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ON INTUITIONISTIC TRIANGULAR FUZZY NUMBERS

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Abstract: Intuitionistic fuzzy set was introduced by Atanassov (1986) as a generalization of fuzzy set. The notions of Triangular fuzzy numbers and fuzzy arithmetic are vital parts of fuzzy set Theory. The paper is therefore addressed to the introduction of intuitionistic Triangular fuzzy numbers where proposed division is based on (α, β) cut process.

Keywords and Phrases: Intuitionistic fuzzy set, Fuzzy numbers, Intuitionistic Triangular fuzzy numbers, (α, β) cut.

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1. Introduction.

Fuzzy set Theory has been introduced by Lofti A. Zadeh [1] which permits the gradual assessments of the membership of elements in a set described in the interval [0,1]. As a generalization of the concept of fuzzy sets, Atanassov [4] introduced Intuitionistic fuzzy sets by taking membership and non-membership grades for the same element of the universal set of discourse. Fuzzy numbers and Triangular fuzzy numbers have their importance in fuzzy set theory [2], [3]. We in this paper have developed the concept of Intuitionistic Triangular fuzzy numbers and have shown how arithmetic operations specially proposed division is based on (α, β) cut method. Figures have been sketched and some numerical have been placed for justification.

2. Preliminaries

A fuzzy set $\tilde{A}$ on a non empty set X is characterised by its membership function $\mu_{\tilde{A}} : X \to [0, 1]$ where $\mu_{\tilde{A}}(x)$ is interpreted as the degree of membership of elements