



C++

DM-0786
Second Year B. C. A. (Sem. III) Examination
September / October – 2006
Object Oriented Prog. Structure

Time : 3 Hours]

[Total Marks :

Instructions :

(1)

नीचे द्वाविष निम्न-निवाणी विगतो उत्तरवली पर अवश्य लपदी. Fillup strictly the details of signs on your answer book.		Seat No. :
Name of the Examination : <input type="text" value="S. Y. B. C. A. (Sem. 3)"/>		<input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="2"/> <input type="text" value="7"/> <input type="text" value="0"/>
Name of the Subject : <input type="text" value="Object Oriented Prog. Structure"/>		<input type="text" value="Signature"/> Student's Signature
Subject Code No. : <input type="text" value="0"/> <input type="text" value="7"/> <input type="text" value="8"/> <input type="text" value="6"/> Section No. (1, 2,.....) : <input type="text" value="Nil"/>		

- (2) Question 1 is **compulsory**.
- (3) Figures indicated on **right** side indicate marks.

1 Answer in short :

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- ✓ (1) What is static binding ?
- (2) How does a constant defined by 'const' differ from a constant defined by the preprocessor statement # define ?
- ✓ (3) How do structures in C and C++ differ ?
- ✓ (4) What is destructor ? How is it written in C++ ?
- (5) What do you mean by array of objects ? How are they created ?
- (6) What is the function of show point flag ?
- (7) How does a main () function in C++ differ from main () in C ?
- (8) List out operators, which cannot be overloaded ?
- (9) What is the difference between ios :: app and ios :: ate file opening mode ?
- (10) State the difference between seekg () and tellg () function in random access file.

- (11) What is overridden function ?
- (12) Can we use the same function name for a member functions of a class and an outside function in the same program file ?

2 Do as directed :

14

- (a) What is conversion function ? How is it created ? Explain with example.
- (b) What is POP ? Differentiate POP with OOPS.
- (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. Use friend function to carry out additions operations. And this function will display answer in meter and centimeter.

OR

2 Do as directed :

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- (a) List out features of OOPS. Explain polymorphism and encapsulation in detail.
- (b) What do you mean by object as function arguments ? Explain call by value and call by reference.
- (c) Create the M(Row) x 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.

- (a) Explain virtual base class with an example.
- (b) Explain term NEW. Discuss advantages of NEW over MALLOC.
- (c) Write a program to compare and concatenate two strings using == and + operators overloading respectively.

OR

- 3 (a) Explain parameterized constructor. How constructor called Explicitly/Implicitly. 14
146
(b) Explain virtual functions with example. 228
(c) Create a class with atleast two data members. Overload >> and << operators.

- 4 (a) Explain about nameless temporary objects. 5

OR

- (a) Explain width (), precision (), fill () functions. 5
(b) Write statements using seekg () and tellg () to achieve the following : 4
(i) To go to the beginning after an operation is over.
(ii) To go to byte number 60 in the file.
(iii) To move pointer by 15 positions backward from current position.
(iv) Give the current position of read pointer.

- (c) How do the properties of following two derived class differ : 2

- (i) Class D1 : Private B, Public C {.....}
(ii) Class D2 : Protected B, Private C {.....}

- 5 (a) Attempt any two : 16

- (i) Write down the syntax of read () and write () functions. Also discuss why read () / write () is more suitable than input / output functions of file ?

- (ii) What is file mode ? Describe the various file mode options available. 334

- (iii) Why user-defined manipulator is needed ? Design a single manipulator to provide the following output specifications for printing float values :

- (a) 12 columns width
(b) Right justified
(c) Two digits precision
(d) Filling unused places with '+'

- (b) Create class 'emp' which contains the data members name of employee, employee number, basic salary. Take appropriate member function and get data into class, then after write data into datafile called 'emp-dat' until user choice. Display the information of all employees from a file alongwith HRA, Total salary. Use read () and write () binary function for file.

(Hint : HRA = 25% of basic-salary

Total = HRA + Basic salary)