



B.Tech. Degree VII Semester (Supplementary) Examination in Computer Science and Engineering March 2003

CS 702 SYSTEMS PROGRAMMING AND COMPILER DESIGN (1998 Admissions)

Time: 3 Hours

Maximum Marks: 100

- I. (a) Explain two pass assembler. (15)
- (b) Differentiate between macro and subroutine. (5)
- OR
- II. (a) What are the functions of a loader? Explain absolute loader. (12)
- (b) What are conditional codes? How should an assembler process them? (8)
- OR
- III. (a) What is an editor? Explain different types of editors. (12)
- (b) Write an algorithm for file creation in UNIX. (8)
- OR
- IV. (a) What are the components of interactive programming environment? (10)
- (b) Write a program to read the content of a file. (10)
- OR
- V. (a) With a block diagram, explain the various phases of a compiler. (14)
- (b) Describe the role of lexical analyzer in the design of compilers. (6)
- OR
- VI. (a) Briefly explain LEX. (8)
- (b) Explain the data structures used for symbol table organization. (12)
- OR
- VII. (a) Briefly explain the basic passing techniques. (6)
- (b) Explain the syntax directed translation of assignment statements with mixed type. (14)
- OR
- VIII. (a) Outline the important schemes for syntax directed translation. (10)
- (b) Explain the syntax directed translation scheme for procedure call. (10)
- OR
- IX. (a) Explain the following: (10)
- (i) Dead code elimination
- (ii) Invariant code motion
- (b) Explain "Peephole optimization". (10)
- OR
- X. (a) Discuss the different errors that can be detected by a compiler. (10)
- (b) Explain the storage allocation strategies in block structured language. (10)
