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PENTAPARTITIONED FERMATEAN NEUTROSOPHIC SOFT-ROUGH SET AND ITS APPLICATIONS

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Abstract: This article's goal is to present a mathematical paradigm, Pentapartitioned Fermatean Neutrosophic Soft-Rough Set (PFN-SRS). PFN-SRS integrates elements of neutrosophic sets, Fermatean sets, Soft sets and Rough sets, providing a robust tool for addressing the intricate issues of data inconsistency, imprecision and ambiguity. We present a comprehensive exploration of PFN-SRS, encompassing its definition, properties and mathematical structures. To demonstrate the practical utility of PFN-SRS, we introduce and apply the ANMABA method. The PFN-SRS framework empowers a more nuanced and adaptable approach to handling uncertainty and imprecision in decision making problems. ANMABA method for PFN-SRS provides actionable perception and can be applied to solve various