

CS-301 Final Term Exams Preparation Virtual University

C-	Overtions	Anguaga Chaine
Sr	Questions	Answers Choice
1	Merge sort makes two recursive calls, which statement is true after these recursive calls, finish but before the merge step?	A. Elements in the first half of the array are less than or equal to elements in the second half of the array B. None of the given options C. The array elements form a heap. D. Elements in the second half of the array are less than or equal to elements in the first half of the array
2	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
3	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
4	Which of the following is NOT a correct statement about Table ADT.	A. n a table, the type of information in columns may be different. yes B. A table consists of several columns, known as entities. C. The row of a table is called a record. D. A major use of table is in databases where we build and use tables for keeping information.
5	Consider a min heap, represented by the following array: 10,30,20,70,40,50,80,60 After inserting a node with value 31.Which of the following is the updated min heap?	A. 10,30,20,31,40,50,80,60,70 B. 10,30,20,70,40,50,80,60,31 C. 10,31,20,30,40,50,80,60,31 D. 31,10,30,20,70,40,50,80,60
6	If there are N elements in an array then the number of maximum steps needed to find an elements using Binary Search is	A. N B. N ² C. Nlog2N D. log ₂ N
7	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 occurance of value B. the second occurrence of a value C. may find first or second occurrence of a value. D. None of the given options
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 D1
9	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
10	A Threaded Binary Tree is a binary tree in which every node that does not have a right child has a THREAD (in actual sense, a link) to its successor	A. levelorder B. Preorder C. Inorder D. Postorder
11	I have implemented the queue with a circular array. If data is a circular array of CAPACITY elements, and last is an index into that array, what is the formula for the index after last?	A. (last % 1) + CAPACITY B. last % (1 + CAPACITY) C. (last + 1) % CAPACITY D. last + (1 % CAPACITY)
12	A binary tree with 33 internal nodes has links to internal nodes.	A. 31 B. 32 C. 33 D. 66

13	While joining nodes in the building of Huffman encoding tree if there are more nodes with same frequency, we choose the nodes	A. Randomly B. That occur first in the text message C. That are lexically smaller among others D. That are lexically greater among others
14	A binary relation R over S is called an equivalence relation if it has following property(s)	A. Reflexivity B. Symmetry C. Transitivity D. All of the given options
15	If a complete binary tree has height h then its no. of nodes will be,	A. Log (h) B. 2 ^h +1 - 1 C. Log (h) - 1 D. 2 ^h - 1
16	Consider a min heap, represented by the following array: 3,4,6,7,5,10 After inserting a node with value 1.Which of the following is the updated min heap?	A. 3,4,6,7,5,10,1 B. 3,4,6,7,5,1,10 C. 3,4,1,5,7,10,6 D. 1,4,3,5,7,10,6close to correct but correct ans is 1,4,3,7,5,10,6
17	A complete binary tree of height has nodes between 16-31.	A. 2 B. 3 C. 4 D. 5
18	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
19	Which one of the following is valid postfix expression?	A. ab+c*d- B. abc*+d- C. abc+*d- D. abc*)+d-
20	Use of binary tree in compression of data is known as	A. Traversal B. Heap C. Union D. Huffman encoding