

# Rajalakshmi Engineering College

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## NeoColab\_REC\_CS23231\_DATA STRUCTURES

### REC\_DS using C\_Week 6\_MCQ\_Updated\_1

Attempt : 2  
Total Mark : 20  
Marks Obtained : 0

#### Section 1 : MCQ

1. Let P be a quick sort program to sort numbers in ascending order using the first element as a pivot. Let t1 and t2 be the number of comparisons made by P for the inputs {1, 2, 3, 4, 5} and {4, 1, 5, 3, 2}, respectively. Which one of the following holds?

**Answer**

-

**Status :** -

**Marks :** 0/1

2. Is Merge Sort a stable sorting algorithm?

**Answer**

-

**Status :** -

**Marks :** 0/1

3. What is the best sorting algorithm to use for the elements in an array that are more than 1 million in general?

**Answer**

-

**Status :** -

**Marks :** 0/1

4. What is the main advantage of Quicksort over Merge Sort?

**Answer**

-

**Status :** -

**Marks :** 0/1

5. Which of the following methods is used for sorting in merge sort?

**Answer**

-

**Status :** -

**Marks :** 0/1

6. In a quick sort algorithm, where are smaller elements placed to the pivot during the partition process, assuming we are sorting in increasing order?

**Answer**

-

**Status :** -

**Marks :** 0/1

7. What happens during the merge step in Merge Sort?

**Answer**

-

Status : -

Marks : 0/1

8. Which of the following is true about Quicksort?

Answer

-

Status : -

Marks : 0/1

9. Which of the following modifications can help Quicksort perform better on small subarrays?

Answer

-

Status : -

Marks : 0/1

10. The following code snippet is an example of a quick sort. What do the 'low' and 'high' parameters represent in this code?

```
void quickSort(int arr[], int low, int high) {  
    if (low < high) {  
        int pivot = partition(arr, low, high);  
        quickSort(arr, low, pivot - 1);  
        quickSort(arr, pivot + 1, high);  
    }  
}
```

Answer

-

Status : -

Marks : 0/1

11. Which of the following statements is true about the merge sort algorithm?

**Answer**

-

**Status :** -

**Marks :** 0/1

12. Which of the following strategies is used to improve the efficiency of Quicksort in practical implementations?

**Answer**

-

**Status :** -

**Marks :** 0/1

13. Merge sort is \_\_\_\_\_.

**Answer**

-

**Status :** -

**Marks :** 0/1

14. In a quick sort algorithm, what role does the pivot element play?

**Answer**

-

**Status :** -

**Marks :** 0/1

15. Why is Merge Sort preferred for sorting large datasets compared to Quick Sort?

**Answer**

-

**Status :** -

**Marks :** 0/1

16. Which of the following scenarios is Merge Sort preferred over Quick

Sort?

**Answer**

-

**Status :** -

**Marks :** 0/1

17. Which of the following is not true about QuickSort?

**Answer**

-

**Status :** -

**Marks :** 0/1

18. Consider the Quick Sort algorithm, which sorts elements in ascending order using the first element as a pivot. Then which of the following input sequences will require the maximum number of comparisons when this algorithm is applied to it?

**Answer**

-

**Status :** -

**Marks :** 0/1

19. What happens when Merge Sort is applied to a single-element array?

**Answer**

-

**Status :** -

**Marks :** 0/1

20. Which of the following sorting algorithms is based on the divide and conquer method?

**Answer**

-

Status : -

Marks : 0/1