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Meantime Assessment Anti $\mathfrak{Q}$ - Reluctant Frizzy Auxiliary Nearrings of PS-Algebras

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Abstract:- In this paper meantime assessment reluctant frizzy auxiliary nearring for the further development of $\mathfrak{Q}$ - reluctant frizzy set on a theoretical model is introduced. An attempt has been made to study the algebraic nature of meantime assessment anti $\mathfrak{Q}$ - reluctant frizzy auxiliary nearrings of PS-algebras of a nearring.

***Keywords**:- reluctant frizzy set; meantime assessment reluctant frizzy subset; meantime assessment reluctant frizzy auxiliary nearring; meantime assessment anti-reluctant frizzy auxiliary nearring.*

I. INTRODUCTION

LA Zadeh [30] established fuzzy samples. Jun. Y.B and Kin. K.H determined a meantime assessment frizzy T-auxiliary group of nearrings. The instability has been managing by frizzy sample theory which occurs in day-to-day life problems. The hesitant fuzzy sets established by Torra[24] which conventions the common ramification that emerges certain probable figures that support to reluctant about choosing the correct one. The literature review shows the performance and the process of HFS quantitative and qualitative therefore reluctant can produce casting the vagueness in both ways. In 1978, Iseki and Tanaka incorporated conception of BCK-Algebras and the conception of BCI-Algebras was established by Iseki in the year 1980. The section of BCK-Algebras is known as a comprehensive subcategory of the section of BCI-Algebras.R Poornima and M M Shanmugapriya [17] developed the concept of interval – valued Q- hesitant fuzzy normal subnearrings in the year 2017. Neggers and Kim implemented d-Algebras. Priya and Ramachandran incorporated a recent idea PS-Algebras, which are the generalization of BCK/BCI/d/KU algebras in the year 2014. M M Shanmugapriya and K Arjunan [23] established (Q,L) fuzzy subnearrings of a nearring in the year 2012.

Presence of this paper is the conception of meantime assessment anti $\mathfrak{Q}$ -reluctant frizzy auxiliary nearring T-closed PS-ideals of PS-algebras is incorporated in the appropriate mathematical fantasy of nearring for furthermore enhancement of reluctant fuzzy sample on a hypothetical template. An effort has been performed to review the algebraic essence of meantime assessment anti $\mathfrak{Q}$- hesitant frizzy auxiliary nearring of a nearring through T-closed PS-ideals of PS-Algebras.

II. MEANTIME ASSESSMENT ANTI $\mathfrak{Q}$ - RELUCTANT FRIZZY AUXILIARY NEARRINGS OF PS-ALGEBRAS

A. *Definition*: An ideal $\tilde{A}$ of a PS – algebra auxiliary nearring X is said to be T- closed if $\widetilde{h_p} * 0 \in \tilde{A}$ for all $\widetilde{h_p} \in \tilde{A}$.

B. *Definition*: Get (X,*,0) be a PS – algebra. A non-nullity auxiliary sample I of X is called T-closed PS ideal of auxiliary nearring X if

(i) $\widetilde{h_p} * 0 \in I$
(ii) $\widetilde{h_q} * \widetilde{h_p} \in I$ and $\widetilde{h_q} \in I \implies \widetilde{h_p} \in I$ for all p,q $\in$X.

C. *Definition:* A meantime assessment anti $\mathfrak{Q}$ -reluctant frizzy auxiliary nearring $\tilde{h}_I^{\sigma(\kappa)}$ in X is called a meantime assessment anti $\mathfrak{Q} -$ reluctant frizzy auxiliary nearring PS ideal of auxiliary nearring X if

(i) $\tilde{h}_I^{\sigma(\kappa)}(0,z) \geq \tilde{h}_I^{\sigma(\kappa)}(p,z)$
(ii) $\tilde{h}_I^{\sigma(\kappa)}(p,z) \geq \urcorner\, min\left\{\left[\tilde{h}_I^{\sigma(\kappa)L}(q*p,z), \tilde{h}_I^{\sigma(\kappa)U}(q*p,z)\right], \left[\tilde{h}_I^{\sigma(\kappa)L}(q,z), \tilde{h}_A^{\sigma(\kappa)U}(q,z)\right]\right\}$ for all p, q $\in X$ and z $\in \mathfrak{Q}$.

