

MLD - BASIC MATHEMATICS

- 3 CREDITS (48 HOURS)

*Offered to those who had not studied Mathematics or Business mathematics in their secondary level of Education.

Unit 1 : Matrices Matrices-Elementary Concepts- Evaluation of Determinant of a square matrix - Types of Matrices-Sum and product of Matrices-Inverse of a square matrix of order 2 and order 3 –Rank of Matrix.

Unit 2 : Theory of Equations Relation between roots and coefficients - solution of equations under simple given conditions - Formation and solution of equations with imaginary and surd roots.

Unit 3 : Application of Matrices Consistency of a system of linear non-homogeneous equations (statement only)- simple problems characteristic equation of a square matrix - evaluation of eigenvalues – Cayley Hamilton Theorem (statement only) – verification and computing inverse using Cayley Hamilton Theorem

Unit 4 : Differential Calculus Differential coefficient of $f(x)$ with respect to x - rules for differentiation - Differential coefficient of standard functions – Trigonometric and Inverse trigonometric functions.

Unit 5 : Differential Calculus (continued) Logarithmic differentiation - Differentiation of one function with respect to another. Integral Calculus Integration as the inverse process of differentiation - integration of standard functions.

BOOKS FOR STUDY

Manicavachgam Pillay, T.K., T. Natarajan, and K.S. Ganapathy. Algebra Vol. II. Chennai : S. Vishwanthan printers and publishers Pvt. Ltd., 2006. Chapter 2 Sections: 1-5, 7, 8, 11, 16.

Manicavachgam Pillay, T.K., T. Natarajan, and K.S. Ganapathy. Algebra Vol. I. Chennai : S. Vishwanthan printers and publishers Pvt. Ltd., 2006. Chapter 6 Sections: 1, 9, 10, and 11

Narayanan S., and T.K. Manicavachgam Pillay. Calculus Vol. I. Chennai : S. Vishwanthan printers and publishers Pvt. Ltd., 2004. Chapter 7 Sections: 1- 3.10, 4.1, 4.2, and 7

Narayanan S., and T.K. Manicavachgam Pillay, Ancillary Mathematics: Book II. Chennai : S.Vishwanthan printers and publishers Pvt. Ltd., 2004 . Chapter 1 Sections: 1.1- 6.1

BOOKS FOR REFERENCE

Vittal, P.R. Allied Mathematics. Chennai : Margham Publications, 2002.

Narayanan S., R. Hanumantha Rao, T.K. Manicavachgam Pillay, and P. Kandaswamy. Ancillary Mathematics Vol. I. Chennai :

S.Vishwanthan printers and publishers Pvt. Ltd., 2007. Vittal, P.R., Business Mathematics. Chennai : Margham Publications, 1999