

**DOMINATION NUMBER OF THE PRODUCT MAXIMAL GRAPH
OF THE FINITE COMMUTATIVE RING**

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Abstract: In this paper we are newly described the product maximal graph denoted by $\Gamma_{pm}(R)$ where R is the finite CRU. Consider M_1, M_2, \dots, M_r be the maximal - ideals of R . Also, the concept of dominating set and some parameters like connected, independent dominating set et al. for the product maximal graph are interpreted.

Keywords and Phrases: Product Maximal Graph, Dominating set, Connected dominating set, Independent dominating set.

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1. Introduction and Preliminaries

In this paperwork, our intent is to develop some facts among the algebraic invariants of the commutative ring and graph theoretic formations. Graph labelling [11], graph invariants [8, 10], graph coloring, fuzzy graph theory play the active role in the recent graph applications. In 1988 Beck's [2] begin the conception of a zero-divisor $\Gamma(R)$ graph of the commutative-ring, but this effort was predominantly troubled by coloring of rings. The notation $\Gamma(R)$ which is established by Anderson and Livingston in [4]. Atul Gaur and Arti sharma [6] introduce the conception of the maximal - graph of a CR in 2013. D. Kalamani and G. Ramya [9] establish the graph $\Gamma_{pm}(R)$ of a finite CRU.