FUZZY PRE β-OPEN SET AND ITS APPLICATIONS

Anjana Bhattacharyya

Department of Mathematics,
Victoria Institution (College)
78 B, A.P.C. Road, Kolkata - 700009, INDIA

E-mail : anjanabhattacharyya@hotmail.com

Abstract: This paper deals with a new type of fuzzy open-like set, viz., fuzzy pre β-open set, the class of which is strictly larger than that of fuzzy preopen set [7]. Using fuzzy pre β-open set as a basic tool, here we introduce fuzzy pre β-regular space in which fuzzy open set and fuzzy pre β-open set coincide. Here we introduce two new types of functions, viz., fuzzy pre β-continuous function, fuzzy pre β-irresolute function. The applications of these two functions on fuzzy pre β-regular space are discussed here.

Keywords and Phrases: Fuzzy β-open set, fuzzy pre β-open set, fuzzy pre β-regular space, fuzzy pre β-continuous function, fuzzy pre β-irresolute function, fuzzy almost compact space.

2020 Mathematics Subject Classification: 54A40, 03E72.

1. Introduction

After introducing fuzzy open set by Chang [4], different types of fuzzy open-like sets are introduced and studied. In [6], fuzzy β-open set is introduced. With the help of this set here we introduce fuzzy pre β-open set, the class of which is strictly larger than that of fuzzy preopen set [7]. In [4], fuzzy continuous function is introduced and in [3], fuzzy β-irresolute function is introduced. Here we introduce fuzzy pre β-continuous function, the class of which is strictly larger than that of fuzzy continuous function and fuzzy β-irresolute function.