PHY-101 Quiz OnlineTest

Sr	Questions	Answers Choice
1	A binary tree with N internal nodes has _____ links, _____ links to internal nodes and _____ links to external nodes	A. N+1, 2N, N-1 B. N+1, N-1, 2N C. 2N, N-1, N+1 D. N-1, 2N, N+1
2	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)
3	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.
4	Which of the following statement is correct property of binary trees?	A. A binary tree with internal nodes has N+1 internal links B. A binary tree with N external nodes has 2N internal nodes. C. A binary tree with N internal nodes has N+ 1 external node. D. None of above statement is a property of the binary tree.
5	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
6	Searching of an element in an AVL tree take minimum ____ time (where n is number of nodes in AVL tree)	A. Log₂(n+1) B. Log₂(n+1) -1 C. 1.44 Log₂n D. 1.66 Log₂n
7	Which one of the following is TRUE about recursion ?	A. Recursion extensively use stack memory B. Threaded Binary Trees use the concept of recursion. C. Recursive function calls consume a lot of memory. D. Iteration is more efficient than iteration.
8	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
9	Use of binary tree in compression of data is known as _____	A. Traversal B. Heap C. Union D. Huffman encoding
10	If there are 23 external nodes in a binary tree then what will be the no. of internal nodes in this binary tree?	A. 23 B. 24 C. 21 D. 22 (n-1)
11	Which one of the following is valid postfix expression?	A. ab+c*d- B. abc*+d- C. abc+*d- D. abc*)+d-
12	Which of the following is not an example of equivalence relation:	A. Electrical Connectivity B. Set of people

		C. <= relation D. Set of pixels
13	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
14	There is/are _____ case/s for rotation in an AVL tree,	A. 1 B. 2 C. 3 D. 4
15	By using _____we avoid the recursive method of traversing a Tree, which makes use of stacks and consumes a lot of memory and time.	A. Binary tree only B. Threaded binary tree C. Heap data structure D. Huffman encoding
16	Each node in a double link list has ,	A. 1 pointer B. 2 pointer C. 3 pointer D. 4 pointers
17	A complete binary tree of height ___ has node between 16 to 31.	A. 2 B. 3 C. 4 D. 5
18	Suppose we are sorting an array of eight integers using quick sort, and we have just finished the first partitioning with the array looking like this: 2 5 1 7 9 12 11 10 Which statement is correct?	A. The pivot could be either the 7 or the 9 B. The pivot could be the 7, but it is not the 9. C. The pivot is not the 7, but it could be the 9. D. Neither the 7 nor the 9 is the pivot.
19	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 (
20	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