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ON DEGREE SETS AND THE MINIMUM ORDERS IN BIPARTITE GRAPHS

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Abstract

For any simple graph G, let $D(G)$ denote the degree set $\{deg_G(v) : v \in V(G)\}$. Let S be a finite, nonempty set of positive integers. In this paper, we first determine the families of graphs G which are unicyclic, bipartite satisfying $D(G) = S$, and further obtain the graphs of minimum orders in such families. More general, for a given pair (S, T) of finite, nonempty sets of positive integers of the same cardinality, it is shown that there exists a bipartite graph $B(X, Y)$ such that $D(X) = S$, $D(Y) = T$ and the minimum orders of different types are obtained for such graphs.

Keywords: degree sets, unicyclic graphs.

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