

**ST.ANN'S COLLEGE OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
LECTURE SCHEDULE**

SUBJECT: FORMAL LANGUAGES & AUTOMATA THEORY ACADEMIC YEAR: 2018-19
FACULTY: Mr. T. KRISHNA KISHORE YEAR-SEM: II – II Semester 'B'
No. of Lectures per Week: 5+1*(Tutorial)

S.No.	Date	UNIT	TOPIC TO BE COVERED	
1	19-11-2018	I	Finite Automata: Why Study Automata Theory?	
2	20-11-2018		The Central Concepts of Automata Theory	
3	22-11-2018		Automation, Finite Automata, Transition Systems	
4	23-11-2018		Acceptance of a String by a Finite Automata	
5	23-11-2018		DFA, Design of DFAs NFA	
6	26-11-2018		Design of NFA	
7	27-11-2018		Equivalence of DFA and NFA	
8	28-11-2018		Conversion of NFA into DFA	
9	29-11-2018		Finite Automata with E-Transition	
10	30-11-2018		Minimization of Finite Automata	
11	30-11-2018		TUTORIAL	
12	03-12-2018		Mealy and Moore Machines	
13	04-12-2018		Applications & Limitation of Finite Automata	
14	05-12-2018		REVISION	
15	06-12-2018		CLASS TEST - I	
16	07-12-2018	II	Regular Expressions, Regular Sets, Identity Rules	
17	07-12-2018		TUTORIAL	
18	10-12-2018		Equivalence of two REs	
19	11-12-2018		Manipulations of Regular Expressions, Inter Conversion	
20	12-12-2018		Equivalence between Finite Automata and Regular Expressions	
21	13-12-2018		Pumping Lemma, Closure Properties	
22	14-12-2018		Applications of Regular Expressions	
23	14-12-2018		TUTORIAL	
24	17-12-2018		Finite Automata and Regular Grammars	
25	18-12-2018		Regular Expressions and Regular Grammars	
26	19-12-2018		REVISION	
27	20-12-2018		CLASS TEST - II	
28	21-12-2018		III	Context Free Grammars, Formal Languages
29	21-12-2018			TUTORIAL
30	26-12-2018			Grammars, Classification of Grammars
31	27-12-2018	Chomsky Hierarchy Theorem		
32	28-12-2018	CFG, Leftmost and Rightmost Derivations, Parse Trees		
33	28-12-2018	TUTORIAL		
34	31-12-2018	Ambiguous Grammars		
35	02-01-2018	Simplification of Context Free Grammars		
36	03-01-2018	Elimination of Useless Symbols		
37	04-01-2018	Null and Unit Productions		
38	04-01-2018	TUTORIAL		
39	07-01-2018	Normal Forms for Context Free Grammars – CNF		
40	08-01-2018	Normal Forms for Context Free Grammars - GNF		
41	09-01-2018	Pumping Lemma, Closure Properties, Applications		
42	10-01-2018	REVISION		
43	11-01-2018	REVISION		
44	11-01-2018	TUTORIAL		
45	17-01-2018	REVISION		
46	18-01-2018	REVISION		
47	18-01-2018	REVISION		
48	21-01-2018	REVISION		
49	22-01-2018	REVISION		
50	23-01-2018	REVISION		
51	24-01-2018		Pushdown Automata: Definition, Model, Graphical Notation	
52	25-01-2018		Instantaneous Description, Language Acceptance, Design	

53	25-01-2018	IV	TUTORIAL	
54	28-01-2018		Deterministic Pushdown Automata	
55	29-01-2018		Non - Deterministic Pushdown Automata	
56	30-01-2018		Examples on PDA design	
57	31-01-2018		Equivalence of Pushdown Automata and Context Free Grammars	
58	01-02-2018		Examples on Interconversion	
59	01-02-2018		TUTORIAL.	
60	04-02-2018		Conversion of Pushdown Automata and Context Free Grammars	
61	05-02-2018		Two Stack Pushdown Automata	
62	06-02-2018		Application of Pushdown Automata	
63	07-02-2018		REVISION	
64	08-02-2018		TUTORIAL	
65	08-02-2018		CLASS TEST - III	
66	11-02-2018		V	Turning Machine : Definition, Model
67	12-02-2018			Representation of Turing Machines
68	13-02-2018	Instantaneous Descriptions		
69	14-02-2018	Transition Tables and Transition Diagrams		
70	15-02-2018	Language of a Turing Machine		
71	15-02-2018	TUTORIAL		
72	18-02-2018	Design of Turing Machines		
73	19-02-2018	Design of Turing Machines-Examples		
74	20-02-2018	Design of Turing Machines-Examples		
75	21-02-2018	Techniques for Turing Machine Construction		
76	22-02-2018	Types of Turing Machines		
77	22-02-2018	TUTORIAL		
78	25-02-2018	Church's Thesis		
79	26-02-2018	Universal Turing Machine		
80	27-02-2018	Restricted Turing Machine		
81	28-02-2018	REVISION		
82	01-03-2018	TUTORIAL		
83	01-03-2018	CLASS TEST - IV		
84	05-03-2018	VI	Computability	
85	06-03-2018		Decidable	
86	07-03-2018		Un-decidable Problems	
87	08-03-2018		Halting Problem of TM	
88	08-03-2018		TUTORIAL	
89	11-03-2018		Post's Correspondence Problem	
90	12-03-2018		Modified Post's Correspondence Problem	
91	13-03-2018		Classes of P and NP	
92	14-03-2018		NP- Hard	
93	15-03-2018		NP-Complete Problems	
94	15-03-2018		TUTORIAL	
95	18-03-2018		Satisfiability Problem	
96	19-03-2018		Vertex Colouring Problem	
97	20-03-2018		Other Examples on Computational [Problems	
98	22-03-2018		REVISION	
99	22-03-2018	TUTORIAL		
100	25-03-2018	REVISION		
101	26-03-2018	REVISION		
102	27-03-2018	REVISION		
103	28-03-2018	REVISION		
104	29-03-2018	REVISION		
105	29-03-2018	REVISION		

Text Books:

1. Introduction to Automata Theory, Languages and Computation, J.E.Hopcroft, R.Motwani and J.D.Ullman, 3rd Edition, Pearson, 2008.
2. Theory of Computer Science-Automata, Languages and Computation, K.L.P.Mishra and N.Chandrasekharan, 3rd Edition, PHI, 2007.

Reference Books:

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, Pearson, 2013.
3. Theory of Computation, V.Kulkarni, Oxford University Press, 2013.
4. Theory of Automata, Languages and Computation, Rajendra Kumar, McGraw Hill, 2014.

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