Lesson Plan of : Seq. and Series
Name of Teacher: Ms. Madhu
Class: B.A./B.Sc. 2nd year 4th Sem. **Session: 2023-2024**

Week 1	
	Discussion about exam pattern.
	Review chapter.
	Boundedness of the set of real numbers
	least upper bound, greatest lower bound of a set
Week 2	
	neighborhoods, interior points
	isolated points, limit points
	Examples.
	open sets, closed set
	interior of a set, closure
	Examples.
Week 3	
	Bolzano-Weiestrass theorem
	Open covers, Compact sets
	Examples
	Heine-Borel Theorem
	Test.
Week 4	
	Sequence: Real Sequences and their convergence
	Theorem on limits of sequence
	Examples.
	Assignment-1
	Bounded and monotonic sequences
Week 5	
	Cauchy's sequence
	Cauchy general principle of convergence
	Examples.
	Subsequences
	Subsequential limits
Week 6	
	Infinite series: Convergence and divergence of Infinite Series
	Comparison test of positive terms infinite series
	Examples.
	Test
Week 7	
	Cauchy's general principle of Convergence of series
	Convergence and divergence of geometric series
	Examples.
	Hyper Harmonic series or p-series
Week 8	
	Examples.
	D-Alembert's ratio test
	Raabe's test
	Examples.
	Logarithmic test
Week 9	

	Examples.
	de Morgan and Bertrand's test
	Cauchy`s Nth root test
	Examples.
	Test
	Gauss Test
Week 10	
	Cauchy's integral test
	Assignment-2
	Cauchy`s condensation test
	Examples.
Week 11	
	Leibnitz's test
	absolute and conditional convergence
	Arbitrary series: abel's Lemma
	Examples.
	Abel's test
Week 12	
	Dirichlet's test, Insertion and removal of parenthesis
	rearrangement of terms in a series, Dirichlet's theorem
	Examples.
	Riemann's Re-arrangement theorem
Week 13	
	Multiplication of series
	Convergence and absolute convergence of infinite products
	Query