

MA 105 T BASICMATHEMATICS (Arts & Commerce)

Teaching Scheme					Examination Scheme					
L	T	P	C	Hrs./Week	Theory			Practical		Total Marks
					MS	ES	IA	LW	LE/Viva	
3	1	---	7	4	30	60	10	---	---	100

UNIT I : General Mathematics9

Number System: Natural Number, Fractional Number, Rational Number, Fundamental operation of Rational Numbers. Closed and Open intervals, Functions, Domain and Range of function. Independent and Dependent variables. Graph of functions. Operations of functions. Trigonometric and Inverse Trigonometric functions. Coordinate systems (Cartesian and polar).

UNIT II: Basic Calculus9

Definitions of Continuity and limits, limit evaluation, Indeterminate form, Physical Interpretation of Differentiation. Evaluation of Differentiation of some elementary functions using first principle. Integration – Indefinite and Definite: Definition and evaluation of elementary functions by definition.

UNIT III: Set Theory & Probability - Basic Concepts 10

Introduction to Set Theory - Basic concepts- Disjoint Sets- Venn Diagram, Set Operations - Union and Intersection -Problems – ComplementsDe-Morgan’s laws using Venn Diagram, Permutation And Combination - Key Concepts. Probability: Definition of probability using various approaches, Conditional probability, Baye’s theorem, Random variable, Types of random variable.

UNIT IV: Matrices 11

Introduction to Matrices - Organize Data into a Matrix, Operations with Matrices - Addition and Subtraction of Matrices - Scalar Multiplication - Combination of Matrix Operations -Real-World Link – Dimensions, Multiplying Matrices -Dimensions of Matrix Products - Commutative Property - Distributive Property -Properties of Matrix Multiplication, Minors, Cofactors, Inverse of a matrix.

APPROXIMATE TOTAL 39 Hours

Texts and References

1. P. Rama Murthy, Operation Research, 2nd Ed., New Age International Publishers ().
2. K. Srinivasan, Higher Secondary Mathematics, Tamil Nadu Text Book Corporations, Chennai ().
3. R. K. Jain & S. R. K. Iyengar, Higher Engineering Mathematics, 3rd Ed., Narosa (2007).
4. L. Choudhury, An Introduction to Statistics, Vol. I & II,
5. E. Kreyszig, Advanced Engineering Mathematics, 8th Ed., John Wiley (1999).
6. Michael D. Greenberg, Advanced Engineering Mathematics, 2nd Ed., Pearson (1998).