I	Course Code	**MA 207002**		
II	Course Title	**Algebra I**		
III	Credit Structure	L 3	T 1	P 0	C 4
IV	Prerequisite (If any)	Students should have basic knowledge of group theory		
V	Course Content	Groups: Review of basic group theory, group actions, semi direct product, p-groups, Nilpotent groups, solvable groups. Rings: Review of ring theory, Euclidean Domain, Principal ideal domain, Unique Factorization domain. Group rings Modules and Vector Spaces: Review of Module theory, Dual Vector Space, Tensor Algebra, Symmetric and Exterior Algebras, Modules over PID, Modules over group rings. Field Theory and Galois Theory: Review of Galois theory, Inverse limit and direct limit, Galois group of algebraic closure of Q over Q. Category theory: Basics of Categories and functions. Universal objects in the categories. Groups acting on objects in category.		
VI	Text/References	• David S. Dumit and Richard M. Foote, Abstract Algebra Second Edition, John Wiley & Sons. • Serge Lang, Algebra, revised third edition, Springer.		