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

LECTURE SCHEDULE

SUBJECT: MFCS **ACADEMIC YEAR: 2018-19**
FACULTY: Mr.J.KARTHIK **YEAR/SEM /SECTION: II – I (CSE –B)**
No. of Lectures per Week: 5+1*(Tutorial)

S.NO	Date	UNIT	TOPIC TO BE COVERED
1	11-6-2018	I	**Introduction to Mathematical Logic**
2	12-6-2018		**Propositional Calculus:** Statements and Notations
3	13-6-2018		Connectives, Well Formed Formulas, Truth Tables, Tautologies
4	14-6-2018		Equivalence of Formulas, Duality law
5	18-6-2018		Tautological Implications ,
6	19-6-2018		Normal Forms-CNF,DNF
7	20-6-2018		Normal Forms-PCNF,PDNF
8	21-6-2018		Theory of Inference for Statement Calculus
9	22-6-2018		Consistency of Premises, Indirect Method of Proof
10	22-6-2018		**TUTORIAL**
11	25-6-2018		**Predicate calculus:** Predicative Logic, Statement Functions,
12	26-6-2018		Variables and Quantifiers,
13	27-6-2018		Free & Bound Variables,
14	28-6-2018		Inference theory for predicate calculus
15	29-6-2018		**TUTORIAL**
16	29-6-2018		**SLIPTEST-1**
17	2-7-2018	II	**Set Theory:** Introduction, Operations on Binary Sets
18	3-7-2018		Principle of Inclusion and Exclusion
19	4-7-2018		Relations: Properties of Binary Relations, Relation Matrix and Digraph
20	5-7-2018		Operations on Relations, Partition and Covering
21	6-7-2018		Transitive Closure, Equivalence relation
22	6-7-2018		**TUTORIAL**
23	9-7-2018		Compatibility and Partial Ordering Relations
24	10-7-2018		Hasse Diagrams
25	11-7-2018		**Functions**: Bijective Functions,
26	12-7-2018		Composition of Functions
27	13-7-2018		Inverse Functions, Permutation Functions
28	13-7-2018		**TUTORIAL**
29	16-7-2018		Recursive Functions, Lattice and its Properties.
30	17-7-2018		**SLIPTEST-2**
31	18-7-2018	III	**Algebraic Structures and Number Theory:** Algebraic Systems, Examples, General Properties
32	19-7-2018		Semi Groups and Monoids ,
33	20-7-2018		Homomorphism of Semi Groups and Monoids
34	20-7-2018		**TUTORIAL**
35	23-7-2018		Group, Subgroup, Abelian Group,
36	24-7-2018		Homomorphism,
37	25-7-2018		Isomorphism,
38	26-7-2018		**Number Theory:** Properties of integers, Division Theorem
39	27-7-2018		The Greatest Common Divisor, Euclidean Algorithm,
40	27-7-2018		**TUTORIAL**
41	30-7-2018		Least Common Multiple
42	31-7-2018		Testing for Prime Numbers,
43	1-8-2018		The Fundamental Theorem of Arithmetic

44	2-8-2018		Modular Arithmetic-Fermat's theorem & Euler's's theorem
45	3-8-2018		**REVISION**
46	3-8-2018		**TUTORIAL**
47	6-8-2018	**MID-1**	REVISION –MID-1
48	7-8-2018		REVISION –MID-1
49	8-8-2018		REVISION –MID-1
50	9-8-2018		REVISION –MID-1
51	10-8-2018		REVISION –MID-1
52	10-8-2018		REVISION –MID-1/TUTORIAL
53	13-8-2018	IV	**Combinatorics:** Basic of Counting, Permutations,
54	14-8-2018		Permutations with Repetitions,
55	16-8-2018		Circular Permutations, Restricted Permutations,
56	17-8-2018		Combinations, Restricted Combinations,
57	17-8-2018		**TUTORIAL**
58	20-8-2018		Generating Functions of Permutations and Combinations,
59	21-8-2018		Binomial and Multinomial Coefficients, Binomial and Multinomial Theorems,
60	23-8-2018		The Principles of Inclusion–Exclusion,
61	24-8-2018		Pigeonhole Principle & its Application.
62	24-8-2018		**TUTORIAL**
63	27-8-2018		**SLIPTEST-4**
64	28-8-2018	V	**Recurrence Relation:** Function of Sequences
65	29-8-2018		Partial Fractions
66	30-8-2018		Calculating Coefficient of Generating Functions
67	31-8-2018		Recurrence Relations, Formulation as Recurrence Relations
68	31-8-2018		**TUTORIAL**
69	4-9-2018		Solving Recurrence Relations by Substitution Method
70	5-9-2018		Generating Functions- First Order
71	6-9-2018		Generating Functions- Second Order
72	7-9-2018		Solving RR by method of characteristic roots
73	7-9-2018		**TUTORIAL**
74	10-9-2018		Solving Inhomogeneous recurrence Relations –First Order
75	11-9-2018		Solving Inhomogeneous recurrence Relations-Second Order
76	12-9-2018		**SLIPTEST-5**
77	17-9-2018	VI	**Graph Theory:** Basic Concepts of Graphs, Sub graphs
78	18-9-2018		**Matrix Representation of Graphs**: Adjacency Matrices
79	19-9-2018		Incidence Matrices
80	20-9-2018		Isomorphic Graphs
81	24-9-2018		Paths and Circuits
82	25-9-2018		Eulerian Graphs
83	26-9-2018		Hamiltonian Graphs
84	27-9-2018		Multigraphs, Planar Graphs
85	28-9-2018		Euler's Formula,
86	28-9-2018		**TUTORIAL**
87	1-10-2018		Graph Coloring and Covering, Chromatic Number
88	3-10-2018		Spanning Trees: Properties, Algorithms for Spanning trees
89	4-10-2018		Minimal Spanning Tress(Prim's & Kruskal's algorithms)
90	5-10-2018		REVISION
91	5-10-2018		**TUTORIAL**
92	8-10-2018	**MID-2**	REVISION –MID-2
93	9-10-2018		REVISION –MID-2
94	10-10-2018		REVISION –MID-2
95	11-10-2018		REVISION –MID-2
96	12-10-2018		REVISION –MID-2
97	12-10-2018		REVISION –MID-2/TUTORIAL

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**