Nepal College of Information Technology

[Internal Assessment 2021]

Level: Bachelor   Full Marks : 100

Programme: BE SE   Pass Mark : 45

                                    Time   : 3 hrs

Course: Principles of Programming Language

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

1. a) How does a programming language with all good attributes make significant reduction in various types of cost of use?   8

   b) Explain various principles of programming language with reference to pseudo-code.   7

2. a) How the data and rules of a program are implemented using declarative and imperative constructs? Discuss with an appropriate set of examples.   8

   b) Discuss the various uses and the consequences of using COMMON in FORTRAN.   7

3. a) Illustrate the elimination of problems of GOTO by looping in FORTRAN. Support your answer with a program to find the sum of n numbers.   8

   b) How has ALGOL changed the way of programming in an efficient way? Explain.   7

4. c) Discuss the structural organization of the ALGOL program with an example.   8

   d) Why is naming structure essential for programming? Explain the name structure of ALGOL-60.   7

5. a) "A LISP program is a function of functions and a list of lists". Justify the statements with all associative principles.   8

   b) How is information represented by property lists and association lists in LISP?   7

6. a) Explain how class and objects are represented diagrammatically in SMALLTALK?   8

   b) Discuss the three forms of message template in SMALLTALK with its supporting principle.   7

7. **Short Notes (Any Two)**   2x5

   a) CAR and CDR functions

   b) Write a program to find quadratic roots in LISP

   c) Activation Record in SMALLTALK

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