

Roll No. ....

**67045**

**M.C.A. 1st Sem. w.e.f. Dec. 2012  
with New Notes (Current Scheme)**

**Examination-December, 2014**

**Object Oriented Programming Using C++**

**Paper-MCA-105**

**Time : 3 hours**

**Max. Marks : 80**

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Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard will be entertained after the examination.

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**Note :** Attempt **five** questions in all Q. No. **1** is **compulsory**. Attempt **four** more questions selecting **one** from each unit. All questions carry equal marks.

1. Answer the following questions briefly :

- (a) List advantages of arrays.
- (b) What is object copying ?

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- (c) Define derived classes.
- (d) Write uses of recursion in C++.
- (e) Explain static members.
- (f) Describe iostreams.
- (g) Write uses of new.
- (h) List advantages of inheritance.

### **Unit-I**

- 2. (a) What are pointers ? How these are useful and used ? Discuss in detail with examples and C++ codes.
  - (b) Discuss uses and advantages of encapsulation in C++ with examples.
3. Explain the following briefly with suitable examples :
- (a) Recursion and its importance in C++.

- (b) Uses and advantages of functions in C++.

## Unit-II

4. (a) What are constructors ? How these are useful and used ? Explain with examples and C++ code segments.
- (b) Explain types and advantages of inheritance in detail with C++ codes.
5. Describe the following with examples :
- (a) Use of virtual functions in C++.
- (b) Object initialization and its methods.

## Unit-III

6. (a) Define copy constructor ? How it is used and useful ? Explain with suitable examples and C++ code segment.
- (b) Write a program in C++ to overload "+" and "-" (minus) operators.

7. Explain the following with examples : 16

- (a) Role of friend function in C++ and its advantages.
- (b) Exception handling and its merits in C++.

#### **Unit-IV**

8. (a) Define template classes ? How these are used and useful ? Discuss with examples and with C++ codes.

- (b) Explain namespaces, hashes and strings in C++ through examples.

9. Explain the following with examples :

- (a) Generic programming in C++ and its advantages
- (b) Template functions in C++