

Seat  
No.

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मन - 053

**ELECTIVE - II**  
**Compiler Construction (New)**  
**(1283)**

P. Pages : 2

Time : Three Hours

Max. Marks : 100

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Answersheet should be written with blue ink only. Graph or diagram should be drawn with the same pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. Attempt **any two** questions from each unit.
5. Figures to the right indicate full marks.
6. Assume suitable data wherever necessary.

**UNIT - I**

1. a) What is 'recognition of tokens'? Also explain transition diagram with example of transition diagram for unsigned numbers in 'Pascal'. 10
- b) Explain nondeterministic and deterministic finite automata with an example each. 10
- c) Write short note on :
  - i) Preprocessors 5
  - ii) Symbol table management. 5

**UNIT - II**

2. a) Discuss in detail different general strategies that a parser can employ to recover from a syntactic error. 10
- b) Explain FIRST and FOLLOW concept in detail. 10
- c) i) Justify the following statement : 5  
"Why use regular expressions to define the lexical syntax of a language?"  
ii) handle pruning. 5

**UNIT - III**

3. a) What is syntax tree ? Discuss constructing syntax trees for expression. 10
- b) Write note on :
- i) Back patching. 5
- ii) Procedure calls. 5
- c) Explain in brief :
- i) L - attributed definitions. 5
- ii) Boolean Expressions. 5

**UNIT - IV**

4. a) Discuss various issues in the design of a code generator. 10
- b) Write and explain algorithm for global common subexpression elimination. 10
- c) Explain in brief :
- i) dead code elimination. 5
- ii) peephole optimization. 5

**UNIT - V**

5. a) Discuss static and heap allocation in detail. 10
- b) Explain dynamic storage allocation techniques. 10
- c) Write note on :
- i) Activation trees 5
- ii) Activation records. 5

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