

Nepal Algebra Project(NAP)
Central Department of Mathematics
Tribhuvan University, Kirtipur, Kathmandu, Nepal
Fields and Galois Theory-Homework 1
Course Instructor: Prof. Roger Wiegand and Prof. Sylvia Wiegand

Summary of NAP: Module -1, Lecture 2, 8 May, 2016

Brief review of basic notions (groups, rings, and fields)

Characteristic of a field, "Freshman's Dream": $(a + b)^p = a^p + b^p$

Division Algorithm (with proof); $x - c \mid f(x) \iff f(c) = 0$

This includes items 1.1-1.4, 1.5, 1.6, 1.7, 1.9, 1.11 $F[x]$ is a PID; precise definition of UFD. If degree $f(x) \leq 3$ then $f(x)$ is irreducible $\iff f(x)$ has no roots; fails for degree 4