Bhoj Reddy Engineering College for Women: Hyderabad

Department of Information Technology

Lesson plan of faculty member for the academic year 2019–20

Class: II B Tech Branch-Section: IT-A Semester: II

Subject: Discrete Mathematics Lectures per week: 3

Lecture Number	Topics to be covered	Date (s)
UNIT – I: The Foundations: Logic and Proofs		
1	Propositional Logic	16 December 2019
2	Applications of Propositional Logic	19 December 2019
3	Propositional Equivalence	20 December 2019
4	Problems on Propositional Equivalence	23 December 2019
5	Predicates	28 December 2019
6	Quantifiers	30 December 2019
7	Nested Quantifiers	2 January 2020
8	Rules of Inference	4 January 2020
9	Introduction to Proofs	6 January 2020
10	Proof Methods and Strategy	9 January 2020
UNIT-II: Set Theory		
11	Basic Structures, Sets,	11 January 2020
12	Functions, Sequences	13 January 2020
13	Sums, Matrices and Relations Sets	16 January 2020
14	Functions, Sequences & Summations	18 January 2020
15	Cardinality of Sets and Matrices Relations	20 January 2020
16	Relations and Their Properties	23 January 2020
17	n-ary Relations and Their Applications	25 January 2020
18	Representing Relations	27 January 2020
19	Equivalence Relations	30 January 2020
20	Partial Orderings.	1 February 2020
UNIT-III: Algorithms, Induction and Recursion		
21	The Growth of Functions	3 February 2020
22	Complexity of Algorithms	6 February 2020
23	Complexity of Algorithms	8 February 2020
24	Mathematical Induction	13 February 2020
25	Mathematical Induction	15 February 2020
26	Well-Ordering	17 February 2020
27	Recursive Definitions	20 February 2020
28	Structural Induction	22 February 2020
29	Recursive Algorithms	24 February 2020
30	Recursive Algorithms	27 February 2020
31	Program Correctness	29 February 2020
UNIT-IV: Discrete Probability and Advanced Counting Techniques		
32	An Introduction to Discrete Probability	2 March 2020
33	Probability Theory	4 March 2020
34	Bayes' Theorem	5 March 2020
35	Expected Value and Variance	7 March 2020
36	Recurrence Relations	9 March 2020
37	Recurrence Relations	12 March 2020
38	Solving Linear Recurrence Relations	14 March 2020
39	Divide-and-Conquer Algorithms	16 March 2020
40	Divide-and-Conquer Algorithms and Recurrence Relations	19 March 2020
41	Generating Functions	21 March 2020
42	Inclusion-Exclusion, Applications of Inclusion-Exclusion	23 March 2020

UNIT-V: Graphs and Trees		
43	Graphs and Graph Models, Graph Terminology Graphs and Special Types of Graphs	26 March 2020
44	Representing Graphs and Graph Isomorphism	28 March 2020
45	Types of Graphs, , Connectivity	30 March 2020
46	Euler and Hamilton Paths	28 March 2020
47	Shortest-Path Problems, Planar Graphs, Graph Coloring	4 April 2020
48	Introduction to Trees, Applications of Trees	6 April 2020
49	Tree Traversal, Spanning Trees	9 April 2020
50	Minimum Spanning Trees	11 April 2020

Text Books:

1. Discrete Mathematics and its Applications with Combinatorics and Graph Theory- Kenneth H Rosen, 7th Edition, TMH..

Name and signature of the faculty: E Nitya ----

Name and signature of Head of the Department: Vinod M ----