

UNIVERSITY OF MADRAS
B.Sc. DEGREE PROGRAMME IN MATHEMATICS
 SYLLABUS WITH EFFECT FROM 2023-2024

Extended Professional Component (is a part of internal component only, Not to be included in the External Examination question paper)	Total Hours: 75 Questions related to the above topics, from various competitive examinations UPSC / TNPSC / others to be solved (To be discussed during the Tutorial hour)
Skills acquired from this course	Knowledge, Problem Solving, Analytical ability, Professional Competency, Professional Communication and Transferrable Skill
Recommended Text	Methods of Real Analysis-Richard R.Goldberg (John Wiley & sons, 2 nd edition) (Indian edition –Oxford and IBH Publishing Co, New Delhi, 1 st January 2020)
Reference Books	1. Principles of Mathematical Analysis by Walter Rudin, Tata McGraw Hill Education, Third edition (1 July 2017). 2. Mathematical Analysis Tom M A postal, Narosa Publishing House, 2 nd edition (1974), Addison-Wesley publishing company, New Delhi.
Website and e-Learning Source	https://nptel.ac.in https://www.mathhelp.com/

Course Learning Outcome (for Mapping with POs and PSOs)

Students will be able to

CLO 1: Explain the concepts of Continuous and Discontinuous functions, open and close sets, Connectedness, Completeness and Compactness

CLO 2: Explain the concepts of bounded and totally bounded sets, continuity of inverse functions and Uniform continuity

CLO 3: Define the sets of measure zero, to Explain about the existence and properties of Riemann integral

CLO 4: Explain the concept of differentiability and to Explain Rolle's theorem, Law of mean, and Fundamental theorem of calculus

CLO 5: Explain the point wise and uniform convergence of sequence of function and to derive the Taylor's theorem

	POs						PSOs		
	1	2	3	4	5	6	1	2	3
CLO 1	3	3	1	3	1	-	3	1	1
CLO 2	3	3	1	3	1	-	3	1	1
CLO 3	3	3	1	3	1	-	3	1	1
CLO 4	3	3	1	3	1	-	3	1	1
CLO 5	3	3	1	3	1	-	3	1	1