

1	Find out the incorrect statement a) Accessing an element is easier in an array than in the list. b) Link list wastes memory in saving pointer addresses. c) Insertion and deletion is easy in arrays. d) Memory is wasted in arrays because all of the array may not be utilized	
2	One of the following best defines the Greedy Strategy a) It always gives Global optimal solution b) It gives local optimal solution c) It Combines the local optimal solution to give the Global optimal solution d) It combines the global optimal solution to give the Local optimal solution	
3	Suppose that we have numbers between 1 and 1000 in a binary search tree, and we want to search for the number 363. Which of the following sequences could not be the sequences of nodes examined. a) 2, 252, 401, 398, 330, 344, 397, 363 b) 924, 220, 911, 244, 898, 258, 362, 363 c) 925, 202, 911, 240, 912, 245, 363 d) 2, 399, 387, 219, 266, 382, 381, 278, 363	
4	Heapsort, quicksort, and mergesort are all asymptotically optimal, stable comparison based sort algos. a) True b) False c) true only for quicksort & mergesort d) true only for heapsort & quicksort	
5	Which of the following is true about the following axioms Front(Enqueue(Enqueue(Q,w),v))=front(Enqueue(Q,w)) Deque(Enqueue(Enqueue(Q,w),v))=Enqueue(Deque(Enqueue(Q,w)),v) a) True, True b) True, False c) False, True d) False, False	
6	For recurrence $T(n) = T(n-1) + n$ what will be the big oh complexity. a) $O(n)$ b) $O(n \log n)$ c) $O(n^2)$ d) $O(2^n)$	
7	The sequence 20, 15, 18, 7, 9, 5, 12, 3, 6, 2 is a max-heap. a) True b) False	
8	Let T be a binary search tree on 24 distinct keys; the left subtree T1 has 7 keys and the right sub tree T2 has 16 keys. Which of the following is true of the of the 13 <sup>th</sup> smallest of the keys in T? (a) It is the 13 <sup>th</sup> smallest key in T2 (b) It is the 8 <sup>th</sup> smallest key in T2 (c) It is the 5 <sup>th</sup> smallest key in T2 (d) It is the 5 <sup>th</sup> smallest key in T1	
9	Divide step is the dominating operation and Combine step is the dominant operation respectively in following a) Merge Sort, Quick Sort b) Quick Sort, Merge Sort c) Bubble Sort, Counting Sort d) Radix Sort, Selection Sort	
10	If there are n nodes in a binomial heap then the maximum number of binomial trees that will be part of the binomial heap are a) (n) B) (logn) C) (n <sup>2</sup> ) D) (2 <sup>n</sup> )	