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A New Classes Of Strongly $\xi^*_{\mathfrak{I}}$-Continuous Maps In Generalized Binary Ideal Topological Spaces

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ABSTRACT

In this paper, we introduced the several generalized forms of continuous maps such as $\xi^*_{\mathfrak{I}}$-continuous and strongly $\xi^*_{\mathfrak{I}}$-continuous maps in generalized binary ideal topological spaces and investigate various relationships of these maps by demonstrating the use of some counter examples....

1. INTRODUCTION

In recent study, topology in data mining plays a significant role Pawlak, (1991), Kırbas and Aslım (2009). Information systems are fundamental instruments for generating information understanding in any real-life sector, and topological information collection structures are appropriate mathematical models for both quantitative as well as the qualitative information mathematics. This has an impact in digital topology and computer science Khalimsky, Kopperman and Meyer (1990), Kong, Kopperman and Meyer (1991), Kovalesky and Kopperman (1994) and Moore and Peters (2005), quantum, high-energy, particle physics and superstring theory Landi, (1997) and Svozil, (1987).

Initially, Kuratowski (1930) introduced the concept of ideal topological space. The concepts of semi-open and semi-continuous maps is introduced and studied by Levine (1963). Further, the same author Levin (1970) studied generalized closed sets in topology and investigates various properties. The notion of generalized topology was introduced by Csaszar (2001). Hatir and Noiri (2006) and verified several properties of β−I-open sets and studied the several results of almost-I-continuities. Jafaril and Rajesh (2011) studied the concept of g-closed sets with respect of ideals and studied various characterizations. Rodyna and Deena (2013) studied several generalized forms of open sets with respect of ideals and categories them suitably. An ideal in generalized topological space is further defined by Maitra and Tripathi (2014) andobtained important properties of local function in generalized ideal topological spaces.

Egenhofer (1991) discussed the very useful concept for binary topological relations. Gevorgyan (2016) studied the group of continuous binary operations on a topological space and established its relationship with the group of homeomorphisms. Chen et al. (2018) demonstrated the dynamics on binary relations over topological spaces. Nithyanantha and Thangavelu (2011) studied binary topology and investigate various characterizations.

In this paper we developed the concept of $\xi^*_{\mathfrak{I}}$-continuous and strongly $\xi^*_{\mathfrak{I}}$-continuous maps. The significance of results has been shown by several counter examples. Some require basic definitions, concepts of ξ-topological, $I\xi_T$Sand notations arediscussed in Section 2. The concept of strongly $\xi^*_{\mathfrak{J}}$-continuous maps is discussed in Section 3. The conclusion is given in Section 4.

2. Preliminaries

In this portion, we discussed few require and important definitions, concepts of ξ-topological, $I\xi_T S$ and some notations.

Definition 2.1: SupposeΥ_1 and Υ_2 are any two non-void sets. Then ξ_T from Υ_1 to $\Upsilon_2$is a binary structure $\xi \subseteq \wp(\Upsilon_1) \times \wp(\Upsilon_2)$ satisfying the conditions i.e., $(\emptyset, \emptyset), (\Upsilon_1, \Upsilon_2) \in \xi$ and If $\{(L_\alpha, M_\alpha); \alpha \in \Gamma\}$ is a family of elements of ξ, then $(\bigcup_{\alpha \in \Gamma} L_\alpha, \bigcup_{\alpha \in \Gamma} M_\alpha) \in \xi$. If ξ is ξ_T from $\Upsilon_1$to Υ_2, then $(\Upsilon_1, \Upsilon_2, \xi)$ is known as ξ-topological space ($\xi_T S$) and the elements of ξ are known as the ξ-open subsets of $(\Upsilon_1, \Upsilon_2, \xi)$. The elements of $\Upsilon_1 \times \Upsilon_2$ are known as ξ-points.

Definition 2.2: LetΥ_1 and Υ_2 be any two non-void set and (L_1, M_1), (L_2, M_2) are the elements of $\wp(\Upsilon_1) \times \wp(\Upsilon_2)$. Then $(L_1, M_1) \subseteq (L_2, M_2)$ only if $L_1 \subseteq L_2$and $M_1 \subseteq M_2$.

