

Bhoj Reddy Engineering College for Women: Hyderabad

Department of Computer Science and Engineering

Lesson plan of faculty member for the academic year 2016–17

Class: II B Tech

Branch-Section: CSE-B

Semester: I

Subject: Mathematical Foundations of Computer Science

Lectures per week: 4+1 (Tutorial)

Lecture Number	Topics to be covered	Date (s)
UNIT – I: Mathematical Logic		
1	Statements and Notation	13 June 2016
2	Connections, Well formed formulas	14 June 2016
3	Truth Tables, Tautology	17 June 2016
4	Equivalence implication	18 June 2016
5	Tutorial (G2,G1,G3) - Truth Tables	14,15,16 June 2016
6	Normal forms	20 June 2016
7	Quantifiers, Universal quantifiers	21 June 2016
8	Predicative logic	24 June 2016
9	Free & Bound variable, Logical problems	25 June 2016
10	Tutorial (G2,G1,G3) - Quantifiers	21, 22,23 June 2016
11	Rules of inference	27 June 2016
12	Consistency	28 June 2016
13	Proof of contradiction	01 July 2016
14	Automatic Theorem Proving	02 July 2016
15	Tutorial (G2,G1,G3) - Rules of inference	28, 29,30 June
UNIT-II: Relations		
16	Properties of binary relations	4 July 2016
17	Transitive closure	5 July 2016
18	Compatibility and partial ordering relation	8 July 2016
19	Partial ordering relation	9 July 2016
20	Tutorial (G2)- Transitive closure	5 July 2016
21	Lattices, Hasse diagram	11 July 2016
22	Inverse function composition of function	12 July 2016
23	Recursive function	15 July 2016
24	Lattice and its properties, Algebraic systems examples	16 July 2016
25	Tutorial (G2,G1,G3) - partial ordering relation	12, 13,14 July 2016
26	General properties Semi groups and monads	18 July 2016
27	Groups sub groups homomorphism, Isomorphism	19 July 2016
UNIT-III: Elementary Combinatorics		
28	Basis of counting	22 July 2016
29	Combination & Permutations	23 July 2016
30	Tutorial (G2,G1,G3) - Combination & Permutations	19, 20,21 July 2016
31	Combination & Permutations with repetitions	25 July 2016
32	Constrained repetitions	26 July 2016
33	Related Problems	29 July 2016
34	Related Problems	30 July 2016
35	Tutorial (G2,G1,G3) - Combination & Permutations with repetitions	26, 27,28 July 2016
36	Binomial Coefficients	2 August 2016
37	Revision	5 August 2016
38	Binomial Multinomial theorems	6 August 2016
39	Tutorial (G2,G1,G3) - Binomial Coefficients	2, 3, 4 August 2016
40	The Principles of Inclusion-Exclusion	16 August 2016
41	Pigeon hole principles and its application	19 August 2016
42	Revision	20 August 2016
43	Tutorial (G2,G1,G3) - The Principles of Inclusion-Exclusion	16, 17,18 August 2016
44	Revision	22 August 2016

45	Revision	23 August 2016
UNIT-IV: Recurrence Relation		
46	Generating Functions	26 August 2016
47	Generating Functions	27 August 2016
48	Tutorial (G2,G1) - Generating Functions	23, 24 August 2016
49	Function of sequences	29 August 2016
50	Calculating Coefficient of generating function	30 August 2016
51	Recurrence relation	2 September 2016
52	Solving recurrence relation by substitution and generating funds	3 September 2016
53	Tutorial (G2,G1,G3) - Recurrence relation	30,31 August, 1, September 2016
54	Characteristics roots solution of In homogeneous recurrence relation	6 September 2016
55	Revision	9 September 2016
56	Revision	10 September 2016
57	Tutorial (G2,G1,G3) - homogeneous recurrence relation	6,7,8 September 2016
UNIT-V: Graph Theory		
58	Representation of graph	13 September 2016
59	DFS	16 September 2016
60	Related problems	17 September 2016
61	Tutorial (G2,G1,G3) - Problems related to receivers	13,14,15 September 2016
62	BFS	19 September 2016
63	Spanning trees, Planner graphs	20 September 2016
64	Graph theory and applications	23 September 2016
65	Basic concepts Isomorphism and sub graphs	24 September 2016
66	Tutorial (G2,G1,G3) - BFS	20, 21,22 September 2016
67	Related problems	26 September 2016
68	Multi graphs and Euler circuits	27 September 2016
69	Hamiltonian graphs	01 October 2016
70	Tutorial (G2,G1,G3) - Multi graphs and Euler circuits	27, 28,29 September 2016
71	Chromatic number	3 October 2016
72	Related problems	4 October 2016
73	Tutorial (G2) - Chromatic number	4 October 2016
74	Revision	28 October 2016
75	Revision	29 October 2016
76	Tutorial (G3) - Related Problems	27 October 2016
77	Revision	31 October 2016
78	Revision	1 November 2016
79	Tutorial (G2,G1,G3) - Revision	1,2,3 November 2016

Text Books:

- 1. Elements of DISCRETE MATHEMATICS- A computer Oriented Approach-C L Liu, DP Mohanpatra, Third Edition, Tata McGraw Hill**
- 2. Discrete Mathematics for Computer Scientists & Mathematicians, J.L.Mott, A.Kandel, T.P.Baker,PHI.**

Name and signature of the faculty: **Ms M Jhansi Rani** ----

Name and signature of Head of the Department: **Ms K Usha Rani** ----