

Roll No. 

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Total No. of Pages : 02

Total No. of Questions : 09

**MCA (2012 to 2014 Batch) (Sem.-1)**  
**OBJECT ORIENTED PROGRAMMING IN C++**  
Subject Code : MCA-102  
Paper ID : [B0129]

Time : 3 Hrs.

Max. Marks : 100

**INSTRUCTIONS TO CANDIDATES :**

1. SECTIONS-A, B, C & D contains TWO questions each carrying TWENTY marks each and students has to attempt any ONE question from each SECTION.
2. SECTION-E is COMPULSORY consisting of TEN questions carrying TWENTY marks in all.
3. Use of non-programmable scientific calculator is allowed.

**SECTION-A**

- 1) a) Differentiate between structured programming approach and object oriented programming approach.  
b) Discuss the concept of type casting while evaluating a function. Discuss implicit and explicit type casting with suitable examples.
- 2) a) Discuss various conditional constructs available in C++. Give suitable example code.  
b) Write a program to find sum of all the digits of a number.

**SECTION-B**

- 3) a) How to define and declare a function? What is a function prototype? Write a program to find all the prime numbers between 1 and 100 using a function.  
b) What is a Pointer? How is it different from a simple variable? Discuss various operations which can be performed on a pointer type variable. Also discuss the operations which cannot be performed on a pointer type variable.
  - 4) a) How to pass one dimensional and two dimensional arrays to a function? Explain with the help of suitable example code.  
b) What is a Structure? Write a program using structures to find a student having maximum marks in the class. Make suitable assumptions.
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**SECTION-C**

- 5) a) What do you understand by a class? How to define it? How is it different from an object? What is use of constructors and destructors in a class? (10)
- b) Can constructors and destructors be overloaded? If yes, how? If not, why not? (10)
- 6) a) What do you understand by inheritance? How is it implemented in C++? Discuss in detail with the help of suitable examples. (10)
- b) What is a friend function? Explain with the help of example code. (5)
- c) What is a container class? How is it implemented in C++? (5)

**SECTION-D**

- 7) a) How to overload prefix and postfix increment operator in C++? Explain with the help of example code. (10)
- b) What is a pure virtual function? How is it useful in implementing run time binding? (5)
- c) How exception is handled in C++? (5)
- 8) a) Write a program to insert a line of text in a file and then copy the contents of that file into another file. (10)
- b) How to access a file randomly? Discuss various functions available for accessing a file randomly. (10)

**SECTION-E**

9. **Write briefly :**
- a) What do you understand by reusability?
- b) What are the rules for naming a variable in C++?
- c) What is the use of continue statement?
- d) What do you understand by scope and lifetime of a variable?
- e) Differentiate between a structure and a union.
- f) How to define a macro in C++?
- g) Differentiate between public and protected data member.
- h) What is an inline member function?
- i) What is function overloading?
- j) How to find a character in a string?
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