

MA-433: ADVANCED FUNCTIONAL ANALYSIS

The Hahn-Banach theorem, principle of uniform boundedness, open mapping theorem, closed graph theorem, Weak topologies and the Banach-Alouglu theorem, extreme points and the Klein-Milman theorem.

The dual and bidual spaces, reflexive spaces, compact operators, Spectrum and eigenvalues of an operator, elementary spectral theory.

RECOMMENDED BOOKS:

1. Kreyszing, E., Introductory Functional Analysis and Applications, John Wiley, 1973.
2. Taylor, A.E., and Lay, D.C., Introduction of Functional Analysis, John Wiley, 1979.
3. Heuser, H.G., Functional Analysis, John Wiley, 1982.
4. Groetsch, C.W., Elements of Applicable Functional Analysis, Marcel Dekker, 1980.