



Aggarwal College Ballabgarh

LESSON PLAN

17 WEEKS (JAN-APRIL)-2025

Name of Faculty: Ms. Kanchan Malik

Designation/ Department: Assistant Prof. , Department of Mathematics

CLASS: M.Sc. Mathematics		SEMESTER: II	SECTION: A
SUBJECT: INTEGRAL EQUATION AND CALCULUS OF VARIATION			
Week			
1	7-1-2025	EXAMINATION OF 1 ST SEM	
	8-1-2025	EXAMINATION OF 1 ST SEM	
	9-1-2025	Introductory class	
	10-1-2025	-----	
	11-1-2025	-----	
	12-1-2025	S. U. N. D. A. Y.	
2	13-1-2025	Linear Integral equations	
	14-1-2025	Some basic identities	
	15-1-2025	Initial value problems reduced to Volterra integral equations	
	16-1-2025	Questions on Initial value problems reduced to Volterra integral equations	
	17-1-2025	-----	
	18-1-2025	-----	
	19-1-2025	S. U. N. D. A. Y.	
3	20-1-2025	More questions on Initial value problems reduced to Volterra integral equations	
	21-1-2025	Methods of successive substitution	
	22-1-2025	Theorems based on Methods of successive substitution	

	23-1-2025	Question on Methods of successive substitution
	24-1-2025	-----
	25-1-2025	-----
	26-1-2025	REPUBLIC DAY /S. U. N. D. A. Y.
4	27-1-2025	More question on Methods of successive substitution
	28-1-2025	Volterra integral equations of second kind
	29-1-2025	successive approximation to solve Volterra integral equations of second kind
	30-1-2025	Questions on successive approximation to solve Volterra integral equations of second kind
	31-1-2025	-----
	1-2-2025	-----
	2-2-2025	S. U. N. D. A. Y/BASANT PANCHAMI
5	3-2-2025	Iterated kernels
	4-2-2025	Questions on Iterated kernels
	5-2-2025	Neumann series for Volterra equations
	6-2-2025	Resolvent kernel as a series
	7-2-2025	-----
	8-2-2025	-----
	9-2-2025	S. U. N. D. A. Y
6	10-2-2025	Questions on Neumann Series and Resolvent Kernel
	11-2-2025	More questions on Neumann Series and Resolvent Kernel
	12-2-2025	HOLIDAY: GURU RAVIDAS JAYANTI
	13-2-2025	Laplace transform method for a difference kernel
	14-2-2025	-----

	15-2-2025	-----
	16-2-2025	S. U. N. D. A. Y.
7	17-2-2025	Questions on Laplace transform method for a difference kernel
	18-2-2025	Solution of a Volterra integral equation of the first kind
	19-2-2025	Solution of a Volterra integral equation of the first kind
	20-2-2025	Boundary value problems reduced to Fredholm integral equations
	21-2-2025	-----
	22-2-2025	-----
	23-2-2025	S. U. N. D. A. Y.
8	24-2-2025	Questions on Boundary value problems reduced to Fredholm integral equations
	25-2-2025	More questions on Boundary value problems reduced to Fredholm integral equations
	26-2-2025	HOLIDAY: MAHA SHIVRATRI
	27-2-2025	Methods of successive approximation to solve Fredholm equations of second kind
	28-2-2025	-----
	1-3-2025	-----
	2-3-2025	S. U. N. D. A. Y.
9	3-3-2025	Questions on Methods of successive approximation to solve Fredholm equations of second kind
	4-3-2025	Methods of successive substitution to solve Fredholm equations of second kind
	5-3-2025	Questions on Methods of successive substitution to solve Fredholm equations of second kind
	6-3-2025	Iterated kernels and Neumann series for Fredholm equations and related questions
	7-3-2025	-----
	8-3-2025	-----
	9-3-2025	S. U. N. D. A. Y.
10	10-3-2025	H.O.L.I-- B.R.E.A.K

	11-3-2025	H.O.L.I-- B.R.E.A.K
	12-3-2025	H.O.L.I-- B.R.E.A.K
	13-3-2025	H.O.L.I-- B.R.E.A.K
	14-3-2025	H.O.L.I-- B.R.E.A.K
	15-3-2025	H.O.L.I-- B.R.E.A.K
	16-03-2025	S. U. N. D. A. Y.
11	17-3-2025	Resolvent kernel as a sum of series and Fredholm resolvent kernel as a ratio of two series
	18-3-2025	Fredholm equations with separable kernels and Approximation of a kernel by a separable kernel
	19-3-2025	Fredholm Alternative with related questions
	20-3-2025	Non homogenous Fredholm equations with degenerate kernels
	21-3-2025	-----
	22-3-2025	-----
	23-3-2025	S. U. N. D. A. Y.
12	24-3-2025	Green's function
	25-3-2025	Method of variation of parameters to construct the Green function for a nonhomogeneous linear second order boundary value problem,
	26-3-2025	Green's function
	27-3-2025	Method of variation of parameters to construct the Green function for a nonhomogeneous linear second order boundary value problem,
	28-3-2025	-----
	29-3-2025	-----
	30-3-2025	S. U. N. D. A. Y.
13	31-3-2025	HOLIDAY: ID-UL-FITR
	1-4-2025	Basic four properties of the Green's function
	2-4-2025	Questions based on Basic four properties of the Green's function

	3-4-2025	Alternate procedure for construction of the Green function by using its basic four properties
	4-4-2025	-----
	5-4-2025	-----
	6-4-2025	S. U. N. D. A. Y.
14	7-4-2025	Reduction of a boundary value problem to a Fredholm integral equation with kernel as Green's function
	8-4-2025	Hilbert-Schmidt theory for symmetric kernels
	9-4-2025	Motivating problems of calculus of variations
	10-4-2025	HOLIDAY: MAHAVIR JAYANTI
	11-4-2025	-----
	12-4-2025	-----
	13-4-2025	S. U. N. D. A. Y.
15	14-4-2025	HOLIDAY: AMBEDKAR JAYANTI
	15-4-2025	Shortest distance, Minimum surface of resolution
	16-4-2025	Brachistochrone problem
	17-4-2025	Isoperimetric problem
	18-4-2025	-----
	19-4-2025	-----
	20-4-2025	S. U. N. D. A. Y.
16	21-4-2025	TEST
	22-4-2025	Fundamental lemma of calculus of variations
	23-4-2025	Euler equation for one dependent function and its generalization to 'n' dependent functions and to higher order derivatives.
	24-4-2025	Conditional extremum under geometric constraints and under integral constraints.
	25-4-2025	-----
	26-4-2025	-----

	27-4-2025	S. U. N. D. A. Y.
17	28-4-2025	Revision
	29-4-2025	Important question discussion
	30-4-2025	HOLIDAY: AKSHAY TRITYA
	01-05-2025	Important question discussion
	02-05-2025	-----
	03-05-2025	-----
	04-05-2025	S. U. N. D. A. Y.

Signature