CS-301 Final Term Exams Preparation Virtual University

Sr	Questions	Answers Choice
1	A kind of expression where the operator is present between two operands called _____ expressions .	A. Postfix B. Infix C. Prefix D. None of the above
2	Which of the following statement is true about dummy node of threaded binary tree	A. The left pointer of dummy node points to the itself while the right pointer points to the root of tree. 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 C. The left pointer of dummy node points to the root node of the tree while the right pointer is always NULL D. The right pointer of dummy node points to the itself while the left pointer is always NULL
3	Consider the following infix expression: x – y * a + b / c Which of the following is a correct equivalent expression(s) for the above?	A. x y -a * b +c / B. x *y a - b c / + C. x y a * - b c / + D. x y a * - b/ + c
4	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
5	A binary tree with 33 internal nodes has _____ links to internal nodes.	A. 31 B. 32 C. 33 D. 66
6	"+" is a _____operator.	A. Unary B. Binary C. Ternary D. None of the above
7	A binary tree with 24 internal node has ____ external node.	A. 22 B. 23 C. 48 D. 25
8	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
9	A binary tree of N nodes has _____	A. Log₁₀N Levels B. Log₂ N levels C. N/2 Levels D. N X2 Levels
10	A complete binary tree of height 3 has between _____ nodes.	A. 8 to 14 B. 8 to 15 C. 8 to 16 D. 8 to 17
11	Which one of the following is TRUE about iteration?	A. Iteration extensively uses stack memory B. Threaded Binary Trees use the concept of iteration. C. Iterative function calls consumes a lot of memory. D. Recursion is more efficient than iteration

		iteration.
12	Let heap stored in an array as H = [50, 40, 37, 32, 28, 22, 36, 13]. In other words, the root of the heap contains the maximum element. What is the result of deleting 40 from this heap	A. [50,32, 37,13, 28, 22, 36] according to max heap property B. [37, 28, 32, 22, 36, 13] C. [37, 36, 32, 28, 13, 22] D. [37, 32, 36, 13, 28, 22]
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	While building Huffman encoding tree the new node that is the result of joining two nodes has the frequency.	A. Equal to the small frequency B. Equal to the greater C. Equal to the sum of the two frequencies D. Equal to the difference of the two frequencies
15	A complete binary tree of height ___ has node between 16 to 31.	A. 2 B. 3 C. 4 D. 5
16	Consider te following array 23 15 5 12 40 10 7 After the first pass of a particular algorithm, the array looks like 15 12 23 10 7 40 Name the algorithm used	A. Heap sort B. Selection sort C. insertion sort D. Bubble sort
17	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
18	If the bottom level of a binary tree is NOT completely filled, depicts that the tree is NOT a	A. Expression tree B. threaded binary tree C. complete binary tree D. perfectly complete binary tree
19	Which of the following is a non linear data structure?	A. Linked List B. Stack C. Tree D. Queue
20	What is the formula of approixation 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 digit C. The square root of n D. n