

## **MA-601 SEMIGROUP THEORY**

Introductory ideas: Basic definitions, Cyclic semigroups; Ordered sets, semi lattices and lattices. Binary relations; Equivalences; Congruences; Free semigroups; Green's Equivalences; L,R,H,J and D; Regular semigroups, O-Simple semigroups; Simple and O-Simple semigroups; Rees's theorem; Primitive idempotents; Completely O-Simple semigroups; Finite congruence-free semigroups, Union of groups; Bands; Free bands; varieties of bands, Inverse semigroups, Congruences on inverse semigroups; Fundamental inverse semigroups; Bisimple and simple inverse semigroups. Orthodox semigroups; Basic properties; The structure of orthodox semigroups.

### **RECOMMENDED BOOKS:**

1. A.H. Clifford and G.B. Preston, The Algebraic Theory of Semigroups; Vol.I & II. AMS Math. Surveys, 1961 and 1967.
2. J.M. Howie, An Introduction to Semigroup Theory, Academic Press 1967.