2014

(Second Semester)

MASTER OF COMPUTER APPLICATIONS

Paper No: MCA 201

(Object Oriented Programming Systems)

Full Marks : 60

Time : 3 hours

The figures in the margin indicate full marks for the questions

Answer Question No 1 and **any four** from the rest

1. Answer all the following questions: 2 X 6=12

a. What is inline function?

b. What are implicit and explicit type conversions?

c. What is the use of this pointer?

d. What is the difference among public, protected and private members of a class?

e. What is the advantage of using namespace?

f. What are the operators that cannot be overloaded?

2. a) Explain the fundamental concept and features of object oriented programming? 6

b) What is the difference between "call by reference" and "call by value" of a function, explain with example. Define function prototyping. 4+2=6

3. a) What are the characteristics of static data members and static member functions. 6

b) What is a constructor? Explain about the default and parameterized constructor? 1+5=6

4. a) Define run time polymorphism and compile time polymorphism. 2

b) Write a C++ program to implement the concept of operator overloading for complex number addition, subtraction with using arithmetic operators 10

5. a) State the different forms of inheritance. Explain them with example. 6

b) What are the operators that cannot be overloaded? Explain the working of virtual function. 2+4=6

6. a) Write a C++ program to copy the contents of one file to another. Use only C++ file stream operators. **6**

b) What is an exception? Explain how it is handled with example. **1+5=6**

7. a) What is pure virtual function and abstract class? Explain virtual function with example. **2+4=6**

b) What is a friend function? Explain with example. **2+4=6**

8. a) Explain the dynamic memory allocation and deallocation with example. **4**

b) Create a class MAT of size mxn. Perform subtraction and addition for MAT type objects. **8**

************II/MCA/201************