FUZZY DIVISOR CORDIAL GRAPH

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ABSTRACT

In this paper we introduce a new concept called fuzzy divisor cordial labeling. It is a conversion of crisp graph into fuzzy graph under the new condition namely fuzzy divisor cordial labeling. In divisor cordial labeling it is not possible to label all the crisp graphs due to the condition of its definition. Suppose if we consider a graph of size 5, it will be possible to label all the vertices as in the combination of vertex set {1,2,3,4,5}. So for n vertices, we need to label all the vertices as a combination of all the vertices without repetition, without neglecting any vertex among them. Here discussion about the edge labeling is trivial. So it is clear that all the crisp graphs can't be divisor cordial graphs. However in fuzzy divisor cordial graph for any vertices we can label any fuzzy membership value from [0,1]. Since the interval consists of infinite number of terms, there are infinite number of chances for labeling a vertex in fuzzy divisor cordial labeling.

KEYWORDS: Fuzzy Divisor Cordial Labeling