



Library Indian Institute of Science Education and Research Mohali



DSpace@IISERMohali (/jspui/)

/ Thesis & Dissertation (/jspui/handle/123456789/1)

/ Master of Science (/jspui/handle/123456789/2)

/ MS-12 (/jspui/handle/123456789/723)

Please use this identifier to cite or link to this item: <http://hdl.handle.net/123456789/782>


Title:	Galois Groups and Fundamental Groups
Authors:	Gupta, Rohan (/jspui/browse?type=author&value=Gupta%2C+Rohan)
Keywords:	Mathematics Field Theory Galois Groups Groups Algebraic Topology Riemann Surfaces
Issue Date:	14-Jul-2017
Publisher:	IISER-M
Abstract:	In this thesis, I will discuss the first three chapters of the "Galois Groups and Fundamental Groups" by Tamas Szamuely([Sza]). Chapter 1 deals with basics of field theory, Galois theory and contains an introduction to Etale algebras. We will prove the categorical anti-equivalence of continuous left $\text{Gal}(k)$ -sets with finite etale algebras over k . Chapter 2 deals with certain results from algebraic topology using which we obtain a categorical equivalence between category of left- $\Pi_1(X; x)$ sets and category of covers of X . In Chapter 3 study Riemann surfaces and holomorphic map. The covers over Riemann surfaces create a link between field theory and theory of covers. We show that the category of finite covers of X outside a finite discrete set of points is equivalent to the category of Riemann surfaces equipped with holomorphic maps onto X . Further, in this chapter, we establish that every finite group occurs as Galois group of some finite Galois extension of $\mathbb{C}(t)$.
URI:	http://hdl.handle.net/123456789/782 (http://hdl.handle.net/123456789/782)
Appears in Collections:	MS-12 (/jspui/handle/123456789/723)

Files in This Item:

File	Description	Size	Format
------	-------------	------	--------

MS-12035.pdf (/jspui/bitstream/123456789/782/1/MS-12035.pdf)	802.35 kB	Adobe PDF	View/Open (/jspui/bitstream/123456789/782/1/MS-1:
---	--------------	--------------	---

Show full item record (/jspui/handle/123456789/782?mode=full)

 (/jspui/handle/123456789/782/statistics)

Items in DSpace are protected by copyright, with all rights reserved, unless otherwise indicated.