



B.Tech. Degree IV Semester Examination May 2003

CS 402 PRINCIPLES OF PROGRAMMING LANGUAGES (1999 Admissions onwards)

Time: 3 Hours

Maximum Marks: 100

- I. (a) Explain the following terms:
(i) Readability (10)
(ii) Reliability (5)
(b) Distinguish between static vs dynamic semantics. (5)
(c) Comment on:
(i) EBNF (5)
(ii) Syntax graphs (5)
- OR**
- II. (a) What are the main reasons for studying the concept of programming languages? (10)
(b) Explain the formal methods for describing semantics of a programming language. (10)
- III. (a) What is meant by scope and lifetime of a variable? (4)
(b) Distinguish between static and dynamic scope. (6)
(c) Explain the design issues for arrays and records. (10)
- OR**
- IV. (a) Discuss the selection and iterative statements in programming languages. (15)
(b) Explain the design issue pointers. What is a dangling pointer? (5)
- V. (a) Explain the different methods for implementing concurrency. (10)
(b) Explain the concept of classes in C++ with example. (10)
- OR**
- VI. (a) Discuss the Exception handling in -
(i) Ada
(ii) PL/1
(iii) CLU (15)
(b) Explain ADTs in Modula-2 with example. (5)
- VII. (a) Explain data types, structures, and primitive functions used in LISP. (15)
(b) Explain lambda functions with example. (5)
- OR**
- VIII. (a) Explain LISP functions EVAL and APPLY with examples. (12)
(b) Explain the features of functional programming languages. (8)
- IX. (a) Explain list structures and arithmetic operations in PROLOG. (10)
(b) What are the deficiencies of PROLOG? (10)
- OR**
- X. (a) Explain the applications of logic programming language. (10)
(b) Explain the following terms:
(i) Proposition Logic (10)
(ii) Clausal Form (10)