

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

Paper Code: US05CMTH05	Total Credit: 3
Title Of Paper: Number Theory	

Unit	Description in detail	Weighting (%)
I	Divisibility , Fundamental theorem of divisibility , G.C.D.: definition and examples , L.C.M. : de ⁻ nition and examples , Prime numbers ,Factorization in prime numbers , Unique factorization theorem .	
II	Perfect numbers : definition and examples , Mersenne numbers : definition and examples , Fermat numbers : definition and examples ,Gauss function : de ⁻ nition and examples , Mobius function : de ⁻ nition and examples	
III	Linear indeterminate equations and its solution , Shang-gao inde-terminate equation and its solution , Congruences : De ⁻ nition and examples, Properties of congruences .	
IV	Complete residue system(mod m) , Reduced residue system(modm) Euler's function , Congruence in one unknown , Solution of Linear congruence in one unknown and two unknown Chinese theorem , Wilson's theorem .	

Recommended texts :

- C.Y.Hsiung, Elementary Theory of numbers, Allied publishers Ltd.(1992) Chapter 1, 2, 3(only article 3.1 and 3.2), 4 (only article 4.1).

Basic Text & Reference Books:-

- D.Burton , elementary Number Theory, Universal Book stall, new Delhi
- Niven And H.Zuckermar , An Introduction to the theory of Numbers, Wiley-Eastern Publication.
- S.Barnard and J.N.Child , Higher Algebra, Mc Millan and Co. Ltd.

