

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(Electronics Engg./3D Animation & Graphics) (2012 Onwards)  
B.Tech.(CSE/ECE/Electronics & Computer Engg./ETE/IT) (2011 Onwards)  
(Sem.-3)

**OBJECT ORIENTED PROGRAMMING USING C++**

Subject Code : BTCS-305

Paper ID : [A1129]

Time : 3 Hrs.

Max. Marks : 60

**INSTRUCTIONS TO CANDIDATES :**

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

**SECTION-A**

**1. Write briefly :**

1. Draw flow chart to find the largest of three numbers.
2. Why are classes in C++ called Abstract Data Types?
3. Explain the difference between abstraction & data hiding.
4. Why are classes in CPP called Abstract Data Types?
5. Explain the use of get & put pointer in file handling.
6. Explain how memory is allocated to classes & objects.
7. Distinguish between static members & variables. How are they useful?
8. What are virtual constructors? Give relevant examples to explain it.
9. What are static functions? Explain how friendship function is used in C++.
10. What are the various input statements of C++?

## SECTION-B

2. What is a constructor and destructor? What is the use of default & copy constructors? Is a constructor mandatory for a Class? Explain by giving examples in each case.
3. Explain how base class member functions can be invoked in a derived class if the derived class also has a member function with the same name.
4. What is a virtual function? Explain its usage with example.
5. What are the various File Opening modes? How is (ios::app) mode different from (ios::ate mode)?
6. Explain what is overloaded operator & how does a compiler proceed to execute an overloaded operator.

## SECTION-C

7. Write a program to copy the content of a data file to another file. Make use of the exception handling conditions also.
8. Write a class to represent a vector (a series of float values). Include member functions to perform the following tasks:
  - a) To create the vector
  - b) To modify the value of a given element
  - c) To multiply by a scalar value
  - d) To display the vector in the form (10, 20, 30,...)

Write a program to test your class

9. Write a program to overload the plus operator to add two complex numbers.