Computer Science and Engineering Department

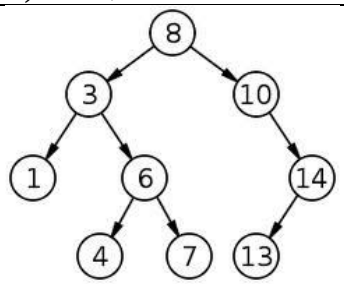
M.Tech 1st Year | Subject: Advance Data Structures

Instructor : Dr Deepak Garg | Date : 22.11.2011

Marks: 10 | Time: 10 Mins

Name. **Roll No.**

No Negative Marking. Only Single Answer in all the questions. Overwriting or cutting is not allowed. Don't use pencil.

1	If Total complexity after micro analysis is $5n^3 + 10n^2 + 100\,n + 400\,\log n + 10$, The Big Oh complexity is A) $O(n^2)$ B) $O(n^3)$ C) $O(5n+400 \log n)$ D) $O(5n^3 + 10n^2 + 100\,n + 400\,\log n + 10)$
2	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) $O(2^n)$
3	Find out the false statement in context of code tuning techniques A) Algebraic expressions can be used to reduce costlier operations by cheaper ones B) When particular result is used many times , Precompute it and store for future use C) Use constants of correct data type D) Use system provided routines wherever possible
4	What will be the result of the LAST operation in the given sequence of operations: PUSH(&); PUSH($); PUSH(@);TOP(); POP(); PUSH(#); POP();POP(); PUSH(%); POP(); A) @ B) & C) # D) %
5	Which of the following is true about the following axioms a) Front(Enqueue(Enqueue(Q,w),v))=front(Enqueue(Q,w)) b) Deque(Enque(Enque(Q,w),v))=Enque(Deque(Enque(Q,w)),v) A) True, True B) True, False C) False, True D) False, False
6	 What is true about the given tree A) It is a complete binary tree B) It is a full Binary Tree C) It is a Binary Tree D) It is a Binary Search Tree
7	If the Preorder of a binary search tree is abcdfge and inorder cbfdgae then what is the Postorder A) cfgdbea B) cdbfgae C) cfgbdea D) cgfdbea
8	A binary tree T has n leaf nodes. The number of nodes of degree 2 in T is A) $\log_2 n$ B) $n - 1$ C) n D) 2^n
9	Max Flow or min cut problem uses A) Floyd-Warshall Algorithm B) Bellman-Ford Algorithm C) Knuth-Morris-Pratt Algorithm D) Ford-Fulkerson Algorithm
10	If T1 is time taken by a processor to do some work and Tp is time taken by P processors to do the same work, then the speedup is given by A) T1+Tp B) T1*Tp C) Tp/T1 D) T1/Tp