

ON THE CHROMATIC NUMBER $\chi(\text{KL})$ OF
THE COMMUTATIVE LOOP RINGS USING
THE NEW CLASS OF LOOPS $L_n(\text{M})$

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The study of chromatic number $\chi(\text{R})$ of a commutative ring was carried out by Istvan Beck (1988). Very recently we have studied the chromatic number $c(\text{KG})$ of commutative group ring. In the year 2001, W. B. Vasantha and S.V. Singh [Algebra and its Applications edited by Tariq Rizvi et al, Narosa Publications, 273284, 2001] has used a new class of loops to study the edge-colourings of the complete graph K_{2n} . They have proved that the number of representations of right alternative loop of even order $(2n)$ in which square of each element is identity is equal to the number of distinct proper $(2n - 1)$ edge colouring of the complete graph K_{2n} . Loops in the new class of loops $L_n(m)$ satisfy these requirements. But now we take only commutative loop from $L_n(m)$ and take any commutative ring and study the chromatic number of the loop rings $\text{RL}_n(m)$. We find many interesting results in this direction. Further the commutative loops in the class of loops $L_n(m)$ are not right alternative. Thus the study of chromatic number $\chi(\text{RL}_n(m))$ are from a class of loops which are not right alternative. $\chi(\text{Z}_2L_n(m))$ is analyzed in this paper.

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