

09-06-15(M)



COMP 3 – 3 (RC)

S.E. (Comp.) (Semester – III) (RC) Examination, May/June 2015 PRINCIPLES OF PROGRAMMING LANGUAGES

Duration : 3 Hours

Total Marks : 100

- Instructions :** 1) Answer **any five** questions, such that at least **one** question from **each** module is **selected**.
2) Make **any suitable** assumptions.

MODULE – I

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| 1. a) Write a short note on firmware computers. | 6 |
| b) Explain the concept of language standardization. What are the different types of standards ? | 7 |
| c) Explain types conversion and coercion with an example. | 7 |
| 2. a) What is translation ? What are the different types of translators ? | 7 |
| b) Briefly explain the syntactic elements of language. | 7 |
| c) Draw the FSA for the following : | |
| i) All strings over {0, 1} that ends with 011. | 4 |
| d) Briefly explain the concept of generic subprograms. | 2 |

MODULE – II

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| 3. a) Explain the sequence control mechanism for arithmetic expression. | 8 |
| b) Discuss the following methods of parameters transmission : | |
| a) call by name | |
| b) call by reference | |
| c) call by result | |
| d) call by value. | 8 |
| c) What is an activation record ? Explain the attributes. | 4 |
| 4. a) List and explain the various control statements for expressing basic control forms of composition, alternation and iteration. | 6 |
| b) Discuss pattern matching and backtracking with respect to sequence control of non arithmetic expressions. | 8 |
| c) Explain the uniform evaluation rule in evaluating an expression with an example. | 6 |

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**MODULE – III**

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| 5. a) Explain the properties of type 1 and type 2 grammars. | 6 |
| b) What are the different methods used for synchronization of tasks ? | 8 |
| c) Write a short note on exceptions and exception handling. | 6 |
| 6. a) Write a program in FORTRAN to find the sum of the elements in an array. | 7 |
| b) Write a short note on scheduled subprograms. | 6 |
| c) Explain with the help of an example, recursion in C language. | 7 |

MODULE – IV

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| 7. a) Write a program in Pascal to find the hypotenuse of a triangle. | 6 |
| b) Explain structured data types in Smalltalk. | 7 |
| c) Explain various sequence control statement in Pascal. | 7 |
| 8. a) Write a Ada program to find Fibonacci series. | 5 |
| b) Explain data objects in LISP. | 7 |
| c) Explain the different data types in Ada. | 8 |