SARDAR PATEL UNIVERSITY
Programme & Subject: M.Sc (Mathematics)
Semester: III
Syllabus with Effect from: June-2013

Paper Code: PS03EMTH01	**Total Credit: 4**
Title Of Paper: Functional Analysis - II	

Unit	Description in detail	Weighting (%)
I	Normed linear spaces (examples and basic properties), Holder-Minkowski Inequalities; Bounded linear transformations. Space of bounded linear transformations.	25%
II	Hahn-Banach Theorems (separation and extension), strict convexity and uniqueness of Hahn-Banach extension, Banach spaces, Uniform boundedness principle (consequences and examples), Convergence of Quadrature formulae.	25%
III	Closed graph Theorem. Projections. Open mapping Theorem, bounded inverse theorem. Spectrum of a bounded linear transformation and its parts. Spectrum of a finite rank operator.	25%
IV	Duals and transposes, duals of l^p and C([a, b]), weak and weak* convergence, Bolzano-Weiestrass Property. Reflexivity, Uniform Convexity and Milman Theorem.	25%

Basic Text & Reference Books:-

- B. V. Limaye, Functional Analysis, New Age International (P) Ltd., 2001.
- V. K. Krishnan, Text book of Functional Analysis; A problem oriented approach, Prentice Hall of India, 2001.
- Thamban Nair, Functional Analysis-a first course, Printice Hall of India, 2002.
- S. Ponnusamy, Foundations of Functional Analysis, Narosa Pub. House, 2004.