Remark 2.1: Let $\{T_\alpha ; \alpha \in \Lambda\}$ be the family of ξ_T from Υ_1 to Υ_2. Then, $\bigcap_{\alpha \in \Lambda} T_\alpha$ is also ξ_T from Υ_1 to Υ_2. Further $\bigcup_{\alpha \in \Lambda} T_\alpha$ need not be a ξ_T.

Definition 2.3: Let $(\Upsilon_1, \Upsilon_2, \xi)$ be a $\xi_T S$ and $L \subseteq \Upsilon_1, M \subseteq \Upsilon_2$. Then (L, M) is called ξ-closed in $(\Upsilon_1, \Upsilon_2, \xi)$ if $(\Upsilon_1 \backslash L, \Upsilon_2 \backslash M) \in \xi$.

Proposition 2.1: Let$(\Upsilon_1, \Upsilon_2, \xi)$ is $\xi_T S$. Then (Υ_1, Υ_2) and $(\emptyset, \emptyset)$ are ξ-closed sets. Similarly if $\{(L_\alpha, M_\alpha): \alpha \in \Gamma\}$ is a family of ξ-closed sets, then $(\bigcap_{\alpha \in \Gamma} L_\alpha, \bigcap_{\alpha \in \Gamma} M_\alpha)$ is ξ-closed.

Proposition 2.2: Let$(L, M) \subseteq (\Upsilon_1, \Upsilon_2)$. Then (L, M) is ξ-open in $(\Upsilon_1, \Upsilon_2, \xi)$ iff $(L, M) = I_\xi(L, M)$ and (L, M) is ξ-closed in $(\Upsilon_1, \Upsilon_2, \xi)$ iff $(L, M) = Cl_\xi(L, M)$.

Definition 2.4: Any non-empty collection $\mathfrak{J}$ of subsets of $\Upsilon_1 \times \Upsilon_2$ is an ideal only if it satisfies the two important axioms, i.e. if $(L, M) \in \mathfrak{J}$ and $(P, Q) \subseteq (L, M)$ then$(P, Q) \in \mathfrak{J}$ and If $(L, M) \in \mathfrak{J}$ and $(P, Q) \in \mathfrak{J}$ then $(L \cup P, M \cup Q) \in \mathfrak{J}$. Let ξ be ξ_T and $\mathfrak{J}$ be an ideal, then $(\Upsilon_1, \Upsilon_2, \xi, \mathfrak{J})$ is said to be an ideal ξ-topological space ($I\xi_T S$).

Example 2.2: Let $(\Upsilon_1, \Upsilon_2, \xi)$ be $\xi_T S$. The collection $\mathfrak{J} = \emptyset$ and $\mathfrak{J} = \wp(\Upsilon_1) \times \wp(\Upsilon_2)$ are also ideals on $\Upsilon_1 \times \Upsilon_2$.

Definition 2.5: Let $(\Upsilon_1, \Upsilon_2, \xi, \mathfrak{J})$ be $I\xi_T S$ and $(L, M) \subseteq \Upsilon_1 \times \Upsilon_2$. Then the set $(L, M)^*(\mathfrak{J}) = \{(x, y) \in \Upsilon_1 \times \Upsilon_2 / (U \cap L, V \cap M) \notin \mathfrak{J}$ for every nbd (U, V) of $(x, y)\}$ is known as the local function of (L, M) in the respect of $\mathfrak{J}$ and ξ. We normally denote $(L, M)^*$ instead of $(L, M)^*(\mathfrak{J})$ to avoid any confusion.

Definition 2.6: Let $(\Upsilon_1, \Upsilon_2, \xi, \mathfrak{J})$ be $I\xi_T S$ and $(L, M) \subseteq \Upsilon_1 \times \Upsilon_2$. Then (L, M) is known as $\xi_{\mathfrak{J}}$-semi-open if for anyξ-open set (U, V),$(L, M) \backslash Cl_\xi(U, V) \in \mathfrak{J}$ whenever,$(U, V) \backslash (L, M) \in \mathfrak{J}$. Likewise$(L, M)$ is known as$\xi_{\mathfrak{J}}$-α-openif for anyξ-open set (U, V),$(L, M) \backslash I_\xi(Cl_\xi(U, V)) \in \mathfrak{J}$ whenever, $(U, V) \backslash (L, M) \in \mathfrak{J}$.

