

Heaven's Light is Our Guide  
Rajshahi University of Engineering & Technology  
Department of Computer Science & Engineering

## **Lab Manual**

Course Code: **CSE 1203 (Sec A)**  
Course Title: Sessional based on CSE 1201  
Instructor: Md. Shahid Uz Zaman  
Dept of CSE, RUET

**CSE 1202 (Data Structure Lab)**  
**Module 7 [Sorting]: (for Week 7)**

**Topic 1: [Insertion Sort]**

- i) Draw flowcharts for insertion sort
- ii) Sort the array  $ax[7]=\{10,78,32,90,20,19,25\}$  using insertion sort algorithm. Write the content of  $ax[]$  after each pass (iteration).
- iii) Find the complexity of the algorithm

**Topic 2: [Selection Sort]**

- i) Draw flowcharts for selection sort
- ii) Sort the array  $ax[7]=\{10,78,32,90,20,19,25\}$  using selection sort algorithm. Write the content of  $ax[]$  after each pass (iteration).
- iii) Find the complexity of the algorithm

**Topic 3: [Quick Sort]**

- i) Draw flowcharts for Quick sort
- ii) Sort the array  $ax[7]=\{10,78,32,90,20,19,25\}$  using quick sort algorithm. Draw the sequence of function calling diagram,  $QS(a,p,r)$ .
- iii) Find the complexity of the algorithm

**Topic 4: [Merge Sort]**

- i) Draw flowcharts for Merge sort
- ii) Sort the array  $ax[7]=\{10,78,32,90,20,19,25\}$  using merge sort algorithm. Draw the sequence of function calling diagram.
- iii) Find the complexity of the algorithm