UNIT - 4	
Part – A (Short Answer Questions)	
1	**Define** sorting and list the different types of sorting techniques
2	**Discuss** the advantage of Quick sort and its time complexity
3	**State** the main idea behind Selection sort
4	**Discuss** the time complexity of Heap sort
5	**Discuss** the main idea behind Insertion sort
6	**Discuss** is the space complexity of Radix sort?
7	**Compare** efficiencies of quick sort and heap sort
Part – B (Long Answer Questions)	
1	**Compare** different sorting techniques
2	**Write** C programs for implementing Quick sort to arrange a list of integers in ascending order
3	**Write** C programs for implementing Merge sort to arrange a list of integers in ascending order
4	**State** and explain insertion sort with an example
5	**State and explain selection sort with an example**
6	**State and explain radix sort with an example**
7	**State and explain heap sort with an example**
8	**State and explain quick sort with an example**
9	**Explain quick sort algorithm and simulate it for the following data 20, 35, 10, 16, 54, 21, 25**
Part – C (Problem Solving and Critical Thinking)	
1	**Apply** insertion sort on the following elements 3, 1, 4,7,5,9,2,6,5,10
2	**Apply** the selection sort on the following elements21,11,5,78,49, 54,72,88
3	**Rearrange** the following numbers using Quick sort procedure. 42, 12, 18, 98, 67, 83, 8, 10, 71
4	Trace the quick sort algorithm for the following list of numbers. 90,77,60,99,55,88,66
5	**Rearrange** the following numbers using radix sort.
6	77, 12, 8, 39, 27, 21, 44, 18, 6, 427, 117, 237, 5671 and 600
7	**Apply** radix sort on the following list of elements 45,37,05,09,06,11,18,27
8	**Apply** heap sort on list of elements 14,12,9,8,7,10,18,20,30
9	**Explain** the heap sort algorithm by tracing the following elements stepwise 3, 5, 9, 7, 1, 4, 6, 8, 2