

# 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-B

Semester: I

Subject: Automata and Compiler Design

Lectures per week: 4+1 (Tutorial)

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

44	Tutorial (G2, G1, G3)- Type checking	11, 12, 13 September 2017
45	Revision of Unit - III	18 September 2017
<b>UNIT-IV: Run time Storage, Code Optimization</b>		
46	Storage Organization	19 September 2017
47	Storage Allocation Strategies	21 September 2017
48	Scope access to local names	22 September 2017
49	Tutorial (G2, G1, G3)- Type checking	18, 19, 20 September 2017
50	Scope access to local names Examples	3 October 2017
51	Parameters	5 October 2017
52	Language facilities for dynamic storage allocation	6 October 2017
53	Tutorial (G2, G1) - Allocation strategies	3,4 October 2017
54	Principal Sources of Optimization	9 October 2017
55	Optimization of basic blocks	10 October 2017
56	Peephole Optimization	12 October 2017
57	Flow graphs	13 October 2017
58	Tutorial (G2, G1, G3)- Basic blocks	9, 10, 11 October 2017
59	Data Flow Analysis of flow graphs	16 October 2017
60	Data Flow Analysis of flow graphs	17 October 2017
61	Solving problems	19 October 2017
<b>UNIT-V: Code Generation</b>		
62	Machine Dependent Code Generation	20 October 2017
63	Tutorial (G2, G1, G3)- Flow graphs	16, 17, 18 October 2017
64	Object code forms	23 October 2017
65	Generic Code Generation Algorithm	24 October 2017
66	Generic Code Generation Algorithm	26 October 2017
67	Register allocation and assignment	27 October 2017
68	Tutorial (G2, G1, G3)- Code generation	23, 24, 25 October 2017
69	Register allocation and assignment	30 October 2017
70	Using DAG representation of block	31 October 2017
71	Using DAG representation of block	2 November 2017
72	Revision of Unit 5	3 November 2017
73	Tutorial (G2, G1, G3)- Example Problems	30, 31 October, 1 November 2017
74	Revision of Unit 1, 2	6 November 2017
75	Revision of Unit 3, 4	7 November 2017
76	Tutorial (G2, G1)- Example Problems	6, 7 November 2017

**Text books:**

1. Introduction to Theory of Computation. Sipser, 2<sup>nd</sup> 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 ----