D. *Definition:* A meantime assessment anti $\mathfrak{Q}$ -reluctant frizzy auxiliary nearring of a PS – algebra X is called a meantime assessment anti $\mathfrak{Q}$ -reluctant frizzy auxiliary nearring PS – ideal of X if

(i) $\tilde{h}_I^{\sigma(\kappa)}(0,z) \leq \tilde{h}_I^{\sigma(\kappa)}(p,z)$
(ii) $\tilde{h}_I^{\sigma(\kappa)}(p,z) \leq \urcorner\, max\left\{\left[\tilde{h}_I^{\sigma(\kappa)L}(q*p,z), \tilde{h}_I^{\sigma(\kappa)U}(q*p,z)\right], \left[\tilde{h}_I^{\sigma(\kappa)L}(q,z), \tilde{h}_A^{\sigma(\kappa)U}(q,z)\right]\right\}$ for all p, q $\in X$ and z $\in \mathfrak{Q}$.

E. *Definition*: A meantime assessment anti $\mathfrak{Q}$- reluctant frizzy auxiliary nearring of a PS – algebra auxiliary nearring X is called a meantime assessment anti $\mathfrak{Q}$ reluctant frizzy auxiliary nearring T- closed PS – ideal of auxiliary nearring X if

(i) $\tilde{h}_I^{\sigma(\kappa)}(p*0,z) \leq \tilde{h}_I^{\sigma(\kappa)}(p,z)$

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(ii) $\tilde{h}_I^{\sigma(\kappa)}(p,z) \leq \urcorner max\{[\tilde{h}_I^{\sigma(\kappa)L}(q*p,z), \tilde{h}_I^{\sigma(\kappa)U}(q*p,z)], [\tilde{h}_I^{\sigma(\kappa)L}(q,z), \tilde{h}_A^{\sigma(\kappa)U}(q,z)]\}$ for all p,q $\in X$ and z $\in$ **Ω.**

III. PROPERTIES OF MEANTIME ASSESSMENT ANTI Ω - RELUCTANT FRIZZY AUXILIARY NEARRINGS OF PS-ALGEBRAS

A. Theorem: Every meantime assessment anti Ω -reluctant frizzy auxiliary nearring T – closed PS – ideal $\tilde{h}_I^{\sigma(k)}$ of a PS – algebra X is order preserving.

- *Proof:* Let $\tilde{h}_I^{\sigma(k)}$ be a meantime assessment anti Ω reluctant frizzy auxiliary nearring T – closed PS – ideal of a PS – algebra X and let $p,q \in X$ and z∈ Ω be such that $p \leq q$ then q$* p = 0$.

Then,

$\tilde{h}_I^{\sigma(k)}(p,q) \leq \urcorner$max$\{[(\tilde{h}_I^{\sigma(k)L}(q*p),z), (\tilde{h}_I^{\sigma(k)U}(q*p),z)], [\tilde{h}_I^{\sigma(k)L}(q,z), \tilde{h}_I^{\sigma(k)U}(q,z)]\}$

$= \urcorner$ max$\{[(\tilde{h}_I^{\sigma(k)L}(q*p),z), (\tilde{h}_I^{\sigma(k)L}(q,z))], [(\tilde{h}_I^{\sigma(k)U}(q*p),z), \tilde{h}_I^{\sigma(k)U}(q,z)]\}$

$= \urcorner$ max{ Sup(LB), Inf(UB)}

$= \urcorner$ max$\{\tilde{h}_I^{\sigma(k)}(qp),z), (\tilde{h}_I^{\sigma(k)}(q,z)\}$

