POKHARA UNIVERSITY

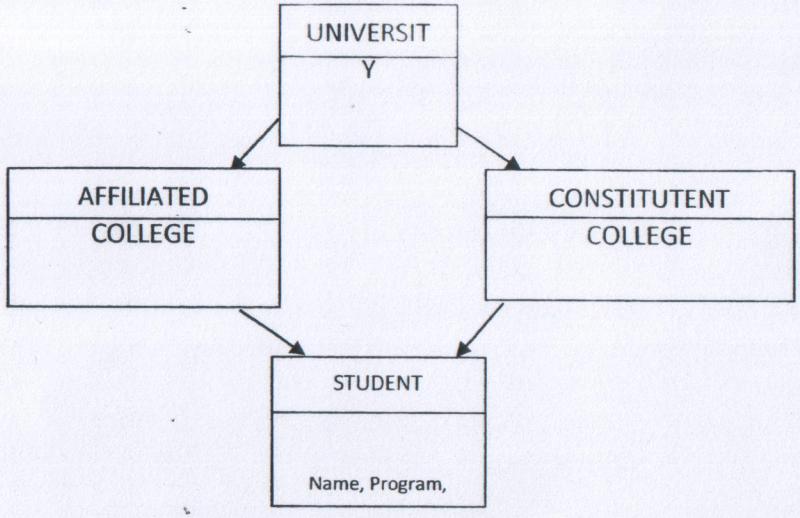
Level: Bachelor | Semester: Spring | Year : 2018
Programme: BE | Full Marks: 100
Course: Object Oriented Programming in C++ | Pass Marks: 45
Time : 3hrs.

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Attempt all the questions.

1. a) Define computation as simulation. Why the behaviour of complexity is regarded as non-linear? 7
   b) What are the advantages of oriented programming over structural programming? Explain with suitable examples. 8
2. a) Illustrate the role of friend function in object oriented programming with its pros and cons. Also write a suitable program. 8
   b) Can a class have more than one constructor? If yes, justify your answer with help of a program that reads firstName and secondName then concatenates into Name. (use suitable type of constructor). 7
3. a) Can you have more than one constructor in a program? Write a program to find area of a triangle (when its sides are given) using the concept of overloaded constructor. 8
   b) Define Reusability? What are the advantages of software Reusability in OOP design? 7
4. a) What are the different types of inheritance? Describe multiple inheritance with an example. 8
   b) The following figure shows minimum information required for each class. Write a program by realize the necessary member functions to read and display information of induvidual object. Every class should contain at least one constructor and should be inherited to other classes as well. 7



5. a) Why does 'this' pointer is widely used than object pointer? Write a programme to implement pure polymorphism. 7
   b) Write a program showing '+ +' and '- -' operator overloading. 8
6. a) Differentiate between template function and template class. How can we compute the roots of quadratic equation by using function template? Explain by examples. 8

   OR

   What is application of exception handling? Illustrate the process of exception handling with necessary programming modules.

   b) Differentiate between: 7
      i. Programming in Large and Programming in Small
      ii. *CRC Card and sequence diagram*
7. Write short notes on **(Any Two)**: 2×5
   a) Message passing formalism
   b) Software Components
   c) Absraction mechanism