

ABSTRACT ALGEBRA

UNIT I

Groups - Subgroups – Cyclic groups – Order of an element – Cosets and Lagrange's Theorem

UNIT II

Normal subgroups and Quotient groups –Finite groups & Cayley Tables- Isomorphism & Homomorphism.

UNIT III

Rings & Fields- definition & examples-Elementary properties of Rings-Types of Rings-Characteristics of Rings –Subrings – Ideals- Quotient rings –Maximal & Prime Ideals – Homomorphism of Rings – Isomorphism of Rings.

UNIT IV

Vector Spaces –definition & examples –Subspaces –Linear Transformation- Span of a set- Linear independence.

UNIT V

Basis & Dimension – Rank & Nullity – Matrix of a Linear Transformation.

TEXT BOOK(S)

- [1] N.Arumugam & A.Thangapandi Isaac, Modern Algebra, New Gamma Publishing House -June 1997

UNIT – I –Chapter 3 Sections 3.5 to 3.8
UNIT – II –Chapter 3 Sections 3.9 to 3.12
UNIT – III –Chapter 4 Sec 4.1 to 4.8 & 4.10
UNIT – IV –Chapter 5 Sections 5.1 to 5.5
UNIT – V –Chapter 5 Sections 5.6 to 5.8

REFERENCE(S)

- [1] T.K. Manicavachagam Pillai, T. Natarajan, K.S. Ganapathy, Algebra, Vol. I, S. Viswanathan Pvt Limited, Chennai, 2004
[2] M.L.Santiago, Modern Algebra, Arul Publications, Madras, 1988.
[3] M.L.Santiago, Modern Algebra, Tata McGraw Hill, 2003.