

Roll No. ....

**67010**

**MCA 1st Semester (Current) CBCS  
Scheme w.e.f. Dec.-2016 Examination –  
November, 2017**

**OBJECT ORIENTED PROGRAMMING USING C++**

**Paper : MCA-105 (C)**

*Time : Three Hours ]*

*[ Maximum Marks : 80*

*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 examination.*

**Note :** Question No. 1 will be *compulsory*. Candidate will be required to attempt *four* questions from remaining *eight* questions. Select *one* question from each Unit. Each question carrying **16** marks.

1. (a) What is data abstraction ?  $8 \times 2 = 16$   
(b) What is message passing ?  
(c) What is structure ?  
(d) What is this pointer ?  
(e) What is resource capture ?

- (f) What is iterator ?
- (g) What is late binding ?
- (h) What is stream ?

### UNIT - I

- 2. (a) How data and functions are organized in an object-oriented program ? Explain. 8
- (b) What are the unique advantages of an object-oriented programming paradigm ? Explain. 8
- 3. (a) What do you mean by dynamic binding ? How it is useful in OOP ? 6
- (b) Explain the following with example : 5 + 5
  - (i) String
  - (ii) Control statement

### UNIT - II

- 4. (a) Define data members, member function, private and public members with example. 6
- (b) How inheritance is basic feature of OOP ? Explain with program which has base class Shape and its derived class Rectangle. 10
- 5. Explain the following with example : 5 + 5 + 6
  - (a) Virtual Base class
  - (b) Container class
  - (c) Constructor

### UNIT – III

6. Differentiate between the following with example :  
5 + 5 + 6

- (a) Compile time polymorphism and run time polymorphism.
  - (b) Overloading and Overriding.
  - (c) New and delete keyword.
7. (b) What is exceptional handling ? What kind of exception can be handle and why ? Explain with example with various steps. 10
- (b) What is memory management ? How is it implemented in C++ ? 6

### UNIT – IV

8. (a) Distinguish between overloaded functions and function templates. Explain with example. 8
- (b) Distinguish between the term class template and template class, Explain with example. 8
9. (a) What do you mean by STL ? What are benefits of STL ? Explain adapters, vector, and list. 8
- (b) Write a function template for finding the minimum value contained in an array. 8