LIST OF ABBREVIATIONS

1. \( \rho(X) \) - Power set of \( X \)
2. \((X, \tau)\) – Topological space with a set \( X \) and a topology \( \tau \).
3. \( SX_A \) – Soft set over a set \( X \) with a set of parameters \( A \).
4. \( SX_B \) – Soft set over a set \( X \) with a set of parameters \( B \).
5. \( SX_C \) – Soft set over a set \( X \) with a set of parameters \( C \).
6. \( SY_B \) – Soft set over a set \( Y \) with a set of parameters \( B \).
7. \( S(\bar{E}) \) - Set of all soft sets over \( X \) with a set of parameters \( E \).
8. \( SX_\phi \) – Soft null set.
9. \( SX_X \) – Soft full set.
10. \( SX_A \cup B \) - Soft set over a set \( X \) with a set of parameters \( A \cup B \).
11. \( SX_A \cap B \) - Soft set over a set \( X \) with a set of parameters \( A \cap B \).
12. \( SX_A \times B \) – Soft set over \( X \) with a set of parameters \( A \times B \).
13. \( \odot \) - Cross product of two soft sets.
14. \( \subseteq \) - Soft sub set.
15. \( \cup \) - Soft union.
16. \( \cap \) - Soft intersection
17. \( (S\bar{X}_E, S\tau) \) – Soft Topological space with a soft set \( S\bar{X}_E \) and a soft topology \( S\tau \).
18. \( xSX_A \) - A soft point in \( SX_A \).
19. \( \bar{S}X_A \) - Soft closure of the soft set \( SX_A \).
20. \( FSX_A \) – Fuzzy Soft set FS over a soft set \( SX_A \).
21. \( FSX_B \) – Fuzzy Soft set over a soft set \( SX_B \).
22. \( FSX_C \) – Fuzzy Soft set over a soft set \( SX_C \).
23. \( FS[\bar{E}] \) - Set of all fuzzy soft sets over \( X \) with a set of parameters \( E \).
24. \( FSX_A \)’ – Complement of Fuzzy Soft set \( FSX_A \).
25. \( FSX_\phi \) – Fuzzy Soft null set.
26. \( FSX_X \) – Fuzzy Soft full set.
27. \( FSX_{A \cup B} \) - Fuzzy Soft set over a set \( X \) with a set of parameters \( A \cup B \).
28. \( FSX_{A \cap B} \) - Fuzzy Soft set over a set \( X \) with a set of parameters \( A \cap B \).
29. \((FS[X_E], FS\tau)\) – Fuzzy Soft Topological space with a soft set \(FSX_E\) and a fuzzy soft topology \(FS\tau\).

30. \(xFSX_A\) - A fuzzy soft point in \(FSX_A\).

31. \(I(FSX_A)\) - Interior of fuzzy soft set \(FSX_A\).

32. \(FSX_A^\theta\) - Fuzzy Soft closure of \(FSX_A\).

33. \(B(FSX_A)\) - Boundary of fuzzy soft set \(FSX_A\).

34. IFS - Intuitionistic Fuzzy Soft.

35. \(IF[X]\) - Set of all intuitionistic Fuzzy sets over a set \(X\).

36. \(IFSX_A\) – Intuitionistic Fuzzy Soft set over the soft set \(SX_A\).

37. \(IFSX_B\) – Intuitionistic Fuzzy Soft set over a soft set \(SX_B\).

38. \(IFS[X_E]\) - Set of all Intuitionistic fuzzy soft sets over \(X\) with a set of parameters \(E\).

39. \(IFSX_C\) – Intuitionistic Fuzzy Soft set over a soft set \(SX_C\).

40. \((IFSX_A)’\) - Complement of IFS set \(IFSX_A\).

41. \(IFS\varphi\) - Intuitionistic Fuzzy Soft null set.

42. \(IFSX\) – Intuitionistic Fuzzy Soft full set.

43. \((IFS\bar{X}_E, IFS\tau)\) - IFS Topological space with an IFS set \(IFSX_E\) and an IFS topology \(IFS\tau\).

44. \(xIFSX_A\) - IFS point.

45. \(IFSX_A^0\) – Interior of IFS set \(IFSX_A\).

46. \(IFSX_A^\bar{\theta}\) - Closure of IFS set \(IFSX_A\).

47. \((IFS\bar{X}_E, \bar{d}, E)\) - IFS metric space.

48. \(HF_X\) – Hesitant Fuzzy set HF over a set \(X\)

49. \(HF[X]\) - Set of all hesitant Fuzzy sets over a set \(X\)

50. HFS – Hesitant fuzzy soft

51. \(HFSX_A\) – HFS set over the soft set \(SX_A\).

52. \(HFSX_B\) – HFS set over a soft set \(SX_B\).

53. \(HFSX_C\) – HFS set over a soft set \(SX_C\).

54. \(HFSX\varphi\) - HFS null set.

55. \(HFSX_X\) - HFS full set.
56. \((\text{HFS}[X_E], \text{HFS}_\tau)\) - HFS topological space with a HFS set \(\text{HFS}X_E\) and HFS topology \(\text{HFS}_\tau\)

57. \(I(\text{HFS}X_A)\) - Interior of HFS set \(\text{HFS}X_A\)

58. \(\overline{\text{HFS}X_A}\) - Closure of HFS set \(\text{HFS}X_A\).

59. \(B(\text{HFS}X_C)\) - Set of boundary points of HFS set \(\text{HFS}X_C\).

60. GIFS – Generalized intuitionistic fuzzy soft

61. \(GIFS[\tilde{\mu}\theta_A]\) - GIFS Set over the soft set \(S_XA\), where \(\mu, \nu\) are membership functions on \(E\)

62. \(GIFS[\tilde{\alpha\beta}_B]\) - GIFS Set, over the soft set \(SXB\)

where \(\alpha, \beta\) are membership functions on \(E\)

63. \(GIFS[X\tilde{\mu\theta}_\phi]\) – GIFS null set.

64. \(GIFS[X\tilde{\mu\theta}_X]\) – GIFS full set.

65. \(\text{GIFS}'\) – Complement of GIFS.