$= \urcorner$ max$\{\tilde{h}_I^{\sigma(k)}(0,z)), (\tilde{h}_I^{\sigma(k)}(q,z)\}$

$= \urcorner$ max$\{\tilde{h}_I^{\sigma(k)}(q*0),z), (\tilde{h}_I^{\sigma(k)}(q,z)\}$

$= \tilde{h}_I^{\sigma(k)}(q,z)$

Hence $\tilde{h}_I^{\sigma(k)}(p,z) \leq \tilde{h}_I^{\sigma(k)}(q,z)$

B. Theorem: $\tilde{h}_I^{\sigma(k)}$ is an meantime assessment anti Ω - reluctant frizzy auxiliary nearring T-closed PS-ideals X if and only if $\tilde{h}_I^{\sigma(k)^C}$ is an meantime assessment anti Ω - reluctant frizzy auxiliary nearring T – closed PS – ideal of X.

- *Proof:* Let $\tilde{h}_I^{\sigma(k)}$ be a meantime assessment anti Ω - reluctant frizzy auxiliary nearring T-closed PS – ideal of X and let $p,q,r \in X$ and $z \in$ Ω .

(i) $\tilde{h}_I^{\sigma(k)}(p*0,z) \geq \tilde{h}_I^{\sigma(k)}(p,z)$

$1 - \tilde{h}_I^{\sigma(k)^C}(p*0,z) \geq 1 - \tilde{h}_I^{\sigma(k)^C}(p,z)$

$\tilde{h}_I^{\sigma(k)}(p*0,z) \leq \tilde{h}_I^{\sigma(k)^C}(p,z)$

That is $\tilde{h}_I^{\sigma(k)^C}(p*0,z) \leq \tilde{h}_I^{\sigma(k)^C}(p,z)$

(ii) $\tilde{h}_I^{\sigma(k)^C}(p,z) = 1 - \tilde{h}_I^{\sigma(k)}(p,z)$

$\leq 1 - \urcorner$ min$\{[\tilde{h}_I^{\sigma(k)L}(q*p),z), \tilde{h}_I^{\sigma(k)U}(q*p),z], [\tilde{h}_I^{\sigma(k)L}(q,z), \tilde{h}_I^{\sigma(k)U}(q,z)]\}$

$= 1 - \urcorner$ min$\{ Sup\,[\tilde{h}_I^{\sigma(k)L}(q*p,z), \tilde{h}_I^{\sigma(k)L}(q,z)], Inf\,[\tilde{h}_I^{\sigma(k)U}(q*p,z), \tilde{h}_I^{\sigma(k)U}(q,z)]\}$

$= 1 - \urcorner$ min$\{1 - \tilde{h}_I^{\sigma(k)^C}(q*p,z), 1 - \tilde{h}_I^{\sigma(k)^C}(q,z)\}$

$= \urcorner$ max$\{\tilde{h}_I^{\sigma(k)^C}(q*p,z), \tilde{h}_I^{\sigma(k)^C}(q,z)\}$

That is $\tilde{h}_I^{\sigma(k)^C}(p*r,z) \leq \urcorner$max$\{\tilde{h}_I^{\sigma(k)^C}(q*p,z), \tilde{h}_I^{\sigma(k)^C}(q,z)\}$

Thus $\tilde{h}_I^{\sigma(k)^C}$ is a meantime assessment anti Ω -reluctant frizzy auxiliary nearring T-closed PS – ideal of X. The converse also can be proved similarly.

C. Theorem: If $\tilde{h}_I^{\sigma(k)}$ is a meantime assessment anti Ω - reluctant frizzy auxiliary nearring T-closed PS – ideal of PS algebra X, then for all $p,q \in X$ and $z \in$ Ω. , $\tilde{h}_I^{\sigma(k)}(p*(p*q),z) \leq \tilde{h}_I^{\sigma(k)}(q,z)$.

