MCA (CBEGS) – I
Object Oriented Programming
Choice-Based

13/12/2016

Q.P. Code : 750702

(3 Hours)

[Total marks : 80]

N.B.: 1) Question No. **1 is compulsory.**
2) Attempt any **three** from remaining **five** questions.

1. (a) What are Programming Paradigms? Explain Procedure Oriented and Object Oriented **10**
Programming Paradigms in detail.
   (b) What is Dynamic Memory Allocation? Design a Class DynamicArray with data[](int) and size(int) **10**
as data members. Add a Constructor taking size as a parameter and allocate memory for the
array Dynamically. Add Methods to store integer elements in the array and print the elements of
the array.

2. (a) Design a Class Counter with Count(int) data member. Overload ++operator for pre- increment **10**
and post-increment of integer Count Variable.
   (b) Differentiate between **10**
   1. C and C++
   2. Pass By Value and Pass by Reference

3. (a) What is use of Constructor and Destructor? Explain different types of constructors with suitable **10**
example.
   (b) What is Inheritance? Explain Public, Private and Protected Inheritance with a suitable example **10**
of each.

4. (a) What is Template? Explain the concept of Function Template. Write a template function for **10**
addition of its arguments. Instantiate it for characters, integers and floats.
   (b) Explain Exception handling mechanism of C++. Write a program to handel DivisionByZero **10**
exception.

5. (a) What is polymorphism? Explain with example how polymorphism can be achieved at run-time. **10**
Add a note on Virtual destructors.
   (b) What are Different File Opening Modes? Declare a person class-with age(int) and name(stirng). **10**
Write a program to store and access the object of person class into and from binary file.

6. Write short notes on (any four) :
   a) Uses of Explicit and Mutable Keywords **20**
   b) Static data members and functions
   c) Bitwise Operators in C++
   d) Namespaces in C++
   e) Types of Pointers

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