

Hours: 2 1/2

Total marks : 75

1. Attempt any three questions from each section
2. Answers to the two sections must be written in the same answer sheet.
3. Figures to the right indicate full marks.
4. Assume additional data if necessary but state the same clearly.
5. Symbols have their usual meanings and tables have their usual standard design unless stated otherwise.
6. Use of Simple calculators and statistical tables is allowed.

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| Q1 | Attempt Any three of the following.   | 15 |
| A  | Explain language preprocessing system in detail with diagram.   | 5  |
| B  | Explain regular expression with example.  | 5  |
| C  | Write a note on input buffering?  | 5  |
| D  | Define: 1) Parser 2) Finite Automata  | 5  |
| E  | Explain top-down parsing with an example?   | 5  |
| F  | Write a short note on Predictive Parsers.   | 5  |
| Q2 | Attempt Any three of the following.   | 15 |
| A  | Differentiate between LL and LR Parser.   | 5  |
| B  | Explain the canonical collection of LR(0) items in detail?  | 5  |
| C  | Consider the following grammar,<br>$E \rightarrow TE' \quad E' \rightarrow +TE' \mid \epsilon$<br>$T \rightarrow FT' \quad T \rightarrow *FT' \mid \epsilon$<br>$F \rightarrow (E) \mid id$<br>Define and compute First and follow for each non-terminal. | 5  |
| D  | Explain with an example of constructing SLR Parsing table?  | 5  |
| E  | Write a note on RDP with suitable example.  | 5  |
| F  | Illustrate the evaluation of postfix expression using stack.  | 5  |

- Q3 Attempt Any three of the following. 15
- A Explain the terms with example:  
Synthesized Attributes. ii) Inherited Attributes. 5
- B Write a short note type-checking declaration? 5
- C Explain the liveness analysis in detail? 5
- D Describe in detail the syntax directed translation of case statements. 5
- E Explain type checking expression in detail? 5
- F Explain recursive descent parser with suitable example? 5
- Q4 Attempt Any three of the following. 15
- A Explain implementation of symbol table. 5
- B Explain error recovery in lexical phase of compiler design. 5
- C Explain the term: Peephole optimization. 5
- D Explain the advantage and disadvantage of self-organizing list. 5
- E Explain reducible flow graphs? 5
- F Describe loop invariant computations? 5
- Q5 Attempt Any two of the following. 15
- A Differentiate between machine dependent and machine independent optimization? 5
- B Explain DAG with example. 5
- C Explain activation tree in runtime environment. 5
- D Explain the Various data flow analysis in detail. 5
- E Write a short note on interference graph construction? 5
- F Explain in detail Runtime Storage Administration. 5

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