CONTRA ω_p−CONTINUOUS AND ALMOST CONTRA ω_p−CONTINUOUS FUNCTIONS

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Abstract*.* In this study, we apply the concept of ω_p−open sets to introduce two types of functions called contra ω_p-continuous and almost contra ω_p-continuous functions. We establish some fundamental properties of these functions and also explore their relationships with other types of functions.

1. Introduction

In 1996, K. Dontchev [2] defined contra-continuous functions and strongly s-closed topological spaces. K. Dontchev and T. Noiri [3] studied and introduced contra semicontinuous functions, which are a weaker form of contra-continuous functions.

H. M. Darwesh [1] used the concept of ω_p-open sets to introduce almost ω-continuous functions as a new type of continuity. M. Caldas and S. Jafari [4] examined the concept of contra-β-continuous functions. S. Jafari and T. Noiri [5, 6] defined and discussed contra super-continuous, contra pre-continuous, and contra α-continuous functions. The concept of function almost contra pre-continuous function was investigated by E. Ekici [7]. T. Noire and V. Popa [8] found out more about the almost-continuous functions. A. Nasef [9] presented the concept of contra γ-continuous functions.

However, the concept of ω−open sets was used by A. Al-Omari and M. Noorani [10] to investigate and introduce new forms of functions named contra ω-continuous and almost contra ω-continuous functions. H. H. Aljarrah et al. [11] presented contra $\omega\beta$-continuous functions, which are a weak type of contra-continuity functions.

The purpose of this work is to define the new forms of functions named contra ω_p-continuous and almost contra ω_p-continuous functions by using ω_p-open sets. Likewise, we discuss some of their properties and relationships with the other types of functions.