SARDAR PATEL UNIVERSITY
Programme & Subject: B.Sc (Mathematics)
Semester: V
Syllabus with Effect from: June-2013

Paper Code: US05CMTH04	Total Credit: 3
Title Of Paper: Abstract Algebra - I	

Unit	Description in detail	Weighting (%)
I	Binary operations , Definition of Group and examples , Laws of exponents , Subgroups : Definition and examples , Centre of group .	
II	Cyclic group : Definiton and examples , Cosets of subgroup , Lagrange's theorem ,Index of subgroup , Euler's theorem ,Fermat's theorem .	
III	Isomorphism : Definition and examples, Isomorphic groups, Auto-morphism , Inner automorphism , Homomorphism :Definition and examples Kernel of homomorphism , Normal subgroup , Simple group , Commutator subgroup , Quotient groups , First ,second and third isomorphism theorem .	
IV	Direct products : Definition and examples , External direct prod-ucts , Permutation groups , Transposition , Cycle , Signature of permutation even and odd permutation , Cayley's theorem for group .	

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.