

Bhoj Reddy Engineering College for Women: Hyderabad

Department of Information Technology

Lesson plan of faculty member for the academic year 2017–18

Class: III B Tech

Branch-Section: IT-A

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	12 July 2017
2	Languages, Translators, Compilers	13 July 2017
3	Definition languages Regular expressions	15 July 2017
4	Tutorial (G3, G2, G1)- NFA	12, 13, 14 July 2017
5	Finite Automata-DFA, NFA	19 July 2017
6	Conversion of Regular expression to NFA	20 July 2017
7	NFA to DFA, pumping lemma	22 July 2017
8	Tutorial (G3, G2, G1)- DFA	19, 20, 21 July 2017
9	Applications of Finite Automata and Lexical Analysis	24 July 2017
10	Lex Tools	26 July 2017
11	Context Free Grammars	27 July 2017
12	Derivations	29 July 2017
13	Tutorial (G3, G2, G1)- CFG	26, 27, 28 July 2017
14	Parse Trees, Ambiguity	31 July 2017
15	LL(K) grammars, LL(1) parsing	2 August 2017
UNIT-II: Bottom up parsing, Semantics		
16	Bottom Up Parsing, Handle Pruning	3 August 2017
17	LR Grammar Parsing	5 August 2017
18	Tutorial (G3, G2, G1)- LR	2, 3, 4 August 2017
19	LALR Parsing	7 August 2017
20	Parsing Ambiguous Grammars	9 August 2017
21	YACC programming specification	10 August 2017
22	Syntax Directed Translation	12 August 2017
23	Tutorial (G3, G2, G1)- SDT	9, 10, 11 August 2017
24	S-Attributed Grammars, examples	16 August 2017
25	L-Attributed Grammars, examples	17 August 2017
26	Intermediate Code	19 August 2017
27	Tutorial (G3, G2, G1)- S,L-attributed grammars	16, 17, 18 August 2017
28	Abstract Syntax Tree	21 August 2017
29	Translation of Simple Statements	23 August 2017
30	Control flow statements	24 August 2017
31	Control flow statements Examples	26 August 2017
32	Tutorial (G3, G2)- problems	23, 24 August 2017
UNIT-III: Context Sensitive Features		
33	Context Sensitive Features	28 August 2017
34	Chomsky Hierarchy of Languages and Recognizers	30 August 2017
35	Chomsky Hierarchy of Recognizers	31 August 2017
36	Tutorial (G3, G2, G1)- problems	30, 31 August, 1 September 2017
37	Type Checking	4 September 2017
38	Type Conversions	6 September 2017
39	Equivalence of type expressions	7 September 2017
40	Overloading of functions	9 September 2017
41	Tutorial (G3, G2, G1)- Type checking	6, 7, 8 September 2017
42	Overloading of operations	11 September 2017

43	Overloading of operations Examples	13 September 2017
44	Revision of Unit - III	14 September 2017
UNIT-IV: Run time Storage, Code Optimization		
45	Storage Organization	16 September 2017
46	Tutorial (G3, G2, G1)- Type checking	13, 14, 15 September 2017
47	Storage Allocation Strategies	18 September 2017
48	Scope access to local names	21 September 2017
49	Scope access to local names Examples	23 September 2017
50	Tutorial (G2, G1) - Allocation strategies	21,22 September 2017
51	Parameters	4 October 2017
52	Language facilities for dynamic storage allocation	5 October 2017
53	Principal Sources of Optimization	7 October 2017
54	Tutorial (G3, G2, G1)- Basic blocks	4, 5, 6 October 2017
55	Optimization of basic blocks	9 October 2017
56	Peephole Optimization	11 October 2017
57	Flow graphs	12 October 2017
58	Data Flow Analysis of flow graphs	14 October 2017
59	Tutorial (G3, G2, G1)- Flow graphs	11, 12, 13 October 2017
60	Solving problems	16 October 2017
61	Revision of Unit - IV	19 October 2017
UNIT-V: Code Generation		
62	Machine Dependent Code Generation	21 October 2017
63	Tutorial (G2, G1)- Flow graphs	19, 20 October 2017
64	Object code forms	23 October 2017
65	Generic Code Generation Algorithm	25 October 2017
66	Generic Code Generation Algorithm	26 October 2017
67	Register allocation and assignment	28 October 2017
68	Tutorial (G3, G2, G1)- Code generation	25, 26, 27 October 2017
69	Register allocation and assignment	30 October 2017
70	Using DAG representation of block	1 November 2017
71	Using DAG representation of block	2 November 2017
72	Tutorial (G3, G2, G1)- Example Problems	1, 2, 3 November 2017
73	Revision of Unit 1, 2, 3	6 November 2017
74	Revision of Unit 4, 5	7 November 2017

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.G Jyothi ----

Name and signature of Head of the Department: Mr. K Sandeep Kumar ----