

Online Assessment (Special Examinations 2019 - 2020)

Course Name - --Design and Analysis of Algorithm

Course Code - PCC-CS 402

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Answer all the questions. Each question carry one mark.

8. 1. Best case time complexity of insertion sort is

Mark only one oval.

$O(1)$

$O(n)$

$O(n^2)$

none of these

9. 2. Master's theorem contains

Mark only one oval.

one case

two cases

three cases

none of these

10. 3. Recursion tree method is used to find

Mark only one oval.

Space complexity

Both Time complexity and Space complexity

Time complexity

None of these

11. 4. Worst case time complexity of quick sort is

Mark only one oval.

- $O(n)$
- $O(n \log n)$
- $O(n^2)$
- none of these

12. 5. An algorithm which uses the past results and and uses them to find the new results is

Mark only one oval.

- Brute Force
- Divide and Conquer
- Dynamic programming
- Greedy Algorithm

13. 6. Which of the following is used to depict the working of algorithm?

Mark only one oval.

- Flow chart
- Pseudo code
- Source code
- All of these

14. 7. An algorithm is made up of two independent time complexities $f(n)$ and $g(n)$. Then the complexities of the algorithm in the order of

Mark only one oval.

- $f(n) \times g(n)$
- $\min (f(n),g(n))$
- $\max (f(n),g(n))$
- $f(n) + g(n)$

15. 8. Merge sort can be categorized into which of the following?

Mark only one oval.

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

16. 9. Disjoint set data structure is used in

Mark only one oval.

- kruskal's algorithm
- dfs algorithm
- Prim's algorithm
- none of these

17. 10. Upper bound complexity denoted by

Mark only one oval.

Big-O

Little-o

Ω

\emptyset

18. 11. Ω - notation provides an asymptotic

Mark only one oval.

Lower bound

Upper bound

One that is sandwiched between the two bounds

None of these

19. 12. Big-O notation provides an asymptotic

Mark only one oval.

Lower bound

One that is sandwiched between the two bounds

Upper bound

None of these

20. 13. Which algorithm is able to detect negative edge cycle

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- Dijkstra's
- Floyd warshall
- Bellman ford
- None of these

21. 14. Time complexity of linear search algorithm on n item in best case is

Mark only one oval.

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

22. 15. Time complexity of binary search algorithm on n item in worst case is

Mark only one oval.

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

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