



# VIVEKANANDHA COLLEGE OF ENGINEERING FOR WOMEN

[AUTONOMOUS INSTITUTION AFFILIATED TO ANNA UNIVERSITY, CHENNAI]



## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Course Code / Name :U15MA303/ Discrete Mathematics

Class (Year / Programme / Department / Section): II/BE/CSE/A&B

### LESSON PLAN

UNIT -1 PROPOSITIONAL CALCULUS				
Session No	Topic	Duration in Minutes	Teaching Aid	Book Referred
1	Propositions	45	BB	R2
2	Logical connectives	45	BB	R2
3	Compound propositions	45	BB	R2
4	Conditional and biconditional Propositions	45	BB	R2
5	Truth tables	45	BB	R2
6	Tautologies and Contradictions	45	BB	R2
7	Contrapositive	45	BB	R2
8	Logical equivalences and implications	45	BB	R2
9	De“Morgan“s Laws-	45	BB	R2
10	Normal forms	45	BB	R2
11	Principal conjunctive and disjunctive normal forms	45	BB	R2
12	Rules of inference ,Arguments	45	BB	R2
UNIT -2( PREDICATE CALCULUS)				
1	Predicates	45	BB	R2
2	Statement function	45	BB	R2
3	Variables	45	BB	R2
4	Quantifiers	45	BB	R2
5	and implications for quantified statements	45	BB	R2
6	Theory of inference- The rules of universal specificatio	45	BB	R2
7	Validity of argument	45	BB	R2

8	Universe of discourse, Logical equivalence	45	BB	R2
9	Free and bound variables	45	BB	R2
<b>UNIT -3 (SET THEORY )</b>				
1	Basic concepts	45	BB	R1
2	Notations	45	BB	R1
3	Subset	45	BB	R1
4	Algebra of sets	45	BB	R1
5	The power sets	45	BB	R1
6	Relations on sets	45	BB	R1
7	Types of relations and their properties	45	BB	R1
8	Relational matrix and the graph of relation	45	BB	R3
9	Partitions	45	BB	R3
10	Equivalence relations	45	BB	R3
11	Partial ordering	45	BB	R3
12	Poset- Hasse diagram	45	BB	R3
<b>UNIT -4 (FUNCTIONS)</b>				
1	Definitions of functions	45	BB	R1
2	Classification of functions	45	BB	R1
3	Type of functions	45	BB	R1
4	Examples	45	BB	R1
5	Composition of functions	45	BB	R1
6	Inverse functions	45	BB	R1
7	Characteristic function of a set	45	BB	R1
8	Binary and n-ary operations	45	BB	R1
<b>UNIT -5 (GROUPS)</b>				
1	Algebraic systems	45	BB	R1
2	Definitions	45	BB	R1
3	Examples	45	BB	R1

4	Properties	45	BB	R1
5	Semi groups	45	BB	R1
6	Monoids	45	BB	R1
7	Homomorphism	45	BB	R1
8	Sub semi groups and Submonoids	45	BB	R1
9	Cosets and Lagrange's theorem	45	BB	R1
10	Normal subgroups	45	BB	R1
11	Normal algebraic system with two binary operations.	45	BB	R1