

SX-S-115

SYLLABUS

ANDHRA UNIVERSITY
DEPARTMENT OF MATHEMATICS
B.A / M.Sc MATHEMATICS
I SEMESTER
M 101 ALGEBRA - I

(Revised Syllabi)
(w.e.f 2003-2004)

2005-2006 AB

UNIT I

Normal subgroups- Quotient groups-Isomorphism theorems-
Automorphisms- Conjugacy and G-Sets - Cyclic Decomposition -
Alternating group A_n - Simplicity of A_n .

Chapters 5 and 7 of the Prescribed text book.

UNIT II

Direct Products- finitely generated abelian groups - Invariants of a finite
abelian group-Sylow theorems - Groups of orders p^2 , pq .

Chapter 8 of the Prescribed text book.

UNIT III

Ideals, Homomorphisms, Sum and direct sum of ideals, Maximal and
Prime Ideals

Chapter 10.1, 10.2, 10.3, 10.4 of the Prescribed text book.

UNIT IV

Idempotent and Nil Ideals, Zorn's Lemma, unique factorization domains,
Principal ideal domains, Polynomial rings over UFD

Chapter 10.5, 10.6 and Chapter 11 of the Prescribed text book.

Prescribed Book:

Abstract Algebra: P.B. Bhattacharya, S.K.Jain and S.R.Nagpaul,
reprinted in India 1997,2000,2001

- PLEASE SET TWO DIFFERENT
QUESTION PAPERS.
- STRICTLY ADHERE TO THE
SYLLABUS STRICTLY.