7. FUZZY LOGIC AND FUZZY SETS

UNIT-1: CRISP SETS AND FUZZY SETS:
The Notion of Fuzzy Sets–basic concepts of Fuzzy sets –Fuzzy complement-Fuzzy Union-Fuzzy intersection – Combination of operations – general aggregation of operations.

UNIT-2: FUZZY RELATIONS:
Crisp and Fuzzy relations – Binary relations – Binary relations on a single set –
Equivalence and similarity relations – Compatibility on Tolerance Relations-Orderings –
Morphism – Fuzzy relations Equations.

UNIT-3: FUZZY MEASURES:
Belief and plausibility Measures –Probability measures – Possibility and Necessity measures.

UNIT-4: UNCERTAINTY AND INFORMATION:

UNIT-5: APPLICATIONS:
Natural, life and Social Sciences - Engineering - Medicine - Management and decision making.

Text Book:
1. George J. Klir and Tina A. Folger, Fuzzy Sets, Uncertainty and Information,
Prentice-Hall of India Private Limited-Fourth printing-June 1995

Unit: 1 Chapter 1,2 Sec 1.3,1.4,2.2-2.6
Unit: 2 Chapter 3 Sec 3.1-3.8
Unit: 3 Chapter 4 Sec 4.2-4.5
Unit: 4 Chapter 5 Sec 5.1-5.4, 5.6
Unit: 5 Chapter 6 Sec 6.2-6.5

Reference Book: