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 –B)**
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	12-6-2019		**Propositional Calculus:** Statements and Notations
3	13-6-2019		Connectives, Well Formed Formulas, Truth Tables, Tautologies
4	13-6-2019		Equivalence of Formulas, Duality law
5	14-6-2019		Tautological Implications ,
6	15-6-2019		Normal Forms-CNF,DNF
7	17-6-2019		Normal Forms-PCNF,PDNF
8	19-6-2019		Theory of Inference for Statement Calculus
9	20-6-2019		TUTORIAL
10	20-6-2019		Consistency of Premises, Indirect Method of Proof
11	21-6-2019		**Predicate calculus:** Predicative Logic, Statement Functions,
12	22-6-2019		Variables and Quantifiers,
13	24-6-2019		Free & Bound Variables,
14	26-6-2019		Inference theory for predicate calculus
15	27-6-2019		TUTORIAL
16	27-6-2019		Inference theory for predicate calculus
17	28-6-2019		Revision with PPT
18	29-6-2019		**SLIPTEST-1**
19	1-7-2019	II	**Set Theory:** Introduction, Operations on Binary Sets
20	3-7-2019		Principle of Inclusion and Exclusion
21	4-7-2019		TUTORIAL
22	4-7-2019		Relations: Properties of Binary Relations, Relation Matrix and Digraph
23	5-7-2019		Operations on Relations, Partition and Covering
24	6-7-2019		Transitive Closure, Equivalence relation
25	8-7-2019		Compatibility and Partial Ordering Relations
26	10-7-2019		Hasse Diagrams
27	11-7-2019		TUTORIAL
28	11-7-2019		**Functions**: Bijective Functions,
29	12-7-2019		Composition of Functions
30	15-7-2019		Inverse Functions, Permutation Functions
31	17-7-2019		Recursive Functions, Lattice and its Properties.
32	18-7-2019		TUTORIAL
33	18-7-2019		Revision with PPT
34	19-7-2019		**SLIPTEST-2**
35	20-7-2019	III	**Algebraic Structures and Number Theory:** Algebraic Systems, Examples, General Properties
36	22-7-2019		Semi Groups and Monoids , Homomorphism of Semi Groups and Monoids
37	24-7-2019		Group, Subgroup, Abelian Group, ,
38	25-7-2019		TUTORIAL
39	25-7-2019		Homomorphism, Isomorphism
40	26-7-2019		**Number Theory:** Properties of integers, Division Theorem
41	27-7-2019		The Greatest Common Divisor, Euclidean Algorithm,
42	29-7-2019		Least Common Multiple, Testing for Prime Numbers,
43	31-7-2019		The Fundamental Theorem of Arithmetic
44	1-8-2019		TUTORIAL
45	1-8-2019		Modular Arithmetic-Fermat's theorem

46	2-8-2019		Euler's's theorem
47	3-8-2019		Revision with PPT
48	5-8-2019	**MID-1**	REVISION –MID-1
49	7-8-2019		REVISION –MID-1
50	8-8-2019		REVISION –MID-1/TUTORIAL
51	8-8-2019		REVISION –MID-1
52	9-8-2019		REVISION –MID-1
53	10-8-2019		REVISION –MID-1
54	14-8-2019	IV	**Combinatorics:** Basic of Counting, Permutations,
55	16-8-2019		Permutations with Repetitions,
56	17-8-2019		Circular Permutations, Restricted Permutations,
57	19-8-2019		Combinations, Restricted Combinations,
58	21-8-2019		Generating Functions of Permutations and Combinations,
59	22-8-2019		TUTORIAL
60	22-8-2019		Binomial and Multinomial Coefficients, Binomial and Multinomial Theorems,
61	26-8-2019		The Principles of Inclusion–Exclusion
62	28-8-2019		TUTORIAL
63	28-8-2019		Pigeonhole Principle & its Application.
64	29-8-2019		Revision with PPT
65	30-8-2019		**SLIPTEST-4**
66	31-8-2019	V	**Recurrence Relation:** Function of Sequences
67	4-9-2019		Partial Fractions
68	5-9-2019		TUTORIAL
69	5-9-2019		Calculating Coefficient of Generating Functions
70	6-9-2019		Recurrence Relations, Formulation as Recurrence Relations
71	7-9-2019		Solving Recurrence Relations by Substitution Method
72	9-9-2019		Generating Functions- First Order
73	11-9-2019		Generating Functions- Second Order
74	12-9-2019		TUTORIAL
75	12-9-2019		Solving RR by method of characteristic roots
76	13-9-2019		Solving Inhomogeneous recurrence Relations –First Order
77	16-9-2019		Solving Inhomogeneous recurrence Relations-Second Order
78	18-9-2019		Revision with PPT
79	19-9-2019		TUTORIAL
80	19-9-2019		**SLIPTEST-5**
81	20-9-2019	VI	**Graph Theory:** Basic Concepts of Graphs, Sub graphs
82	21-9-2019		**Matrix Representation of Graphs**: Adjacency Matrices, Incidence Matrices
83	23-9-2019		Isomorphic Graphs, Paths and Circuits
84	25-9-2019		Eulerian Graphs
85	26-9-2019		TUTORIAL
86	26-9-2019		, Hamiltonian Graphs
87	27-9-2019		Multigraphs, Planar Graphs
88	28-9-2019		, Euler's Formula,
89	30-9-2019		Graph Coloring and Covering, Chromatic Number
90	3-10-2019		TUTORIAL
91	3-10-2019		Spanning Trees: Properties, Algorithms for Spanning trees
92	4-10-2019		Minimal Spanning Tress(Prim's & Kruskal's algorithms)
93	5-10-2019		Revision with PPT
94	7-10-2019	**MID-2**	REVISION –MID-2
95	9-10-2019		REVISION –MID-2
96	10-10-2019		REVISION –MID-2/TUTORIAL
97	10-10-2019		REVISION –MID-2
98	11-10-2019		REVISION –MID-2
99	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**