

BS (4 Years) for Affiliated Colleges



Code	Subject Title	Cr. Hrs	Semester
MATH-408	Number Theory-I	3	VII
Year	Discipline		
4	Mathematics		

Objectives:

Congruences

- Elementary properties of prime numbers
- Residue classes and Euler's function
- Linear congruences and congruences of higher degree
- Congruences with prime moduli
- The theorems of Fermat, Euler and Wilson

Number-Theoretic Functions

- Möbius function
- The function $[x]$, the symbols O and their basic properties

Primitive roots and indices

- Integers belonging to a given exponent
- Composite moduli, primitive roots modulo a prime
- Determination of integers having primitive roots indices

Recommended Books:

- W. J. Leveque, Topics in Number Theory, (Vols. I and II, Addison-Wesley Publishing Co., 1956)
- Tom M. Apostol, Introduction to Analytic Number theory, (Springer International, 1998)
- David M. Burton, Elementary Number Theory, 6th edition, (McGraw Hill Company, 2007)
- A. Andrew, The Theory of Numbers, (Jones and Barlett Publishers London, 1995)
- Harry Pollard, The Theory of Algebraic Numbers, (John Wiley and Sons, Inc, 1950)