



## Teaching and Examination Scheme:

Teaching Scheme			Credits C	Examination Marks				Total Marks
L	T	P		Theory Marks		Practical Marks		
				ESE(E)	PA (M)	PA (V)	PA (I)	
3	0	2	4	70	30	30	20	150

## Content:

Sr. No.	Content	Teaching Hours	Module Weightage (%)
1	<b>OOP Concepts</b> : Introduction OOP, Procedural Vs. Object Oriented Programming, Principles of OOP, Applications of OOP	04	09
2	<b>Expression and Statements</b> : Data types, Expression, control statements and Iteration, typecasting	04	07
3	<b>Arrays and Functions</b> : 1D and 2D arrays, passing data to functions, scope and visibility of variables in functions, inline function, default arguments	06	14
4	<b>Classes</b> : Basics of object and class in C++, access specifiers - private and public members, static data members, class scope, constructors and their types, destructors, operator overloading, scope operator	08	18
5	<b>Overloading</b> : Function overloading, Operator overloading, Type conversion	04	09
6	<b>Inheritance</b> : Concept of Inheritance, types of inheritance: single, multiple, multilevel, hierarchical, hybrid, protected members, overriding	05	11
7	<b>Exception Handling</b> : Introduction to exception, try-catch-throw, multiple catch, catch all, rethrowing exception, implementing user defined exceptions	04	09
8	<b>I/O and File management</b> : Concept of streams, cin and cout objects, C++ stream classes, Unformatted and formatted I/O, manipulators, File stream	03	07
9	<b>Templates, Exceptions and STL</b> : What is template? function templates and class templates, Introduction to exception, try-catchthrow, multiple catch, catch all, rethrowing exception, implementing user defined exceptions, Overview and use of Standard Template Library	07	16

## Reference Books:

1. Object Oriented Programming in Turbo C++, Robert Lafore, Galgotia
2. The Complete Reference C++, Herbert Schilitz, TMH
3. Object-Oriented Programming With C++, E Balagurusamy, TMH



GUJARAT TECHNOLOGICAL UNIVERSITY

Master of Science (Integrated-Information Technology)

Semester: II

Subject Name: Object oriented Programming in C++

Subject Code: 1320504

4. C++ Programming, Black Book, Steven Holzner, dreamtech
5. C++ Primer Stanley B Lippman, Josée Lajoie, Barbara E. Moo

**Course Outcome:**

1. Understand Object-Oriented Programming concepts and basic characteristics of C++
2. Differentiate between object-oriented and procedure-oriented methodology
3. Understand the concept of function and overloading
4. Know the principles of data encapsulation, inheritance, polymorphism, access specifiers, exceptions
5. Know the concept of streams

