

SXS-383

Audhra University  
Department of Mathematics  
M.Sc Mathematics  
III Semester - Special Paper  
Syllabus  
M304 COMMUTATIVE ALGEBRA, I

2005-2006 AR

UNIT I

Rings and ring homomorphism, ideals, quotient rings, zero divisors, Nilpotent elements, units, prime ideals and Maximal ideals, nil radical and Jacobson radical, operations on ideals, Extensions and contractions.

UNIT II

Modules and module homomorphisms, Sub modules and quotient modules, operations on submodules, Direct sum and product, finitely generated modules, exact sequences, Tensor product of modules, Restriction and extension of scalars, Exactness properties of the tensor product, algebras, tensor product of algebras.

UNIT III

Local properties, Extended and contracted ideals in rings of fractions.

UNIT IV

Primary decompositions

Content and extent of chapters 1 to 4 of the prescribed textbook.

Prescribed text book: Introduction to commutative algebra, By  
M.F. ATIYAH AND I.G. MACDONALD, Addison- Wesley publishing  
company, London

\* PLEASE SET TWO DIFFERENT  
QUESTION PAPER.  
\* KINDLY REFER TO THE  
SYLLABUS STRICTLY.