S.E. (Comp.) (Sem. III) (Revised Course) Examination, May 2010
PRINCIPLES OF PROGRAMMING LANGUAGES

Duration : 3 Hours | Max Marks : 100

Instructions : 1) Answer any five questions by selecting at least one question from each Module.
2) Make suitable assumptions.

MODULE – I

1. a) Explain the various classes of binding. 8
   b) Explain the implementation of an elementary data type. 8
   c) Explain briefly the syntactic elements of a language. 4

2. a) Draw the FSA for the following : 8
      i) All strings over {0, 1} ending with string 011.
      ii) All strings over {a, b} containing odd number of a's.
   b) Explain the following : 8
      i) Information hiding
      ii) Subprogram activation.
   c) State the primary reasons for studying programming languages. 4

MODULE – II

3. a) Explain the static rules associated with block structured program. 8
   b) Explain the sequence control mechanism for arithmetic expression. 8
   c) Explain aliasing of data objects. 4

4. a) Explain the transfer of execution control in case of multi-function program. 8
   b) Explain the control statements for expressing the basic control forms of composition, alternation and iteration. 8
   c) Explain with an example short circuit boolean expression. 4

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MODULE – III

5. a) Write a short note on exception and exception handlers. 6

   b) What do you mean by concurrent programming ? Explain with examples. 6

   c) Explain the following : 8

      i) Monitors

      ii) Semaphores.

6. a) Explain with the help of an example recursion in C. 8

   b) What do you mean by critical section ? Explain with an example. 6

   c) Write a PROLOG program to find sum of first N natural numbers. 6

MODULE – IV

7. a) Write a short note on the following : 10

      i) Advantages of Block structured Languages

      ii) Storage Management in ADA.

   b) Explain storage management in PASCAL. 5

   c) Explian sequence control in LISP. 5

8. a) State the advantages of object based languages over blocked structured languages. 8

   b) Explain the following with respect to PASCAL : 12

      i) Sequence control

      ii) Numeric data types.