

Department of Mathematics
Andhra University
M.A./M.Sc. MATHEMATICS
IV Semester
M 401: INTEGRATION THEORY
(Effective from the Admitted Batch 2006-2007)
Syllabus

UNIT I

Measure and Integration: Measure spaces - Measurable functions - Integration - General convergence theorems - Signed measures - The Radon - Nikodyn theorem.

Section 1 to 6 of chapter 11 of the Text Book.

UNIT II

The L^p -spaces - Outer measure and measurability - The extension theorem - The Lebesgue - Stieltjes integral - Product measures.

Section 7 of chapter 11; and Sections 1 to 4 of 12 chapter of the Text Book.

UNIT III

Inner measure - Extensions by sets of measure zero - Caratheodory outer measure - Hausdorff measure.

Sections 6 to 9 of chapter 12 of the Text Book.

UNIT IV

The Daniell Integral :Introduction - The Extension theorem - Uniqueness - Measurability and measure.

Section 1 to 4 chapter 15 of the Text Book.

TEXT BOOK: H. L. Royden - Real Anlysis, Macmillan Publishing company, New York, Third Edition, 1988.