- *Proof:* Let $p,q \epsilon X$ and $z \epsilon$ Ω

$\tilde{h}_I^{\sigma(k)}(p*(p*q),z)$

$\leq$ max$(q*(p*q)),z), \tilde{h}_I^{\sigma(k)}(q,z)\}$

$= \urcorner$ max$\{\tilde{h}_I^{\sigma(k)}(0,z), \tilde{h}_I^{\sigma(k)}(q,z)\}$

$= \urcorner$ max$\{\tilde{h}_I^{\sigma(k)}(q*0,z), \tilde{h}_I^{\sigma(k)}(q,z)\}$

$= \widetilde{h}_I^{\sigma(k)}(q,z)$

Therefore $\tilde{h}_I^{\sigma(k)}(p*(p*q),z) \leq \tilde{h}_I^{\sigma(k)}(q,z)$

D. Theorem: Consider X be a PS – algebra. For any meantime assessment anti Ω -reluctant frizzy auxiliary nearring T-closed PS – ideal l $\tilde{h}_I^{\sigma(k)}$ of X. $X_{\tilde{h}_I^{\sigma(k)}} = \{p \epsilon X \text{ and } z \,\epsilon\, Ω \,/\, \tilde{h}_I^{\sigma(k)}(p,z) = \tilde{h}_I^{\sigma(k)}(0,z)\}$ is a PS – ideal of X.

- *Proof:* Let $q*p$, $y \epsilon \tilde{h}_I^{\sigma(k)}$. Then $\tilde{h}_I^{\sigma(k)}(q*p,z) = \tilde{h}_I^{\sigma(k)}(q,z) = \tilde{h}_I^{\sigma(k)}(0,z)$

Since, $\tilde{h}_I^{\sigma(k)}$ is any meantime assessment anti Ω - reluctant frizzy auxiliary nearring T – closed PS – ideal of X,

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$\tilde{\hbar}_I^{\sigma(k)}(x,q) \leq \urcorner \max\{ \tilde{\hbar}_I^{\sigma(k)}(q*p,z), \tilde{\hbar}_I^{\sigma(k)}(q,z)\}$

A note on meantime assessment anti $\mathfrak{Q}$ -reluctant frizzy auxiliary nearring T-closed PS – ideals in PS- algebras.

$= \urcorner \max\left\{\tilde{\hbar}_I^{\sigma(k)}(0,z), \tilde{\hbar}_I^{\sigma(k)}(0,z)\right\}$

$= \tilde{\hbar}_I^{\sigma(k)}(0,z)$

Hence $p \epsilon X_{\tilde{\hbar}_I^{\sigma(k)}}$. Therefore $X_{\tilde{\hbar}_I^{\sigma(k)}}$ is a PS – ideal of X.

E. *Theorem:* If $\tilde{\hbar}_I^{\sigma(k)}$ and $\tilde{\hbar}_J^{\sigma(k)}$ are meantime assessment anti $\mathfrak{Q}$ -reluctant frizzy auxiliary nearring T-closed PS – ideals of a PS- algebra X, then $\tilde{\hbar}_I^{\sigma(k)} \cap \tilde{\hbar}_J^{\sigma(k)}$ is also a meantime assessment anti $\mathfrak{Q}$ -reluctant frizzy auxiliary nearring T-closed PS – ideal of X.

- *Proof:* Let $p,q \epsilon X$ and $z \in \mathfrak{Q}$. Then

$(\tilde{\hbar}_I^{\sigma(k)} \cap \tilde{\hbar}_J^{\sigma(k)})(0,z) = \urcorner\min\{\tilde{\hbar}_I^{\sigma(k)}(0,z), \tilde{\hbar}_J^{\sigma(k)}(0,z)\}$

$\leq \urcorner \min\{\tilde{\hbar}_I^{\sigma(k)}(p,z), \tilde{\hbar}_J^{\sigma(k)}(p,z)\}$

