Abstract

The paper concentrates on the theory of domination in graphs. The split domination in graphs was introduced by Kulli and Janakirm[5]. In this paper, we have investigated some properties of the split domination number of an Arithmetic Graph and obtained several interesting results. The split domination of these arithmetic graphs have been studied as it
enables us to construct graphs with a given split domination number in a very simple way. We have obtained an upper bound for the split domination number of the $V_m$ graph as $r+1$, where $m$ is a positive integer and $m = p_1^{a_1} \cdot p_2^{a_2} \cdots p_r^{a_r}$ is the canonical representation, where $p_1, p_2, \ldots, p_r$ are distinct primes and $a_i > 1$.

**Reference**

- Bondy and Murty: Graph theory with applications, Macmillan (1976).
- Kulli, V.R. and Janakiram, B., The split domination number of a graph; Graph theory notes of New York, XXXII, 16-19 (1997); New York Academy of Sciences.


**Index Terms**

Computer Science  
Graph Theory
**Key words**

<table>
<thead>
<tr>
<th>Domination domination number</th>
<th>Split domination set</th>
<th>Split</th>
</tr>
</thead>
</table>

Standard graphs

Arithmetic Graph