

Total Pages : 3

**End Semester Examination of Semester-III, 2015**

**Subject : BCA**

**Paper : 2110**

**(Object Oriented Programming Using C++)**

**Full Marks : 70**

**Time : 3 Hrs**

*The figures in the margin indicate the marks corresponding to the question*

*Candidates are requested to give their answers in their own word as far as practicable.*

*Illustrate the answers wherever necessary.*

**Group A**

1. Answer **any five** questions : 5×2=10
- i) Define copy construction.
  - ii) Write down the merits of encapsulation.
  - iii) What is meant by early binding?
  - iv) List some of the manipulators used in C++?
  - v) What is the use of 'this' pointer?
  - vi) Differentiate errors and exceptions?
  - vii) What do you mean by data hiding?
  - viii) What is pure virtual class?

( 2 )

**Group B**

Answer **any five** questions :

4x5=20

2. Write down the merits and demerits of using friend functions.
3. What do you mean by reference variable? Is there any difference between reference variable and pointer? Explain.  
2+2
4. When should we make a function inline? Explain with an example.
5. Write down the differences between object oriented programming and procedure oriented programming.
6. List down some of the advantages and drawbacks of the use of operator overloading in C++.
7. What is polymorphism in C++? Explain with example.
8. Write a C++ program to find the largest of 4 numbers.

**Group C**

Answer **any four** questions :

4x10=40

9. Define Inheritance. How inheritance provides the idea of reusability? Explain different forms of inheritance.  
2+2+6
10. What is the basic purpose of function overloading? Write a C++ program to overload '+' and '-' operator to find the sum and difference of two complex numbers. 2+8

11. Describe the concept of ADT. How classes are different from structures? "Object is class type variable"—Explain it. What do you mean by dynamic memory allocation? 2+3+2+3
12. Write short notes on (any two) : 5x2=10
- a) 'try-catch-throw' mechanism
  - b) Destructor
  - c) iostream
  - d) function template
13. a) State the use of scope resolution operator in context of C++ programming language. 4
- b) Briefly explain constructor with default argument with example. 6
14. a) What is public, private and protected keyword in C++? 4
- b) Briefly explain, how virtual functions works. 6
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