2/4 B.Tech - FIRST SEMESTER

IT3T4   **OOPS THROUGH C++**   **Credits: 3**
Lecture: 3 Periods/week   **Internal assessment: 30 marks**
Practice/Interaction: 1Period/week   **Semester end examination: 70 marks**

Objectives:
- To provide knowledge on different programming paradigms.
- To get familiar with principles of object oriented programming.
- To Demonstrate and Develop programs in C++.
- To provide overview of predefined libraries in C++.

Outcomes:
Students will be able to
- Understand general principles and basics of C++.
- Understand the features of Object Oriented Programming.
- Understand the use of Pointers, Runtime Polymorphism.
- Identify the use of Files and Generic programming in C++.
- Understand the use of Libraries and Implement the Exception Handling concepts.

Pre-requisite:
C Programming.

Syllabus:

UNIT-I
Introduction to C++, Input and output in C++, declarations, Decision statements, control loop structures, function in C++.

UNIT-II
Classes and objects, constructors and destructors, operator overloading, Inheritance.

UNIT- III
Arrays, Pointers, Memory Models, Binding and Polymorphism.

UNIT-IV
Files, Templates: Introduction, need for templates, definition of class templates, working of function templates, class templates with more parameters, function templates with more arguments, overloading of template function, member function templates, recursion with function templates.

UNIT-V
Strings, Exception Handling, STL.

Text Book:
　　　　Programming in C++, 2/e, by Ashok N Kamthane, Pearson Education.

Reference Books:

1. C++ How To Program, Dietel and Dietel, Prentice Hal .
2. C++ The Complete Reference, 5th Edition, by Herbert Schildt, TMH.

E-Learning Resources:

1. http://www.nptelvideos.com/video.php?id=2177&c=28