Definition 2.7: Let $(\Upsilon_1, \Upsilon_2, \xi, \mathfrak{J})$ be $I\xi_T S$ and $(L, M) \subseteq \Upsilon_1 \times \Upsilon_2$. Then (L, M) is known as $\xi_{\mathfrak{J}}$-pre-open if for any ξ-open set (U, V), $(U, V) \backslash Cl_\xi(L, M) \in \mathfrak{J}$whenever, $(L, M) \backslash (U, V) \in \mathfrak{J}$. Likewise (L, M) is known as$\xi_{\mathfrak{J}}$-β-openif for any ξ-open set (U, V) such that $(U, V) \backslash I_\xi(Cl_\xi(L, M)) \in \mathfrak{J}$ whenever, $(L, M) \backslash (U, V) \in \mathfrak{J}$.

Definition 2.8: Let $(\Upsilon_1, \Upsilon_2, \xi, \mathfrak{J})$ be $I\xi_T S$ and $(L, M) \subseteq \Upsilon_1 \times \Upsilon_2$. Then (L, M) is called $\xi^*_{\mathfrak{J}}$-open set if $(U, V) \backslash (L, M) \in \mathfrak{J}$ whenever,$(L, M) \subseteq (U, V)$, where (U, V) is ξ-open set.

Definition 2.9: Let $(\Upsilon_1, \Upsilon_2, \xi, \mathfrak{J})$ be $I\xi_T S$ and $(L, M) \subseteq \Upsilon_1 \times \Upsilon_2$. Then (L, M) is called $\xi^*_{\mathfrak{J}}$-semi-open set if $(U, V) \backslash I_\xi(L, M) \in \mathfrak{J}$ whenever,$(L, M) \subseteq (U, V)$, where (U, V) is ξ-open set. Similarly(L, M) is called $\xi^*_{\mathfrak{J}}$-α-open set if $(U, V) \backslash Cl_\xi(I_\xi(L, M)) \in \mathfrak{J}$ whenever,$(L, M) \subseteq (U, V)$, where (U, V) is ξ-open set.

Definition 2.10: Let $(\Upsilon_1, \Upsilon_2, \xi, \mathfrak{J})$ be $I\xi_T S$ and $(L, M) \subseteq \Upsilon_1 \times \Upsilon_2$. Then (L, M) is called $\xi^*_{\mathfrak{J}}$-pre-open set if $(U, V) \backslash Cl_\xi(L, M) \in \mathfrak{J}$ whenever,$(L, M) \subseteq (U, V)$, where (U, V) is ξ-open set. Similarly(L, M) is called $\xi^*_{\mathfrak{J}}$-β-open set if $(U, V) \backslash I_\xi(Cl_\xi(L, M)) \in \mathfrak{J}$ whenever,$(L, M) \subseteq (U, V)$, where (U, V) is ξ-open set.

Definition 2.11: If $(Z, \mathcal{T})$ be $G_T$and $(\Upsilon_1, \Upsilon_2, \xi, \mathfrak{J})isI\xi_T S$. Then the mapping $\mathcal{F}: (Z, \mathcal{T}) \to \Upsilon_1 \times \Upsilon_2$ is known as $\xi_{\mathfrak{J}}$-semi ($\xi_{\mathfrak{J}}$-α) continuous map if $\mathcal{F}^{-1}(L, M)$ is $\mathcal{T}_{\mathfrak{J}}$-semi ($\mathcal{T}_{\mathfrak{J}}$-α) open in $(Z, \mathcal{T})$ $\forall$ ξ-open sets $(L, M) \in (\Upsilon_1, \Upsilon_2, \xi)$.

Definition 2.12: If $(Z, \mathcal{T})$ be G_T and $(\Upsilon_1, \Upsilon_2, \xi, \mathfrak{J})$ is $I\xi_T S$. Then the mapping $\mathcal{F}: (Z, \mathcal{T}) \to \Upsilon_1 \times \Upsilon_2$ is known as strongly $\xi_{\mathfrak{J}}$-semi (strongly $\xi_{\mathfrak{J}}$-α) continuous map if $\mathcal{F}^{-1}(L, M)$ is $\mathcal{T}_{\mathfrak{J}}$-semi ($\mathcal{T}_{\mathfrak{J}}$-α) clopen in $(Z, \mathcal{T})$ $\forall$ ξ-set $(L, M) \in (\Upsilon_1, \Upsilon_2, \xi)$.

