**I: Divide and Conquer Strategy Date:**

**Aim:-**Write algorithm and C program to implement the following problems using divide and conquerstrategy

1. Binary search
2. Merge Sort
3. Finding Minimum and maximum element
4. Quick sort
5. Finding Kth smallest element
6. Strassen’s Matrix Multiplication

**THEORY:**

**// Write theory for Divide and conquer strategy----- handwritten**

1. **Binary Search**

**Date:**

**Problem Statement:**

**--------- write here the problem definition of binary serach----- (handwritten)**

***// This is batch A problem***

Search for ‘R’ and ‘F’ from the following given elements:

[ 'B','E','J','K','N','O','P','R','S','V','W'] using binary search.

**// Solve this given problem ------Handwritten**

**Algorithm for binary search /\* --------------- Handritten-------- \*/**

**Code**

**// No spacing, Font times new roman size 12**

**/\* Write code for Binary Search on character array \*/**

**Output**

**//Print Output**

1. **Merge Sort**

**Date:**

**Problem Statement:**

**//Solve the given problem**

**Algorithm**

**Code**

**Output**

1. **Finding maximum and minimum element**

**Date:**

**Problem Statement:**

**//Solve the given problem**

**Algorithm**

**Code**

**Output**

1. **Quick Sort**

**Date:**

**Problem Statement:**

**//Solve the given problem**

**Algorithm**

**Code**

**Output**

1. **Finding kth smallest element**

**Date:**

**Problem Statement:**

**//Solve the given problem**

**Algorithm**

**Code**

**Output**

1. **Strassen’s Matrix Multiplication**

**Date:**

**Problem Statement:**

**//Solve the given problem**

**Algorithm**

**Code**

**Output**

**CONCLUSION:**

Divide and Conquer strategy was studied. The programs for (a) Binary search (b) Merge sort, (c) Finding minimum and maximum element (d) Quick sort (e) finding kth smallest element and (f) Strassen’s Matrix multiplication algorithms were studied and implemented successfully.