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

SUBJECT: MFCS **ACADEMIC YEAR: 2019-20**
FACULTY: Mr.A.V.S.SUDHAKARRA RAO **YEAR/SEM /SECTION: II – I (CSE –A)**
No. of Lectures per Week: 5+1*(Tutorial)

S.NO	Date	UNIT	TOPIC TO BE COVERED
1	10-6-2019	I	**Introduction to Mathematical Logic**
2	11-6-2019		**Propositional Calculus:** Statements and Notations
3	12-6-2019		Connectives, Well Formed Formulas, Truth Tables, Tautologies
4	13-6-2019		Equivalence of Formulas, Duality law
5	15-6-2019		Tautological Implications ,
6	15-6-2019		Normal Forms-CNF,DNF
7	17-6-2019		Normal Forms-PCNF,PDNF
8	18-6-2019		Theory of Inference for Statement Calculus
9	19-6-2019		Consistency of Premises, Indirect Method of Proof
10	20-6-2019		**Predicate calculus:** Predicative Logic, Statement Functions,
11	22-6-2019		TUTORIAL
12	22-6-2019		Variables and Quantifiers
13	24-6-2019		Free & Bound Variables,
14	25-6-2019		Inference theory for predicate calculus
15	26-6-2019		Inference theory for predicate calculus
16	27-6-2019		TUTORIAL
17	27-6-2019		Revision with PPT
18	29-6-2019		**SLIPTEST-1**
19	1-7-2019	II	**Set Theory:** Introduction, Operations on Binary Sets
20	2-7-2019		Principle of Inclusion and Exclusion
21	3-7-2019		Relations: Properties of Binary Relations, Relation Matrix and Digraph
22	4-7-2019		Operations on Relations, Partition and Covering
23	6-7-2019		TUTORIAL
24	6-7-2019		Transitive Closure, Equivalence relation
25	8-7-2019		Compatibility and Partial Ordering Relations
26	9-7-2019		Hasse Diagrams
27	10-7-2019		**Functions**: Bijective Functions,
28	11-7-2019		Composition of Functions
29	15-7-2019		Inverse Functions, Permutation Functions
30	16-7-2019		Recursive Functions, Lattice and its Properties.
31	17-7-2019		Revision with PPT
32	18-7-2019		TUTORIAL
33	20-7-2019		**SLIPTEST-2**
34	20-7-2019	III	**Algebraic Structures and Number Theory:** Algebraic Systems, Examples, General Properties
35	22-7-2019		Semi Groups and Monoids , Homomorphism of Semi Groups and Monoids
36	23-7-2019		Group, Subgroup, Abelian Group, ,
37	24-7-2019		Homomorphism, Isomorphism
38	25-7-2019		**Number Theory:** Properties of integers, Division Theorem
39	27-7-2019		TUTORIAL
40	27-7-2019		The Greatest Common Divisor, Euclidean Algorithm,
41	29-7-2019		Least Common Multiple, Testing for Prime Numbers,
42	30-7-2019		The Fundamental Theorem of Arithmetic
43	31-7-2019		Modular Arithmetic-Fermat's theorem
44	1-8-2019		Euler's's theorem
45	3-8-2019		TUTORIAL

46	3-8-2019		Revision with PPT
47	5-8-2019	**MID-1**	REVISION –MID-1
48	6-8-2019		REVISION –MID-1
49	7-8-2019		REVISION –MID-1
50	8-8-2019		REVISION –MID-1
51	10-8-2019		REVISION –MID-1/TUTORIAL
52	10-8-2019		REVISION –MID-1
53	13-8-2019	IV	**Combinatorics:** Basic of Counting, Permutations,
54	14-8-2019		, Permutations with Repetitions,
55	17-8-2019		TUTORIAL
56	17-8-2019		Circular Permutations, Restricted Permutations
57	19-8-2019		Combinations, Restricted Combinations,
58	20-8-2019		Generating Functions of Permutations and Combinations,
59	21-8-2019		Binomial and Multinomial Coefficients, Binomial and Multinomial Theorems,
60	22-8-2019		The Principles of Inclusion–Exclusion,
61	26-8-2019		Pigeonhole Principle & its Application.
62	27-8-2019		Revision with PPT
63	28-8-2019		**SLIPTEST-4**
64	29-8-2019	V	**Recurrence Relation:** Function of Sequences
65	31-8-2019		TUTORIAL
66	31-8-2019		Partial Fractions
67	3-9-2019		Calculating Coefficient of Generating Functions
68	4-9-2019		Recurrence Relations, Formulation as Recurrence Relations
69	5-9-2019		Solving Recurrence Relations by Substitution Method
70	7-9-2019		TUTORIAL
71	7-9-2019		Generating Functions- First Order
72	9-9-2019		Generating Functions- Second Order
73	11-9-2019		Solving RR by method of characteristic roots
74	12-9-2019		Solving Inhomogeneous recurrence Relations –First Order
75	16-9-2019		Solving Inhomogeneous recurrence Relations-Second Order
76	17-9-2019		Revision with PPT
77	18-9-2019		**SLIPTEST-5**
78	19-9-2019	VI	**Graph Theory:** Basic Concepts of Graphs, Sub graphs
79	21-9-2019		TUTORIAL
80	21-9-2019		**Matrix Representation of Graphs**: Adjacency Matrices, Incidence Matrices
81	23-9-2019		Isomorphic Graphs, Paths and Circuits
82	24-9-2019		Eulerian Graphs,
83	25-9-2019		Hamiltonian Graphs
84	26-9-2019		Multigraphs, Planar Graphs, ,
85	28-9-2019		TUTORIAL
86	28-9-2019		Euler's Formula
87	30-9-2019		Graph Coloring and Covering, Chromatic Number
88	1-10-2019		Spanning Trees: Properties, Algorithms for Spanning trees
89	3-10-2019		Minimal Spanning Tress(Prim's & Kruskal's algorithms)
90	5-10-2019		TUTORIAL
91	5-10-2019		Revision with PPT
92	7-10-2019	**MID-2**	REVISION –MID-2
93	9-10-2019		REVISION –MID-2
94	10-10-2019		REVISION –MID-2
95	12-10-2019		REVISION –MID-2/TUTORIAL
96	12-10-2019		REVISION –MID-2

TEXT BOOKS:

1. Discrete Mathematical Structures with Applications to Computer Science, J. P. Tremblay and P. Manohar, Tata McGraw Hill.
2. Elements of Discrete Mathematics-A Computer Oriented Approach, C. L. Liu and D. P. Mohapatra, 3rdEdition, Tata McGraw Hill.
3. Discrete Mathematics and its Applications with Combinatorics and Graph Theory, K. H. Rosen, 7th Edition, Tata McGraw Hill.

REFERENCE BOOKS:

1. Discrete Mathematics for Computer Scientists and Mathematicians, J. L. Mott, A. Kandel, T.P. Baker, 2nd Edition, Prentice Hall of India.
2. Discrete Mathematical Structures, BernandKolman, Robert C. Busby, Sharon Cutler Ross, PHI.
3. Discrete Mathematics, S. K. Chakraborthy and B.K. Sarkar, Oxford, 2011.

SIGNATURE OF STAFF **HEAD OF THE DEPARTMENT**