Definition 2.13: If $(Z, \mathcal{T})$ be $G_T S$ and $(\Upsilon_1, \Upsilon_2, \xi, \mathfrak{J})$ is $I\xi_T S$. Then the mapping $\mathcal{F}: (Z, \mathcal{T}) \to \Upsilon_1 \times \Upsilon_2$ is known as $\xi_{\mathfrak{J}}$-pre ($\xi_{\mathfrak{J}}$-β) continuous map if $\mathcal{F}^{-1}(L, M)$ is $\mathcal{T}_{\mathfrak{J}}$-pre ($\mathcal{T}_{\mathfrak{J}}$-β) open in $(Z, \mathcal{T})$ $\forall$ ξ-open sets $(L, M) \in (\Upsilon_1, \Upsilon_2, \xi)$.

Definition 2.14: If $(Z, \mathcal{T})$ be $G_T S$ and $(\Upsilon_1, \Upsilon_2, \xi, \mathfrak{J})$ is $I\xi_T S$. Then the mapping $\mathcal{F}: (Z, \mathcal{T}) \to \Upsilon_1 \times \Upsilon_2$ is known as strongly $\xi_{\mathfrak{J}}$-pre (strongly$\xi_{\mathfrak{J}}$-β) continuous map if $\mathcal{F}^{-1}(L, M)$ is $\mathcal{T}_{\mathfrak{J}}$-pre ($\mathcal{T}_{\mathfrak{J}}$-β) clopen in $(Z, \mathcal{T})$ $\forall$ ξ-set $(L, M) \in (\Upsilon_1, \Upsilon_2, \xi)$.

3. Strongly $\xi^*_{\mathfrak{J}}$-Continuous Maps

In this section, we established the relationships strongly $\xi^*_{\mathfrak{J}}$-continuous maps in $I\xi_T S$ and some other maps. The results have been shown by making the use of some counter examples.

Definition 3.1: If $(Z,\mathcal{T})$ be $G_T S$ and $(\Upsilon_1,\Upsilon_2,\xi,\mathfrak{J})$ is $I\xi_T S$. Then the mapping $\mathcal{F}:(Z,\mathcal{T})\to\Upsilon_1\times\Upsilon_2$ is known as **$\xi^*_{\mathfrak{J}}$-continuous map** if $\mathcal{F}^{-1}(L,M)$ is $\mathcal{T}^*_{\mathfrak{J}}$-open in $(Z,\mathcal{T})$ $\forall$ ξ-open set $(L,M)\in(\Upsilon_1,\Upsilon_2,\xi)$.

Definition 3.2: If $(Z,\mathcal{T})$ be G_T and $(\Upsilon_1,\Upsilon_2,\xi,\mathfrak{J})$ is $I\xi_T S$. Then the mapping $\mathcal{F}:(Z,\mathcal{T})\to\Upsilon_1\times\Upsilon_2$ is known as **strongly$\xi^*_{\mathfrak{J}}$-continuous map** if $\mathcal{F}^{-1}(L,M)$ is $\mathcal{T}^*_{\mathfrak{J}}$-clopen in $(Z,\mathcal{T})$ $\forall$ ξ-set $(L,M)\in(\Upsilon_1,\Upsilon_2,\xi)$.

