International J. of Math. Sci. & Engg. Appls. (IJMSEA) ISSN 0973-9424, Vol. 8 No. I (January, 2014), pp. 325-335

## FUZZY SHORTEST PATH PROBLEM BASED ON INTERVAL VALUED FUZZY NUMBER MATRICES

## S. ELIZABETH<sup>1</sup> AND L. SUJATHA<sup>2</sup>

<sup>1,2</sup> Department of Mathematics,Auxilium College (Autonomous), Vellore - 632 006 Tamil Nadu, India

## Abstract

A network flow problems which plays an important role in network analysis is the shortest path problem. This type of problem gets its name from a classical application of finding the shortest route from a specified source node to a destination node. When the values associated with the arcs are fuzzy numbers, then we have a fuzzy shortest path problem. In this paper a new procedure is proposed for fuzzy shortest path problem where the shortest path is identified using minimum arithmetic mean measure distance between interval valued fuzzy number matrices. Besides, some simulation results are included to show the presented algorithm.

2010 AMS Subject Classification : 90B99.

© http://www.ascent-journals.com

Key Words : Acyclic Network, Shortest path problem, Interval valued fuzzy number matrices (IVFNMs), Generalized interval valued fuzzy number matrices (GIVFNMs), Standardized interval valued fuzzy number, Arithmetic mean Measure, Distance between interval valued fuzzy number matrices, Decision maker (DM).