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

Course Name -Data Structure and Algorithm
Course Code - BCSE201(BL)

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Answer all the questions. Each question carry one mark.

9. 1. In a circular linked list

Mark only one oval.

- Components are all linked together in some sequential manner.
- There is no beginning and no end.
- Components are arranged hierarchically
- Forward and backward traversal within the list is permitted.

10. 2. Which of the following operations is performed more efficiently by doubly linked list than by singly linked list?

Mark only one oval.

- Deleting a node whose location in given
- Searching of an unsorted list for a given item
- Inverting a node after the node with given location
- Traversing a list to process each node

11. 3. What is the postfix expression for the corresponding infix expression?a+b*c

Mark only one oval.

- ab+c*
- abc+*
- a+bc*
- abc*+

12. 4. A variant of linked list in which last node of the list points to the first node of the list is?

Mark only one oval.

- Singly linked list
- Doubly linked list
- Circular linked list
- Multiply linked list

13. 5. What is the average case time complexity of selection sort?

Mark only one oval.

- O(nlogn)
- O(logn)
- O(n)
- O(n2)

14. 6. Leaves of which of the following trees are at the same level?

Mark only one oval.

- Binary tree
- B-tree
- AVL-tree
- Normal Tree

15. 7. If the number of records to be sorted is small, then ..... sorting can be efficient.

Mark only one oval.

- Merge
- Heap
- Selection
- Bubble

16. 8. 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?

Mark only one oval.

- ABCD
- DCBA
- DCAB
- ABDC

17. 9. The complexity of linear search algorithm is

Mark only one oval.

- O(n)
- O (log n)
- O(n2)
- O (n log n)

18. 10. What is a randomized Quick Sort?

Mark only one oval.

- The leftmost element is chosen as the pivot
- The rightmost element is chosen as the pivot
- Any element in the array is chosen as the pivot
- A random number is generated which is used as the pivot

19. 11. The leaf node of tree is

Mark only one oval.

- Internal node
- External node
- Parent node
- Root node

20. 12. The following postfix expression with single digit operands is evaluated using a stack:8 2 3 ^ / 2 3 * + 5 1 * - ; Note that ^ is the exponentiation operator. The top two elements of the stack after the first * is evaluated are:

Mark only one oval.

- 6, 1
- 5, 7
- 3, 2
- 1, 5

21. 13. A root of binary tree contains maximum

Mark only one oval.

- 2 subtrees
- 3 subtrees
- 4 subtrees
- 5 subtrees

22. 14. A binary search tree whose left subtree and right subtree differ in hight by at most 1 unit is called

Mark only one oval.

- AVL tree
- Red-black tree
- Lemma tree
- None of the above

23. 15. Which of the following is not a tree traversal

Mark only one oval.

- Preorder
- Postorder
- Shift order
- Inorder

24. 16. Which of the following uses FIFO method?

Mark only one oval.

- Queue
- Stack
- Hash table
- Linked List

25. 17. A circular queue is implemented using an array of size 10. The array index starts with 0, front is 6, and rear is 9. The insertion of next element takes place at the array index.

Mark only one oval.

- 0
- 7
- 9
- 10

26. 18. Which among the below specified condition is applicable if the Queue is non – empty?

Mark only one oval.

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

27. 19. A data structure in which elements can be inserted or deleted at/from both the ends but not in the middle is?

Mark only one oval.

- Queue
- Circular queue
- Dequeue
- Priority queue

28. 20. Linked list is considered as an example of _____ type of memory allocation.

Mark only one oval.

- Dynamic
- Static
- Compile time
- Heap

29. 21. What is the order of a matrix?

Mark only one oval.

- number of rows X number of columns
- number of columns X number of rows
- number of rows X number of rows
- number of columns X number of columns

30. 22. From where does the insertion and deletion of elements get accomplished in Queues?

Mark only one oval.

- Only Front ends
- Front & Rear ends respectively
- Rear & Front ends respectively
- Only Rear ends

31. 23. A linear collection of data elements where the linear node is given by means of pointer is called?

Mark only one oval.

- Linked list
- Node list
- Primitive list
- None

32. 24. When is the pop operation on Stack considered to be an error?

Mark only one oval.

- Only when the stack is empty
- Only when the stack is full
- When the stack is neither empty
- Cannot be predicted

33. 25. Which of the following data structure is linear type?

Mark only one oval.

- Graph
- Tree
- Binary tree
- Stack

34. 26. How many sub arrays does the quick sort algorithm divide the entire array into?

Mark only one oval.

- One
- Two
- Three
- Four

35. 27. In a circular queue the value of r will be _____

Mark only one oval.

- r=r+1
- r=(r+1) % [QUEUE_SIZE – 1]
- r=(r+1) % QUEUE_SIZE
- r=(r-1) % QUEUE_SIZE

36. 28. In linked list implementation of a queue, where does a new element be inserted?

Mark only one oval.

- At the head of link list
- At the tail of the link list
- At the center position in the link
- None

37. 29. What is the name of the address of the first element in an array?

Mark only one oval.

- Base Address
- Terminal Address
- Port Address
- IP Address

38. 30. Which of the following is not the type of queue?

Mark only one oval.

- Ordinary queue
- Single ended queue
- Circular queue
- Priority queue