$= (\tilde{\hbar}_I^{\sigma(k)} \cap \tilde{\hbar}_J^{\sigma(k)})(p,z)$

$(\tilde{\hbar}_I^{\sigma(k)} \cap \tilde{\hbar}_J^{\sigma(k)})(0,z) = \urcorner \min\{\tilde{\hbar}_I^{\sigma(k)}(p,z), \tilde{\hbar}_J^{\sigma(k)}(p,z)$

$\leq \urcorner \min\{\max[\tilde{\hbar}_I^{\sigma(k)}(q*p,z), \tilde{\hbar}_I^{\sigma(k)}(q,z)], \max[\tilde{\hbar}_J^{\sigma(k)}(q*p,z), \tilde{\hbar}_J^{\sigma(k)}(q,z)]\}$

$= \urcorner \min\{\max[\tilde{\hbar}_I^{\sigma(k)}(q*p,z), \tilde{\hbar}_J^{\sigma(k)}(q*p,z)], \max[\tilde{\hbar}_I^{\sigma(k)}(q,z), \tilde{\hbar}_J^{\sigma(k)}(q,z)]\}$

$\leq \urcorner \max\{\min[\tilde{\hbar}_I^{\sigma(k)}(q*p,z), \tilde{\hbar}_J^{\sigma(k)}(q*p,z)], \min[\tilde{\hbar}_I^{\sigma(k)}(q,z), \tilde{\hbar}_J^{\sigma(k)}(q,z)]\}$

$= \urcorner \max\{(\tilde{\hbar}_I^{\sigma(k)} \cap \tilde{\hbar}_J^{\sigma(k)})(q*p,z), (\tilde{\hbar}_I^{\sigma(k)} \cap \tilde{\hbar}_J^{\sigma(k)})(q,z)\}$

Which implies

$$(\tilde{\hbar}_I^{\sigma(k)} \cap \tilde{\hbar}_J^{\sigma(k)})(p,z) \leq \urcorner\max\{(\tilde{\hbar}_I^{\sigma(k)} \cap \tilde{\hbar}_J^{\sigma(k)})(q*p,z), (\tilde{\hbar}_I^{\sigma(k)} \cap \tilde{\hbar}_J^{\sigma(k)})(q,z)\}$$

Thus $(\tilde{\hbar}_I^{\sigma(k)} \cap \tilde{\hbar}_J^{\sigma(k)})$ is also a meantime assessment anti $\mathfrak{Q}$ -reluctant frizzy auxiliary nearring T – closed PS – ideal of X.

F. *Theorem*: The combination of any set of a meantime assessment anti $\mathfrak{Q}$ -reluctant frizzy auxiliary nearring T – closed PS – ideals in PS-algebra X is also a meantime assessment anti $\mathfrak{Q}$ -reluctant frizzy auxiliary nearring T – closed PS – ideal.

- *Proof:* $\{\tilde{\hbar}_{I_i}^{\sigma(k)}\}$ be a collection of a meantime assessment anti $\mathfrak{Q}$ -reluctant frizzy auxiliary nearring T – closed PS – ideals of PS – algebras X. Then for any $p, q \epsilon X$ and z∈ $\mathfrak{Q}$.

$(\cup \tilde{\hbar}_{I_i}^{\sigma(k)})(0,z) = Sup\ (\tilde{\hbar}_{I_i}^{\sigma(k)}(0,z))$

$\leq Sup\ (\tilde{\hbar}_{I_i}^{\sigma(k)}(p,z))$

$= (\cup \tilde{\hbar}_{I_i}^{\sigma(k)})(p,z)$

And $(\cup \tilde{\hbar}_{I_i}^{\sigma(k)})(p,z) = Sup\ (\tilde{\hbar}_{I_i}^{\sigma(k)}(p,z))$

$\leq Sup\{max\ (\tilde{\hbar}_{I_i}^{\sigma(k)}(q*p,z), \tilde{\hbar}_{I_i}^{\sigma(k)}(q,z))\}$

$= \urcorner\ max\{Sup\ (\tilde{\hbar}_{I_i}^{\sigma(k)}(q*p,z), Sup(\tilde{\hbar}_{I_i}^{\sigma(k)}(q,z))\}$

$= \urcorner\ max\{(\cup \tilde{\hbar}_{I_i}^{\sigma(k)}(q*p,z), \cup \tilde{\hbar}_{I_i}^{\sigma(k)}(q,z))\}$

This completes the proof.

