

GUJARAT TECHNOLOGICAL UNIVERSITY

B. E. SEMESTER: V

MECHATRONICS ENGINEERING

Subject Name: **Object-Oriented Programming in C++**

Subject Code: **152004**

Teaching Scheme				Evaluation Scheme		
Theory	Tutorial	Practical	Total	University Exam (Theory) (E)	Mid Sem Exam (Theory) (M)	Practical (I)
3	0	2	5	70	30	50

Sr. No.	Course content
1.	Principles of Object-Oriented Programming: Tokens. Expressions and sequences. Functions with C++. Classes and objects, Constructors and destructors, Operator overloading and type conversions.
2.	Inheritance: Extending classes, Pointers, Virtual functions and polymorphism, Managing console I/O operations, Working with files.
3.	C++ I/O Systems: C++ I/O basics, Formatted I/O, Manipulators, User defined inserters, Extractors and Manipulators.
4.	Templates and Exception Handling: Generic functions, Generic classes, Understanding exception handling.
5.	Runtime Type Identification and Casting Operators: Understanding RTTI, Dynamic cast, Constant cast, Reinterpret cast and static cast.
6.	Standard Template Library: Introduction and overview, Container classes, Algorithms.
7.	Object-oriented system development: Simple case study.

Reference Books:

1. Teach Yourself C++, Herbert Schildt, Tata Mc-Graw Hill.
2. Object Oriented Programming with C++, E Balagurusamy, Tata McGraw-Hill.