

# Review of: "Zero-Divisor Graphs of $\mathbb{Z}_n$ , their products and $D_n$ "

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**Potential competing interests:** No potential competing interests to declare.

In the article, In this paper it is said that: the work is an endeavor to discuss some properties of zero-divisor graphs of the ring  $\mathbb{Z}_n$ , the ring of integers modulo  $n$ . The zero divisor graph of a commutative ring  $R$ , is an undirected graph whose vertices are the nonzero zero-divisors of  $R$ , where two distinct vertices are adjacent if their product is zero. The zero-divisor graph of  $R$  is denoted by  $\Gamma(R)$ . We discussed  $\Gamma(\mathbb{Z}_n)$ 's by the attributes of completeness,  $k$ -partite structure, complete  $k$ -partite structure, regularity, chordality,  $\gamma$ - $\beta$  perfectness, simplicial vertices. The clique number for arbitrary  $\Gamma(\mathbb{Z}_n)$  was also found. This work also explores related attributes of finite products  $\Gamma(\mathbb{Z}_{n_1} \times \cdots \times \mathbb{Z}_{n_k})$ , seeking to extend certain results to the product rings. We find all  $\Gamma(\mathbb{Z}_{n_1} \times \cdots \times \mathbb{Z}_{n_k})$  that are perfect. Likewise, a lower bound of clique number of  $\Gamma(\mathbb{Z}_m \times \mathbb{Z}_n)$  was found. Later, in this paper, we discuss some properties of the zero divisor graph of the poset  $D_n$ , the set of positive divisors of a positive integer  $n$  partially ordered by divisibility.