(b) What is encapsulation? What are its advantages? How can

encapsulation be enforced in C++?

(c) Differentiate and give examples to bring out the difference between

i) Function overloading and function overriding

ii) Default constructor and copy constructor

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NBC402

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 294402

Roll No.

MCA-DUAL DEGREE
(SEM. IV) THEORY EXAM. 2014-15
OBJECT ORIENTED PROGRAMMING USING C++

Time : 3 Hours]   [Total Marks : 100

Note : Attempt questions as indicated.

Q1. Attempt any *four* parts of the following :   5x4=20

(a) What do you mean by virtual class? When do we declare a class as virtual in C++?

(b) What is objects - oriented approach?

(c) What is an aggregation? Explain with an example and diagram.

(d) What are the friend functions? Explain the characteristics with a suitable example.

(e) Explain why do we need to use constructors. Explain a copy constructor with an example.

Q2. Attempt any *two* parts of the following :   10x2=20

(a) What is an operator overloading? Write a C++ program to overload operator (for pre-decrement).

(b) Differentiate between static binding and dynamic binding. Explain the use of virtual function with the help of suitable example.

(c) What do you mean by static class member? Explain the characteristics of static class member with suitable example.

Q3. Attempt any *two* parts of the following :   10x2=20

(a) What is Standard Template Library? How is it different from the C++ Standard Library?

(b) What is exception handling? Explain the types of exception handling and explain with suitable example.

(c) Write a program to find the sum of two numbers declared in a class and display the numbers and sum using friend class.

Q4. Attempt any *two* parts of the following :   10x2=20

(a) What is inherence in object-oriented programming? Explain all inheritance in C++ with suitable example.

(b) Create a base class basic_info with data members name, roll no, sex and two member functions getdata and display. Derive a class physical_fit from basic_info which has data members height and weight and member functions getdata and display. Display all the information using object of derived class.

(c) Write short notes on the following :

i) Inline function

ii) Virtual function.

Q5. Attempt any *two* parts of the following :   10x2=20

(a) Why is destructor function required in class? What are the special characteristics of destructors? Can a destructor accept argument?