CS-301 Final Term Exams Preparation Virtual University

Sr	Questions	Answers Choice
1	If numbers 5,222,4,48 are inserted in queue,which one will be removed first?	A. 48 B. 4 C. 222 D. 5
2	A binary tree with 33 internal nodes has _____ links to internal nodes.	A. 31 B. 32 C. 33 D. 66
3	Compiler uses which one of the following to evaluate a mathematical equation	A. Binary Tree B. Binary Search Tree C. Parse Tree D. AVL Tree
4	Suppose we have a hash table whose hash function is "n% 12",if the number 35 is already in the hash table which of the following numbers would cause a collision ?	A. 144 B. 145 C. 143 D. 148
5	Which formula is the best approximation for the depth of a heap with n nodes?	A. log (base 2) of n B. The number of digits in n (base 10), e.g., 145 has three digits C. The square root of n D. n
6	Which of the given option is NOT a factor in Union by Size:	A. Maintain sizes (number of nodes) of all trees, and during union. B. Make smaller tree, the subtree of the larger one C. Make the larger tree, the subtree of the smaller one. D. Implementation: for each root node i, instead of setting parent[i] to -1, set it to -k if tree rooted at i has k nodes
7	Merge sort and quicksort both fail into the same category of sorting algorithms,What is this category ?	A. O(nlogn) sorts B. Interchange sort C. Average time is quadratic D. None of the given options.
8	I have implemented the queue with a linked list, keeping track of a front pointer and a rear pointer. Which of these pointers will change during an insertion into an EMPTY queue?	A. Neither changes B. only front pointer charges C. Only rear pointer changes. D. Both change. Since it is an empty queue the front and rear are initialize to -1, so on insertion both the pointers will change and point to 0.
9	If there are N internal nodes in a binary tree then what will be the number of the no,of external node in the binary tree?	A. N-1 B. N C. N+1 D. N+2
10	Consider a min heap, represented by the following array: 11,22,33,44,55 After inserting a node with value 66.Which of the following is the updated min heap?	A. 11,22,33,44,55,66 B. 11,22,33,44,66,55 C. 11,22,33,66,44,55 D. 11,22,66,33,44,55
11	Select the FALSE statement binary tree.	A. Every binary tree has at least one node. B. Every non-empty tree has exactly one root node. C. Every node has at most two children. D. Every non-root node has exactly one parent.
12	Consider te following array 23 15 5 12 40 10 7 After the first pass of a particular algorithm, the array looks like 15 5 12 23 10 7 40 Name the algorithm used	A. Heap sort B. Selection sort C. Insertion sort D. Bubble sort (
13	The maximum number of external nodes for a binary tree of height H is	A. 2^h B. 2^h+1

		C. 2^h+2 D. 2^h+3
14	A complete binary tree of height ___ has node between 16 to 31.	A. 2 B. 3 C. 4 D. 5
15	What requirement is placed on an array, so that binary search may be used to locate an entry?	A. The array elements must form a heap. B. The array must have at least 2 entries C. The array must be sorted. D. The array"s size must be a power of two.
16	Which of the following statement is NOT true about find operation :	A. It is not a requirement that a find operation returns any specific name, just that finds on two elements return the same answer if and only if they are in the same set. B. One idea might be to use a tree to represent each set, since each element in a tree has the same root, thus the root can be used to name the set. C. Initially each set contains one element. D. initially each set contains one element and it does not make sense to make a tree of one node only.
17	Which of the following statement is true about find(x) operation :	A. A find(x) on element x is performed by returning exactly the same node that is found. B. A find(x) on element x is performed by returning the root of the tree containing x. C. A find(x) on element x is performed by returning TRUE. D. A find(x) on element x is performed by returning the whole tree itself containing x
18	If there are 56 internal node in a binary tree then how many external nodes this binary tree will have ?	A. 54 B. 55 C. 56 D. 57
19	We are given N items to build a heap ,this can be done with _____ successive inserts.	A. N-1 B. N C. N+1 D. N+2
20	Which of the following heap method increase the value of key at position „p" by the amount „delta"?	A. increaseKey(p,delta) B. decreaseKey(p,delta) C. preculateDown(p,delta) D. remove(p,delta)