

Abstract

In this thesis, we define the concepts of fuzzy positive implicative ideal and (α, β) -fuzzy positive implicative ideal in a BM-algebra and investigate some of their properties, where α, β are any one of $\in, q_h, \in \vee q_h, \in \wedge q_h$ unless otherwise specified. We also introduce the notion of $(\in, \in \vee q_h)$ -fuzzy positive implicative ideal in a BM-algebra. The concepts of implication-based fuzzy positive implicative ideal and implication operators in Lukasiewicz system of continuous-valued logic in BM-algebra are introduced. Lastly, we also define the concept of $(\bar{\alpha}, \bar{\beta})$ -fuzzy positive implicative ideals in a BM-algebra, where $\bar{\alpha}, \bar{\beta}$ are any one of $\bar{\in}, \bar{q}_h, \bar{\in} \vee \bar{q}_h, \bar{\in} \wedge \bar{q}_h$ and investigate some of their related properties.