Bhoj Reddy Engineering College for Women: Hyderabad

Department of Information Technology

Lesson plan of faculty member for the academic year 2019–20

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

Subject: Compiler Design Lectures per week: 4

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

44	A Simple Code Generator	12 March 2020
45	Peephole Optimization	13 March 2020
46	Register Allocation and Assignment	14 March 2020
47	Dynamic Programming Code-Generation	18 March 2020
UNIT – V: Machine-Independent Optimizations		
48	The Principal Sources of Optimization	19 March 2020
49	Introduction to Data-Flow Analysis	20 March 2020
50	Foundations of Data-Flow Analysis	21 March 2020
51	Constant Propagation	26 March 2020
52	Partial- Redundancy Elimination	27 March 2020
53	Loops in Flow Graphs	28 March 2020
54	Revision	1 April 2020
55	Revision	3 April 2020
56	Revision	4 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