



Paper Code : MAT:201
Paper Name : Mathematics II

Teaching Hours (Per Week)		Examination Scheme		
TH. (hours)	Pr. (hours)	Internal	External	Total
		Th. (marks)	Th. (marks)	100 (marks)
3		30	70	

Lectures = 68 Hours

Detailed Syllabus

UNIT I

SETS & RELATIONS

14 Hrs.

Definition -Operation on sets, Principal of Inclusion and Exclusion, Difference and symmetric difference of sets, Cartesian products and results related to Cartesian products. Relations- Types of relations, Equivalence relations, .

UNIT II

CO-ORDINATE GEOMETRY:

14 Hrs

Concept of limits, fundamental theorems on Limits(without proof), 3Dimensional geometry:-co-ordinates of points in space,results of points in space and lines in space,Equation of straight lines in space- vector form,Cartesian form.

UNIT III

PROBABILITY:

14 Hrs.

Introduction,Sample,Space and events, Conditional Probability, Independent events, Addition and Multiplication theorem on probability, Random variables,Mathematical Expectation, Theorems on Expectations, Variance of a variable in terms of Expectations.

UNIT IV

TRIGONOMETRY :

14 Hrs.

Trigonometric or Circular Functions,Conditional Identities involving the angles of a triangle, Trigonometric equations,Graphs of trigonometric functions.

UNIT V

FUNCTIONS:

13 Hrs.

Types of Functions-one to one, onto, into and inverse functions, composition of functions-inverse of composition of functions, Logarithmic and exponential functions,Factorial Functions,Fibonacci sequence.



RECOMMENDED BOOKS

1. Elements of Discrete Mathematics- C. L L IU
2. Discrete Mathematics- a)Semyour Lipschutz, Marc Lipson ,b) Vinay Kumar.
3. Fundamentals of Statistics- S.C.Gupta
4. Business Mathematics- Thukral J.K