

THE CHROMATIC NUMBER OF SOME NEW CLASSES OF COMMUTATIVE SEMI RING Z_n

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The study of the algebraic structure semi rings is itself very meager, more so is the chromatic number of semirings. In this paper we for the first time study the chromatic number of a new class of commutative semirings using Z_n .

Study of chromatic number of commutative rings was first done by Beck in 1988. Since then research study the chromatic number of groupings etc. Here we study the chromatic number of the weaker algebraic structure viz. semirings.

We prove the chromatic number of the commutative semiring Z_2^m under min, max operation is $m + 1$, where $Z_2 = \{0, 1\}$. The chromatic number of the commutative semirings $\{Z_n^2, \max, \min\}$, is 3.

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