Example 3.1: Let $Z=\{1,2,3\}$, $\Upsilon_1=\{a_1,a_2\}$ and $\Upsilon_2=\{b_1,b_2\}$. Then clearly $\mathcal{T}=\{\emptyset,\{1,2\},\{2,3\},Z\}$is G_T, $\mathfrak{J}=\{\emptyset,\{2\},\{3\},\{2,3\}\}$ is an ideal on Z and $\xi=\{(\emptyset,\emptyset),(\{a_1\},\{b_1\}),(\{a_2\},\{\Upsilon_2\}),(\Upsilon_1,\Upsilon_2)\}$ is ξ_T from Υ_1 to Υ_2. Consider$\mathcal{F}:(Z,\mathcal{T})\to\Upsilon_1\times\Upsilon_2$ defined as$\mathcal{F}(1)=(a_1,b_1)=\mathcal{F}(3)$and $\mathcal{F}(2)=(a_2,\Upsilon_2)$. Therefore$\mathcal{F}^{-1}(\emptyset,\emptyset)=\{\emptyset\}$, $\mathcal{F}^{-1}(\{a_1\},\{b_1\})=\{1,3\}$, $\mathcal{F}^{-1}(\{a_1\},\{\Upsilon_2\})=\{\emptyset\}$, $f^{-1}(\{a_2\},\{\Upsilon_2\})=\{2\}$,$\mathcal{F}^{-1}(\{\emptyset\},\{b_1\})=\{\emptyset\}$, $\mathcal{F}^{-1}(\{\emptyset\},\{b_2\})=\{\emptyset\}$, $\mathcal{F}^{-1}(\{\emptyset\},\{\Upsilon_2\})=\{\emptyset\}$,$\mathcal{F}^{-1}(\{a_1\},\{\emptyset\})=\{\emptyset\}$, $\mathcal{F}^{-1}(\{a_1\},\{b_2\})=\{\emptyset\}$, $\mathcal{F}^{-1}(\{a_2\},\emptyset)=\{\emptyset\}$, $\mathcal{F}^{-1}(\{a_2\},\{b_1\})=\{\emptyset\}$,$\mathcal{F}^{-1}(\{a_2\},\{b_2\})=\{\emptyset\}$, $\mathcal{F}^{-1}(\{\Upsilon_1\},\{\emptyset\})=\{\emptyset\}$, $\mathcal{F}^{-1}(\{\Upsilon_1\},\{b_1\})=\{\emptyset\}\mathcal{F}^{-1}(\{\Upsilon_1\},\{b_2\})=\{\emptyset\}$and $\mathcal{F}^{-1}(\Upsilon_1,\Upsilon_2)=\{Z\}$. Hence we see that the inverse image of every ξ-set is $\mathcal{T}^*_{\mathfrak{J}}$-clopen set in $(Z,\mathcal{T})$. Thus $\mathcal{F}$ is strongly $\xi^*_{\mathfrak{J}}$-continuous map.

Remark 3.1: ξ (ξ-semi, ξ-α, ξ-pre, ξ-β) continuous map ⇒⇍ strongly $\xi^*_{\mathfrak{J}}$-continuous map

Proof: Quite easy while the converse can be illustrated as follows.

Example 3.2: The map, $\mathcal{F}$ in Example 4.1is strongly $\xi^*_{\mathfrak{J}}$-continuous map but not ξ (ξ-semi, ξ-α, ξ-pre, ξ-β) continuous map.

Proposition 3.1: Strongly $\xi^*_{\mathfrak{J}}$-continuous map ⇒⇍ $\xi_{\mathfrak{J}}$-semi ($\xi_{\mathfrak{J}}$-α) continuous map

Proof: Suppose (L,M) be ξ-set and $\mathcal{F}$ be strongly $\xi^*_{\mathfrak{J}}$-continuous map. Therefore $\mathcal{F}^{-1}(L,M)$ is $\mathcal{T}^*_{\mathfrak{J}}$-clopen set in $(Z,\mathcal{T})$. Since every $\mathcal{T}^*_{\mathfrak{J}}$-clopen set is $\mathcal{T}_{\mathfrak{J}}$-semi ($\mathcal{T}_{\mathfrak{J}}$-α) open, therefore $\mathcal{F}^{-1}(L,M)$ is $\mathcal{T}_{\mathfrak{J}}$-semi ($\mathcal{T}_{\mathfrak{J}}$-α) open set in $(Z,\mathcal{T})$. Hence $\mathcal{F}$ is $\xi_{\mathfrak{J}}$-semi ($\xi_{\mathfrak{J}}$-α) continuous map.

The converse can be illustrated as follows.

Example 3.3: Let $Z=\{1,2,3,4\}$,$\Upsilon_1=\{a_1,a_2\}$ and $\Upsilon_2=\{b_1,b_2\}$.Then clearly $\mathcal{T}=\{\emptyset,\{1\},\{2\},\{3\},\{1,2\}.\{1,3\},\{1,4\},\{2,3\},\{1,2,3\},\{1,2,4\},\{1,3,4\},\{2,3,4\},Z\}$ is G_T,$\mathfrak{J}=\{\emptyset,\{2,3\}\}$ is an ideal on Z and $\xi=\{(\emptyset,\emptyset),(\{a_1\},\{b_1\}),(\{a_2\},\{b_2\}),(\{a_2\},\{\Upsilon_2\}),(\Upsilon_1,\Upsilon_2)\}$ is $\xi_T$from Υ_1 to Υ_2. Consider $\mathcal{F}:(Z,\mathcal{T})\to\Upsilon_1\times\Upsilon_2$ defined as $\mathcal{F}(3)=(a_1,b_1)=\mathcal{F}(4)$. Hence we see that the inverse image of every ξ-set is $\mathcal{T}_{\mathfrak{J}}$-semi ($\mathcal{T}_{\mathfrak{J}}$- α) open set but not $\mathcal{T}^*_{\mathfrak{J}}$-clopen set in $(Z,\mathcal{T})$. Thus$\mathcal{F}$ is $\xi_{\mathfrak{J}}$-semi ($\xi_{\mathfrak{J}}$-α) continuous map but not strongly $\xi^*_{\mathfrak{J}}$-continuous map.

