

DEPARTMENT OF MATHEMATICS

ORAL EXAMINATION

Major area: ALGEBRAIC NUMBER THEORY

Textbook: Algebraic Number Theory, Serge Lang, Springer-Verlag, GTM 110, 1986.

- Topics:
1. Chapter I, II (skip §4, §5), III, IV §1, §2, V, VII, VIII (zeta functions).
 2. Class field theory (see Taylor, Washington or Serre).
 3. Definition of non-abelian L-function; see Serre note.
 4. Functional equation of $\zeta(t)$.
 5. Statement of residue formula, density.