IV. MEANTIME ASSESSMENT ANTI $\mathfrak{Q}$ -RELUCTANT FRIZZY AUXILIARY NEARRING T – CLOSED PS – IDEALS

(MAA $\mathfrak{Q}$ RFAN TC PS) Homomorphism and (MAA $\mathfrak{Q}$ RFAN TC PS) Anti - Homomorphism

A. *Theorem*: Consider f be an endomorphism of a PS-algebra X. If $\tilde{\hbar}_I^{\sigma(k)}$ is a meantime assessment anti $\mathfrak{Q}$ -reluctant frizzy auxiliary nearring T – closed PS – ideals of X then so is $\tilde{\hbar}_f^{\sigma(k)}$.

- *Proof:* Let $\tilde{\hbar}_I^{\sigma(k)}$ be a meantime assessment anti $\mathfrak{Q}$ -reluctant frizzy auxiliary nearring T – closed PS – ideals of X. Now,

$$\tilde{\hbar}_f^{\sigma(k)}(p*0,z) = \tilde{\hbar}^{\sigma(k)}(f(p*0,z))$$

$$\leq \tilde{\hbar}^{\sigma(k)}(f(p,z))$$

$$= \tilde{\hbar}_f^{\sigma(k)}(p,z) \text{ for all } p,q \epsilon X \text{ and } z \epsilon \mathfrak{Q}.$$

Let $p,q \epsilon X$ and z ∈ $\mathfrak{Q}$. Then

$\tilde{\hbar}_f^{\sigma(k)}(p,z) = \tilde{\hbar}^{\sigma(k)}(g(p,z))$

$\leq \urcorner \max\{ \tilde{\hbar}^{\sigma(k)}(g(q,z)*g(q,z)), \tilde{\hbar}^{\sigma(k)}(g(q,z))\}$

$= \urcorner \max\{ \tilde{\hbar}^{\sigma(k)}(g(q*p),z), \tilde{\hbar}^{\sigma(k)}(g(q,z))\}$

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$= ן \max\{ \tilde{\hbar}_f^{\sigma(k)}(q * p, z), \tilde{\hbar}_f^{\sigma(k)}(q, z)\}$

Therefore

$\tilde{\hbar}_f^{\sigma(k)}(p, z) \leq ן \max\{ \tilde{\hbar}_f^{\sigma(k)}(q * p, z), \tilde{\hbar}_f^{\sigma(k)}(q, z)\}$

Hence $\tilde{\hbar}_f^{\sigma(k)}$ is a meantime assessment anti $\mathfrak{Q}$ -reluctant frizzy auxiliary nearring T – closed PS – ideal of X.

B. Theorem: Consider $g: X \to Y$ be an endomorphism of PS – algebra. If $\tilde{\hbar}_f^{\sigma(k)}$ is an meantime assessment anti $\mathfrak{Q}$ -reluctant frizzy auxiliary nearring T – closed PS – ideals of X, then $\tilde{\hbar}^{\sigma(k)}$ is a meantime assessment anti $\mathfrak{Q}$ -reluctant frizzy auxiliary nearring T – closed PS – ideals of Y.

