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CS-72(P)/S4

Bachelor of Computer Application (Pre-Revised) (BCA) Term-End Examination December, 2018

C++ AND OBJECT ORIENTED PROGRAMMING

Time : 2 Hours

Maximum Marks : 100

(Weightage : 15%)

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

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

(iii) Write/Print your programs, input and results on your answer-sheet.

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

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1. Design and implement a class "Rectangle" using C++. The class should have the following data members and functions : 40

   (a) The data member of the class should include :

      (i) Length of rectangle

      (ii) Width of rectangle

   (b) Member functions of the class should include :

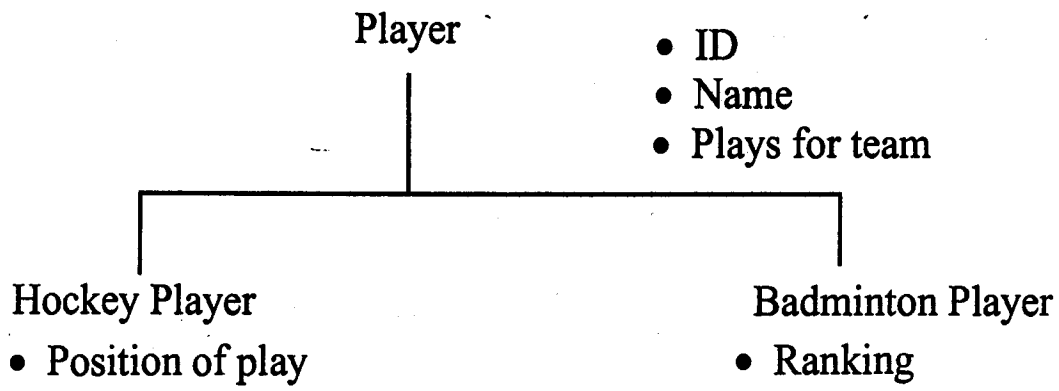
      (i) A member function to input the value of length and width of a rectangle object.

      (ii) A member function to calculate perimeter of the rectangle object.

      (iii) A member function to calculate the area of the rectangle object.

   Write appropriate main( ) function that creates three rectangle objects and finds the perimeter and area of these rectangle objects. You must demonstrate all the member functions of the class.

2. Consider the following class hierarchy along with suggested data members : 40



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 one member function print_player_info( ) which displays all the information of the object of that class. Demonstrate polymorphism using main( ) and print_player_info( ) functions.