

7712

Course : PGDCA  
Sub Code : 2PGDCA4(A)

Semester: II  
Subject Name : (A) OOPs & Programming with C++ ( Elective - 2 )

Unit	Lectures	Practical's	Workshops	Demo	Field Visits	Total Hours	Remarks
<b>UNIT-I</b> Principles of Object-oriented Programming, Object-Oriented Programming Paradigm, Basic Concepts of Object Oriented Programming, Benefits of OOPs, Object-Oriented Languages, Applications of OOP, C++ Statements, Class, Structure of C++ Program, Creating the Source File, Compiling and Linking.	8	6				14	
<b>UNIT-II</b> Tokens, Expressions And Control Structures, Introduction, Tokens, Keywords, Identifiers, Basic Data types, User Defined Data Types, Derived Data Types, Symbolic Constants, Type Compatibility, Declaration of Variables, Dynamic Initialisation of Variables, Reference Variables, Operators in C++, Scope Resolution Operator, Member Dereferencing Operators, Manipulators, Type Cast Operator, Expressions and Implicit Conversions, Operator Precedence, Control Structures.	8	6				14	
<b>UNIT-III</b> Specifying a Class, Defining Member Functions, Making an Outside Function Inline, Nesting of Member Functions, Private Member Function, Arrays within a Class, Memory Allocation for Objects, Static Data Member, Static Member Functions, Arrays of Objects, Object as Function Arguments. Constructors And Destructors Introduction, Constructors, Parameterized Constructors, Multiple Constructors with Default Arguments, Dynamic Initialisation of Objects, Copy Constructors, Dynamic Constructors, Destructor.	8	6				14	
<b>UNIT-IV</b> Functions in C++, The Main Function, Function Prototyping, Call by Reference, Return by Reference, Inline Functions, Default Argument, Const. Arguments, Function Overloading, Friend and Virtual Function. Operator Overloading - introduction, methods, binary versus unary operators Inheritance: Extending Classes Introduction, Defining Derived Classes, Single Inheritance, Making a Private Member Inheritable, Multilevel Inheritance, Multiple Inheritance, Hierarchical Inheritance, Hybrid Inheritance.	8	6				14	
<b>UNIT-V</b> Pointers, Virtual Functions and Polymorphism Compile time Polymorphism, run time polymorphism, Pointers to Objects, This Pointer, Pointers to Derived Classes, Virtual Functions, Pure Virtual Functions.	8	6				14	
<b>TEXT &amp; REFERENCE BOOKS:</b> <ul style="list-style-type: none"> <li>• OBJECT ORIENTED PROGRAMMING WITH C++ BY E. BALAGURUSWAMI,</li> <li>• TMH PUBLICATIONS ISBN 0-07-462038-X</li> <li>• OBJECT ORIENTED PROGRAMMING IN C++ BY NABAJYOTI BARAKATI</li> <li>• SAMS PHI PVT. LTD</li> <li>• OBJECT ORIENTED PROGRAMMING IN C++ BY R.K. SHUKLA, WILLEY</li> </ul>							