

Question	Answer1	Answer2	Answer3	Answer4	CorrectOption	Topic
An _____ is a step by step method of solving a problem.	algorithm	variable	volume	variety	Answer1	Unit 1
The most straightforward reason for analyzing an algorithm is to _____ its characteristics in order to evaluate its suitability for various applications or compare it with other algorithms for the same _____ is the process of determining how processing time increases as the size of the problem (input size) increases.	delete	discover	update	track	Answer2	Unit 1
_____ is the number of elements in the input, and depending on the problem type, the input may be of different types.	Running Time Analysis	space analysis	run space	Memory allocation	Answer1	Unit 1
_____ is the number of elements in the input, and depending on the problem type, the input may be of different types.	Output Size	Input size	Input time	Output Time	Answer2	Unit 1
For $T(n) = 3T(n/2) + n^2$, the value of recurrence relation is _____.	$T(n) = \Theta(n^2)$	$T(n) = n$	$T(n) = mn$	$T(n) = 2$	Answer1	Unit 1
The time factor when determining the efficiency of algorithm is measured by counting the number of _____ operations.	lock	door	key	arithmetic	Answer3	Unit 1
The concept of order Big O is important because it can be used to decide the _____ algorithm that solves a given problem.	best	worst	average	random	Answer1	Unit 1
Using transitive properties of asymptotic notation, if $f(n) = \Omega(g(n))$ and $g(n) = \Omega(h(n))$, then $f(n) =$ _____.	$O(g(n))$	$\Omega(g(n))$	$O(h(n))$	$\Omega(h(n))$	Answer4	Unit 1
In dynamic programming, the technique of storing the previously calculated values is called _____.	Saving value property	Storing value property	Memoization	Mapping	Answer3	Unit 3
It usually _____ When a top-down approach of dynamic programming is applied to a problem.	Decreases both, the time complexity and the space complexity	Decreases the time complexity and increases the space complexity	Increases the time complexity and decreases the space complexity	Increases both, the time complexity and the space complexity	Answer2	Unit 3
_____ problem is NOT solved using dynamic programming?	0/1 knapsack problem	Matrix chain multiplication problem	Edit distance problem	Fractional knapsack problem	Answer4	Unit 3
_____ problems should be solved using dynamic programming?	Mergesort	Binary search	Longest common subsequence	Quicksort	Answer3	Unit 3
_____ standard algorithms is not Dynamic Programming based.	Bellman-Ford Algorithm for single source shortest path	Floyd Warshall Algorithm for all pairs shortest paths	0-1 Knapsack problem	Prim's Minimum Spanning Tree	Answer4	Unit 3
We use dynamic programming approach when _____.	We need an optimal solution	The solution has optimal substructure	The given problem can be reduced to the 3-SAT problem	It's faster than Greedy	ANSwer2	Unit 3
_____ is standard algorithms is not a Greedy algorithm?	Dijkstra's shortest path algorithm	Prim's algorithm, Kruskal algorithm	Huffman Coding	Bellmen Ford Shortest path algorithm	Answer4	Unit 3

_____ is the time complexity of Huffman Coding?	$O(N)$	$O(N \log N)$	$O(N(\log N)^2)$	$O(N^2)$	Answer2	Unit 3
_____ is true about Kruskal and Prim MST algorithms? Assume that Prim is implemented for adjacency list representation using Binary Heap and Kruskal is implemented using union by rank.	Worst case time complexity of both algorithms is same.	Worst case time complexity of Kruskal is better than Prim	Worst case time complexity of Prim is better than Kruskal	both 1 and 2	Answer1	Unit 3
_____ is true about Huffman Coding.?	Huffman coding may become lossy in some cases	In Huffman coding, no code is prefix of any other code.	Huffman Codes may not be optimal lossless codes in some cases	Only 1 and 2	Answer2	Unit 3
_____ tightest worst case complexity of the iterative greedy activity selector algorithm? First assuming the input activities are ordered by monotonically increasing finish time, and second not assuming the inputs are ordered in any particular way.	$\log(n)$ and $n \log(n)$	n and $n \log(n)$	$n \log(n)$ and $n \log(n)$	n^2 and $n^2 \log n$	Answer2	Unit 3
_____ from the following are not a step in designing a greedy algorithm?	Neither are steps in designing a greedy algorithm	They are both steps in designing a greedy algorithm	Prove that the greedy choice in each step is the only choice that leads to the optimal solution for	Cast the problem into 2 or more subproblems for which we make the best greedy choices at	Answer1	Unit 3
_____ is the running time of Huffman algorithm if we use a simple array (with no sorting) for storing the frequencies?	$O(n^2 \log n)$	$O(n^2)$	$O(n \log n)$	$O(n)$	Answer2	Unit 3
_____ could be the main purpose of the Huffman algorithm? (Choose the best answer)	Changing the text data to binary numbers.	Making a tree representation of a text file.	Encrypting the data, so no one can understand the real text	Storing the data in a way that reduces the size of the text.	Answer4	Unit 3
_____ be the running time of the Huffman algorithm if we use a min-heap for storing the frequencies?	$O(n^2)$	$O(n^2 \log n)$	$O(n)$	$O(n \log n)$	Answer4	Unit 3