Register Number: ……………………..

**MCA DEGREE EXAMINATIONS: APRIL/MAY 2014**

(Regulation 2009)

Second Semester

**MASTER OF COMPUTER APPLICATIONS**

MCA506: Object Oriented Programming

**Time: Three Hours**                                    **Maximum Marks: 100**

**Answer all the Questions:-**

**PART A (10 x 2 = 20 Marks)**

1.  What is meant by data abstraction and Encapsulation?
2.  What is the purpose of 'this' pointer?
3.  What is an inline function? State its uses.
4.  What is a copy constructor? Why is it needed?
5.  What is a static variable? Give an example.
6.  How many arguments are required in the definition of an overloaded unary and binary operator?
7.  What are called Templates?
8.  What is a generic classes?
9.  How does a map differ from a multimap?
10. What is a container class?

**PART B (5 x 16 = 80 Marks)**

11. a) (i) Explain about the various programming paradigms. (8)
       (ii) What is modular programming? What are its advantages? (8)

**(OR)**

    b) (i) What is generic programming? Explain with examples. (8)
       (ii) Bring out the differences between object oriented programming and structured (8) programming.

12. a) (i) Explain the dynamic allocation operations in C++. (8)
       (ii) What are the various types of constructors available in C++? Explain with (8) appropriate examples.

**(OR)**

    b) (i) Explain the concept of array of objects with an example. (8)
       (ii) What is a static member function? Explain with an example. (8)

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13. a) (i) Explain operator overloading using friend function with an example. (8)
       (ii) Can constructors be overloaded? Justify your answer with appropriate examples. (8)

**(OR)**

    b) (i) Define a class to represent complex numbers. Write a C++ program to add two (10) complex numbers by overloading the '+' operator.
       (ii) How will you overload 'new' and 'delete' operators? Explain. (6)

14. a) (i) What is multilevel inheritance? Explain with an example. (6)
       (ii) What are virtual functions? How will you call a virtual function through base (10) class reference? Give examples.

**(OR)**

    b) (i) Write notes on generic functions. (6)
       (ii) Explain the various exception handling functions in C++ with examples. (10)

15. a) (i) Explain about the different type of containers used in STL. (6)
       (ii) Explain about the various stream classes used for file manipulation. (10)

**(OR)**

    b) (i) List the components of STL. (4)
       (ii) A file contains a list of telephone numbers with name in the following form: (12)

           Jack        2335642
           Ashish      2469491
           Kamalesh    3725331
           ……..       ……….

       Write an interactive, menu-driven program that will access the above file and implement the following tasks.

           i) Determine the telephone number of the specified person.
           ii) Determine the name if a telephone number is known.
           iii) Update the telephone number, whenever there is a change.

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