

**MA-636 THEORY OF SEMIRINGS. (3 Credits)**

Hemirings and Semirings: definitions and examples. Building new semirings from old. Complemented elements in semirings. Ideals in semirings. Prime and semiprime ideals in semirings. Factor semirings. Morphisms of semirings. Regular semirings. Semimodules over semirings. Morphisms of semimodules. Factor semimodules. Free, projective, and injective semimodules.

**RECOMMENDED BOOKS:**

1. J. S. Golan, The Theory of Semirings and Applications in Mathematics and Theoretical Computer Science, Longman Scientific & Technical John Wiley & sons New York, 1992.
2. U Hebisch and H. J. Weinert, Semirings Algebraic Theory and Applications in Computer Science, Word Scientific Singapore, New Jersey London Hong Kong, 1998.