



Aggarwal College Ballabgarh

LESSON PLAN

17 WEEKS (JAN-APRIL)-2025

Name of Faculty: Ramkishan

Position/ Department: Assistant professor in mathematics

CLASS: M.Sc. Mathematics	SEMESTER: IV	SECTION: NIL
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SUBJECT: Viscous Fluid Dynamics

Week		
1	7-1-2025	Vorticity in two dimensions
	8-1-2025	Continued
	9-1-2025	Circular and rectilinear vortices
	10-1-2025	Vortex doublet
	11-1-2025	Images
	12-1-2025	S. U. N. D. A. Y.
2	13-1-2025	Motion due to vortices
	14-1-2025	Continued
	15-1-2025	Continued
	16-1-2025	Single and double infinite rows of vortices
	17-1-2025	Continued
	18-1-2025	Continued
	19-1-2025	S. U. N. D. A. Y.
3	20-1-2025	Karman vortex street
	21-1-2025	Continued
	22-1-2025	Wave motion in a Gas

	23-1-2025	Continued
	24-1-2025	Speed of sound in a gas
	25-1-2025	Continued
	26-1-2025	REPUBLIC DAY /S. U. N. D. A. Y.
4	27-1-2025	Equation of motion of a Gas
	28-1-2025	Continued
	29-1-2025	Subsonic, sonic and supersonic flows.
	30-1-2025	Isentropic gas flow
	31-1-2025	Flow through a nozzle
	1-2-2025	
	2-2-2025	S. U. N. D. A. Y/BASANT PANCHAMI
5	3-2-2025	Stress components in a real fluid
	4-2-2025	Relation between Cartesian components of stress
	5-2-2025	Continued
	6-2-2025	Translational motion of fluid element
	7-2-2025	Rates of strain
	8-2-2025	Transformation of rates of strains
	9-2-2025	S. U. N. D. A. Y
6	10-2-2025	Relation between stresses and rates of strain
	11-2-2025	The co-efficient of viscosity and laminar flow
	12-2-2025	HOLIDAY: GURU RAVIDAS JAYANTI
	13-2-2025	Newtonian and non-Newtonian fluids.
	14-2-2025	Navier-Stoke equations of motion
	15-2-2025	Continued

	16-2-2025	S. U. N. D. A. Y.
7	17-2-2025	Equations of motion in cylindrical polar coordinates
	18-2-2025	Equations of motion in spherical polar coordinates
	19-2-2025	Continued
	20-2-2025	Diffusion of vorticity
	21-2-2025	Continued
	22-2-2025	Energy dissipation due to viscosity
	23-2-2025	S. U. N. D. A. Y.
8	24-2-2025	Continued
	25-2-2025	Continued
	26-2-2025	HOLIDAY: MAHA SHIVRATRI
	27-2-2025	Previous year question solved
	28-2-2025	Previous year question solved
	1-3-2025	Plane Poiseuille and Couette flows between two parallel plates
	2-3-2025	S. U. N. D. A. Y.
9	3-3-2025	Continued
	4-3-2025	Theory of lubrication
	5-3-2025	Continued
	6-3-2025	Hagen Poiseuille flow
	7-3-2025	Continued
	8-3-2025	Steady flow between co-axial circular cylinders and concentric rotating cylinders
	9-3-2025	S. U. N. D. A. Y.
10	10-3-2025	HOLI BREAK

	11-3-2025	HOLI BREAK
	12-3-2025	HOLI BREAK
	13-3-2025	HOLI BREAK
	14-3-2025	HOLI BREAK
	15-3-2025	HOLI BREAK
	16-03-2025	S. U. N. D. A. Y.
11	17-3-2025	Flow through tubes of uniform elliptic cross section
	18-3-2025	Continued
	19-3-2025	Flow through tubes of equilateral triangular cross-section
	20-3-2025	Continued
	21-3-2025	Unsteady flow over a flat plate
	22-3-2025	Continued
	23-3-2025	S. U. N. D. A. Y.
12	24-3-2025	Steady flow past a fixed sphere.
	25-3-2025	Continued
	26-3-2025	Continued
	27-3-2025	Flow in convergent and divergent chennals
	28-3-2025	Continued
	29-3-2025	Continued
	30-3-2025	S. U. N. D. A. Y.
13	31-3-2025	HOLIDAY: ID-UL-FITR
	1-4-2025	Dynamical similarity
	2-4-2025	Inspection analysis
	3-4-2025	Continued

	4-4-2025	Non-dimensional numbers
	5-4-2025	Continued
	6-4-2025	S. U. N. D. A. Y.
14	7-4-2025	Dimensional analysis
	8-4-2025	Continued
	9-4-2025	Continued
	10-4-2025	HOLIDAY: MAHAVIR JAYANTI
	11-4-2025	Buckingham pi-theorem and its application.
	12-4-2025	Continued
	13-4-2025	S. U. N. D. A. Y.
15	14-4-2025	HOLIDAY: AMBEDKAR JAYANTI
	15-4-2025	Physical importance of non-dimensional parameters
	16-4-2025	Previous year question paper solved
	17-4-2025	Previous year question paper solved
	18-4-2025	Previous year question paper solved
	19-4-2025	TEST
	20-4-2025	S. U. N. D. A. Y.
16	21-4-2025	Prandtl boundary layer
	22-4-2025	Continued
	23-4-2025	Boundary layer equation in two-dimensions
	24-4-2025	Continued
	25-4-2025	The boundary layer on a flat plate (Blasius solution).
	26-4-2025	Continued
	27-4-2025	S. U. N. D. A. Y.

17	28-4-2025	Characteristic boundary layer parameters
	29-4-2025	Karman integral conditions
	30-4-2025	HOLIDAY: AKSHAY TRITYA
	01-05-2025	Karman integral conditions
	02-05-2025	Revision
	03-05-2025	Revision
	04-05-2025	S. U. N. D. A. Y.

Signature