JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA – 533 003, Andhra Pradesh, India

DEPARTMENT OF INFORMATION TECHNOLOGY

II Year – I Semester		L	T	P	C
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OBJECT ORIENTED PROGRAMMING THROUGH C++ LAB					

Course Objectives:
The objective of this lab is to
- Demonstrate procedural and object oriented paradigm with concepts of streams, classes, functions, data and objects.
- Understand dynamic memory management techniques using pointers, constructors, destructors, etc
- Demonstrate the concept of function overloading, operator overloading, virtual functions and polymorphism, inheritance.

Course Outcomes:
By the end of this lab the student is able to
- Apply the various OOPs concepts with the help of programs.
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Exercise -1 (Classes Objects)
Create a Distance class with:
- feet and inches as data members
- member function to input distance
- member function to output distance
- member function to add two distance objects

1. Write a main function to create objects of DISTANCE class. Input two distances and output the sum.
2. Write a C++ Program to illustrate the use of Constructors and Destructors (use the above program.)
3. Write a program for illustrating function overloading in adding the distance between objects (use the above problem)

Exercise – 2 (Access)
Write a program for illustrating Access Specifiers public, private, protected
1. Write a program implementing Friend Function
2. Write a program to illustrate this pointer
3. Write a Program to illustrate pointer to a class

Exercise -3 (Operator Overloading)
1. Write a program to Overload Unary, and Binary Operators as Member Function, and Non Member Function.
    1. Unary operator as member function
    2. Binary operator as non member function
2. Write a c ++ program to implement the overloading assignment = operator

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Exercise -4 (Inheritance)

1. Write C++ Programs and incorporating various forms of Inheritance
   i) Single Inheritance
   ii) Hierarchical Inheritance
   iii) Multiple Inheritances
   iv) Multi-level inheritance
   v) Hybrid inheritance
2. Also illustrate the order of execution of constructors and destructors in inheritance

Exercise -5(Templates, Exception Handling)

1. a)Write a C++ Program to illustrate template class
2. b)Write a Program to illustrate member function templates
3. c) Write a Program for Exception Handling Divide by zero
4. d)Write a Program to rethrow an Exception

Exercise -6

1. Write a C++ program illustrating user defined string processing functions using pointers (string length, string copy, string concatenation)
2. Write a C++ program illustrating Virtual classes & virtual functions.
3. Write C++ program that implement Bubble sort, to sort a given list of integers in ascending order