

## Computer Science Ics Part 1 Chapter 3 Online Test

Sr	Questions	Answers Choice
1	What does time complexity measrue.	<p>A. &lt;p&gt;Memory use&lt;/p&gt;            B. &lt;p&gt;Time growth with input&lt;/p&gt;            C. &lt;p&gt;Number of loops&lt;/p&gt;            D. &lt;p&gt;Output accuracy&lt;/p&gt;</p>
2	What does page rank algorithm analyze.	<p>A. &lt;p&gt;Page links&lt;/p&gt;            B. &lt;p&gt;page color&lt;/p&gt;            C. &lt;p&gt;Page size&lt;/p&gt;            D. &lt;p&gt;Page font&lt;/p&gt;</p>
3	An algorithm that sort data by stepping thourgh the list and swapping adjacent elements if needed is.	<p>A. &lt;p&gt;Selection sort&lt;/p&gt;            B. &lt;p&gt;Quick sort&lt;/p&gt;            C. &lt;p&gt;Bubble sort&lt;/p&gt;            D. &lt;p&gt;Merge sort&lt;/p&gt;</p>
4	Which is solved by dynamic programming.	<p>A. &lt;p&gt;Coin change&lt;/p&gt;            B. &lt;p&gt;Fibonacci sequence&lt;/p&gt;            C. &lt;p&gt;Merge sort&lt;/p&gt;            D. &lt;p&gt;Puzzle solving&lt;/p&gt;</p>
5	Which is solved by Dynamic Programming.	<p>A. &lt;p&gt;Coin Change&lt;/p&gt;            B. &lt;p&gt;Fibonacci sequence&lt;/p&gt;            C. &lt;p&gt;Merge sort&lt;/p&gt;            D. &lt;p&gt;Puzzle solving&lt;/p&gt;</p>
6	What does space complexity measure.	<p>A. &lt;p&gt;Execution time&lt;/p&gt;            B. &lt;p&gt;Memory usage&lt;/p&gt;            C. &lt;p&gt;Number of steps&lt;/p&gt;            D. &lt;p&gt;Result accuracy&lt;/p&gt;</p>
7	What is the primary goal of algorithm design techniques.	<p>A. &lt;p&gt;Improve hardware&lt;/p&gt;            B. &lt;p&gt;Solve problems systematically&lt;/p&gt;            C. &lt;p&gt;Reduce input size&lt;/p&gt;            D. &lt;p&gt;Debug software&lt;/p&gt;</p>
8	What is limitation Greedy algorithms	<p>A. &lt;p&gt;Too complex&lt;/p&gt;            B. &lt;p&gt;Always optimal&lt;/p&gt;            C. &lt;p&gt;Not always optimal&lt;/p&gt;            D. &lt;p&gt;High memory use&lt;/p&gt;</p>
9	How does bubble sort work	<p>A. &lt;p&gt;Select smallest and swap&lt;/p&gt;            B. &lt;p&gt;Swap adjacent if wrong&lt;/p&gt;            C. &lt;p&gt;Divide and merge&lt;/p&gt;            D. &lt;p&gt;Explore nodes level wise&lt;/p&gt;</p>
10	Which is an NP complete problem.	<p>A. &lt;p&gt;Sorting&lt;/p&gt;            B. &lt;p&gt;Knapsack&lt;/p&gt;            C. &lt;p&gt;GCD finding&lt;/p&gt;            D. &lt;p&gt;Binary search&lt;/p&gt;</p>
11	Why is tractability important.	<p>A. &lt;p&gt;Output color&lt;/p&gt;            B. &lt;p&gt;Language choice&lt;/p&gt;            C. &lt;p&gt;Solve efficiently&lt;/p&gt;            D. &lt;p&gt;Input type&lt;/p&gt;</p>
12	What defines a Greedy algorithm	<p>A. &lt;p&gt;Explore all solutions&lt;/p&gt;            B. &lt;p&gt;Make best local choice&lt;/p&gt;            C. &lt;p&gt;Store results&lt;/p&gt;            D. &lt;p&gt;Divide problems&lt;/p&gt;</p>
13	If $P = NP$ , this means	<p>A. &lt;p&gt;Some NP unsolvable&lt;/p&gt;            B. &lt;p&gt;all NP solvable in polynomial time&lt;/p&gt;            C. &lt;p&gt;All NP unsolvable&lt;/p&gt;            D. &lt;p&gt;Same space complexity&lt;/p&gt;</p>
14	A seenario where Dynamic progmming proves most useful	<p>A. &lt;p&gt;Problem withou overlapping sub problems&lt;/p&gt;            B. &lt;p&gt;Problems solved by making local choices&lt;/p&gt;            C. &lt;p&gt;Problems with overlapping sub problems and optimal sbstructure&lt;/p&gt;            D. &lt;p&gt;Problem divided into</p>

independent sub problems

15	What do sorting algorithm mainly do.	A. Network routing B. Arrange data C. Find node links D. Search data
16	What does "input" mean in a computational problem.	A. Result after processing B. Steps to solve C. Data at start D. Type of problem
17	When is Generate and Test best.	A. small prblem space B. Large problem space C. No testing needed D. No solutions exist
18	Which is solved by Dynaimc programming.	A. Coin Change B. Fibonacci sequence C. Merge sort D. Puzzle solving
19	Problems in NP and NP-hard are called.	A. P B. BPP C. NP Complete D. Tractable
20	The meanig of NP in computational complexity is.	A. Non deterministic polynomial time B. Negative polynomial time C. No trivial polynomial time D. Numerical polynomial time