International J. of Math. Sci. & Engg. Appls. (IJMSEA) ISSN 0973-9424, Vol. 3 No. III (2009), pp. 87-96

## NORMALIZATION OF INTUITIONTIC FUZZY RELATIONAL DATABASE INTO SECOND NORMAL FORM- 2NF (IF)

## SADIA HUSAIN, M. AFSHAR ALAM AND RANJIT BISWAS

## Abstract

Intuitionistic fuzzy sets are basically a generalization of fuzzy sets introduced by K. Atanassov. Intuitionistic fuzzy sets proved to be very useful in dealing vagueness in real world application. And it also been presented by many authors that IFS theory gives more satisfactory result than simple fuzzy set in many real life problem. All fuzzy sets can be viewed as a Intuitionistic fuzzy sets but converse is not true. Relational database model introduced by Codd found to very useful model and used in different fields but this model can deal with precise data only i.e. having no vagueness. But as seen in real world situation data available are not always crisp and precise, rather Intuitionistic fuzzy in nature. Considering this as an important issue Biswas and Roy introduced the concept of Intuitionistic fuzzy databases. This paper aims to extend the normalization theory of the classical relational data model so as to provide theoretical guidelines for Intuitionistic Fuzzy relational database design. Intuitionistic Fuzzy 1 Normal Form has been introduced earlier and the main concern of this paper is around Intuitionistic Fuzzy 2 Normal Form (IF2NF).

Key Words : Intuitionistic fuzzy sets, Intuitionistic fuzzy relation, Intuitionistic fuzzy attributes, Intuitionistic fuzzy functional dependency, Intuitionistic fuzzy attribute, pq-keys, IF2NF.