

I	Course Code	MA 227001								
II	Course Title	Number Theory								
III	Credit Structure	<table style="border: none; width: 100%; text-align: center;"> <tr> <td style="width: 25%;">L</td> <td style="width: 25%;">T</td> <td style="width: 25%;">P</td> <td style="width: 25%;">C</td> </tr> <tr> <td>3</td> <td>1</td> <td>0</td> <td>4</td> </tr> </table>	L	T	P	C	3	1	0	4
L	T	P	C							
3	1	0	4							
IV	Prerequisites	Algebra, Linear Algebra, Basics of Analysis								
V	Course Content	<ul style="list-style-type: none"> • Quadratic reciprocity law, characters of finite group, Dirichlet series, Zeta function and L functions, Density and Dirichlet's theorem on primes in arithmetic progression. • Topological groups, Haar Measure, Profinite groups, Fundamental theorem of Galois theory, pro-p groups, Representation of locally compact groups, Bounded operator on Hilbert spaces, Unitary representations, Schur's lemma. • Pontryagin Duality • Classification of locally compact fields, Extension of Local fields. 								
VI	Text/References	<ol style="list-style-type: none"> 1. A course in Arithmetic, J. P. Serre, Springer-Verlag 2. Fourier Analysis on Number Fields, Dinakar Ramakrishnan & Robert J. Valenza 3. Representations of Finite Groups, J. P. Serre, Translated from French by Leonard L Scott, Springer-Verlag 4. Real and Complex analysis, Walter Rudin, McGraw-Hill Book Company. 5. Algebra, Serge Lang, Revised Third Edition. 								