CAP445:OBJECT ORIENTED PROGRAMMING USING C++ - LABORATORY

Course Outcomes: Through this course students should be able to

CO1 :: understand the concepts of object-oriented programming

CO2 :: distinguish between the procedure-oriented and object-oriented programming languages

CO3 :: apply the concept of file handling and exception handling mechanisms

CO4 :: develop applications using the concepts of object-oriented programming

CO5 :: validate the code formulation by passing various test cases

List of Practicals / Experiments:

Principle of OOP's

- classes and objects
- the concept of constructors and destructors
- friend Functions
- the different types of Inheritance

Operator Overloading and Type Conversion

- unary operator overloading
- binary operator overloading
- basic to class type conversion
- class type to basic type conversion
- class type to class type conversion

Run-time Polymorphism and Virtual Functions

- abstract classes
- virtual functions and pure virtual functions
- this pointer
- pointer to object

Working with Files and Streams

- different file operations
- the concept of random access in files
- the concept of command line arguments

Generic Programming with Templates

- class and function templates
- function template overloading
- recursion with template function
- macros

Exception handling

- exceptions handling mechanism
- multiple exceptions handling
- exceptions in constructors and destructors

Text Books:

1. OBJECT ORIENTED PROGRAMMING WITH ANSI & TRUBO C++ by ASHOK N. KAMTHANE, Pearson Education India

References:

1. OBJECT ORIENTED PROGRAMMING IN C++ by ROBERT LAFORE, GALGOTIA PUBLICATIONS

2. C++: THE COMPLETE REFERENCE by HERBERT SCHILDT, Mc Graw Hill Education