Tree
- Root -> Right Sub Tree -> Left Sub Tree
- Right Sub Tree -> Left Sub Tree ->Root

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