Exam.Code:0906
Sub. Code: 6676

2072

B.E. (Information Technology)

Second Semester

IT -201: Object Oriented Programming Using C++

Time allowed: 3 Hours Max. Marks: 50

NOTE: *Attempt five questions in all, including Question No. I which is compulsory and selecting two questions from each Unit.*

x-x-x

I. Attempt the following:-

a) Compare data abstraction and data encapsulation using example of code.

b) Demonstrate the handling of ambiguity due to multiple inheritance using an example of code.

c) Do friend functions have 'this' pointer? Justify your answer using examples of code.

d) What is a meta-class? Demonstrate using an example of code.

e) Differentiate between Aggregation and Composition using examples of code in C++. (5x2)

UNIT - I

II. a) Why data is kept private and functions of a class as public? If data is kept private, then how is it accessed and updated outside the class? Demonstrate using a program written in C++.

b) Demonstrate order of invocation of constructor and destructors using suitable examples of C++ code. (5,5)

III. Implement operator overloading for subtraction (-) operator. Demonstrate its use using an example of code in C++. (10)

IV. Implement Attendance record system in C++ using object-oriented approach as well as function-oriented approach and highlight difference between the two approaches. (10)

P.T.O.

UNIT - II

V. What is the use of pure virtual functions? How do they differ from virtual functions? Demonstrate their use and differences using real-life examples of code. How virtual functions help in implementing polymorphism? Show using example of code. (10)

VI. a) Compare the implementation of class templates and function templates in C++ using suitable examples of code

b) How are classes and different relationships among them represented during object-oriented design? Show using examples. (2x5)

VII. a) Demonstrate the need of exception handling in C++ programming and how is it implemented?

b) How are objects read and written in files? Show using suitable example. (2x5)

x-x-x