

2006 CENTRE FOR DEVELOPMENT OF ADVANCED COMPUTING(C-DAC) M.C.A

**END-TERM EXAMINATION
SECOND SEMESTER [MCA] – MAY 2006
OBJECT ORIENTED PROGRAMMING**

Paper Code: MCA-110

Time: 3 Hours

Marks: 60

- Q. 1 (a) What do you understand by virtual base class? (10 x 2 = 20)
- (b) Define polymorphism by parameter?
 - (c) Explain the term 'Persistent objects'?
 - (d) When do we declare a method or class abstract?
 - (e) Discuss the different levels of access protection available in C++.
 - (f) What do you understand by genetic functions?
 - (g) Explain the terms 'name spaces'.
 - (h) Explain UML.
 - (i) What do you understand by STL?
 - (j) When do we declare a member of a class static?

Q. 2 Design a class to represent a bank account. Include the following members:

Data members: (10)

- Name of depositor
- Account Number
- Type of Account
- Balance Amount in the account

Methods

- To assign initial values
- To deposit an amount
- To withdraw an amount after checking balance
- To display the name & balance

Q. 3 (a) What do you understand by polymorphisms? What are different types of polymorphism supported by C++. (6)

(b) What do you understand by Constructor and Destructor? Give the different types of constructors. (4)

Q. 4 (a) Write a program to overload the new operator. (6)

(b) Differentiate between function overloading and function overriding. (4)

Q. 5 (a) What do you understand by inheritance? What are the different types of inheritance? (5)

(b) Differentiate between aggregation and generalization. (5)

Q. 6 (a) Write a program to implement the exception handling while pushing an element in the stack [MAXSIZE]. (5)

(b) Write a program to add two complex numbers by overloading (+) sum operator? (5)

Q. 7 Write short notes on any two: (5 x 2 = 10)

(a) Vectors

(b) Containers

(c) Class Templates

(d) Parametric Polymorphism

(e) C++ garbage collection.

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