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

Paper Code: US05CMTH01	Tatal Carella 2
Title Of Paper: Real Analysis - I	1 otal Credit: 3

Unit	Description in detail	Weighting (%)
Ι	Field structure, order structure; bounded and unbounded sets, Supremum and	
	infimum, completeness and order completeness in R, Archimedean property	
	of real numbers, axioms of a complete ordered field absolute values,	
	exponential functions, logarithmic functions, generalized power functions.	
II	Trigonometric functions, inverse trigonometric functions, Neighbourhood of	
	a point , interior points , interior of a set , limit points of a set , Bolzano-	
	weierstrass theorem, closed sets, closure of set.	
III	Limits : definition and examples , theorems on limits , continuous function :	
	definition and examples, functions continuous on Closed and bounded	
	intervals.	
IV	Uniform continuity, derivability of a Function, properties of derivable	
	functions, signs of derivatives of Monotonic functions, Darboux's theorem	
	for derivable functions.	

Recommended texts:

- S.C.Malik, Principles of Real Analysis, Revised Edition, New Age International, New Delhi, 2000.
- Chapter : 1(Except article 1,4.3,4.4,4.6,) , 2, 5, 6(Except article 8.4,8.5,8.6),7(Except article 2), 8(except 1), 9.

Basic Text & Reference Books:-

- S.C.Malik and Savita Arora, Mathematical Analysis, second Edition New Age International Pvt. Ltd., New Delhi 2000.
- > .R.Goldberg, Principles of Mathematical analysis.

