

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

LECTURE SCHEDULE

SUBJECT: FORMAL LANGUAGES & AUTOMATA THEORY ACADEMIC YEAR: 2017-18
FACULTY: Mr. T. KRISHNA KISHORE YEAR-SEM: II – II Semester 'C'
No. of Lectures per Week: 4+1*(Tutorial)

S.No.	Date	UNIT	TOPIC TO BE COVERED
1	20-11-2017	I	Finite Automata: Why Study Automata Theory?
2	21-11-2017		The Central Concepts of Automata Theory
3	22-11-2017		Automation, Finite Automata, Transition Systems
4	24-11-2017		Acceptance of a String by a Finite Automata
5	25-11-2017		DFA, Design of DFAs NFA, Design of NFA ,
6	27-11-2017		Equivalence of DFA and NFA , Conversion of NFA into DFA
7	28-11-2017		Finite Automata with E-Transition
8	29-11-2017		Minimization of Finite Automata
9	02-12-2017		Mealy and Moore Machines, Applications & Limitation of Finite Automata
10	04-12-2017		CLASS TEST - I
11	05-12-2017	II	OBJECTIVE TEST- I, Regular Expressions
12	06-12-2017		TUTORIAL
13	08-12-2017		Regular Sets, Identity Rules
14	11-12-2017		Equivalence of two REs
15	12-12-2017		Manipulations of Regular Expressions, Inter Conversion
16	13-12-2017		TUTORIAL
17	15-12-2017		Equivalence between Finite Automata and Regular Expressions
18	16-12-2017		Pumping Lemma
19	18-12-2017		Closer Properties
20	19-12-2017		Applications of Regular Expressions
21	20-12-2017		TUTORIAL
22	22-12-2017		Finite Automata and Regular Grammars
23	23-12-2017		Regular Expressions and Regular Grammars
24	26-12-2017		CLASS TEST - II
25	27-12-2017	III	OBJECTIVE TEST- II, Context Free Grammars, Formal Languages
26	29-12-2017		Grammars, Classification of Grammars
27	30-12-2017		Chomsky Hierarchy Theorem
28	01-01-2018		CFG, Leftmost and Rightmost Derivations, Parse Trees
29	02-01-2018		Ambiguous Grammars, Simplification of Context Free Grammars
30	03-01-2018		TUTORIAL
31	05-01-2018		Elimination of Useless Symbols, Null and Unit Productions
32	06-01-2018		Normal Forms for Context Free Grammars – CNF
33	08-01-2018		Normal Forms for Context Free Grammars - GNF
34	09-01-2018		Pumping Lemma, Closure Properties
35	10-01-2018		TUTORIAL
36	12-01-2018		Applications of Context Free Grammars
37	17-01-2018		REVISION
38	19-01-2018		REVISION
39	20-01-2018		REVISION
40	22-01-2018		REVISION
41	23-01-2018		REVISION
42	24-01-2018	IV	Pushdown Automata: Definition, Model, Graphical Notation
43	27-01-2018		Instantaneous Description Language Acceptance, Design
44	29-01-2018		Deterministic and Non – Deterministic Pushdown Automata
45	30-01-2018		Equivalence of Pushdown Automata and Context Free Grammars
46	31-01-2018		TUTORIAL
47	02-02-2018		Conversion of Pushdown Automata and Context Free Grammars

48	03-02-2018		Two Stack Pushdown Automata
49	05-02-2018		Application of Pushdown Automata
50	06-02-2018		CLASS TEST - III
51	07-02-2018	V	OBJECTIVE TEST- III, Turning Machine : Definition, Model
52	09-02-2018		Representation of Turing Machines
53	10-02-2018		Instantaneous Descriptions
54	14-02-2018		TUTORIAL
55	16-02-2018		Transition Tables and Transition Diagrams
56	17-02-2018		Language of a Turing Machine, Design of Turing Machines
57	19-02-2018		Techniques for Turing Machine Construction
58	20-02-2018		Types of Turing Machines, Church's Thesis
59	21-02-2018		TUTORIAL
60	23-02-2018		Universal Turing Machine, Restricted Turing Machine
61	24-02-2018		CLASS TEST - IV
62	26-02-2018		VI
63	27-02-2018	Decidable and Un-decidable Problems	
64	28-02-2018	TUTORIAL	
65	03-03-2018	Halting Problem of TM, Post's Correspondence Problem	
66	05-03-2018	Modified Post's Correspondence Problem	
67	06-03-2018	Classes of P and NP, NP- Hard and NP-Complete Problems	
68	07-03-2018		REVISION
69	09-03-2018		REVISION
70	12-03-2018		REVISION
71	13-03-2018		REVISION
72	14-03-2018		REVISION
73	16-03-2018		REVISION
74	17-03-2018		REVISION
75	19-03-2018		REVISION
76	20-03-2018	REVISION	
77	21-03-2018	REVISION	
78	23-03-2018	REVISION	
79	24-03-2018	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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