

Theorem 3.5: Let (X, μ, \mathcal{H}) be a hereditary generalized topological space and (Y, λ) be a generalized topological space. Also let $f: (X, \mu) \rightarrow (Y, \lambda)$ is an injective function, and Almost (μ, λ) -closed and $(\mu, \lambda)\beta$ -irresolute. If Y is quasi $\lambda\beta$ - \mathcal{H} -normal space, then X is quasi $\mu\beta$ - $f^{-1}(\mathcal{H})$ -normal space.

Proof: Let A and B be $\mu\pi$ -closed subsets of X . Since f is Almost (μ, λ) -closed, $f(A)$ and $f(B)$ are disjoint $\lambda\pi$ -closed. Since Y is quasi $\lambda\beta$ - \mathcal{H} -normal space, there exist $\mu\beta$ -open sets U and V in Y such that $f(A) - U \in \mathcal{H}$ and $f(B) - V \in \mathcal{H}$ and $U \cap V \in \mathcal{H}$. Then $f^{-1}(f(A)) - f^{-1}(U) \in f^{-1}(\mathcal{H})$ and $f^{-1}(f(B)) - f^{-1}(V) \in f^{-1}(\mathcal{H})$ and $f^{-1}(U \cap V) = f^{-1}(U) \cap f^{-1}(V) \in f^{-1}(\mathcal{H})$ which implies $A - f^{-1}(U) \in f^{-1}(\mathcal{H})$ and $B - f^{-1}(V) \in f^{-1}(\mathcal{H})$. Since f is $(\mu, \lambda)\beta$ -irresolute, $f^{-1}(U)$ and $f^{-1}(V)$ are $\mu\beta$ -open subsets of X . Hence it follows that X is quasi $\mu\beta$ - $f^{-1}(\mathcal{H})$ -normal space.

Theorem 3.6: Let (X, μ, \mathcal{H}) be a generalized topological space. If X is quasi $\mu\beta$ - \mathcal{H} -normal space, and $Y \subset X$ is $\mu\pi$ -closed set, then Y is quasi $\mu\beta$ - \mathcal{H}_Y -normal space.

Proof: Let A and B be disjoint $\mu\pi$ -closed subsets of Y . Since Y is $\mu\pi$ -closed set and $Y \subset X$, A and B are $\mu\pi$ -closed subsets of X . Since X is quasi $\mu\beta$ - \mathcal{H} -normal space, there exist $\mu\beta$ -open sets U and V such that $A - U \in \mathcal{H}$, $B - V \in \mathcal{H}$ and $U \cap V \in \mathcal{H}$. If $A - U = H \in \mathcal{H}$, $B - V = G \in \mathcal{H}$, then $A \subset (U \cup H)$ and $B \subset (V \cup G)$. Since $A \subset Y$, $A \subset Y \cap (U \cup H)$ and so $A \subset (Y \cap U) \cup (Y \cap H)$. Therefore $A - (Y \cap U) \subset (Y \cap H) \in \mathcal{H}_Y$. Similarly $B - (Y \cap V) \subset (Y \cap G) \in \mathcal{H}_Y$. Hence $Y \cap U$ and $Y \cap V$ are $\mu\beta$ -open sets in Y such that $A - (Y \cap U) \in \mathcal{H}_Y$ and $B - (Y \cap V) \in \mathcal{H}_Y$. Hence Y is quasi $\mu\beta$ - \mathcal{H}_Y -normal space.

4. Conclusion

In this paper we introduced new classes of spaces namely quasi μ - \mathcal{H} -regular space, quasi $\mu\beta$ - \mathcal{H} -regular space, quasi $\mu\beta$ - \mathcal{H} -normal space, Almost μ - \mathcal{H} -Normal spaces, Quasi ultra μ - \mathcal{H} -Normal space in hereditary generalized topological spaces and derived some properties by using

some basic properties of (μ, λ) -continuity in generalized topological spaces.

References

- [1] Bishwambhar Roy, On a type of generalised open sets, Applied general topology, Universidad Politecnica de Valencia. Volume 12, no. 2, pp.163-173, **2011**.
- [2] A.Csaszar, generalized open sets in generalized topologies., Acta Mathematica Hungaria. 106, pp.53-66, **2005**.
- [3] A.Csaszar, Modifications in Generalized topologies via hereditary., Acta Mathematica Hungaria. 115, pp. 29-36, **2007**.
- [4] R.Jamunarani and P. Jeyanthi, Regular sets in generalized topological spaces., Acta Mathematica Hungaria, 135, pp. 342-349, **2012**.
- [5] K.Karuppaiy, A note on RH-open sets in GTS with hereditary classes., International Journal of Mathematical Archive-5(1), pp:312-316, **2014**.
- [6] M.Rajamani, V.Inthumathi and R.Ramesh, A decomposition of (μ, λ) -continuity in generalized topological spaces, Jordan J.Math.Stat.6(1),pp.15-27, **2013**.
- [7] J.Tong, Expansion of open sets and decomposition of continuous mappings, Rend. Circ.Mat.Polermo 43(2), 303-308, **1994**.