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Research Details :

Research Title : *On some gereralizations of continuity*

حول بعض تعميمات الاتصال

Descriptipn : It is a well-known mathematical fact that the continuity of a function hinges on the supply of open sets. For instance, every function from a discrete space to an arbitrary space is continuous while no function from an indiscrete space to a non-indiscrete space is continuous. Realization of this simple truth led N. Levine to introduce the concept of a semi-open set in [1961, 1963]. Roughly speaking, a subset of a topological space is called semi-open if there exists an open set which is contained by this set while it is itself contained in the losure of the open set. Utilizing this generalization of open set to semi-open set enabled Levine to introduce semi- continuity etc. His work \vas followed by T. Hussain [1966], A. Singal and M. Singal [1968] and others. The primary aim of this work is to make a systematic study of various generalizations of continuity. We heavily rely upon the pioneering papers of N. Levine [1961], M. Singal and A. Singal [1968], and a series of papers by T. Noiri. . Chapter 1 is mainly devoted to the study of semi-open, pre-open and a-open sets. Using: Int and Cl, various types of closures are defined and their interrelationships are investigated. In Chapter 2, a number of generalizations of continuity are introduced and their equivalences are studied. It is shown that if the topology on the ground set is appropriately varied, then two non-equivalent types of maps may become equivalent: Chapter 3. incorporates some latest developments in this field. An extensive study of the restrictions of various kinds of maps has been made to find out the hereditary characteristics of maps. Some closed graph theorems have been proved to show that the usual closed graph theorem remains valid for some generalizations of continuity. Lastly we have studied a remarkable generalization due to T. Noiri , [1990] of the result if t\VO continuous ma,ps agree on a dense subset of their domain, then they coincide on the whole domain

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