South East Asian J. of Mathematics and Mathematical Sciences
Vol. 18, No. 2 (2022), pp. 185-196

DOI: 10.56827/SEAJMMS.2022.1802.17 **ISSN (Online): 2582-0850**

ISSN (Print): 0972-7752

ON THE COMPLETE PRODUCT OF FUZZY GRAPHS

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(**Received:** *Jan. 02, 2022* **Accepted:** *Aug. 05, 2022* **Published:** *Aug. 30, 2022)*

Abstract: Strong fuzzy graph and complete fuzzy graph are two special kinds of fuzzy graphs in which each edge membership value equals the least of its vertex membership values incidental to the edge. In this research study, we obtain some interesting results on the complete product of a pair of strong fuzzy graphs as well as the complete product of a pair of complete fuzzy graphs. In precise, we prove that the complete product of two strong fuzzy graphs is again a strong fuzzy graph and the complete product of two complete fuzzy graphs is again a complete fuzzy graph. Also, we discuss the conditions under which the property of regularity will be mutually transmitted between the complete product of two fuzzy graphs and one of its factor fuzzy graphs.

Keywords and Phrases: Strong fuzzy graph, Complete fuzzy graph, Regularity of a fuzzy graph, The complete product of fuzzy graphs.

2020 Mathematics Subject Classification: 05C72, 05C76.

1. Introduction

A graph is a convenient way of representing information involving relationships between objects. The objects are represented by vertices and relations by edges.