

PREFACE

The ring theoretical concept of semiprime ideal is appropriately defined for lattices by Rav. The dual concept of a semiprime ideal is a semiprime filter in a lattice. In this dissertation various properties and examples of semiprime filters in lattices are studied in detail. This dissertation is divided into three chapter.

Chapter 0 is preliminary and it contains definitions and results that we need in sequel.

In chapter I we study semiprime filters in detail. As every prime filter in a lattice is semiprime, we get semiprime filters are the generalization of prime filters. Semiprime filters in special lattices e.g. Distributive lattices, 1-distributive lattices are also studied.

Special types of semiprime filters e.g. $F : a$ and $\langle a, b \rangle^d$ where a, b are in L and F is a filter in L are studied in detail, in chapter II. Comaximality of two semiprime filters $\langle a, b \rangle^d$ and $\langle b, a \rangle^d$ where $a \vee b = 1$ is characterized as follows :

The following conditions are equivalent

- 1) Every prime ideal in L is contained in a unique maximal ideal.
- 2) $\langle a, b \rangle^d \vee \langle b, a \rangle^d = L$ identically for all a and b in L with $a \vee b = 1$.
- 3) For any prime ideal P in L and for any a, b in L with $a \vee b = 1$, there exists x in L such that $a \vee x$ and $b \vee x$ are comparable.

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