STANLEY
COLLEGE OF ENGINEERING & TECHNOLOGY FOR WOMEN
(Approved by AICTE , New Delhi | Affiliated to Osmania University ,Hyderabad)
Address : Chapel Road, Abids ,Hyderabad

Department of Mathematics

DISCRETE MATHEMATICS (BIT201)

UNIT	DETAILS
I	Logic -sets and functions logic ,propositional equivalences- pridicates and quantifiers nested quantifiers sets set operations functions Algorithms and complexity of algorithms the integers and division, applications of number theory, matrices.
II	Mathematical reasoning , induction and recursion; proof strategy sequence and summation, mathematical induction, recursive definition structural induction and recursive algorithms. Counting pigeon hole principle permutations and combinations , binomial coefficients, generalized permutations and combinations .
III	Discrete probability ,expected value variance, recurrence relations – solving recurrence relations- divide and conquer relations recurrence relations –generating functions- inclusion and exclusion –applications of inclusion exclusion .
IV	Relations and their properties and applications representing relations – closures equivalence relations and partial orderings. Graph s , representing graphs and graph isomorphism, connectivity,Euler and Hamiltanian path Shortest path problems planar graphs, graph colouring.
V	Introduction to trees application of trees , tree traversal, spanning trees, minimal spanning tree, Boolean function representing Boolean function logic gates minimization of circuits.

Text/Reference Books:

T/R	Book Title/Authors/Publication
T1	KENNET H .rosen -Discrete mathematics and its applications McGraw –hill 2003
T2	J.K Sarma Discrete mathematics Mac millan 2003
R1	J.P.Trembly, R.Manohar Discrete mathematical structure with application to computer science, Mc Graw-Hill 1997
R2	Joel Mott Abraham Kandel P.P Baker Discrete Mathematics for scientist &Mathematicians Prentice hail 1986