

SARDAR PATEL UNIVERSITY
Programme & Subject: B.Sc (Mathematics)
Semester: III
Syllabus with Effect from: June-2012

Paper Code: UM03EMTH01	Total Credit: 2
Title Of Paper: Calculus	

Unit	Description in detail	Weighting (%)
I	Definition of improper integrals of both types; Convergence of improper integrals ; Comparison tests for convergence .	
II	Beta and Gamma functions and their properties; Relation between Beta and Gamma functions and Examples.	
III	Gradient of scalar field ; Directional derivatives ; The divergence of a vector field ; The curl of a vector field .	
IV	Periodic functions; Fourier series and its applications; Euler for-mulae; Even and odd functions; Half range expansions.	

Basic Text & Reference Books:-

- Shanti Narayan, Integral Calculus ,S.C.Chand and Co.
- Dr.Dinesh Karia,M.L.Patel,N.Y.Patel,B.P.Patel,A Textbook of Calculus with an Introduction to Diferential Equations.
- E.Kreyszing ,Advanced Engineering Mathematics,Fifth edition,New Age International (p) Ltd.,New Delhi,1997.
- B.S.Grewal,Higher Engineering Mathematics.
- K.R.Kachot,Higher Engineering Mathematics.

