QB365 Question Bank Software Study Materials

Algorithmic Strategies 50 Important 1 Marks Questions With Answers (Book Back and Creative)

12th Standard

Computer Science

Total Marks : 50

Multiple Choice Question

50 x 1 = 50

1) The word comes from the name of a Persian mathematician Abu Ja'far Mohammed ibn-i Musa al Khowarizmi is called?

(a) Flowchart   (b) Flow   **(c) Algorithm**   (d) Syntax

2) From the following sorting algorithms which algorithm needs the minimum number of swaps?

(a) Bubble sort   (b) Insertion sort   **(c) Selection sort**   (d) All the above

3) Two main measures for the efficiency of an algorithm are

(a) Processor and memory   (b) Complexity and capacity   **(c) Time and space**   (d) Data and space

4) The Θ notation in asymptotic evaluation represents

(a) Base case   **(b) Average case**   (c) Worst case   (d) NULL case

5) If a problem can be broken into subproblems which are reused several times, the problem possesses which property?

(a) Overlapping subproblems   (b) Optimal substructure   (c) Memoization   (d) Greedy

6) In dynamic programming, the technique of storing the previously calculated values is called ?

(a) Saving value property   (b) Storing value property   **(c) Memoization**   (d) Mapping

7) Big Ω is the reverse of

(a) Big O   (b) Big θ   (c) Big A   (d) Big S

8) The algorithm that yields expected output for a valid input is called as

(a) Algorithmic Solution   (b) Algorithmic outcomes   (c) Algorithmic problem   (d) Algorithmic coding

9) Which of the following is used to describe the worse case of an algorithm?

(a) Big A   (b) Big S   (c) Big W   **(d) Big O**

10) Binary search is also called as

(a) Linear search   (b) Sequential search   (c) Random Search   **(d) Half - interval search**

11) The complexity of linear search algorithm is

(a) O(n)   (b) O(log n)   (c) O(n2)   (d) O(n log n)

12) From the following sorting algorithms which has the lowest worst case complexity?

(a) Bubble sort   (b) Quick sort   **(c) Merge sort**   (d) Selection sort

13) Which of the following is not a stable sorting algorithm?

(a) Insertion sort   (b) Quick sort   (c) Merge sort   **(d) Selection sort**

14) Which of the following is an example of data structures?

(a) List   (b) Tuple   (c) Dictionary   **(d) All of these.**

15) Which of the following is not a sorting technique?

(a) Bubble   **(b) Binary**   (c) Insertion   (d) Quick

16) Performance measurement of an algorithm is called

(a) Posteriori testing   (b) Priori estimates   (c) Efficiency testing   (d) Algorithmic analysis

17) Efficiency of an algorithm decided by

(a) Time, Space   (b) Definiteness, portability   (c) Priori, Postriori   (d) Input/output

18) The amount of memory required to run an algorithm completion is known by

(a) Efficiency of an algorithm   (b) Performance analysis of an algorithm   (c) Space complexity of an algorithm

(d) Time complexity of an algorithm

19) Which of the following component is defined as the total space required to store certain data and variables for an algorithm?

(a) Time part   (b) Variable part   **(c) Fixed part**   (d) Memory part

20) Which of the following component is defined as the total space required by variables, which sizes depends on the problem and its iteration?

(a) Variable part   (b) Time part   (c) Fixed part

21) Time and Space complexity could be considered for an

(a) Algorithmic strategy   (b) Algorithmic analysis   (c) Algorithmic solution   **(d) Algorithmic efficiency**

22) 0(1) is an example of

(a) best case   (b) worst case.   (c) Average case   (d) Null casd

23) Binary search also called

(a) Sequential search   **(b) Half-interval search**   (c) Unordered search   (d) Full-interval search

24) Which sorting algorithm sort is by making only one exchange for every pass through the list?

(a) Bubble   **(b) Selection**   (c) Comparison   (d) Merge

25) In which programming the solutions of overlapped sub-problems are combined in order to get the better solution?

