International J. of Math. Sci. & Engg. Appls. (IJMSEA)
ISSN 0973-9424, Vol. 9 No. I (March, 2015), pp. 93-103

HAMMING INDEX OF A GRAPH GENERATED BY AN EDGE-VERTEX INCIDENCE MATRIX

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Abstract

Let G be a graph on n vertices and $B'(G)$ be its edge-vertex incidence matrix. The row in $B'(G)$ corresponding to an edge e, denoted by $s(e)$ is a string which belongs to $\mathbb{Z}_2^n$, a set of n-tuples over a field of order two. The Hamming distance between the strings $s(e)$ and $s(f)$ is the number of positions in which $s(e)$ and $s(f)$ differ. Hamming index of a graph is the sum of Hamming distances between all pairs of strings. In this paper we obtain the Hamming index of graphs generated by an edge-vertex incidence matrix along with an algorithm.

Key Words : *Hamming distance, Hamming index, Strings, Edge-vertex incidence matrix.*

AMS Subject Classification : 05C99, 05C85.