23/2/06

SxS-448 2005-2006 AB

ANDHRA UNIVERSITY : COLLEGE OF SCIENCE & TECHNOLOGY

DEPARTMENT OF MATHEMATICS

M.A./M.Sc MATHEMATICS

BANACH ALGEBRAS

(An optional course in IV Semester)
(with effect from the admitted batch of 2004-2005 in their IV Semester during the academic year 2005-2006)

SYLLABUS

UNIT-I:

General preliminaries on Banach Algebras – The definition and examples – Regular and singular elements – Topological divisors of Zero – The spectrum – The formula for the spectral radius – The radical and the semi-simplicity.

UNIT-II:

The structure of commutative Banach Algebras – The Gelfand mapping – Applications of the formula $r(x) = \lim // x^n // 1/n$ – Involutions in Banach algebras – The Gelfand – Neumark theorem.

UNTI-III:

Some special commutative Banach algebras – Ideals in e (x) and the Banach – Stone theorem – The stone – ~~each~~ čech compactification – commutative C* – algebras.

UNIT-IV:

Fixed point theorems and some applications to analysis – Brouwer's and Schauder's fixed point theorems (without proofs) Picard's theorem – continuous curves – The Hahn – Mazurkiewicz theorem (without proof). Boolean rings – The stone representation theorem.

CONTENT AND EXTENT AS IN THE BOOK:

Introduction to Topology and Modern Analysis – By G.F. Simmous – International Student edition – McGraw-Hill Kogakusha Ltd.

*PLEASE