19BSM602T - Analysis-II										
Teaching Scheme					Examination Scheme					
L	T	P	C	Hrs/Week	Theory			Practical		Total Marks
					MS	ES	IA	LW	LE/Viva	
3	1	--	4	4	25	50	25	--	--	100

OBJECTIVES

1. To cultivate a mathematical attitude and nurture the interests.
2. To motivate for research in mathematical and statistical sciences
3. To train students to tackle a challenging problem

SYLLABUS

Unit-I	**9**

Ordered Sets and fields, Metric spaces, Relative Topology, Compact Sets, Open sets, Continuity. Completeness: Complete metric space, Nested set theorem

UNIT II	**10**

Baire category theorem, Applications. Compactness: Totally bounded, Characterizations of compactness, Sequential Compactness, Finite intersection property, Continuous functions on compact sets, Connected and Disconnected Sets

UNIT III	**10**

Convergence of sequence and series of functions: Point wise and uniform convergence of functions, Series of functions, Power series, Dini's theorem, Ascoli's theorem, Continuous function which is nowhere differentiable, Weierstrass approximation theorem.

UNIT IV	**10**

Uniform convergence: Uniform convergence and continuity, Uniform convergence and integration, Uniform convergence and differentiation.

APPROXIMATE TOTAL	**39 Hours**

OUTCOMES

1. Remembering the concepts and analyzing the problem
2. Applying the mathematics with different aspects.
3. Developing thought process.
4. Concept of Uniform and Pointwise convergence

TEXTS AND REFERENCES

1. Tom M. Apostol, Mathematical Analysis, Second Edition
2 R. R. Goldberg, Methods of Real Analysis.
3. W. Rudin, Principles of Mathematical Analysis.
4. G. de Barra: Measure theory and integration, Harwood Publishing Limited, Chichester, 2003.