SET - 1

BACHELOR IN COMPUTER APPLICATIONS (BCA)

Term-End Practical Examination

00535

December, 2012

CS-72P : C++ AND OBJECT ORIENTED PROGRAMMING

Time allowed : 2 hours   *Maximum Marks : 100*
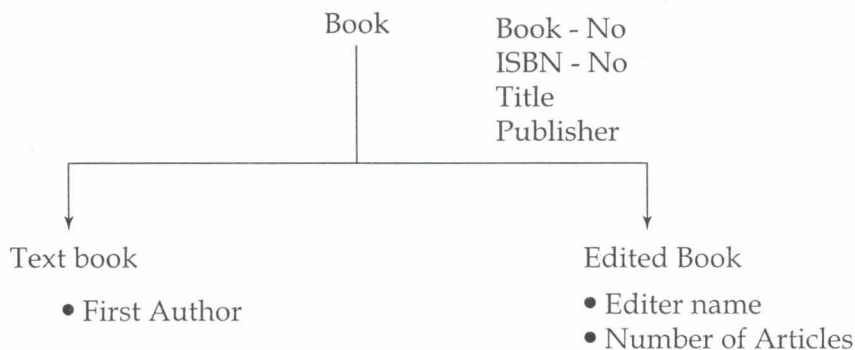   *(Weightage : 15%)*

General Instructions :

(i)   *There are **two compulsory** questions in this paper of **40** marks each. Rest **20** marks are for **viva - voce**.*

(ii) *You must write appropriate main ( ) function and test your programs.*

(iii) *Write/print the programs, input and results on your answer-script.*

(iv) *Make and state suitable assumptions, if any.*

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1. Design and implement using C++, a class "Student" that stores the student id, name, address and marks in five different subjects (in an array having five elements). Assume that marks are out of 100. The class should have a constructor, a member function for input of marks and an additional member functions which prints the student details and marks, along with total marks and percentage. Write the main function which creates two such student objects and displays their details.   **40**

2. Consider the following hierarchy along with suggested data members of classes :   **40**

Book   Book - No
                    ISBN - No
                    Title
                    Publisher

Text book   Edited Book

• First Author   • Editer name
                             • Number of Articles

Design and implement the classes in the hierarchy using C++. You may add more data members in the classes, if needed. Include at least one constructor of each class in your implementation. Also implement a function display-book-info ( ) that displays all the information of related object. Write appropriate main ( ) function such that it demonstrates polymorphism while using function display-book-info ( ).

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BACHELOR IN COMPUTER APPLICATIONS (BCA)

Term-End Practical Examination

00485

December, 2012

CS-72P : C++ AND OBJECT ORIENTED PROGRAMMING
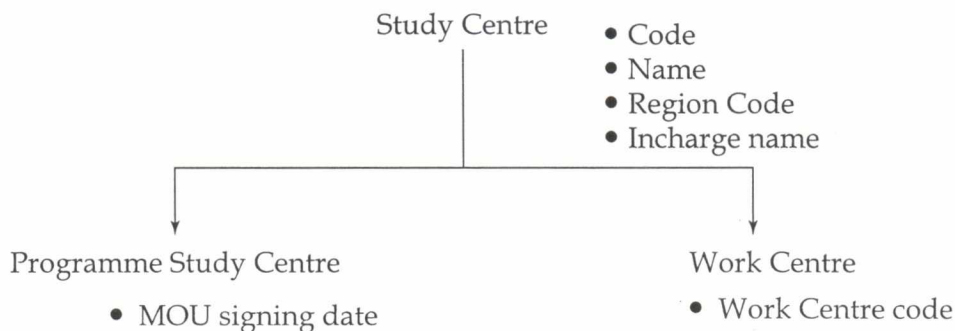
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1. Design and implement using C++ a class named "Employee" which stores employees id, name and salaries of past 6 months (the salaries are to be stored as an array of six elements) of the employee. The class should have a constructor and a member functions to input salaries of past 6 months. In addition, class has another member function that displays complete information about the employee including the salaries of last six months and average salary of last six months. Write appropriate main () that create two such employee objects and displays their information. **40**

2. Consider the following hierarchy along with the suggested data members for the classes : **40**

Study Centre
- Code
- Name
- Region Code
- Incharge name

Programme Study Centre
- MOU signing date

Work Centre
- Work Centre code

Design and implement the classes in the hierarchy using C++. You may add more data members in the classes, if needed. You should include at least one constructor in each class. All the classes should have a member function print_centre_info () which prints all the data of the object of that class. You must demonstrate polymorphism using print centre_info () and appropriate main () function.

