Department of Artificial Intelligence & Data Science

III Year V Semester

5AID4-02: Compiler Design

Note: Each assignment of Maximum Marks 10.All question carries equal marks.

ASSIGNMENT-I

Q1. What are the different phases of compiler? Explain the function of each phase in brief.	BLT-1	CO-1
Q2. Describe bootstrapping in details.	BLT-1	CO-1
Q3. What is a finite automata? Explain NFA and DFA with an example.	BLT-1	CO-1
Q4. Construct NFA to accept a(a/b)*b.	BLT-4	CO-1
Q5. What are the main functions performed by Lexical analyzer?	BLT-1	CO-1

ASSIGNMENT-II

Q1. What do you mean by LR parser? What is the model of an LR parser? Explain.	BLT-1	CO-2
Q2. What is context free grammar? Give distinction between regular and context free grammar and limitations of context free grammar.	BLT-1	CO-2
Q3. Explain top down and bottom up parsing techniques in detail.	BLT-2	CO-2
Q4. Explain the model of predictive parser.	BLT-2	CO-2
Q5. Explain operator precedence parsing and functions.	BLT-2	CO-2

ASSIGNMENT-III

Q1. Define Syntax Directed Definitions? Explain the various forms of syntax directed definitions.	BLT-2	CO-3
Q2. Define L- attributed definitions. Explain the specifications of a simple type checker.	BLT-3	CO-3
Q3. Write a program to translate an infix expression into postfix form.	BLT-1	CO-3
Q4. Explain the syntax Directed Translation Schemes in details.	BLT-3	CO-3
Q5. Write short notes on: i. Intermediate code generation ii. Types of three address statements	BLT-1	CO-3

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ASSIGNMENT-IV

Q1. What are the strategies of storage allocation in run time environment? Explain with suitable diagram. .	BLT-1	CO-4
Q2. What do you mean by symbol table management? Explain in detail.	BLT-1	CO-4
Q3. Explain the key issues in run time organisation.	BLT-2	CO-4
Q4. Explain activation records. Also explain the term dangling reference.	BLT-2	CO-4
Q5. What are the varies parameter passing method?	BLT-1	CO-4

ASSIGNMENT-V

Q1. Explain in brief the various issues of design a code generator.	BLT-2	CO-5
Q2. Write short notes on : i. Basics block and flow graph. ii. Activation records.	BLT-1	CO-5
Q3. Code optimization is an optimal phase of compilation process. Discuss in detail.	BLT-2	CO-5
Q4. What is peephole optimization? Explain its characteristics.	BLT-1	CO-5
Q5. Explain the steps required for code generation from DAG.	BLT-2	CO-5

*BLT: BLT shows the **Bloom's taxonomy** levels.