

10B17CI674: Object Oriented System and Programming Lab

Course Credit: 2

Semester: VI

Objective:

1. To strengthen their problem solving ability by applying the characteristics of an object-oriented approach.
2. To strengthen ability to design and represent solutions to problems using UML notations.
3. To introduce object oriented concepts in C++ and Java

Learning Outcomes:

Student will be able to:

1. Explain what constitutes an object-oriented approach to programming and identify potential benefits of object-oriented programming over other approaches.
2. Analyze and decompose problem specifications from Object-Oriented Perspectives and represent the solution using UML notation.
3. Apply an object-oriented approach to developing applications of varying complexities.

List of Experiments

S NO	Topics
1.	
2.	Static members and Friend Functions
3.	Inheritance
4.	File Handling
5.	Operator Overloading and Conversion Functions
6.	Polymorphism and Virtual Functions in C++
7.	Templates in C++
8.	Object-Oriented Concepts in Java (Objects, Classes, Inheritance, Polymorphism etc.)
9.	Exception Handling in Java
10.	Packages, Interfaces and Abstract classes in Java
11.	Container classes in Java
12.	UML Designing (Class & Object Diagram, Use Case Diagram, Collaboration Diagram, Sequence Diagram, State Diagram)
13.	Structured Query Languages (Data Definition, Data Manipulation, Data Access Commands)

References

1. Grady Booch, James Rumbaugh, Ivar Jacobson, "Unified Modelling Language user's guide", Addison Wesley Limited
2. Lafore R., Object oriented programming in C++, Waite Group
3. Stroustrup B., The C++ Programming Language, Addison Wesley
4. Langsam, Augstein, Tenenbaum: Data Structures using C and C++
5. Sahani, Sartaj: Data Structures in C++/Data Structures in Java
5. Java 2: The Complete Reference, Fifth Edition -- by Herbert Schildt

Evaluation Scheme:

1. Mid Term Exam (Viva and Written Exam)	20
2. End term Exam (Viva and Written Exam)	30
3. Lab Records	5
4. Regular Assessment (Quality and quantity of experiment performed, Learning laboratory skills, Attendance etc.)	30
5. Project	15

Total**100**