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(Q^*, s) - CONTINUOUS FUNCTIONS IN TOPOLOGICAL SPACES

P. Padma†, S. Udhaya Kumar and K. Chandrasekhararao

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Abstract. In this paper, new generalizations of contra - continuity by using Q^* - closed sets called (Q^*, s) - continuity are presented. Characterizations and properties of (Q^*, s) - continuous functions are discussed in detail. Finally, we obtain many important results in topological spaces.

1. Introduction

Levine (1960) introduced the notion of generalized closed (briefly g - closed) sets in topological spaces and showed that compactness, countably compactness, para compactness and normality etc are all g-closed hereditary. The notion of b - open sets were introduced by Andrijevic [2]. Miguel caldas,Saeid Jafari and Raja M.Latif [16] introduced and studied (b, s) - continuous function in topological spaces. In 1982, Mashhour et al [15] introduced the notion of pre-open sets and the pre-closed sets were defined in [7]. The notion of Q^* - closed sets in a topological space was introduced by Murugalingam and Lalitha [17] in 2010. Initiation of contra-continuity was due to Dontchev [6]. In this paper, new generalizations of contra-continuity by using Q^* - closed sets called (Q^*, s) - continuity are presented. Characterizations and properties of (Q^*, s) - continuous functions are discussed in detail. Finally, we obtain many important results in topological spaces. Throughout this paper, (X, τ) and (Y, σ) (or X and Y) stand for topological spaces.For any subset A of X, the closure and the interior of A are denoted by Cl(A) and Int(A), respectively.

2. Preliminaries

Before entering to our work we recall the following definitions and results which are used in this paper.

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†Corresponding author.