SARDAR PATEL UNIVERSITY
Programme & Subject: B.Sc (Mathematics)
Semester: VI
Syllabus with Effect from: November/December-2013

Paper Code: US06CMTH04	Total Credit: 3
Title Of Paper: Abstract Algebra - II	

Unit	Description in detail	Weighting (%)
I	Rings : Definition and examples , Properties of ring , zero divisor, Integrals domains , Field : Definition and examples , Ring Isomorphism :Definition and examples , Ring Homomorphism : Definition and examples , Kernel of ring homomorphism	
II	Quotient fields , Ideals : Definition and examples , Proper ideal, quotient rings , First isomorphism theorem for ring , prime and maximal Ideals: Definition and examples .	
III	Factorization, Associates elements, Irreducible element , prime element g.c.d., Euclidean domain : Definition and example , Principal ideal Domain: Definition and example .	
IV	Unique Factorization domain : Definition and example , Polynomial rings: Definition and example , roots of polynomials , Factorization of polynomials , Eisenstein's criterion ,Primitive polynomial , Gauss lemma ,Gauss theorem , Rational function .	

Recommended Texts :

➢ N.S.Gopalakrishnan, University Algebra, second Edition, Wiley Eastern Ltd.,
➢ New Delhi 1994. Chapter 1(Except 1.12, 1.13 and 1.14), chapter 2.

Basic Text & Reference Books:-

➢ I.N.Herstein, Topics in algebra.
➢ Asha Rani Singal, Algebraic structures,
➢ J.Whitesitt, Principles of modern algebra.