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Roll No.

18F1

B.Tech. EXAMINATION, June 2023

(Sixth Semester)

(C-Scheme) (Main & Re-appear)

(CSE)

CSE302C

COMPILER DESIGN

Time : 3 Hours]

[Maximum Marks : 75

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

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

Unit I

1. What is compilation process ? Explain different phases of compiler with an example. **15**
2. Discuss the issues involved in designing Lexical analyzer and draw NFA for regular expression ab^*/ab . **15**

Unit II

3. Consider the following grammar :
 $E \rightarrow E+T \mid T$
 $T \rightarrow TF \mid F$
 $F \rightarrow F * \mid a \mid b$
Construct the SLR Parsing table for above grammar. **15**
4. (a) Write an algorithm for Non-recursive predictive parsing. **7.5**
(b) What is the role of parser in syntactic analysis ? **7.5**

Unit III

5. What is symbol table and different data structures used for organising symbol tables ? **15**
6. What is meant by syntax directed translation ? Explain the variants of syntax trees with suitable example. **15**

Unit IV

7. Write short notes on the following : **5 each**
(a) Reducible flow graphs
(b) Loop optimization
(c) Peephole optimization.
8. What is code generation ? Discuss the issues related to code generation with examples. **15**