Discussiones Mathematicae
Graph Theory 35 (2015) 271–281
doi:10.7151/dmgt.1795

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DMGT Page

ON k-PATH PANCYCLIC GRAPHS

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Abstract

For integers k and n with $2 \leq k \leq n-1$, a graph G of order n is k-path pancyclic if every path P of order k in G lies on a cycle of every length from $k+1$ to n. Thus a 2-path pancyclic graph is edge-pancyclic. In this paper, we present sufficient conditions for graphs to be k-path pancyclic. For a graph G of order $n \geq 3$, we establish sharp lower bounds in terms of n and k for (a) the minimum degree of G, (b) the minimum degree-sum of nonadjacent vertices of G and (c) the size of G such that G is k-path pancyclic

Keywords: Hamiltonian, panconnected, pancyclic, path Hamiltonian, path pancyclic.

2010 Mathematics Subject Classification: 05C45, 05C38.

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Received 27 January 2014
Revised 25 June 2014
Accepted 25 June 2014