Proposition 3.2: Strongly $\xi^*_{\mathfrak{J}}$-continuous map ⇒⇍ $\xi_{\mathfrak{J}}$-pre ($\xi_{\mathfrak{J}}$-β) continuous map.

Proof: Suppose(L,M) be ξ-set and $\mathcal{F}$ is strongly $\xi^*_{\mathfrak{J}}$-continuous map. Therefore $\mathcal{F}^{-1}(L,M)$ is $\mathcal{T}^*_{\mathfrak{J}}$-clopen set in $(Z,\mathcal{T})$. Since every $\mathcal{T}^*_{\mathfrak{J}}$-clopen set is $\mathcal{T}_{\mathfrak{J}}$-pre ($\mathcal{T}_{\mathfrak{J}}$-β) open, therefore $\mathcal{F}^{-1}(L,M)$ is $\mathcal{T}_{\mathfrak{J}}$-pre ($\mathcal{T}_{\mathfrak{J}}$-β) open set in $(Z,\mathcal{T})$. Hence$\mathcal{F}$ is $\xi_{\mathfrak{J}}$-pre ($\xi_{\mathfrak{J}}$-β) continuous map.

The converse is illustrated as follows.

Example 3.4: Let $Z=\{1,2,3,4\}$,$\Upsilon_1=\{a_1,a_2\}$ and $\Upsilon_2=\{b_1,b_2\}$. Then clearly $\mathcal{T}=\{\emptyset,\{1\},\{3\},\{1,3\},\{1,4\},\{2,3\},\{1,2,3\},\{1,3,4\},\{1,2,4\},\{2,3,4\},Z\}$ isG_T,$\mathfrak{J}=\{\emptyset,\{1\}\}$ is an ideal on Z and $\xi=\{(\emptyset,\emptyset),(\{a_1\},\{b_1\}),(\{a_2\},\{b_2\}),(\{a_2\},\{\Upsilon_2\}),(\Upsilon_1,\Upsilon_2)\}$ is ξ_T from $\Upsilon_1$to Υ_2. Consider$\mathcal{F}:(Z,\mathcal{T})\to\Upsilon_1\times\Upsilon_2$ defined as $\mathcal{F}(3)=(a_1,b_1)=\mathcal{F}(4)$. Hence we see that the inverse image of every ξ-set is $\mathcal{T}_{\mathfrak{J}}$-pre ($\mathcal{T}_{\mathfrak{J}}$-β) open set but not $\mathcal{T}^*_{\mathfrak{J}}$-clopen set in $(Z,\mathcal{T})$. Thus$\mathcal{F}$ is $\xi_{\mathfrak{J}}$-pre ($\xi_{\mathfrak{J}}$-β) continuous map but not strongly $\xi^*_{\mathfrak{J}}$-continuous map.

5. CONCLUSION

We introduced and study useful concept of $\xi^*_{\mathfrak{J}}$-continuous and strongly $\xi^*_{\mathfrak{J}}$-continuous and established the relationship between above discuses maps and several other maps like ξ, ξ-semi, ξ-pre, ξ-α, ξ-β, $\xi_{\mathfrak{J}}$-semi, $\xi_{\mathfrak{J}}$-pre, $\xi_{\mathfrak{J}}$-α, $\xi_{\mathfrak{J}}$-β and $\xi^*_{\mathfrak{J}}$-continuous maps etc. In the present direction, we have categorised maps in generalized binary ideal topological spaces and investigated the behaviour of presented maps by utilizing ideal. The significant of results have been shown by several counter examples

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