SPECIMEN FORMAT FOR THESES OF MONTH

Faculty	**:**	**Dr, D. Jayanthi**
Department	**:**	**Mathematics**
Branch/ Area:	**:**	**Topology**
Sub Subject Heading:	**:**	**Intuitionistic Fuzzy Topology**
Candidate's Name	**:**	**S.Prema**
Candidate's Address with email	**:**	**18/35,Palani Gounder Street,** **Rathinapuri,** **Coimbatore-641027**
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Name of Supervisor	**:**	**Dr.D.Jayanthi**
Designation of Supervisor	**:**	**Assistant Professor(SS)**
Centre/department/school in which research was conducted	**:**	**Avinashilingam Institute for Home Science & Higher Education for Women** **Coimbatore**
University's Name & Address	**:**	**Avinashilingam Institute for Home Science & Higher Education for Women** **Coimbatore**

Abstract within 300 words:

Chapter 1 is divided into five sections which deals with the study of preliminary definitions and results on various already existing closed sets, continuous mappings, closed mappings, homeomorphisms and connectedness in intuitionistic fuzzy topological spaces which are used to accomplish the work.

In Chapter 2, the first section gives a short introduction to intuitionistic fuzzy γ closed sets. In the second section we have introduced and studied a new class of sets called intuitionistic fuzzy γ generalized closed sets in intuitionistic fuzzy topological spaces. This section deals with the interrelation of our newly introduced sets with other type of intuitionistic fuzzy closed sets such as intuitionistic fuzzy semi closed sets, intuitionistic fuzzy pre closed sets, intuitionistic fuzzy regular closed sets, intuitionistic fuzzy α closed sets, intuitionistic fuzzy semi-pre closed sets. Also it is shown that the converses are not true in general and they are proved with necessary counter examples. In section three, intuitionistic fuzzy γ generalized open sets are introduced and their interrelations with other intuitionistic fuzzy open sets are established. Also some of their properties are studied. In section four, we have introduced some theoretical application of intuitionistic fuzzy γ generalized closed sets and we have proved some interesting propositions.

In Chapter 3, a new type of intuitionistic fuzzy continuous mapping called intuitionistic fuzzy γ generalized continuous mapping has been introduced. This chapter is divided into six sections. In the first section, we give a short introduction to intuitionistic fuzzy continuous mappings and irresolute mappings. In the second section, we have introduced intuitionistic fuzzy γ generalized continuous mappings and analyzed the interrelations between intuitionistic fuzzy γ generalized continuous mapping with other existing continuous mappings. Also the composition of two intuitionistic fuzzy γ generalized continuous mappings and their respective properties, preservation theorems are discussed with necessary counter examples. Some fascinating theorems concerning intuitionistic fuzzy γ generalized continuous mappings are discussed and we have provided some characterization of intuitionistic fuzzy γ generalized irresolute mappings. In section three, intuitionistic fuzzy contra γ generalized continuous mappings have been introduced and some of their properties are studied. In section four, intuitionistic fuzzy almost γ generalized continuous mappings and intuitionistic fuzzy almost contra γ generalized continuous mappings have been introduced and some of their properties

are studied. We have analyzed the interrelations of the newly defined continuous mappings with other existing continuous mappings and proved the converse relations are not true by giving counter examples. In section five, intuitionistic fuzzy γ generalized irresolute mappings and intuitionistic fuzzy γ generalized M-irresolute mappings have been introduced and some of their properties are proved. In section six, completely γ generalized continuous mappings in intuitionistic fuzzy topological spaces are established and their properties are discussed.

In Chapter 4, the first section presents a short introduction to intuitionistic fuzzy closed mappings and intuitionistic fuzzy open mappings. In the second section, intuitionistic fuzzy γ generalized closed mappings and intuitionistic fuzzy γ generalized open mappings have been introduced and some of their properties are discussed. In this section some characterizations of intuitionistic fuzzy γ generalized closed mappings and intuitionistic fuzzy γ generalized open mappings are proved. Third section deals with the study of intuitionistic fuzzy contra γ generalized open mappings and intuitionistic fuzzy contra M-γ generalized open mappings. Some of their properties and characterizations are studied. Interrelations between them with other open mappings are established with counter examples. In the fourth section, intuitionistic fuzzy almost γ generalized closed mappings and intuitionistic fuzzy almost contra γ generalized closed mappings are introduced and some of their properties are analyzed. Also some interesting characterizations are acquired.

In Chapter 5, the first section begins with the introduction of homeomorphisms in intuitionistic fuzzy topological spaces. In the second section we have introduced intuitionistic fuzzy γ generalized homeomorphism. The interrelations between intuitionistic fuzzy γ generalized homeomorphism with other existing homeomorphism have been obtained. Third section deals with the study of intuitionistic fuzzy M-γ generalized homeomorphism. Furthermore we have discussed some of their properties and preservation theorems with necessary counter examples.

In Chapter 6, the first section gives an introduction to connectedness in intuitionistic fuzzy topological spaces. In the second section, we have introduced the notion of intuitionistic fuzzy γ generalized connected space and intuitionistic fuzzy γ generalized super connected space. Also we have investigated some of their properties and characterized the intuitionistic fuzzy γ generalized super connected space.

Methodology :

The analysis has been done by the following methods. Analytical method of comparing intuitionistic fuzzy γ generalized closed sets with other existing intuitionistic fuzzy closed sets and producing examples wherever necessary. Analyzing the preservation of topological properties by intuitionistic fuzzy γ generalized closed sets. Obtaining characterization theorems.

Examiners

Internal Examiner :

Dr. G. Thangaraj,
Professor
Department of Mathematics
Thiruvalluvar University
Vellore

External Examiner :

Krassimir Atanassov
Professor
Department of Bioinformatics and Mathematical Modelling
Institute of Biophysics and Biomedical Engineering
Bulgarian Academy of Sciences
Bl. 105, Acad. G. Bonchev Str., 1113 Sofia, Bulgaria