

BSc (IT) Third Sem

DSC - 7: Object Oriented Programming with C++ (LTP::4:0:2) 6 Credits

UNIT-1

Object Oriented Programming (OOP): An Overview, C++ Language: An Overview, C++ Language: Preliminaries, Keywords and Identifiers, Constants, variables and Data Types, Operators and Expressions.

Control Structures: Simple-if, if-else, nested if-else, else-if, switch, nested switch, goto statements. Looping Structures: while, do-while, for, jumps in loop.

UNIT-2

Functions: Introduction, Advantages, classification, Types of functions, Recursion, Inline Functions, Function overloading, Scope resolution Operator, Reference Variables. Arrays and Strings. Structures and Unions, Pointers.

Classes and Objects: Introduction, Definitions, Access Specifiers, passing objects as arguments, Returning an object from a function, Arrays of objects, Static data and function members, Friend functions, Friend class, const member functions, static and const objects, this pointer, local classes, local object versus global object.

UNIT-3

Constructor and Destructors, Types of constructors. Operator Overloading and Type Conversions, Inheritance: Types, virtual functions, abstract class, Accessibility of Base Class Members in Derived Classes, Containership and Delegation, Exception Handling.

UNIT-4

File Handling, I/O Streams, Templates: class and function templates, overloading template functions, class templates and Inheritance. Standard Template Library: Components of Standard Template Library.

Text Books:

1. Object-Oriented Programming with C++, M T Somashekara, D S Guru, K S Manjunath.
2. C++: The Complete Reference, Herbert Schildt.
3. Object Oriented Programming with C++, E Balagurusamy.