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## 67015

# MCA 1st Semester (with old notes) Examination – December, 2016

Paper: MCA-105

**OBJECT ORIENTED PROGRAMMING USING C++** 

Time: Three Hours }

[ Maximum Marks: 80

Before answering the question, 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: Attempt five questions in all by selecting at least one question from each Unit. All questions carry equal marks.

## UNIT -1

- **1.** (a) What is Object Oriented Programming? Discuss various elements of OOP.
  - (b) Discuss following:
    - (i) Abstract data type
    - (ii) Function prototyping
    - (iii) User defined types

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2. When will you make a function inline and why? How does an inline function differ from a preprocessor macro? Explain the working of inline function with example.

#### UNIT - II

- 3. (a) What is constructor? Can we have more than one constructor in a class? If yes, discuss the need of such a situation.
  - (b) Discuss with example, the implication of deriving a class from an existing class by the "public" and "protected" access specifier.
- (a) What is destructor? Discuss the need of destructor with appropriate example.
  - (b) What is polymorphism? How is polymorphism achieved at (i) compile time, (ii) run time. Discuss with example. http://haryanapapers.com

#### UNIT - III

- 5. (a) What is an exception? What are the advantages of using exception handling mechanism in a program? Can you throw class types as exception? Discuss with example.
  - (b) What is friend function ? How do they act as bridge between two classes ?
- (a) What is operator overloading? Write a program to overload unary operator.

(b) Explain new and delete operators used in dynamic memory allocation.

### UNIT - IV

- 7. (a) What are templates? How templates are different from standard programs? How are these declared? Discuss with example.
  - (b) Discuss the role of hashes in C++.
- 8. (a) What is string? Explain different types of string. Discuss the concept of manipulating string with suitable example.
  - (b) What are iostreams? How they are necessary part of C++ programming?

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