**Design Patterns**

**UNIT – 1** Introduction to Design Patterns and Observer Pattern:Basics of Design patterns, Description of design patterns, Catalog and organization of catalog, design patterns to solve design problems, selection of design pattern, Use of design patterns.

**UNIT - 2** Creational Patterns: Abstract Factory, Builder, Factory Method, Prototype, Singleton, Creational Patterns

**UNIT - 3** Structural Pattern:Adapter, Bridge, Composite, Decorator, Façade, Flyweight, Proxy, Discussion of Structural Patterns

**UNIT - 4** Behavioral Patterns: Chain of Responsibility, Command, Interpreter, Iterator, Mediator, Memento, Observer, State, Strategy, Template Method, Visitor, Discussion of Behavioral Patterns

**UNIT – 5** A Case Study: Designing a Document Editor: Design Problems, Document Structure, Formatting, Embellishing the User Interface, Supporting Multiple Look-and-Feel Standards, Supporting Multiple Window Systems, User Operations, Spelling Checking and Hyphenation, Summary

**UNIT – 6** Complexity Analysis of Design Patterns, Methods to analyze the complexity of design patterns, Implementation techniques and applications of design pattern in game design, product design,

**TextBooks:** 1. Head First Design Patterns, by Eric Freeman and Elisabeth Freeman 2. Design Patterns Explained, by Shalloway and Trott Reference Books 3. Introduction to design Patterns in C++ with Qt by Alan Ezust, Paul Ezust