FILE STRUCTURES LABORATORY

Subject Code: 10ISL67	**I.A. Marks : 25**
Hours/Week : 03	**Exam Hours: 03**
Total Hours : 42	**Exam Marks: 50**

Design, develop, and implement the following programs

1. Write a C++ program to read series of names, one per line, from standard input and write these names spelled in reverse order to the standard output using I/O redirection and pipes. Repeat the exercise using an input file specified by the user instead of the standard input and using an output file specified by the user instead of the standard output.

2. Write a C++ program to read and write student objects with fixed- length records and the fields delimited by "|". Implement pack ( ), unpack ( ), modify ( ) and search ( ) methods.

3. Write a C++ program to read and write student objects with Variable - Length records using any suitable record structure. Implement pack ( ), unpack ( ), modify ( ) and search ( ) methods.

4. Write a C++ program to write student objects with Variable - Length records using any suitable record structure and to read from this file a student record using RRN.

5. Write a C++ program to implement simple index on primary key for a file of student objects. Implement add ( ), search ( ), delete ( ) using the index.

6. Write a C++ program to implement index on secondary key, the name, for a file of student objects. Implement add ( ), search ( ), delete ( ) using the secondary index.

7. Write a C++ program to read two lists of names and then match the names in the two lists using Cosequential Match based on a single loop. Output the names common to both the lists.

8. Write a C++ program to read k Lists of names and merge them using k-way merge algorithm with k = 8.

9. Write a C++ program to implement B-Tree for a given set of integers and its operations insert ( ) and search ( ). Display the tree.

10. Write a C++ program to implement B+ tree for a given set of integers and its operations insert ( ), and search ( ). Display the tree.

11. Write a C++ program to store and retrieve student data from file using hashing. Use any collision resolution technique.

12. Write a C++ program to reclaim the free space resulting from the deletion of records using linked lists.

Note: In the examination each student picks one question from the lot of all 12 questions.