- *Proof:* Let $\tilde{\hbar}_f^{\sigma(k)}$ be a meantime assessment anti $\mathfrak{Q}$ -reluctant frizzy auxiliary nearring T – closed PS – ideals of X.. Let $q \epsilon Y$ and $z \in \mathfrak{Q}$. Then there exists $p \epsilon X$ such that g(p,z) = (q,z)

Now,

$\tilde{\hbar}^{\sigma(k)}(q * 0, z) = \tilde{\hbar}^{\sigma(k)}((q, z) * (0, z))$

$= \tilde{\hbar}^{\sigma(k)}(g(q, z) * g(0, z))$

$= \tilde{\hbar}^{\sigma(k)} g((q, z) * (0, z))$

$= \tilde{\hbar}^{\sigma(k)}((q, z) * (0, z))$

$\leq \tilde{\hbar}_f^{\sigma(k)}(p, z)$

$= \tilde{\hbar}^{\sigma(k)}(g(p, z))$

$= \tilde{\hbar}^{\sigma(k)}(q, z)$

Therefore $\tilde{\hbar}^{\sigma(k)}(q * 0, z) \leq \tilde{\hbar}^{\sigma(k)}(q, z)$

Let $q_1, q_2 \epsilon q$ and $z \in \mathfrak{Q}$

$\tilde{\hbar}^{\sigma(k)}((q_1, z)) = \tilde{\hbar}^{\sigma(k)}(g(p_1, z))$

$= \tilde{\hbar}_f^{\sigma(k)}(p_1, z)$

$\leq ן \max\{ [\tilde{\hbar}_f^{\sigma(k)L}(p_2, z) * (p_1, z), \tilde{\hbar}_f^{\sigma(k)U}(p_2, z) * (p_1, z)], [\tilde{\hbar}_f^{\sigma(k)L}(p_2, z), \tilde{\hbar}_f^{\sigma(k)U}(p_2, z)]\}$

$\leq ן \max\{ [\tilde{\hbar}_f^{\sigma(k)L}(p_2, z) * (p_1, z), \tilde{\hbar}_f^{\sigma(k)L}(p_2, z)], [\tilde{\hbar}_f^{\sigma(k)U}(p_2, z) * (p_1, z), \tilde{\hbar}_f^{\sigma(k)U}(p_2, z)]\}$

$\leq ן \max\{inf\, [\tilde{\hbar}_f^{\sigma(k)}(p_2, z) * (p_1, z), \tilde{\hbar}_f^{\sigma(k)}(p_2, z)], Sup[\tilde{\hbar}_f^{\sigma(k)}(p_2, z) * (p, z), \tilde{\hbar}_f^{\sigma(k)}(p_2, z)]\}$

$\leq ן \max\{ [\tilde{\hbar}_f^{\sigma(k)}(p_2, z) * (p_1, z), \tilde{\hbar}_f^{\sigma(k)}(p_2, z)]\}$

$= ן \max\{ [\tilde{\hbar}^{\sigma(k)} f((p_2, z) * (p_1, z)), \tilde{\hbar}^{\sigma(k)} f(p_2, z)]\}$

$= ן \max\{ [\tilde{\hbar}^{\sigma(k)} f[(p_2, z)) * f(p_1, z)], \tilde{\hbar}^{\sigma(k)} f(p_2, z)]\}$

$= ן \max\{ [\tilde{\hbar}^{\sigma(k)}(p_2\, , z) * (q_1, z), \tilde{\hbar}^{\sigma(k)}(q_2\, , z)]\}$

$\leq ן \max\{ [\tilde{\hbar}^{\sigma(k)}[(q_2\, , z) * (q_1, z)], \tilde{\hbar}^{\sigma(k)}(q_2\, , z)]\}$

Therefore

$\tilde{\hbar}^{\sigma(k)}((q_1, z)) \leq ן\max\{ [\tilde{\hbar}^{\sigma(k)}[(q_2\, , z) * (q_1, z)], \tilde{\hbar}^{\sigma(k)}(q_2\, , z)]\}$

It gives $\tilde{\hbar}^{\sigma(k)}$ is a meantime assessment anti $\mathfrak{Q}$ -reluctant frizzy auxiliary nearring T – closed PS – ideal of Y.

