Abstract Algebra
An Introduction with Applications
3rd Edition

By **Derek J.S. Robinson**

ABOUT THE BOOK

This is a high level introduction to abstract algebra which is aimed at readers whose interests lie in mathematics and the information and physical sciences. In addition to introducing the main concepts of modern algebra – groups, rings, modules and fields – the book contains numerous applications, which are intended to illustrate the concepts and to show the utility and relevance of algebra today. In particular applications to Polya coloring theory, latin squares, Steiner systems, error correcting codes and economics are described. There is ample material here for a two semester course in abstract algebra.

Proofs of almost all results are given. The reader led through the proofs in gentle stages. There are more than 500 problems, of varying degrees of difficulty. The book should be suitable for advanced undergraduate students in their final year of study and for first or second year graduate students at a university in Europe or North America.

In this third edition three new chapters have been added: an introduction to the representation theory of finite groups, free groups and presentations of groups, an introduction to category theory.

- Very gentle, user-friendly and skillful introduction, suitable for private study and exam preparation.

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ABOUT THE AUTHOR

Derek J.S. Robinson, received his B.Sc. from Edinburgh University and his Ph.D. from Cambridge University. He has held positions at the University of London and the University of Illinois where he is now Emeritus Professor of Mathematics. He is the author of six books and over 130 articles on group theory and related areas of algebra.

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Algebra; group theory; Applied Mathematics