Department of Computer Science and Engineering

Lesson Plan

Course Code: CIC-205

S.No.	Topic	Lectures
1.	Sets, Subsets, Powersets, Operations on set	1
2.	Propositional Logic	1
3.	Rules of Inferences in Propositional Logic	1
4.	Quantifiers, Predicate Logic	1
5.	Normal Forms	2
6.	Proof Techniques	1
7.	Principle of inclusion and exclusion	1
8.	Pigeonhole Principle	1
9.	Principle of Well-Ordering	1
10.	Principle of Mathematical Induction, Principle of Complete Induction	2
11.	Relation and its Properties, Equivalence Relations and class	1
12.	Closures	1
13.	Functions	1
14.	Growth of Functions	1
15.	Permutation Functions	1
16.	Partially ordered sets	1
17.	Lattices	1
18.	Boolean Algebra	1
19.	Minimization of Boolean Expressions	1
20.	GCD,LCM, Prime numbers	1
21.	Recurrence Relations	1
22.	Solution Method for linear-first order relations	2
23.	Solution Method for linear-first order relations with constant coefficients	1
24.	Generating Functions	2
25.	Solution method for divide and conquer	1
26.	Masters Theorem	2
27.	Semi-group, Monoid, Group	1
28.	Group identity and uniqueness	1
29.	inverse and its uniqueness	1
30.	isomorphism and homomorphism	1
31.	subgroups	1
32.	Cosets and Lagrange’s theorem	1

34.	Cayley's theorem (without proof), Normal subgroup and quotient groups	2
35.	Graph Terminology, Planar graphs, Euler's formula	1
36.	Euler and Hamiltonian path/circuit. Chromatic number of a graph, five color theorem (proof)	2
37.	Shortest path and minimal spanning trees	2
38.	Depth-first and breadth first search	1
	Total Lectures	45