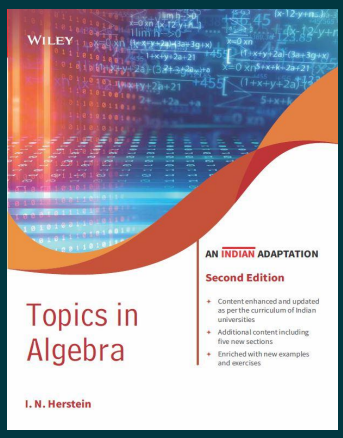
WILEY



Topics in Algebra, 2ed (An Indian Adaptation)

By I. N. Herstein

Paperback 9789354641688 ₹926.00

Description

The Indian Adaptation of Topics in Algebra, Second Edition, offers new and updated material relevant to the Indian context. Certain chapters have been expanded to include topics such as Group Actions, Semi- Direct Products, The Fundamental Theorem of Algebra, The Characteristic Polynomial and Orthogonal Matrices. In keeping with the ethos of the original, the text continues to offer a great number of examples and problems which serve to illustrate the significance of the results proved in the text. More than a third of the examples and problems are new or revised.

About the Author

I. N. Herstein

Israel Nathan Herstein was a mathematician, appointed as professor at the University of Chicago in 1951. He worked on a variety of areas of algebra, including ring theory

Table of Contents

Preface to the Adapted Edition

Preface to the Second Edition

Preface to the First Edition

1 Preliminary Notions

1.1 Set Theory

1.2 Mappings

1.3 The Integers

2 Group Theory

2.1 Definition of a Group

2.2 Some Examples of Groups

2.3 Some Preliminary Lemmas

2.4 Subgroups

2.5 A Counting Principle

2.6 Normal Subgroups and Quotient Groups

2.7 Homomorphisms

2.8 Automorphisms

2.9 Cayley’s Theorem

2.10 Permutation Groups
2.11 Another Counting Principle
2.12 Sylow’s Theorem
2.13 Direct Products
2.14 Finite Abelian Groups
2.15 Group Actions
2.16 Semi-Direct Products
3 Ring Theory
3.1 Definition and Examples of Rings
3.2 Some Special Classes of Rings
3.3 Homomorphisms
3.4 Ideals and Quotient Rings
3.5 More Ideals and Quotient Rings
3.6 The Field of Quotients of an Integral Domain
3.7 Euclidean Rings
3.8 A Particular Euclidean Ring
3.9 Polynomial Rings
3.10 Polynomials over the Rational Field
3.11 Polynomial Rings over Commutative Rings
4 Vector Spaces and Modules
4.1 Elementary Basic Concepts
4.2 Linear Independence and Bases
4.3 Dual Spaces
4.4 Inner Product Spaces
4.5 Modules
5 Fields
5.1 Extension Fields
5.2 The Fundamental Theorem of Algebra
5.3 The Transcendence of e
5.4 Roots of Polynomials
5.5 Construction with Straightedge and Compass
5.6 More about Roots
5.7 The Elements of Galois Theory
5.8 Solvability by Radicals
5.9 Galois Groups over the Rationals
6 Linear Transformations
6.1 The Algebra of Linear Transformations
6.2 Characteristic Roots

6.3 Matrices

6.4 Canonical Forms: Triangular Form

6.5 Canonical Forms: Nilpotent Transformations

6.6 Canonical Forms: A Decomposition of V: Jordan Form

6.7 Canonical Forms: Rational Canonical Form

6.8 Trace and Transpose

6.9 Determinants

6.10 The Characteristic Polynomial

6.11 Hermitian, Unitary, and Normal Transformations

6.12 Real Quadratic Forms

7 Selected Topics

7.1 Finite Fields

7.2 Wedderburn’s Theorem on Finite Division Rings

7.3 A Theorem of Frobenius

7.4 Integral Quaternions and the Four-Square Theorem

7.5 Orthogonal Matrices and Rotations

Index

To purchase this product, please visit:
https://www.wileyindia.com/topics-in-algebra-2ed-an-indian-adaptation.html

Scan to buy