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

Paper Code: PS04EMTH04	**Total Credit: 4**
Title Of Paper: Harmonic Analysis - II	

Unit	Description in detail	Weighting (%)
I	The Hardy spaces $H^p(\mathbb{T})$, invariant subspace, Beurling-Helson theorem, F. M. Riesz theorem, Szego theorem.	25%
II	Structure of inner functions, Blaschket product, Hardy-Littlewood theorem, Hardy spaces on lines, theorem of Paley and Wiener.	25%
III	Conjugate functions, theorems of Kolmogorov and Zygmund, theorems of Riesz and Zygmund, Hilbert transform. Maximal function, Radamacher functions.	25%
IV	Translation, theorems Wiener and Beurling, Titchmarsh convolution theorem, the Tauberian theorem, spectral sets of bounded functions.	25%

Basic Text & Reference Books:-

- John J. Benedetto: Harmonic Analysis and Applications, CRC Press, 1997.
- Henry Helson, Harmonic Analysis, TRIM Series, Hindustan Book Agency, 1995.