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**Unit-II**

2. (a) What is Bubble Sort? Arrange 50, 40, 10, 15, 5, 20, 35 in ascending order through bubble sort.
- (b) What are the types of searching techniques? Explain linear search with example.
- (c) Write short notes on any **three** of the following :
- (i) Parallel Array
  - (ii) Record
  - (iii) Pointer
  - (iv) Sparse Matrix

**Unit-III**

3. (a) What is a Queue? Explain the operation on the Circular Queue.
- (b) Write an algorithm for Quick Sort. Also find its complexity.
- (c) State the steps and convert the following expressions from infix to postfix notation :
- (i)  $(A + B \uparrow D) / (E - F) + G$
  - (ii)  $A*(B + D) / E - F*(G + H / K)$

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**Unit-IV**

4. (a) What are the types of traversing a binary tree? Write the algorithm for any one traversal type.
- (b) What is heap sort? Write an algorithm to construct a heap sort? Explain with example.
- (c) What is Graph? Write an algorithm to find shortest path between any two nodes.

**Unit-V**

5. (a) What is Radix sort? Explain radix sort with the help of an example.
- (b) What is Sorting? Explain the procedure of insertion sort with an example.
- (c) How we arrange 35, 35, 65, 25, 55, 15, 85, 25 in ascending order through selection sort? Specify steps.