

CS-301 Final Term Exams Preparation Virtual University

Sr	Questions	Answers Choice
1	The _____ method of list will position the currentNode and lastCurrentNode at the start of the list.	A. Remove B. Next C. Start D. Back
2	The definition of Transitivity property is	A. For all element x member of S, x R x B. For all elements x and y, x R y if and only if y R x C. For all elements x, y and z, if x R y and y R z then x R z D. For all elements w, x, y and z, if x R y and w R z then x R z
3	Which traversal gives a decreasing order of elements in a heap where the max element is stored at the top?	A. post-order B. level -order C. in order D. none of the above
4	Suppose that a selection sort of 100 items has completed 42 iterations of the main loop. How many items are now guaranteed to be in their final spot (never to be moved again)?	A. 21 B. 41 C. 42 D. 53
5	Huffman encoding uses _____ tree to develop codes of varying lengths for the letters used in the original message	A. Linked List B. Stack C. Queue D. Binary tree
6	_____ is a data structure that can grow easily dynamically at run time without having to copy existing elements.	A. Array () B. List C. Both of these D. None of these
7	A complete binary tree us a tree that is ____ filled with the possible exception of the bottom level.	A. partially B. completely C. incompletely D. partly
8	Consider the following postfix expression S and the initial values of the variable, S = A B - C + D E F - + ^ Assume that A=3, B=2, C=1, D=1, E=2, F=3 What would be the final output of the stack?	A. 1 B. 2 C. 0 D. -1
9	Use of binary tree in compression of data is known as _____	A. Traversal B. Heap C. Union D. Huffman encoding
10	We can build a heap in _____ time.	A. Linear B. Exponential C. Polynomial D. None of the above
11	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
12	Suppose A is an array containing numbers in increasing order, but some numbers occur more than once when using a binary search for a value, the binary search always finds _____	A. the first occurrence of a value. B. the second occurrence of a value C. may find first or second occurrence of a value. D. None of the given options
		A. The array elements must form a heap.

13	What requirement is placed on an array, so that binary search may be used to locate an entry?	<p>B. The array must have at least 2 entries</p> <p>C. The array must be sorted.</p> <p>D. The array's size must be a power of two.</p>
14	Merge sort and quicksort both fall into the same category of sorting algorithms, What is this category ?	<p>A. $O(n \log n)$ sorts</p> <p>B. Interchange sort</p> <p>C. Average time is quadratic</p> <p>D. None of the given options.</p>
15	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?	<p>A. N-1</p> <p>B. N</p> <p>C. N+1</p> <p>D. N+2</p>
16	Merge sort makes two recursive calls, which statement is true after these recursive calls, finish but before the merge step?	<p>A. Elements in the first half of the array are less than or equal to elements in the second half of the array</p> <p>B. None of the given options</p> <p>C. The array elements form a heap.</p> <p>D. Elements in the second half of the array are less than or equal to elements in the first half of the array</p>
17	Which of the following is a non linear data structure?	<p>A. Linked List</p> <p>B. Stack</p> <p>C. Tree</p> <p>D. Queue</p>
18	Which of the following statement is true about dummy node of threaded binary tree	<p>A. The left pointer of dummy node points to the itself while the right pointer points to the root of tree.</p> <p>B. The left pointer of dummy node points to the root node of the tree while the right pointer points itself i.e. to dummy node</p> <p>C. The left pointer of dummy node points to the root node of the tree while the right pointer is always NULL</p> <p>D. The right pointer of dummy node points to the itself while the left pointer is always NULL</p>
19	In case of deleting a node from AVL tree, rotation could be prolong to the root node.	<p>A. yes</p> <p>B. no</p> <p>C. not sure</p>
20	Which of the following statement is NOT correct?	<p>A. In linked list the elements are necessarily to be contiguous</p> <p>B. In the linked list the elements may locate at far positions in the memory</p> <p>C. in the linked list each elements also has the address of the elements next to it</p> <p>D. In an array the elements are contiguous</p>