



ALGEBRA - II

PROF. AMIRTANSHU PRASAD

Department of Mathematics
The Institute of Mathematical Sciences, Chennai

PROF. S VISWANATH

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PRE-REQUISITES : Algebra I (highly recommended)

COURSE OUTLINE :

Second part of Foundational PG level course in algebra, suitable for M.Sc and first year PhD students in Mathematics.

ABOUT INSTRUCTOR :

Prof. Amritanshu Prasad is a faculty at The Institute of Mathematical Sciences, Chennai. His research interest is in representation theory.

Prof.S Viswanath is a faculty at The Institute of Mathematical Sciences, Chennai. His research interest is in representation theory.

COURSE PLAN :

- Week 1:** Fields, equations, extensions
- Week 2:** Ruler and compass constructions,
- Week 3:** Finite Fields
- Week 4:** Galois Theory - 1
- Week 5:** Galois Theory - 2
- Week 6:** Categories, functors, natural transformations - 1
- Week 7:** Categories, functors, natural transformations - 2
- Week 8:** Tensor products of modules
- Week 9:** Jordan-Holder theorem
- Week 10:** Krull-Schmidt theorem
- Week 11:** Semisimple rings, Artin-Wedderburn theorem
- Week 12:** Multilinear Algebra