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CS-72(P)/S2

# 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%)*

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***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 "Scholar" using C++. The class should have the following data members and functions : 40

   (a) Data members of the class should include :

      (i) Scholar_name

      (ii) Scholar_area_of_research

      (iii)Department_of_working

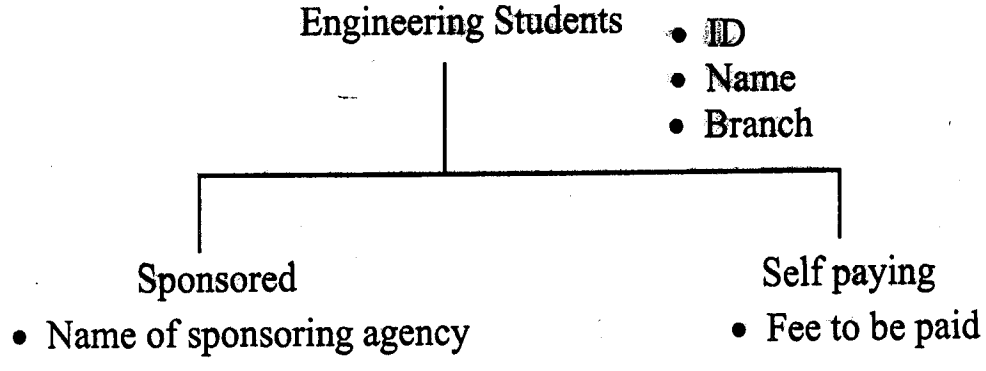
   (b) The member functions of the class should include :

      (i) A function to input data into data members of an object of "Scholar" class.

      (ii) A function that displays the department in which scholar is working (department_of_working).

   Write appropriate main( ) function that creates a list of three "Scholar" objects and finds if Scholar 1 and Scholar 2 are in the same department.

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



Design and implement the classes in the given hierarchy using C++. You may add more data members in the classes, if needed. You should include at least one constructor of each class. All the classes should have one member function print_student_info( ) which displays all the information of the object. Demonstrate polymorphism using the print_student_info( ) and main( ) functions.