



0408

Second Year B.C.A. (Sem. III) (ATKT) Examination  
October / November – 2005  
304 - Object Oriented Programming

[Total Marks : 70]

Time : Hours]

Instructions :

(1)

नीचे दशावेष निम्नलिखित विगतो धरारवली पर अवश्य लभवी.  
Fillup strictly the details of signs on your answer book.

Name of the Examination :  
B. C. A. - 3

Name of the Subject :  
Object Oriented Programming

Subject Code No.: 0 4 0 8 Section No. (1, 2, ...): NH

Seat No. : [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

Student's Signature

(2) Figures to the right indicate full marks.

(3) Mention your options clearly

1 Answer in short

10

- (a) How do structures in C and C++ differ ?
- (b) An unsigned 'int' can be twice as large as the signed 'int'. Explain how ?
- (c) What is early binding ?
- (d) What are visibility modes ?
- (e) What is constructor with default argument ?
- (f) State operators, which a friend function cannot overload.
- (g) What is inline function ? When it is used ?
- (h) What is pure virtual function ? How is it declared ?
- (i) Write a statement using seekg() to go by number 50 in the file.
- (j) List types of inheritance.

2 (a) What is destructor ? How destructor gets called ?

5

Also describe the importance of destructor.

(b) List out features of OOPS. Explain Polymorphism and Encapsulation in detail. 4

(c) Create two classes DM and DB which stores values of distances. DM stores distance in meters and centimeters. DB stores distances in feet and inches. Write a program that can read values for the class objects and add one object of DM with another object of DB. 6

Use friend function to carry out addition operation. And this function will display answer in meter and centimeter.

OR

2 (a) What is conversion function? How it is created? Explain with example. 5

(b) In which circumstances functions can make a friend? Write down the advantages of a friend function. 5

(c) Create the M (Row) & \* N (Column) matrix using NEW operator and find the highest number from upper triangular matrix. Also DELETE operator to be allocate the memory. Take appropriate member function to display the result in proper format. 6

3 (a) What is Inheritance? When ambiguity occurs in hybrid inheritance. What are solutions to avoid ambiguity. 5

(b) What is static keyword? Explain static data members and static member functions. How static members are called. 4

(c) Create a class FLOAT that contains one float data member. Overload all four arithmetic operators so that they operate on object of float. The operators should be overloaded using friend function. 6

OR

3 (a) Define term NEW. Discuss advantages of NEW over MALLOC. 5

(b) Explain following functions :

- (1) seekg()
- (2) bof()
- (3) bad()
- (4) getline()

(c) Write a program to compare and concatenate two strings using = = and + operators overloading respectively.

4 (a) What is this pointer ? What are the applications of this pointer ?

OR

(a) State rules to be observed when creating virtual function.

(b) How do the properties of following two derived class differ :

- (1) Class D1 : private B, public C {.....}
- (2) Class D2 : protected B, private C{.....}

OR

(b) When user defined manipulators are needed ? Design a single manipulator to provide the following output specification for printing float values :

- (1) 10 columns width
- (2) Trailing zeros shown.
- (3) Two digits precision

(c) Create a class SHAPE which has number of sides as data member. Derive two classes CIRCLE and RECTANGLE from SHAPE class. CIRCLE class has one data member radius. RECTANGLE class has two data members length and width. Now using technique of virtual function get data for both classes and display data for both classes.

5 (a) Attempt any two :

- (1) What is data file ? Write down syntax of open() with different modes of opening file.

- (2) Write down the syntax of read() and write() functions. Also discuss why read() / write() are more suitable than other input / output functions of file.
- (3) Write statements using seekg() and tellg() to achieve the following :
  - (i) To go to beginning after an operation is over.
  - (ii) To move the pointer by 15 position backward from current position.
  - (iv) To move the pointer by 20 bytes backward from end position.
- (b) Create a class STUD containing data members name of student, seat number, marks in 3 subjects. Take appropriate member function and get data into class, then after write into data file called "stud.dat" until user's choice. Display the information of all students having marks more than 60% from the file. Use read() and write() binary function for file.