

Roll No.

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.

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?