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

LECTURE SCHEDULE

SUBJECT: MFCS **ACADEMIC YEAR: 2017-18**
FACULTY: Mr.J.KARTHIK **YEAR/SEM /SECTION: II – I (CSE –B)**
No. of Lectures per Week: 4+2*(Tutorial)

S.NO	Date	UNIT	TOPIC TO BE COVERED
1	12-6-2017	I	**Introduction to Mathematical Logic**
2	13-6-2017		**Propositional Calculus:** Statements and Notations
3	14-6-2017		Connectives, Well Formed Formulas, Truth Tables, Tautologies
4	14-6-2017		Equivalence of Formulas, Duality law
5	15-6-2017		Tautological Implications ,
6	17-6-2017		Normal Forms-CNF,DNF
7	19-6-2017		Normal Forms-PCNF,PDNF
8	20-6-2017		Theory of Inference for Statement Calculus
9	21-6-2017		**TUTORIAL**
10	21-6-2017		**TUTORIAL**
11	22-6-2017		Consistency of Premises, Indirect Method of Proof
12	24-6-2017		**Predicate calculus:** Predicative Logic, Statement Functions, Variables and Quantifiers
13	27-6-2017		Free & Bound Variables, Inference theory for predicate calculus
14	28-6-2017		**TUTORIAL**
15	28-6-2017		**TUTORIAL**
16	29-6-2017		**SLIPTEST-1**
17	01-7-2017	II	**Set Theory:** Introduction, Operations on Binary Sets
18	03-7-2017		Principle of Inclusion and Exclusion
19	04-7-2017		Relations: Properties of Binary Relations, Relation Matrix and Digraph
20	05-7-2017		**TUTORIAL**
21	05-7-2017		**TUTORIAL**
22	06-7-2017		Operations on Relations, Partition and Covering
23	10-7-2017		Transitive Closure, Equivalence relation
24	11-7-2017		Compatibility and Partial Ordering Relations
25	12-7-2017		**TUTORIAL**
26	12-7-2017		**TUTORIAL**
27	13-7-2017		Hasse Diagrams
28	15-7-2017		**Functions**: Bijective Functions, Composition of Functions
29	17-7-2017		Inverse Functions, Permutation Functions
30	18-7-2017		Recursive Functions, Lattice and its Properties.
31	19-7-2017		**TUTORIAL**
32	19-7-2017		**TUTORIAL**
33	20-7-2017		**SLIPTEST-2**
34	22-7-2017	III	**Algebraic Structures and Number Theory:** Algebraic Systems, Examples, General Properties
35	24-7-2017		Semi Groups and Monoids ,Homomorphism of Semi Groups and Monoids
36	25-7-2017		Group, Subgroup, Abelian Group, Homomorphism, Isomorphism,
37	26-7-2017		**TUTORIAL**
38	26-7-2017		**TUTORIAL**
39	27-7-2017		**Number Theory:** Properties of integers, Division Theorem
40	29-7-2017		The Greatest Common Divisor, Euclidean Algorithm,
41	31-7-2017		Least Common Multiple

42	01-8-2017		Testing for Prime Numbers, The Fundamental Theorem of Arithmetic
43	02-8-2017		**TUTORIAL**
44	02-8-2017		**TUTORIAL**
45	03-8-2017		Modular Arithmetic-Fermat's theorem & Euler's's theorem
46	05-8-2017		**REVISION**
47	07-8-2017		**REVISION**
48	08-8-2017		**REVISION**
49	09-8-2017		**TUTORIAL**
50	09-8-2017		**TUTORIAL**
51	10-8-2017		**REVISION**
52	12-8-2017		**REVISION**
53	16-8-2017	IV	**TUTORIAL**
54	16-8-2017		**TUTORIAL**
55	17-8-2017		**Combinatorics:** Basic of Counting, Permutations,
56	19-8-2017		Permutations with Repetitions,
57	21-8-2017		Circular Permutations, Restricted Permutations,
58	22-8-2017		Combinations, Restricted Combinations,
59	23-8-2017		**TUTORIAL**
60	23-8-2017		**TUTORIAL**
61	24-8-2017		Generating Functions of Permutations and Combinations,
62	28-8-2017		Binomial and Multinomial Coefficients, Binomial and Multinomial Theorems,
63	29-8-2017		The Principles of Inclusion–Exclusion, Pigeonhole Principle & its Application.
64	30-8-2017		**TUTORIAL**
65	30-8-2017		**TUTORIAL**
66	31-8-2017		**SLIPTEST-3**
67	04-9-2017	V	**Recurrence Relation:** Generating functions, Function of Sequences,
68	05-9-2017		Partial Fractions ,Calculating Coefficient of Generating Functions,
69	06-9-2017		**TUTORIAL**
70	06-9-2017		**TUTORIAL**
71	07-9-2017		Recurrence Relations, Formulation as Recurrence Relations,
72	09-9-2017		Solving Recurrence Relations by Substitution and Generating Functions,
73	11-9-2017		Solving RR by method of characteristic roots
74	12-9-2017		Solving Inhomogeneous recurrence Relations
75	13-9-2017		**TUTORIAL**
76	13-9-2017		**TUTORIAL**
77	14-9-2017		**SLIPTEST-4**
78	16-9-2017	VI	**Graph Theory:** Basic Concepts of Graphs,Sub graphs
79	18-9-2017		Matrix Representation of Graphs:Adjacency Matrices,
80	19-9-2017		Incidence Matrices
81	20-9-2017		**TUTORIAL**
82	20-9-2017		**TUTORIAL**
83	21-9-2017		Isomorphic Graphs
84	23-9-2017		Paths and Circuits
85	25-9-2017		Eulerian Graphs
86	26-9-2017		Hamiltonian Graphs
87	27-9-2017		**TUTORIAL**
88	27-9-2017		**TUTORIAL**
89	3-10-2017		Multigraphs, Planar Graphs
90	4-10-2017		**TUTORIAL**
91	4-10-2017		**TUTORIAL**
92	5-10-2017		Euler's Formula, Graph Coloring and Covering, Chromatic Number
93	7-10-2017		Spanning Trees: Properties, Algorithms for Spanning trees
94	9-10-2017		**REVISION**
95	10-10-2017		**REVISION**

96	11-10-2017		**TUTORIAL**
97	11-10-2017		**TUTORIAL**
98	12-10-2017		**REVISION**
99	14-10-2017		**REVISION**

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**