SARDAR PATEL UNIVERSITY
Programme: Bachelor of Vocation (Software Development)
Semester: III
Syllabus with effect from: June 2015

Paper Code: US03CBVS01	Total Credits: 4
Title Of Paper: Object Oriented Programming with C++	

Unit	Description in detail	Weightage (%)
1	**Object Oriented Programming (OOP) Concepts and Introduction to C++:** Structured programming vs. object oriented programming Basic OOP concepts : objects , classes , encapsulation , data hiding , inheritance, polymorphism Introduction to C++: structure of a C++ program , data types , variables, constants, expressions, statements and operators Usage of header files Control flow statements : if else, for loop, while loop, do while loop, switch, break and continue	25 %
2	**Input/Output, Arrays and Working with Classes:** Basic I/O in C++ Arrays in C++ : introduction, declaration, initialization of one , two and multi-dimensional arrays, operations on arrays Working with strings : introduction, declaration, string manipulation and arrays of string Classes and objects in C++ Constructors : default, parameterized, copy, constructor overloading and destructor Access specifiers, implementing and accessing class members Overview of Working with objects : constant objects, nameless objects, live objects, arrays of objects	25 %
3	**Functions, Function Overloading and Inheritance:** Introduction to functions, library and user-defined functions, parameters passing, default arguments Functions overloading , inline functions, friend functions and virtual functions Inheritance: Introduction , derived class declaration, forms of inheritance Inheritance and member access ability	25 %
4	**Unit 4: Operator Overloading, Pointers and Files:** Operator overloading : Introduction, overloaded operators, unary operator overloading, operator keyword, operator return values, binary operators overloading, introduction to overloading with friend function Usages of Pointers in C++ : basic overview	25 %

Basic Text & Reference Books:

➢ E Balagurusamy: Object Oriented Programming in C++, Tata McGraw-Hill Publishing Co. Ltd.
➢ Robert Lafore: Object Oriented Programming in Turbo C++, Guide, Galgotia Pub. (P) Ltd.

Additional Text & Reference Books:

➢ Barkakati N.: Object Oriented Programming in C++, PHI.
➢ OOP's using C++ for Dummies.