Laboratory Course - III
(Based on Paper No. BC31601 and BC31602)

Semester III	Subject Code: BCP31606	Lectures: 60

Objectives:
The syllabus aims in equipping students with, • Creating tables in oracle in 3rd normal form • Writing Triggers, Functions, Procedures, Cursor and Packages in PL/SQL • Understand Data Structure concepts in detail • Writing a program for implementation of various data structure

Unit 1: RDBMS	24

• Assignment to demonstrate
   ➢ Use of various data types in Pl/SQL
   ➢ Creating Triggers
   ➢ Writing Procedures and Functions
   ➢ Working with Non-Parameterized and Parameterized Cursor
   ➢ Writing Packages	

Unit 2: Data Structures using C	24

• Assignment to demonstrate
   ➢ Use of arrays for static implementation of various Data structures
   ➢ Searching and sorting techniques using C language
      ■ Linear and binary search
      ■ Bubble sort
      ■ Insertion sort
      ■ Selection sort
      ■ Merge sort
      ■ Quick sort
   ➢ Various types of Linked List
   ➢ Use of Linked list for Dynamic representation of Various Data Structure
   ➢ Operations on Stack
   ➢ Use of Stack
      ■ To find String is palindrome or not
   ➢ Operation on Queue
   ➢ Static Circular Queue	

> ➢ Operations on Binary Search Tree(insertion and Searching)
> ➢ Tree Traversal(preorder, postorder, inorder, levelorder)
> ➢ Implementation of graphs using adjacency matrix
> ➢ In degree, out degree of graph using matrix

*Contact hours – 12 hours

Reference Books:

1. Ellis Horowitz and Sartaj Sahni, *Fundamentals of data structures* Univ Press.
2. Radhakrishanan and Shrivastav, *Data Structure Using C*
3. Rajesh K. Shukla ,Wiley –India, *Data Structure Using C and C++*
4. Abhay K. Abhyankar, *Data Structures Files and Algorithms* Phadke.
5. Alfred V. Aho, John E. Hopcroft, Jeffrey D. Ullman, *Data Structures and Algorithms*, Pearson Education
6. Henry korth and A. Silberschatz, *Database System Concepts,* 5th edition; 2006
7. Ivan Bayross, *SQL, PL/SQL The Programming Language Oracle*, BPB Publication.
8. Ramez Elmasri, ShamkantNavathe, *Fundamentals of Database system*, 5th edition; 2008