Abstract

We consider semitotal-block graph, total-block graph of a graph $G$ (respectively, denoted as $Tb(G)$, $TB(G)$). We prove that the number of edges in a semitotal-block graph of a given graph $G$ is equal to $|E(G)| + |V(B1)| + |V(B2)| + \ldots + |V(Bm)|$, where $B1$, $B2$, $\ldots$, $Bm$ are the blocks of $G$. Further, we obtain that $TB(G)$ is the ring sum of $Tb(G)$ and the block graph $B(G)$. We introduce the concept "vertex-block graph (denoted by $Bv(G)$ of $G$)" and we prove that $Tb(G)$ is the ring sum of $G$ and $Bv(G)$. We also present some related fundamental results along with illustrations.
Some Results on Degree of Vertices in Semitotal-Block Graph and Total-Block Graph

- NarsingDeo "Graph Theory with Applications to Engineering and Computer Science", Prentice Hall of India Pvt. Ltd, New Delhi (1997).

Index Terms

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