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RB-1844

Second Year B. C. A. (Sem. III) Examination

April / May – 2010

Object Oriented Programming : Paper - 304

Time : **3** Hours] [Total Marks : **70**

Instruction :

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fillup strictly the details of ☛ signs on your answer book.

Name of the Examination :

☛ **S. Y. B. C. A. (Sem. 3)**

Name of the Subject :

☛ **Object Oriented Programming : Paper - 304**

☛ Subject Code No. : **1 8 4 4** ☛ Section No. (1, 2,.....) : **Nil**

Seat No. :

Student's Signature

1 Answer the followings : (any **ten**) **10**

(i) What is dynamic binding?

(ii) What is the application of scope resolution operation (::) in C++?

(iii) How do structures in C and C++ differ?

(iv) What do you mean by array of objects? How are they created?

(v) List out the operators that can not be overloaded.

(vi) What do you mean by operator overloading? Give Syntax for it.

(vii) What does this pointer point to?

(viii) What is an abstract class?

(ix) What is the function of showpoint flag?

(x) The two major component of object are_____ and _____.

(xi) What is abstract class?

2 Any **three** : **15**

(a) List memory management operators. Point out reasons why using new is better idea than using malloc ( )?

(b) What is OOP? How it is differ from POP?

(c) What do you mean by objects as function arguments? Explain pass-by-value and pass-by-reference with example.

(d) What is destructor? How destructor get called? Also describe the importance of destructor.

3 Any **three** : **15**

(a) What is constructor? How do we call a constructor? State the advantages of constructor.

(b) Explain pointer to object and pointer to members of a class with example.

(c) What is conversion function? How it is created? Explain with example.

(d) What is containership? How does it differ from inheritance?

4 Any **three** : **15**

(a) What is ambiguity in hybrid inheritance? How ambiguity remove from compile time? Explain with example.

(b) If a class D is derived from two base classes B1 and B2, then write these classes each containing a Zero argument constructor. Ensure that while build an object of type D firstly the constructor of B2 should get called followed by that of B1. Also provide a destructor in each class. In what order would these destructor get called?

(c) Explain read( ) and write ( ) binary function.

(d) Explain following function with example.

(i) setprecision ( )

(ii) setfill ( )

(iii) setiosflags ( ).

5 Any **three** : **15**

(a) Create a class with atleast two data members. Overload >> and << operator.

(b) Create a base class called shape. Use this class to store two double type values that could be used to compute the area of figures. Derive two specific classes called triangle and rectangle from the base shape. Add to the base class a member function getdata ( ) to initialize base class data mambers and another member function disp_area( ) to compute and display the area of figures. Make disp_area( ) as a virtual function and redefine this function in the derived classes to suit their requirements.

Using these three classes, design a program that will accept dimension of a triangle or rectangle interactively, and display the area
(Area of rectangle = x*y, Area of triangle = 1/2 * x * y)

(c) Create class "emp" containing the data members Name of Employee, Employee number, Basic salary, Allowance. Take appropriate member function and get data into class, then after write data into data file called "emp.dat" until user choice. Display the information of all employee from a file along with pf, Total salary. Use read ( ) and write ( ) binary function for file. [pf = 12% of basic salary, total salary = basic salary + alloance – pf)

(d) Create two classes DM and DB which store the value of the distances. DM stores distance in meters and centimeters and DB stores distance in feet and inches. Write a program that can add one object of DM with another object of DB. Use a friend function to carry out the addition operation. The object that stores the result may be a DM object or DB object, depending on the units in which the result is required. The display should be in the format of feet and inches or meters and centimeters depending on the object of display.

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