C. Theorem: Consider $g: X \to Y$ be a homomorphism of PS – algebra. If $\tilde{\hbar}^{\sigma(k)}$ is a meantime assessment anti $\mathfrak{Q}$ -reluctant frizzy auxiliary nearring T – closed PS – ideal of Y, then $\tilde{\hbar}_f^{\sigma(k)}$ is a meantime assessment anti $\mathfrak{Q}$ -reluctant frizzy auxiliary nearring T – closed PS – ideal of X.

- *Proof:* Let $\tilde{\hbar}^{\sigma(k)}$ be a meantime assessment anti $\mathfrak{Q}$ -reluctant frizzy auxiliary nearring T – closed PS – ideal of Y. Let $p, q \epsilon Y$ and $z \in \mathfrak{Q}$.

$\tilde{\hbar}_f^{\sigma(k)}(p * 0, z) = \tilde{\hbar}^{\sigma(k)}[g(p * 0, z)]$

$\leq \tilde{\hbar}^{\sigma(k)}[g(p, z)]$

$= \tilde{\hbar}_f^{\sigma(k)}(p, z)$

It gives that

$\tilde{\hbar}_f^{\sigma(k)}(p * 0, z) \leq \tilde{\hbar}_f^{\sigma(k)}(p, z)$

$\tilde{\hbar}_f^{\sigma(k)}(p, z) = \tilde{\hbar}^{\sigma(k)}(g(p, z))$

$\leq ן \max\{ [\tilde{\hbar}^{\sigma(k)L}[g(q, z) * g(p, z)], \tilde{\hbar}^{\sigma(k)U}[g(q, z) * f(p, z)], [\tilde{\hbar}^{\sigma(k)L} g(q, z), \tilde{\hbar}^{\sigma(k)U} g(q, z)]\}$

$\leq ן \max\{ [\tilde{\hbar}^{\sigma(k)L}[g(q, z) * g(p, z)], \tilde{\hbar}^{\sigma(k)L}(g(q, z))],$

$[\tilde{\hbar}^{\sigma(k)U}[g(q, z) * g(p, z)], \tilde{\hbar}^{\sigma(k)U} g(q, z)]\}$

$\leq ן \max\{ [inf[\tilde{\hbar}^{\sigma(k)}(g(q, z) * g(p, z))], \tilde{\hbar}^{\sigma(k)}(g(q, z))],$

$[Sup[\tilde{\hbar}^{\sigma(k)}[g(q, z) * f(p, z)], \tilde{\hbar}^{\sigma(k)} g(q, z)]\}$

$= ן \max\{\tilde{\hbar}^{\sigma(k)}(g(q, z) * g(p, z)), \tilde{\hbar}^{\sigma(k)} g(q, z)\}$

$= ן \max\{\tilde{\hbar}^{\sigma(k)}[g(q * p, z], \tilde{\hbar}^{\sigma(k)} g(q, z)\}$

$$= \daleth \max\{\tilde{\hbar}_f^{\sigma(k)}(q * p, z), \tilde{\hbar}_f^{\sigma(k)} g(q, z)\}$$

Therefore

$$\tilde{\hbar}_f^{\sigma(k)}(p, z) \leq \daleth \max\{\tilde{\hbar}_f^{\sigma(k)}(q * p, z), \tilde{\hbar}_f^{\sigma(k)} g(q, z)\}$$

Hence $\tilde{\hbar}_f^{\sigma(k)}$ is a meantime assessment anti $\mathfrak{Q}$ -reluctant frizzy auxiliary nearring T – closed PS – ideal of X.

V. CONCLUSION

This paper is concluded that, the features of meantime assessment anti $\mathfrak{Q}$ -reluctant frizzy auxiliary nearring T – closed PS – ideals of PS-algebra are existed. Further the concept is developed to meantime assessment L -reluctant frizzy auxiliary nearring.

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