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A CONTEMPORARY APPROACH

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Anisabad, Patna
801505

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Rtd. IPS

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Mail at: <shoaib_khan567@yahoo.com>
Printed by Printmart India Pvt. Ltd.
301, Sumati Place, Boring Road, Patna-1
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PREFACE

Principle (concept) and procedure (method) are two basic requirements of understanding science. “Principles and Standards for School Mathematics” (PSSM) are guidelines produced by the National Council of Teachers of Mathematics (NCTM) in 2000. They form a national vision for preschool through twelfth grade mathematics education in the US and Canada. Process Standards include, “Problem Solving; Reasoning and Proof; Communication; Connections; Representation." The PSSM also names four skills related to algebra that should be taught to all students: (i) to "understand patterns, relations, and functions; (ii) represent and analyze mathematical situations and structures using algebraic symbols; (iii) use mathematical models to represent and understand quantitative relationships; and (iv) analyze change in various contexts." [Source-Wikipedia]

NCERT has also introduced a separate chapter containing deductive reasoning, mathematical proofs and models in class-IX and logical connectives, algebra of statements, use of Venn diagram in logic etc in class-XI. But we seldom find these principles and procedures applications in many Indian Math books.

All topics and difficult concepts have been explained with simple case related to our daily life situation and with simple models and patterns in order to understand its nuances. Thus, this book will provide curiosity and exposure of reasoning/logic to young minds, quick and correct selection of strategies based on reasoning for solution to various types of problems and thus prepares them for higher level of competitive exams.

We express our thanks and gratitude to our colleagues and friends who have so largely assisted us in reading, correcting the proof sheet and giving valuables materials and suggestions.

Thanks are also due to the Printmart India Pvt. Ltd, Boring Road Chowraha, Patna and its efficient designers for their extremely competent work and cooperation.

We also thank students who taught me what they wanted to learn and how. If students/ teachers/parents have any queries, criticism or suggestions the same would be highly appreciated and attempt will be made to rectify/improve the concerned contents. They are requested to write on our mail address.

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