SARDAR PATEL UNIVERSITY
BCA Semester: III
Syllabus with effect from: June 2019

Paper Code : **US03CBCA23**	Total Credit: 4
Title of Paper: **Object Oriented Programming – I**	

Lectures per week   : 4   **Exam Duration: 3hrs**

All units carry equal weightage.

Unit	Description in detail	Weightage (%)
I	**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%
II	**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 ➢ Working with objects : constant objects, nameless objects, live objects, arrays of objects	25%
III	**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, constructor and destructor in derived class, construction invocation and data member initialization.	25%
IV	**Operator Overloading, Pointers and Files** ➢ Operator overloading : Introduction, overloaded operators, unary operator overloading, operator keyword, operator return values, binary operators overloading, overloading with friend function ➢ Usages of Pointers in C++ : basic overview Dynamic memory allocation ➢ Files : introduction and applications ➢ File operations : open, read, write, seek and close	25%

Basic Text & Reference Books :-

1.   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.Books For Additional Reading :

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