Course No: MCA-4EL2
Course Title : Advanced Software Engineering

Unit I

Evolution of Software development techniques. Procedure-oriented programming versus Object-oriented programming. Fundamental OOP concepts, Classes, Objects.
Object creation, initialization and destruction. Implementation of these concepts using C++ class constructor, member-wise initialization and destructor. Constructor overloading; Default and Copy-constructor.

Unit II

Data Abstraction & Information Hiding. Implementation of these concepts using a C++ class. Public & private data-members and member-functions. Class-specific(static) data and functions.

Unit III

Concept of inheritance and its use in the development of Reusable Software. Implementation of inheritance using Derived classes in C++. Single and Multiple inheritance. Runtime Binding versus Static Binding.Concept of Polymorphism and its implementation using Virtual functions in C++.

Unit IV

Concepts of portable and platform-independent software. Elaboration of these concepts using the Java programming language and the Java Virtual Machine as examples.Byte-Code versus Object-Code.Major differences between Java and C++.

Reference Books:

Sommerville ,"Software Engineering", Pearson Education,7/e
Oriented Programming with C++", TMH.
2.Balagurusamy,"Programming with Java",TMH.
4. Arnold &Gosling,"The Java Programming