

**B.Sc I<sup>st</sup> YEAR - IV SEMESTER**  
**Object Oriented Programming with C++**

**Unit-1**

Introduction:- Programming Language generations, Object Oriented Paradigm, Basics of OOPs, Benefits, Applications of OOPs, Object Oriented Languages, Difference between OOPs and Procedure Oriented Programming

**Unit - 2**

Introduction to C++, General Structure of a C++ program, cin and cout objects, Keywords, identifiers, Constants, variables, Data types in C++, Operators-scope resolution operator, Control structures: Conditional statements and Looping statements, Functions –function with default arguments, inline functions, function overloading, reference variables Arrays - Single and multidimensional arrays.

**Unit-3**

Object and Classes-Structure and Class, Defining a class, defining member functions, member function with object as arguments and argument as return type, array of objects, static member data and member function, friend function and friend class.

Constructor and destructors-characteristics of constructor, constructor types-default, parameterized, copy and dynamic, constructor overloading.

**Unit-4**

Operator overloading, defining operator function, overloading unary, binary and relational operators

Inheritance-benefits of inheritance, types of inheritance, methods overriding, virtual functions.

**Unit- 5**

C++ Streams and File handling-Stream class, unformatted i/o operations, formatting of output- ios class functions and flags, manipulators, Files-File classes, file types, file functions.

Error handling, command-line arguments

**Reference Books**

1. Object Oriented Programming with C++ - M.T. Somashekara, D.S.Guru, H.S. Nagendraswamy, K.S. Manjunatha, PHI 2nd Edition
2. Object Oriented Programming with C++ - E. Balagurusamy, 4th Edition, Tata Mc Graw Hill Publication
3. Object Oriented Programming in C++ - Robert Lafore, 4th Edition, Pearson Education
4. Object-Oriented Programming with ANSI and Turbo C++.

Dr. Padma

M. S. Reddy  
13/12/16  
M. S. Reddy  
13/12/16

