

Roll No.

Total Pages : 03

BT-3/D-19

33084

PROGRAMMING LANGUAGES

CSE-209-N

Time : Three Hours]

[Maximum Marks : 75

Note : Attempt Five questions in all, selecting at least one question from each Unit. All questions carry equal marks.

Unit I

- 1. (a) Define data types. Describe the specification and implementation of data types in various programming languages. 7.5
- (b) What do you mean by BNF grammar. Explain with example. 7.5
- 2. (a) Explain the specification and implementation of character strings with example. 10
- (b) Describe the concept of type checking and type conversion in various languages with suitable example. 5

Unit II

- 3. (a) Define Records. Describe the specification and implementation of records in various languages. Also discuss about variant records. 7.5
- (b) What do you understand by abstraction, encapsulation and information hiding ? Explain using suitable example. 7.5
- 4. (a) Define Lists. Discuss the syntax, specification and implementation of lists in some programming languages. http://www.kuonline.in 7.5
- (b) How pointers are handled in various programming languages ? How much efficient are pointers, if used for dynamic allocation ? 7.5

Unit III

- 5. (a) What do you understand by pattern matching ? Discuss its implementation with example. 7.5
- (b) What do you understand by backtracking ? Write the general backtracking algorithm. 7.5
- 6. (a) Define Recursive subprogram. Explain the specification and implementation of recursive subprogram. 5

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- (b) Differentiate the following :
- (i) Static and dynamic scope
 - (ii) Local and global scope. **2×5=10**

Unit IV

7. What are the various programmer and system controlled storage Management ? Explain the heap storage management in detail using suitable example. **15**
8. Explain the features of the following :
- (i) Non-procedural programming language.
 - (ii) Logical programming language.
 - (iii) Object-oriented programming language. **3×5=15**

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