

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

Paper Code: PS04EMTH12	Total Credit: 4
Title Of Paper: Compact Operators & Application	

Unit	Description in detail	Weighting (%)
I	Dual operators - applications to the closed range theorem and to Fredholm alternatives- representations of compact operators.	25%
II	Duality for linear compact operators - the Riesz-Schauder theory on Hilbert spaces - applications to integral equations. Linear Fredholm operators.	25%
III	The Riesz-Schauder theory on Banach spaces - applications to the spectrum of linear compact operators. The parametrix - applications to the perturbation of Fredholm operators - applications to the product index theorem.	25%
IV	Fredholm alternatives via dual pairs - applications to integral equations and boundary value problems.	25%

Basic Text & Reference Books:-

- F. Zeidler, Applied Functional Analysis, Springer-Verlag, 1995.

