

**UNIT V**  
**SORTING and SEARCHING**

Sorting algorithms: Insertion sort - Quick sort - Merge sort - Searching: Linear search – Binary Search

Part- A

1. What is meant by sorting?
2. What are the two main classifications of sorting based on the source of data?
3. What is meant by external and internal sorting?
4. What is the purpose of quick sort?
5. What is the advantage of quick sort?
6. What is the purpose of insertion sort?
7. Define merge sort.
8. What are the advantages of merge sort?
9. What is linear search?
10. What is binary search?
11. Differentiate linear search and binary search.
12. Differentiate quick sort and merge
13. Give the advantage of merge sort
14. Distinguish quick sort and insertion sort.
15. Define sorting.
16. Narrate insertion sort with example
17. List examples for various sorting
18. Give the advantage of Merge sort

- 19 List linear search and binary search with example
- 20 Narrate insertion sort with example

**Part – B**

1. Write and trace the following algorithms with suitable example.
  - I. Breadth first traversal
  - II. Depth first traversal
2. Sort the sequence 3,1,4,1,5,9,2,6,5 using insertion sort.
3. Give short notes of :
  - (i) Merge sort with suitable example.
4. Write an algorithm to sort 'n' numbers using quicksort. Show how the following numbers are sorted using quicksort : 42, 28, 90,2, 56. 39, 12, 87
5. Sort the sequence 13,11, 74,37,85,39,22,56,25 using Insertion sort.
6. Explain the operation and implementation of merge sort.
7. Explain the operation and implementation of external sorting.
8. Write quick sort algorithm and explain.
9. Trace the quick sort algorithm for the following list of numbers.  
90,77,60,99,55,88,66
10. Write down the merge sort algorithm and give its worst case, best case and average case analysis.
11. Explain linear search algorithm with an example.
12. Explain linear search & binary search algorithm in detail.
13. Briefly differentiate linear search algorithm with binary search algorithm.

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