

Lesson Plan

Dr. Pinky
Department of Mathematics

Subject - Mathematics End Term Marks - 70 Session - 2025-26
Paper name - Functional Analysis Internal Marks - 30

S.No.	Week	Syllabus
1	18-23 August	Normed linear Space, Banach Space, Normed Spaces and Subspace
2	25-30 August	Equivalent norms, compactness and finite dimension, F Riesz's lemma
3	1 Sep to 6 Sep	Bounded and continuous linear operator, differentiation operator, bounded linear extension
4	8 Sep - 13 Sep	Bounded linear functionals, normed space of operator, dual space with example
5	15 Sep - 20 Sep	Hahn-Banach theorem for normed linear space Riesz - representation theorem for bounded linear f ⁿ
6	22-27 Sep	Reflexive space, uniform boundedness theorem and its application and Fourier Series
7	29 Sep - 4 Oct	Strong and weak convergence, open mapping theorem, bounded inverse theorem
8	6 Oct - 11 Oct	Closed linear operator, closed graph theorem Inner product spaces, Hilbert space, Schwarz eq ⁿ
9	13 Oct - 18 Oct	Projection theorem, Characterization of sets in Hilbert space whose span is dense, Revision
10	24 Oct - 1 Nov	Orthonormal sets and sequences, Bessel's inequality for O.S., Total orthonormal sets and sequences
11	3 Nov - 8 Nov	Parseval's Identity, Separable Hilbert space
12	10 Nov - 15 Nov	Riesz representation theorem for b.l.f and bounded sesquilinear, Hilbert adjoint operator
13	17 Nov - 24 Nov	

Lesson plan 2025-2026(odd semester)		
B.Com 1st Sem (Business Mathematics)(Dr. Rinky)		
Sr. No	Weeks	Syllabus
1	22/7-26/7	Representation of sets
2	28/7-02/08	equivalent sets, power sets,
3	4/08-8/08	Union and intersection of sets,
4	11/8-14/8	logical statement and truth tables
5	18/8-23/8	Logarithms: law of operations
6	25/8-30/8	log tables, arithmetic and geometric
7	1/09-6/09	definition of matrix, order, equality,
8	8/09-13/09	Multiplication and multiplication with
9	15/09-20/09	determinant of a square matrix,
10	24/09-27/09	adjoint
11	29/09-4/10	inverse of square matrix
12	6/10-11/10	solutions of a system of linear
13	13/10-18/10	compound interest : different type of
14	27/10-01/11	Types of annuties, present values case
15	3/11-8/11	amount of an annuity including the
16	10/11-15/11	valuation of simple loans and
17	17/11-24/11	problems related to sinking funds

Lesson PLAN 2025-26 odd semester

B.A - 3rd Sem. (Mathematics for all)

Sr. No.	Weeks	Syllabus.
1.	22/7 - 26/7	The Concept of a set, Types of sets, operation on sets, Venn Diagrams
2.	28/7 - 2/08	Solution of simple quadratic and cubic equations.
3.	4/08 - 8/08	Solution of Simultaneous linear equations + AP,
4.	11/08 - 14/08	The Concept of differentiation.
5.	18/8 - 23/8	Diff. of Simple functions,
6.	25/8 - 30/8	Second order Differentiations.
7.	1/09 - 6/09	Integration (i) Presentation of Data Integration (ii)
8.	8/09 - 13/09	Diagrammatic and graphical presentation of data
9.	15/09 - 20/9	Frequency curve and Ogives
10.	24/09 - 27/09	Measures of Central tendency:- Arithmetic mean
11.	29/09 - 4/10	Median, Mode, Measure of Dispersion
12.	6/10 - 11/10	Geometric mean and Harmonic mean for Ungrouped and grouped data.
13.	13/10 - 18/10	Concept and types of correlations.
14.	27/10 - 1/11	Linear regression.
15.	3/11 - 8/11	Solution of diff. equations of 1st order and degree one
16.	10/11 - 15/11	Solution of diff equations, variable separable.
17.	17/11 - 24/11	— Revision —