(a) Object oriented   (b) Procedural   **(c) Dynamic**   (d) Modular

26) Which approach is similar to divide and conquer method?

(a) Dynamic programming   (b) Object oriented   (c) Procedural   (d) Modular

27) _____is a step-by-step procedure for solving a given problem

(a) Algorithm   (b) Program   (c) Statements   (d) Structure

28) Each of algorithm steps and there inputs! outputs should be clear and must lead to only one meaning refers to the algorithm characteristics _____.

(a) Unambiguous   (b) Feasibility   (c) Independent   (d) Effectiveness

29) Algorithm resembles a _____which can be implemented in any programming language.

(a) Solution   (b) Program   **(c) Pseudocode**   (d) Function

30) Performance evaluation of an algorithm can be_____ divided into different phases

(a) 3   **(b) 4**   (c) 4   (d) 1

31) Recursion used to calculate factorial of a given value n in algorithm is an example of_____ component

(a) Fixed part   **(b) Variable part**   (c) Operator part   (d) Time part

32) Simple variables and constants used in an algorithm is an example of _____component.

(a) Time part   (b) Variable part   (c) Factor part   **(d) Fixed part**

33) The _____ of an algorithm is defined as the number of computational resources used by the algorithm.

(a) Simplicity   **(b) Efficiency**   (c) Feasibility   (d) Potable

34) _____is used to describe the lower bound of asymptotic function.

(a) Big Alpha   (b) Big Beta   (c) Big 0   **(d) Big Omega**

35) Which of the following is the reverse of Big O?

(a) Big Ω   (b) Big μ (c) Big symbol   (d) Big O

36) How data are maintained effectively?

(a) Program   (b) Algorithm   (c) FIow chart   **(d) Data structure**

37) How the algorithm can be categorized?

(a) Implementation   (b) Methods   (c) Design techniques   **(d) All the above**

38) A fixed part contains _____.

(a) Simple variables   (b) Simple constant   **(c) Simple variables & constants**   (d) Recursion of 'n'

39) The efficiency of an algorithm can be measured based on the _____.

(a) Size of the i/p data   **(b) Usage of different resources**   (c) Number of key operations   (d) Memory space required

40) The time and space complexity cannot be compared ____.

(a) Sequentially   (b) Randomly   (c) Indirectly   **(d) Directly**

41) Match the following

1) Running Time	Performance analysis
2) Priori estimate	Instruction executed
3) Posteriori testing	Estimation of time & space
4) Algorithm analysis	Performance measurement

(a) 4-3-2-1   (b) 1-2-3-4   **(c) 2-1-4-3**   (d) 3-4-2-1

42) Choose the correct pair:

(a) Big O - upper bound   (b) Big Ω - lower bound   (c) Big μ - lower bound = upper bound   **(d) AII the above**

43) If the search value is greater than the middle value, then change the _____.

(a) Low to mid + 1   (b) High to mid - 1   (c) Low to mid - 1   (d) High to mid + 1

44) If the search value is lower than the middle value then change the _____.

(a) Low to mid + 1   **(b) High to mid - 1**   (c) Low to mid + 1   (d) High to mid + 1

45) The insertion sort algorithm gives the sorted output in order.

(a) Ascending   (b) Descending   (c) Shuffle   (d) Same

46) _____ approaches are used to find the solutions in optimized way.

(a) Assembly language Programming   (b) High level Programming   (c) Low level Programming

(d) Dynamic Programming

47) Dynamic algorithm uses _____.

(a) Memorization   (b) Overlapping   (c) Divide and conquer   **(d) AII the above**

48) Step by Step procedure for solving a given problem.

(a) Program   (b) Pseudo Code   (c) Flowchart   **(d) Algorithm**

49) A way of designing algorithm is called _____.

(a) Algorithm analysis   (b) Algorithmic solution   **(c) Algorithm strategy**   (d) None of the above

50) Choose the odd man out:

(a) Binary Search   (b) Half-interval search   (c) Divide -and conquer algorithm   **(d) Linear Search**