

No	Information of IT-21015/22015	
1	Unit Name :	Programming Language in C++
2	Code :	IT-21015/22015
3	Classification :	Engineering Subject
4	Credit Value :	3
5	Semester/ Year Per Offered :	1
6	Pre Requisite :	Knowledge of Computer Programming
7	Mode of delivery :	Lecture, Practical
8	Assessment system and breakdown of mark	
	Practical:	30%
	Mid-tern / Final Examination	70%
9	Academic staff teaching unit	Department of Information Technology Engineering
10	<p>Course outcome of unit :</p> <p>In this course students will be able</p> <ol style="list-style-type: none"> To Run C++ Program with C-Free 4, Professional C/C++ IDE. To write a computer program what can be a very difficult language to learn. To understand the fundamentals of OOP To understand new concepts and their application to real programming problems To learn details of Programming in C++. 	
11	<p>Synopsis of unit :</p> <p>The course covers the critically important topic of requirements engineering, where the requirements for what a system should do are defined.</p> <p>Object-oriented programming was developed because limitations were discovered in earlier approaches to programming. To appreciate what OOP does, we need to understand what these limitations are and how they arose from traditional programming languages.</p>	
12	<p>Topic :</p> <ol style="list-style-type: none"> Course Introduction <ul style="list-style-type: none"> C++ Programming Basics Loops and Decisions Structures Enumerations Functions <ul style="list-style-type: none"> Simple Functions Passing Arguments to Functions Returning Values from Functions Reference Arguments Overloaded Functions Recursion 	

- Inline Functions
- Default Arguments
- Scope and Storage Class
- Returning by Reference
- const Function Arguments

3. Objects and Classes

- A Simple Class
- C++ Objects as Physical Objects
- C++ Objects as Data Types
- Constructors
- Objects as Function Arguments
- The Default Copy Constructor
- Returning Objects from Functions
- Structures and Classes
- Classes, Objects, and Memory
- Static Class Data
- const and Classes

4. Arrays and Strings

- Array Fundamental
- Arrays as class member
- Arrays of Objects
- C-String
- The Standard C++ string Class

5. Operator Overloading

- Overloading Unary Operators
- Overloading Binary Operators
- Data Conversion

6. Inheritance

- Derived Class and Base Class
- Derived Class Constructors
- Overriding Member Functions
- Public and Private Inheritance
- Level of Inheritance
- Multiple Inheritance

	<p>7. Pointers</p> <ul style="list-style-type: none"> • Addresses and Pointers • The Address-of Operator • Pointers and Arrays • Pointers and Functions • Pointers and C-Type Strings • Memory Management : new and delete • Pointers to Pointers <p>8. Streams and Files</p> <ul style="list-style-type: none"> • Stream Classes • Stream Errors • Disk File I/O with Stream • File I/O with Member Functions • Memory as a Stream Object • Command-Line Arguments
13	<p>Main Reference :</p> <ul style="list-style-type: none"> • Robert Lafore Object Oriented Programming Language in C++ (4th Edition)
14	<p>Additional Reference :</p> <ul style="list-style-type: none"> • McGraw.Hill.Herb.Schildts.C.plus.plus.Programming.Cookbook.Apr.2008 • John Smily, Learn to Program with C++ • Joyce Farrell, Programming Logic and Design Comprehensive