

St Ann's College of Engineering and Technology  
Department of Computer Science and Engineering

Lecture Schedule

Subject : FORMAL LANGUAGES & AUTOMATA THEORY

Year II CSE B -II SEM

Name of the Faculty: Mastanaih Naidu Y

Academic Year:2019-20

No of Classes per week:5+1\*(Tutorial)

S.NO	DATE	UNIT	TOPIC
1	18-Nov-19	I	Finite Automata: Why Study Automata Theory?
2	20-Nov-19		The Central Concepts of Automata Theory
3	21-Nov-19		Automation, Finite Automata, Transition Systems
4	22-Nov-19		Acceptance of a String by a Finite Automata
5	23-Nov-19		DFA, Design of DFAs NFA, Design of NFA ,
6	<b>23-Nov-19</b>		<b>Tutorial</b>
7	25-Nov-19		Equivalence of DFA and NFA , Conversion of NFA into DFA
8	27-Nov-19		Finite Automata with E-Transition
9	28-Nov-19		Minimization of Finite Automata
10	29-Nov-19		Mealy and Moore Machines, Applications & Limitation of Finite
11	30-Nov-19		Revision through ppt
12	<b>30-Nov-19</b>		<b>Tutorial</b>
13	2-Dec-19	II	<b>CLASS TEST - I</b>
14	4-Dec-19		<b>Regular Expressions</b>
15	5-Dec-19		Regular Sets, Identity Rules
16	6-Dec-19		Equivalence of two REs
17	7-Dec-19		Manipulations of Regular Expressions, Inter Conversion
18	<b>7-Dec-19</b>		<b>TUTORIAL</b>
19	9-Dec-19		Equivalence between Finite Automata and Regular Expressions
20	11-Dec-19		Pumping Lemma
21	12-Dec-19		Closer Properties
22	13-Dec-19		Applications of Regular Expressions
23	14-Dec-19		Finite Automata and Regular Grammars
24	<b>14-Dec-19</b>		<b>TUTORIAL</b>
25	16-Dec-19		Regular Expressions and Regular Grammars
26	18-Dec-19		Revision through ppt
27	19-Dec-19		<b>CLASS TEST - II</b>
28	20-Dec-19		Context Free Grammars, Formal Languages
29	21-Dec-19		Grammars, Classification of Grammars,
30	<b>21-Dec-19</b>		<b>TUTORIAL</b>
31	23-Dec-19	Chomsky Hierarchy Theorem	
32	26-Dec-19	CFG, Leftmost and Rightmost Derivations, Parse Trees	
33	27-Dec-19	Ambiguous Grammars, Simplification of Context Free Grammars	
34	28-Dec-19	Elimination of Useless Symbols, Null and Unit Productions	
35	<b>28-Dec-19</b>	<b>TUTORIAL</b>	
36	30-Dec-19	III	Normal Forms for Context Free Grammars – CNF
37	1-Jan-20		Normal Forms for Context Free Grammars - GNF
38	2-Jan-20		Pumping Lemma, Closure Properties
39	3-Jan-20		Applications of Context Free Grammars
40	4-Jan-20		Example problems
41	<b>4-Jan-20</b>		<b>TUTORIAL</b>
42	6-Jan-20		Revision
43	8-Jan-20		Revision
44	9-Jan-20		Revision
45	10-Jan-20		Revision
46	13-Jan-20	Revision	
47	18-Jan-20	Revision	
48	18-Jan-20	Revision	
49	20-Jan-20	Revision	

50	22-Jan-20		Revision	
51	23-Jan-20		Revision	
52	24-Jan-20	IV	<b>Pushdown Automata:</b> Definition, Model, Graphical Notation	
53	25-Jan-20		Instantaneous Description, Language Acceptance, Design	
54	<b>25-Jan-20</b>		<b>TUTORIAL</b>	
55	27-Jan-20		Language Acceptance, Design Design of PDA	
56	29-Jan-20		Deterministic and Non - Deterministic Pushdown Automata	
57	30-Jan-20		Equivalence of Pushdown Automata and Context Free Grammars	
58	31-Jan-20		Conversion of Pushdown Automata and Context Free Grammars	
59	1-Feb-20		Two Stack Pushdown Automata,Application of Pushdown Automata.	
60	<b>1-Feb-20</b>		<b>TUTORIAL</b>	
61	3-Feb-20		Example problems	
62	5-Feb-20		Example problems	
63	6-Feb-20		<b>CLASS TEST - III</b>	
64	7-Feb-20		V	<b>Turning Machine :</b> Definition, Model
65	10-Feb-20			Representation of Turing Machines
66	12-Feb-20	Instantaneous Descriptions		
67	13-Feb-20	Transition Tables and Transition Diagrams		
68	14-Feb-20	Language of a Turing Machine, Design of Turing Machines		
69	15-Feb-20	Techniques for Turing Machine Construction		
70	<b>15-Feb-20</b>	<b>TUTORIAL</b>		
71	17-Feb-20	Types of Turing Machines, Church's Thesis		
72	19-Feb-20	Universal Turing Machine, Restricted Turing Machine		
73	20-Feb-20	Example problems		
74	21-Feb-20	Example problems		
75	22-Feb-20	Example problems		
76	<b>22-Feb-20</b>	<b>TUTORIAL</b>		
77	26-Feb-20	<b>CLASS TEST - IV</b>		
78	27-Feb-20	VI	Computability,Decidable and Un-decidable Problems	
79	28-Feb-20		Halting Problem of TM,Post's Correspondence Problem	
80	29-Feb-20		Modified Post's Correspondence Problem	
81	<b>29-Feb-20</b>		<b>TUTORIAL</b>	
82	2-Mar-20		Classes of P and NP,	
83	4-Mar-20		NP- Hard and NP-Complete Problem	
84	5-Mar-20		Example problems	
85	6-Mar-20	Example problems		
86	7-Mar-20		Revision	
87	7-Mar-20		Revision	
88	11-Mar-20		Revision	
89	12-Mar-20		Revision	
90	13-Mar-20		Revision	
91	16-Mar-20		Revision	
92	18-Mar-20		Revision	
93	19-Mar-20		Revision	
94	20-Mar-20		Revision	
95	21-Mar-20		Revision	
96	21-Mar-20		Revision	
97	23-Mar-20		Revision	
98	26-Mar-20		Revision	
99	27-Mar-20		Revision	
100	28-Mar-20		Revision	
101	30-Mar-20		Revision	

1	Introduction to Automata Theory, Languages and Computation, J.E.Hopcroft, R.Motwani
2	Theory of Computer Science-Automata, Languages and Computation, K.L.P.Mishra and

References

1	Formal Language and Automata Theory, K.V.N.Sunitha and N.Kalyani, Pearson, 2015.
2	Introduction to Automata Theory, Formal Languages and Computation, Shyamalendu Kandar,
3	Theory of Computation, V.Kulkarni, Oxford University Press, 2013.
4	Theory of Automata, Languages and Computation, Rajendra Kumar, McGraw Hill, 2014

Faculty

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