

Sharda School of Engineering & Technology
Mid Term Examination (MTE), Session : 2023-24 Semester II

Title: Compiler Design

Max Marks: 50

Code: CSE 353 Paper ID : 16731

Time: 1:30 Hrs.

- Instructions
1. All questions are compulsory
 2. Assume missing data suitably if any

CO1: Define the term compiler and explain how it works.

CO2: Explain the Term Grammar? Explain how the terminals are get identified in a context-free grammar.

SECTION A

All Questions are compulsory:

(4×4=16 Marks)

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|--|-----|---|----|
| 1. Define the term compiler and explain how it works. | CO1 | 4 | K1 |
| 2. Explain the term Grammar. Also define Chomsky. | CO1 | 4 | K2 |
| 3. Explain passes of compiler. Compare between single pass and multipass compiler. | CO2 | 4 | K1 |
| 4. Outline the phases that constitute the front end of a compiler. | CO2 | 4 | K2 |

SECTION B

All Questions are compulsory:

(2×7=14 Marks)

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|---|-----|---|----|
| 5. Identify the various data structures used in the designing of a compiler phases? Explain them with examples. | CO1 | 7 | K3 |
| 6. Identify common lexical phase errors encountered during compilation. | CO2 | 7 | K3 |

SECTION C

Both Questions are compulsory:

(2×10=20 Marks)

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|--|-----|----|----|
| 7. (a). Distinguish between Regular expression and regular grammar. Design a FA from given regular expression $10 + (0 + 11)0^* 1$. | CO1 | 10 | K4 |
|--|-----|----|----|

--- OR ---

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| (b). Compare the advantages and disadvantages of top-down and bottom-up parsing techniques with example. | | | |
| 8. (a). Discover LR (0) parsing table for the following grammar. $S \rightarrow AA$ $A \rightarrow aA/b$. | CO2 | 10 | K4 |

--- OR ---

- (b). Construct SLR parsing table for given grammar.

$E \rightarrow E + T / T$

$T \rightarrow TF + T / F$

$F \rightarrow F^* + T / a / b$