

SX-S 454

SYLLABUS

ANDHRA UNIVERSITY
DEPARTMENT OF MATHEMATICS
M.A/M.SC MATHEMATICS
IV SEMESTER

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2008-09 AB

M. 401 Measure and Integration

UNIT I: Lebesgue measure: Introduction, Outer measure, measurable sets and Lebesgue measure, A non measurable set, measurable functions, Little woods three principles. Chapter 3 of the text book

UNIT II: The Lebesgue Integral: The Riemann integral, The Lebesgue integral of a bounded function over a set of finite measure, the integral of a nonnegative function, the general Lebesgue integral, convergences in measure. Chapter 4 of the textbook

UNIT III: Differentiation and integration: Differentiation of monotone functions, Functions of bounded variation and differentiation of an integral, Absolute continuity, and convex functions. Chapter 5 of the textbook

UNIT IV: The classical Banach spaces: The L^p -spaces, The Holder's and Minkowski's inequality, convergences and completeness, approximations in L^p spaces, Linear functionals on L^p spaces. Chapter 6 of the textbook

Textbook: Real analysis by H. L. Royden, Macmillan publishing co. inc. 3rd edition, New York, 1988.