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02355

CS-72P : C++ AND OBJECT ORIENTED PROGRAMMING
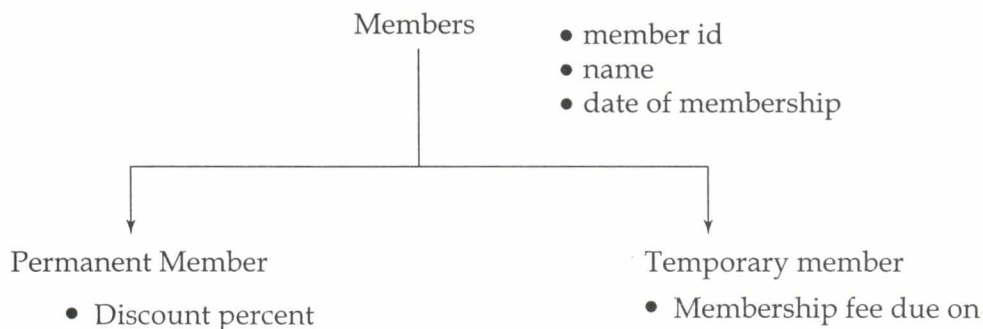
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General Instructions :
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(ii) *You must write the appropriate main( ) function and test your programs.*
(iii) *Write/print the programs, input and results on your answer–script.*
(iv) *Make and state suitable assumptions, if any.*

1. Design and implement using C++ a class "Array-STRING" which stores a string with the help of an array. The size of the string is also stored. The class has a constructor, a member function to store string and its size, and another member function to output the string and its size. Write appropriate main ( ) function that creates two such objects, input some values through main ( ) and output the strings.   **40**

2. Consider the following hierarchy along with suggested data members for the classes :   **40**

Members
- member id
- name
- date of membership

Permanent Member
- Discount percent

Temporary member
- Membership fee due on

Design and implement the classes in the hierarchy using C++. You may add more data members in the classes, if needed. You should include at least one constructor in each class. All the classes should have a member function print_member_info ( ) which prints all the data of an object of that class. You must demonstrate polymorphism using print_member_info ( ) and appropriate main ( ) function.

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BACHELOR IN COMPUTER APPLICATIONS (BCA)

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December, 2012

00475

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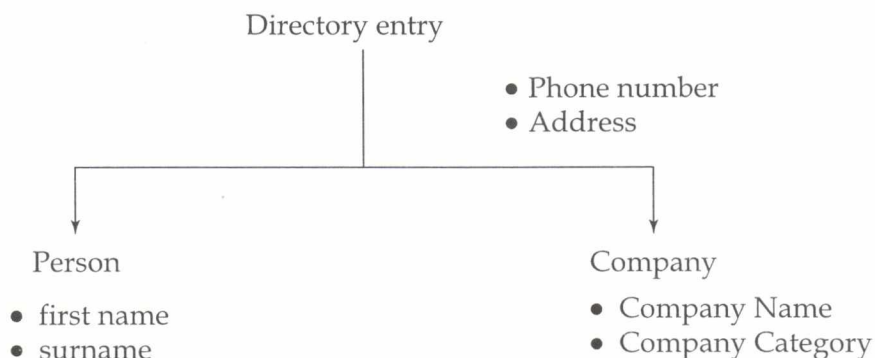
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General Instructions :

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(ii)   You must write appropriate main( ) function and test your programs.

(iii)   Write/print the programs, input and results on your answer–script.

(iv)   Make and state suitable assumptions, if any.

1.   Design and implement using C++ a class "Two D Vector" which stores a two   **40**

   dimensional vectors like $2\hat{i}+3\hat{j}$. The class should have a constructor and an overloaded

   + operator that adds two vectors. The class also have a function to print vector. Write the appropriate main ( ) function that demonstrates all the features of the class.

2.   Consider the following hierarchy along with suggested data members for the classes :   **40**

Directory entry

- Phone number
- Address

Person

- first name
- surname

Company

- Company Name
- Company Category

Company categories may be "Chemical", "Computer", "Construction" etc.

Design and implement the classes in the hierarchy using C++. You may add more data members in the classes, if needed. You should include at least one-constructor in each class. All the classes should have a member function Director-listing ( ) Which prints all the data of object of that Class. You must demonstrate polymorphism using Directory-listing ( ) and appropriate main ( ) function.

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