Bhoj Reddy Engineering College for Women: Hyderabad

Department of Information Technology

Lesson plan of faculty member for the academic year 2019–19

Class: III B Tech Branch-Section: IT-A Semester: II

Subject: Compiler Design Lectures per week: 4

Lecture Number	Topics to be covered	Date (s)
UNIT – I: Introduction		
1	Introduction	16 December 2019
2	Language Processors	17 December 2019
3	The structure of a compiler	18 December 2019
4	The science of building a compiler	19 December 2019
5	Programming language basics	23 December 2019
6	Lexical Analysis- The Role of the Lexical Analyzer	24 December 2019
7	Input Buffering	30 December 2019
8	Recognition of Tokens	31 December 2019
9	The Lexical-Analyzer Generator Lex	2 January 2020
10	Finite Automata	6 January 2020
11	From Regular Expressions to Automata	7 January 2020
12	Design of a Lexical-Analyzer Generator	8 January 2020
13	Optimization of DFA-Based Pattern Matchers	9 January 2020
14	Problems on Regular Expressions	13 January 2020
15	Problems on DFA and NFA	16 January 2020
UNIT – II: Syntax Analysis		
16	Introduction, Context-Free Grammars, Writing a Grammar	20 January 2020
17	Top-Down Parsing, Bottom-Up Parsing	21 January 2020
18	Introduction to LR Parsing: Simple LR	22 January 2020
19	More Powerful LR Parsers	23 January 2020
20	Using Ambiguous Grammars	27 January 2020
21	Parser Generators	28 January 2020
UNIT – III: Syntax-Directed Translation		
22	Syntax-Directed Definitions	29 January 2020
23	Evaluation Orders for SDD's	30 January 2020
24	Applications of Syntax-Directed Translation	3 February 2020
25	Syntax-Directed Translation Schemes	4 February 2020
26	Implementing L-Attributed SDD's	5 February 2020
27	Intermediate-Code Generation-Variants of Syntax Trees	6 February 2020
28	Three-Address Code	13 February 2020
29	Types and Declarations	17 February 2020
30	Type Checking	18 February 2020
31	Control Flow, Back patching	19 February 2020
32	Switch-Statements	20 February 2020
33	Intermediate Code for Procedures	24 February 2020
UNIT – IV: Run-Time Environments		
34	Storage organization	25 February 2020
35	Stack Allocation of Space	26 February 2020
36	Heap Management	27 February 2020
37	Introduction to Garbage Collection	2 March 2020
38	Introduction to Trace-Based Collection	3 March 2020
39	Code Generation - Issues in the Design of a Code Generator	4 March 2020
40	The Target Language	5 March 2020
41	Addresses in the Target Code	10 March 2020
42	Basic Blocks and Flow Graphs	11 March 2020
43	Optimization of Basic Blocks	12 March 2020

44	A Simple Code Generator	16 March 2020
45	Peephole Optimization	17 March 2020
46	Register Allocation and Assignment	18 March 2020
47	Dynamic Programming Code-Generation	19 March 2020
UNIT – V: Machine-Independent Optimizations		
48	The Principal Sources of Optimization	23 March 2020
49	Introduction to Data-Flow Analysis	24 March 2020
50	Foundations of Data-Flow Analysis	26 March 2020
51	Constant Propagation	30 March 2020
52	Partial- Redundancy Elimination	31 March 2020
53	Loops in Flow Graphs	1 April 2020
54	Revision of unit 1	6 April 2020
55	Revision of unit 2	7 April 2020
56	Revision of unit 3	1 April 2020
57	Revision of unit 4	1 April 2020
58	Revision of unit 5	1 April 2020

Text book:

1. Compilers: Principles, Techniques and Tools, Second Edition, Alfred V. Aho, Monica

Name and signature of the faculty: Mrs Mehveen M K

Name and signature of Head of the Department: Mr M Vinod