Algebra

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Algebra I

22. Galois theory, roots of unity, cyclotomic extensions.

23. Norms and traces.

24. Purely inseparable extensions, cyclic extensions.

25. Solvable extensions, solvable by radicals.

Algebra II

1. Module theory.

2. Free modules, projective modules.

3. Modules over PID.

4. Modules over PID.

5. Tensor products.

6. Modules of fractions.

7. Noetherian modules.

8. Primary decompositions.

9. Primary decompositions, Nakayama's lemma.

10. Nakayama's lemma, filtered and graded modules, Artin-Rees.

11. Hilbert polynomial, Artinian modules.

12. Abelian categories, general homology theory.

13. Injective modules.

14. Homotopies of morphisms of complexes, derived functors.

15. Ext functor.

16. Ext functor, Ext^1, Tor functor.

17. Group cohomology.

18. Group cohomology, Semisimple modules.

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