Pre-requisite: Nil
Total Hours: 42

Module 1: 11 hrs.
Crisp sets and Fuzzy sets: Introduction-crisp sets an overview-the notion of fuzzy sets-basic concepts of fuzzy sets-membership functions -methods of generating membership functions -defuzzification methods-operations on fuzzy sets- fuzzy complement- fuzzy union- fuzzy intersection- combinations of operations-General aggregation operations.

Module 2: 11 hrs.
Fuzzy arithmetic and Fuzzy relations-Fuzzy numbers-arithmetic operations on intervals-arithmetic operations on fuzzy numbers-fuzzy equations- crisp and fuzzy relations-binary relations- binary relations on a single set – equivalence and similarity relations- compatibility or tolerance relations.

Module 3: 10 hrs.
Fuzzy measures – Fuzzy measures – belief and plausibility measures - probability measures – possibility and necessity measures- possibility distribution- relationship among classes of fuzzy measures.

Module 4: 10 hrs.

References
6. John Yen and Reza Langari; Fuzzy Logic: Intelligence Control and Information, Pearson Education,1999