

Sx.s 214
W.e f. 2003 - 2004 AB

Andhra University
Department of Mathematics
M.Sc Mathematics
II Semester
Syllabus
M 205 LINEAR ALGEBRA

UNIT I

Elementary canonical forms- characteristic values- annihilating polynomials
-Invariant subspaces -Simultaneous Triangulation- Simultaneous
diagonalization

Sections 6.1 to 6.5 of the prescribed textbook

UNIT II

Direct sum decompositions -Invariant direct sums- The primary
decomposition theorem -Cyclic subspaces and annihilators-Cyclic
decompositions and the Rational forms.

Sections 6.6, 6.7, 6.8, 7.1 and 7.2 of the prescribed textbook

UNIT III

The Jordan form- computation of invariant factors- Semi-simple operators

Sections 7.3, 7.4 and 7.5 of the prescribed textbook

UNIT IV

Bilinear forms-symmetric bilinear forms-Skew-symmetric bilinear forms-
Group preserving bilinear forms

Sections 10.1, 10.2, 10.3 and 10.4 of the prescribed textbook

Prescribed textbook:

Linear Algebra - by Kenneth Hoffman and Ray Kunze, Second edition,
Prentice Hall of India Private Limited, New Delhi, 1972