

D 47554

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SIXTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION
JUNE 2008

CS 2K 605/IT 2K 606 (D)—COMPILER DESIGN

(2004 Admissions)

Time : Three Hours

Maximum : 100 Marks

Answer all questions.

Part A

- I. 1. What are the different phases of compilation ?
2. What is the role of a lexical analyser ?
3. What are parse trees and syntax trees ?
4. What is an operator precedence parsing ?
5. What are the various source language issues ?
6. Write a short note on symbol tables.
7. What is an assignment statement ? Give example.
8. What are the differences in the compilation of functions or procedures from macros ?

(8 × 5 = 40 marks)

Part B

- II. (a) (i) Explain how the source programs are analysed. (7 marks)
- (ii) Explain in detail about the lexical analysis. (8 marks)

Or

- (b) Explain in detail about the :
 - (i) Specification of tokens. (7 marks)
 - (ii) Recognition of tokens. (8 marks)

- III. (a) Write a detailed note on :
 - (i) Top down parsing. (7 marks)
 - (ii) Bottom up parsing. (8 marks)

Or

- (b) Explain in detail about :
 - (i) SLR parsing. (5 marks)
 - (ii) Canonical LR parsing. (5 marks)
 - (iii) LALR parsing. (5 marks)

Turn over

IV. (a) (i) Discuss in detail about syntax-directed translation and syntax-directed definitions. (15 marks)

Or

(b) (i) Explain the implementation issues in the synthesis of phase of programming language grammars. (7 marks)

(ii) Explain in detail about the storage organization and storage allocation strategies. (8 marks)

V. (a) Write the syntax for an procedure call statement and explain it with an example. (15 marks)

Or

(b) Discuss in detail about the :

(i) Code generation and.

(7 marks)

(ii) Code optimization.

(8 marks)

(4 × 15 = 60 marks)