

Bhoj Reddy Engineering College for Women: Hyderabad

Department of Information Technology

Lesson plan of faculty member for the academic year 2016–17

Class: III B Tech

Branch-Section: IT-B

Semester: I

Subject: Automata and Compiler Design

Lectures per week: 4+1 (Tutorial)

Lecture Number	Topics to be covered	Date (s)
UNIT – I: Formal Language and Regular Expressions, Context Free Grammars and Parsing		
1	Introduction to Automata	14 June 2016
2	Languages, Translators, Compilers	15 June 2016
3	Definition languages Regular expressions	17 June 2016
4	Finite Automata-DFA, NFA	18 June 2016
5	Tutorial (G3,G1,G2) -NFA	13, 15, 16 June 2016
6	Conversion of Regular expression to NFA	21 June 2016
7	NFA to DFA, pumping lemma	22 June 2016
8	Applications of Finite Automata and Lexical Analysis	24 June 2016
9	Lex Tools	25 June 2016
10	Tutorial (G3,G1,G2) - DFA	20, 22, 23 June 2016
11	Context Free Grammars	28 June 2016
12	Derivation	29 June 2016
13	Parse Trees, Ambiguity	1 July 2016
14	LL(K) grammars, LL(1) parsing	2 July 2016
15	Tutorial (G3,G1,G2) - CFG	27, 29, 30 June 2016
UNIT-II: Bottom up parsing, Semantics		
16	Bottom Up Parsing, Handle Pruning	5 July 2016
17	LR Grammar Parsing	8 July 2016
18	LALR Parsing	9 July 2016
19	Tutorial (G1) - LR	4 July 2016
20	Parsing Ambiguous Grammars	12 July 2016
21	YACC programming specification	13 July 2016
22	Syntax Directed Translation	15 July 2016
23	S-Attributed Grammars, examples	16 July 2016
24	Tutorial (G3,G1,G2) - SDT	11, 13, 14 July 2016
25	L-Attributed Grammars, examples	19 July 2016
26	Intermediate Code	20 July 2016
27	Abstract Syntax Tree	22 July 2016
28	Translation of Simple Statements	23 July 2016
29	Tutorial (G3,G1,G2) - S,L-attributed grammars	18, 20, 21 July 2016
30	Control flow statements	26 July 2016
UNIT-III: Context Sensitive Features		
31	Context Sensitive Features	27 July 2016
32	Chomsky Hierarchy of Languages and Recognizers	29 July 2016
33	Chomsky Hierarchy of Recognizers	30 July 2016
34	Tutorial (G3,G1,G2) - problems	25, 27, 28 July 2016
35	Type Checking	2 August 2016
36	Type Conversions	3 August 2016
37	Equivalence of type expressions	5 August 2016
38	Overloading of functions	6 August 2016
39	Tutorial (G3,G2) - Type checking	3, 4 August 2016
40	Overloading of operations	16 August 2016
41	Overloading of operations	17 August 2016
42	Problem Solving	19 August 2016
43	Revision of Unit - III	20 August 2016

44	Tutorial (G3,G2) - Problems	17, 18 August 2016
UNIT-IV: Run time Storage, Code Optimization		
45	Introduction	23 August 2016
46	Storage Organization	24 August 2016
47	Storage Allocation Strategies	26 August 2016
48	Scope access to local names	27 August 2016
49	Tutorial (G1,G2) - Allocation strategies	22, 24 August 2016
50	Parameters	30 August 2016
51	Language facilities for dynamic storage allocation	31 August 2016
52	Principal Sources of Optimization	2 September 2016
53	Optimization of basic blocks	3 September 2016
54	Tutorial (G3,G1,G2) - Basic blocks	29, 31 August, 1 September 2016
55	Peephole Optimization	6 September 2016
56	Flow graphs	7 September 2016
57	Flow graphs	9 September 2016
58	Data Flow Analysis of flow graphs	10 September 2016
59	Tutorial (G3,G2) - Flow graphs	7, 8 August 2016
60	Solving problems	13 September 2016
61	Solving problems	14 September 2016
62	Revision of Unit - IV	16 September 2016
UNIT-V: Code Generation		
63	Machine Dependent Code Generation	17 September 2016
64	Tutorial (G3,G2) - Code generation	14, 15 September 2016
65	Object code forms	20 September 2016
66	Generic Code Generation Algorithm	21 September 2016
67	Register allocation and assignment	23 September 2016
68	Register allocation and assignment	24 September 2016
69	Tutorial (G3,G1,G2) - Code generation	19, 21, 22 September 2016
70	Using DAG representation of block	27 September 2016
71	Using DAG representation of block	28 September 2016
72	Revision of UNIT - V	1 October 2016
73	Tutorial (G3,G1,G2) - DAG examples	26, 28, 29 September 2016
74	Review of UNIT - I	4 October 2016
75	Tutorial (G1) - Solving problems	3 October 2016
76	Revision of UNIT – II	28 October 2016
77	Revision of UNIT – III	29 October 2016
78	Tutorial (G3) - Solving problems	27 October 2016
79	Revision of UNIT - IV	1 November 2016
80	Revision of UNIT - V	2 November 2016
81	Tutorial (G3,G1,G2) - Solving problems	31 October, 2, 3 November 2016

Text books:

1. Introduction to Theory of Computation. Sipser, 2nd Edition.
2. Compilers Principles, Techniques and Tools Aho, Ullman, Ravisethi, Pearson Education.

Name and signature of the faculty: Mrs. Mehveen Mehdi Khatoon ----

Name and signature of Head of the Department: Mr. G Srinivas Rao ----