PHY-101 Quiz OnlineTest

Sr	Questions	Answers Choice
1	The arguments passed to a function should match in number, type and order with the parameters in the function definition.	A. True B. False C. both
2	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
3	The _____ method of list will position the currentNode and lastCurrentNode at the start of the list.	A. Remove B. Next C. Start D. Back
4	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
5	Which of the following is not true regarding the maze generation ?	A. Randomly remove walls until the entrance and exit cells are in same set B. Removing a wall is the same as doing union of operation C. Removing a randomly chosen wall if the cell is separatedare already in the same set D. Do not remove a randomly chosen wall if the cells it separates are already in the same set.
6	Suppose you implement a Min heap (with the smallest element on top) in an array. Consider the different arrays below; determine the one that cannot possibly be a heap:	A. 16, 18, 20, 22, 24, 28, 30 B. 16, 20, 18, 24, 22, 30, 28 C. 16, 24, 18, 28, 30, 20, 22 D. 16, 24, 20, 30, 28, 18, 22
7	A binary tree with 33 internal nodes has _____ links to internal nodes.	A. 31 B. 32 C. 33 D. 66
8	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.
9	If both pointers of the node in a binary tree are NULL then it will be a/an _____ .	A. Inner node B. Leaf node C. Root node D. None of the given options
10	If there are N elements in an array then the number of maximum steps needed to find an element using Binary Search is _____ .	A. N B. N² C. Nlog₂N D. log₂N
11	In a perfectly balanced tree the insertion of a node needs _____ .	A. One rotation B. Two rotations C. Rotations equal to number of levels D. No rotation at all
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	There is/are _____ case/s for rotation in an AVL tree,	A. 1 B. 2 C. 3 D. 4
14	Which one is a self-referential data type?	A. Stack B. Queue C. Link list D. All of these
15	If a max heap is implemented using a partially filled array called data, and the array contains n elements (n > 0), where is the entry with the greatest value?	A. Data[0] B. data[1] C. data[n-1] D. data[n]
16	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
17	If you know the size of the data structure in advance, i.e., at compile time, which one of the following is a good data structure to use.	A. Array B. List C. Both D. None of the above
18	Each node in a double link list has ,	A. 1 pointer B. 2 pointer C. 3 pointer D. 4 pointers
19	A binary tree with N internal nodes has ____ links ,links to internal node and ____links to external	A. N+1, 2N, N-1 B. N+1, N-1, 2N C. 2N, N-1, N+1 D. N-1, 2N, N+1
20	Here is a small function definition: void f(int i, int &k) { i = 1; k = 2; } Suppose that a main program has two integer variables x and y, which are given the value 0. Then the main program calls f(x,y); What are the values of x and y after the function f finishes?	A. Both x and y are still 0. B. x is now 1 but y is still 0 C. x is still 0,but y is now 2 D. x is now1 1 and y is now 2