

P R E F A C E

This dissertation entitled
" A STUDY OF DECOMPOSITION THEORY FOR LATTICES "
is based on central theme of ideal theory of commutative ring.

The beauty of Lattice theory derives in part from the extreme simplicity of its basic concepts : (partial) ordering, least upper and greatest lower bounds, prime and primary elements. These ideas are developed in " Decomposition Theory ". The concept of compact element by Dilworth [1962] is the genesis.

The most of the pioneer work was done by Birkhoff [1967]. But besides him must be cited the names of Stone, Oystein Ore, Frink Maclame, Dilworth and Janos Von Neumann. Algebraic Lattice is coined by Birkhoff [5]. In the literature, algebraic lattices are also called compactly generated lattices.

This dissertation consists of two chapters. Chapter I and II both give an exposition of the state of art in decomposition for lattices. Each chapter begins with introduction. The exposition of Dilworth's contribution is given in Chapter - I " AN EXPOSITION OF ABSTRACT IDEAL THEORY OF COMMUTATIVE RINGS " .

The group of Thakare extended the notion of residuation and radicals in the context of multiplicative lattices. The investigations of Thakare and Manjarekar involving radicals and primary decompositions in multiplicative lattices have been

reported in Chapter - II "RADICALS AND PRIMARY DECOMPOSITIONS".

A simple extension of the three authors work and original result are reported in the last section of Chapter - II.

In Chapter I and II both, we restrict lattice L be a multiplicative lattice each element of which is compact. We note that whenever brackets are not introduced the residuation and multiplication operations are performed and then the lattice operations \wedge (meet) and \vee (join) are performed first. In this dissertation the material as has been obtained from other sources has been duly acknowledged.

Finally, We hope to pursue the line of thought initiated here.

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