

**MORE CONDITIONS ON A Γ - SEMIRING AND IDEALS OF A
IZUKA AND BOURNE FACTOR Γ - SEMIRING**

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Abstract: In this paper, we impose some more conditions on a Γ - semiring such as cancellative, centreless, semi subtractive, zero divisor, simple and characterize the results of a semiring by using cancellative semi- subtractive, zero divisor of cancellative semi- subtractive and cancellative rigid semi- subtractive Γ - semiring with a strong identity. Furthermore, we study maximal and minimal ideals of strongly multiplicative Γ - idempotent Γ - semiring and the results regarding division Γ - semiring, Γ - semi field and Γ - field for Izuka and Borne factor Γ - semiring.

Keywords and Phrases: Multiplicatively cancellative Γ - semiring, semi - subtractive, maximal and minimal ideals, division Γ - semiring, Bourne and Izuka Γ - congruence relation.

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1. Introduction

In 1995, Murali Krishna Rao [9, 14] introduced the notion of a Γ - semiring as a generalization of Γ - ring, ternary semiring and semiring. The set of all negative integers \mathbf{Z}^- is not a semiring with respect to usual addition and multiplication but \mathbf{Z}^- forms a Γ - semiring where $\Gamma = \mathbf{Z}$. Historically semiring first appear implicitly in Dedekind and later in Macaulay, Neither and Lorenzen in connection