

ABSTRACT

Fuzzy graph is a graph consists pairs of vertex and edge that have degree of membership containing closed interval of real number $[0,1]$ on each edge and vertex. Fuzzy graph was first introduced by Rosenfeld on 1975. A fuzzy graph is connected if the strength of connectedness between vertex u and v larger zero for each $u, v \in S$. A fuzzy graph $G: (\sigma, \mu)$ is said to be a strong fuzzy graph if degree of membership edge uv with the same minimum degree of membership vertex u and degree of membership vertex v for each edge uv with $u, v \in S$. A fuzzy graph $G: (\sigma, \mu)$ is said to be a fuzzy bipartite graph if the vertex set S can be partitioned into two subsets S_1 and S_2 such that S_1 and S_2 are fuzzy independent sets. In this mini thesis describes the properties of fuzzy graphs isomorphism include weak isomorphism, co-weak isomorphism, and isomorphism on connected fuzzy graph, strong fuzzy graph, and fuzzy bipartite graph.

Keywords: Fuzzy graphs, strength of connectedness, and isomorphism.