

KAKP Commerce and Science College, Jalgaon

Internal Examination Semester - III Subject Computer Science CS 301

* Required

1. Name of the Student *

2. Class *

3. PRN No *

4. Mob No *

5. 1) How can we describe an array in the best possible way? *

2 points

Mark only one oval.

- ☐ The Array shows a hierarchical structure.
- ☐ Arrays are immutable.
- ☐ Container that stores the elements of similar types
- ☐ The Array is not a data structure

6. 2) Which of the following is the correct way of declaring an array? *

2 points

Mark only one oval.

- ☐ A) FORTRAN
- ☐ B) D Language
- ☐ C) BASIC
- ☐ D) B Language

7. 3) Which of the following highly uses the concept of an array? Binary Search tree Caching Spatial locality Scheduling of Processes *

2 points

Mark only one oval.

- ☐ A) Binary Search tree
- ☐ B) Caching
- ☐ C) Spatial locality
- ☐ D) Scheduling of Processes

8. 4) Which of the following is the advantage of the array data structure? *

2 points

Mark only one oval.

- ☐ Elements of mixed data types can be stored.
- ☐ Easier to access the elements in an array
- ☐ Index of the first element starts from 1.
- ☐ Elements of an array cannot be sorted

9. 5) Which of the following is the disadvantage of the array? *

2 points

Mark only one oval.

- ☐ A) Stack and Queue data structures can be implemented through an array.
- ☐ B) Index of the first element in an array can be negative
- ☐ C) Wastage of memory if the elements inserted in an array are lesser than the allocated size
- ☐ D) Elements can be accessed sequentially.

10. 6) Which one of the following is the size of `int arr[9]` assuming that `int` is of 4 bytes? *

2 points

Mark only one oval.

- ☐ 9
- ☐ 36
- ☐ 35
- ☐ None of the above

11. 7) Which one of the following is the process of inserting an element in the stack? *

2 points

Mark only one oval.

- ☐ Insert
- ☐ Add
- ☐ Push
- ☐ None of the above

12. 8) When the user tries to delete the element from the empty stack then the condition is said to be a ____ *

2 points

Mark only one oval.

- ☐ Underflow
- ☐ Garbage collection
- ☐ Overflow
- ☐ None of the above

13. 9) If the size of the stack is 10 and we try to add the 11th element in the stack then the condition is known as ____ *

2 points

Mark only one oval.

- ☐ Underflow
- ☐ Garbage collection
- ☐ Overflow
- ☐ None of the above

14. 10) Which data structure is mainly used for implementing the recursive algorithm? *

2 points

Mark only one oval.

- ☐ Queue
- ☐ Stack
- ☐ Binary tree
- ☐ Linked list

15. 11) Which data structure is required to convert the infix to prefix notation? 2 points

*

Mark only one oval.

- ☐ Stack
- ☐ Linked list
- ☐ Binary tree
- ☐ Queue

16. 12) Which of the following is not the correct statement for a stack data structure? 2 points

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Mark only one oval.

- ☐ Arrays can be used to implement the stack
- ☐ Stack follows FIFO
- ☐ Elements are stored in a sequential manner
- ☐ Top of the stack contains the last inserted element

17. 13) If the elements '1', '2', '3' and '4' are added in a stack, so what would be the order for the removal? 2 points

*

Mark only one oval.

- ☐ 1234
- ☐ 2134
- ☐ 4321
- ☐ None of the above

18. 14) What is the outcome of the prefix expression +, -, *, 3, 2, /, 8, 4, 1? * 2 points

Mark only one oval.

- ☐ 12
- ☐ 11
- ☐ 5
- ☐ 4

19. 15) A list of elements in which enqueue operation takes place from one end, and dequeue operation takes place from one end is__ * 2 points

Mark only one oval.

- ☐ Binary tree
- ☐ Stack
- ☐ Queue
- ☐ Linked list

20. 16) Which of the following principle does Queue use? * 2 points

Mark only one oval.

- ☐ LIFO principle
- ☐ FIFO principle
- ☐ Linear tree
- ☐ Ordered array

21. 17) Which of the following statement is not true regarding the priority queue? *
- 2 points

Mark only one oval.

- ☐ Processes with different priority can be easily handled
- ☐ Easy to implement
- ☐ Deletion is easier
- ☐ None of the above

22. 18) A linear data structure in which insertion and deletion operations can be performed from both the ends is ____ *
- 2 points

Mark only one oval.

- ☐ Queue
- ☐ Deque
- ☐ Priority queue
- ☐ Circular queue

23. 19) Which of the following data structure allows you to insert the elements from both the ends while deletion from only one end? *
- 2 points

Mark only one oval.

- ☐ Input-restricted queue
- ☐ Output-restricted queue
- ☐ Priority queue
- ☐ None of the above

24. 20) Which of the following is the time complexity to search an element in the linked list? * 2 points

Mark only one oval.

- ☐ $O(1)$
- ☐ $O(n)$
- ☐ $O(\log n)$
- ☐ $O(n \log n)$

25. *Mark only one oval.*

- ☐ Option 1

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