GANDHI INSTITUTE OF TECHNOLOGY AND MANAGEMENT

Lesson Plan

Name of the Program	**Diploma in MechanicalEngineering**				
Course Name	**FLUID MECHANICS**			Course Code	
Course Year	**Second**	Semester	**4TH**	Academic Period	**2022-23**
No. of Classes allotted per Week	**05**	Planned Classes Required to Complete the Course			**60**

Sl. No.	Topics to be covered	Module	No. of hours Required	Mode of Teaching
1	**Properties of Fluid**: Description of fluid properties	1	2	LM/IM
2	Description of fluid properties and related Numericals	1	3	LM/IM
3	Definitions and Units of Dynamic viscosity, kinematic viscosity	1	1	LM/IM
4	Surface tension Capillary phenomenon	1	2	LM/IM/ICT
5	**Fluid Pressure and its measurements**: Definitions and units of fluid pressure, pressure intensity and pressure head.	2	1	LM/IM
6	Statement of Pascal's Law.	2	1	LM/IM
7	Concept of atmospheric pressure, gauge pressure, vacuum pressure and absolute pressure	2	1	LM/IM
8	Pressure measuring instruments Manometers (Simple and Differential	2	2	LM/IM/ICT
9	Bourdon tube pressure gauge(Simple Numerical)	2	1	LM/IM
10	Numericals based on Manometer	2	2	LM/IM
11	**Hydrostatics** : Definition of hydrostatic pressure. Total pressure and centre of pressure on immersed bodies(Horizontal and Vertical Bodies)	3	2	LM/IM
12	Total pressure and centre of pressure on immersed bodies(Horizontal and Vertical Bodies)	3	2	LM/IM
13	Numerical related to Total pressure and centre of pressure	3	2	LM/IM
14	Archimedes 'principle, concept of buoyancy, meta center and meta centric height	3	1	LM/IM
15	Concept of floatation	3	1	LM/IM
16	**Kinematics of Flow** : Types of fluid flow,	4	1	LM/IM
17	Continuity equation(Statement and proof for one dimensional flow)	4	2	LM/IM
18	Bernoulli's theorem(Statement and proof)	4	1	LM/IM
19	Applications and limitations of Bernoulli's theorem (Venturimeter, pitot tube)	4	1	LM/IM
20	Numerical related to Continuity equation and Venturimeter	4	3	LM/IM
21	**Orifices, notches & weirs:** Definition of orifice, Flow through orifice .	5	1	LM/IM

22	Orifices coefficient & the relation between the orifice coefficients	5	1	LM/IM
23	Classifications of notches & weirs	5	2	LM/IM
24	Discharge over a rectangular notch or weir	5	1	LM/IM
25	Discharge over a triangular notch or weir	5	1	LM/IM
26	Numerical related to rectangular notch and triangular notch	5	2	LM/IM
27	**Flow through pipe:** Definition of pipe, Loss of energy in pipes.	6	2	LM/IM
28	Head loss due to friction: Darcy's and Chezy's formula (Expression only)	6	2	LM/IM
29	Numerical related to Darcy's and Chezy's formula.	6	2	LM/IM
30	Hydraulic gradient and total gradient line	6	4	LM/IM
31	**Impact of jets:** Impact of jet on fixed and moving vertical flat plates	7	3	LM/IM/ICT
32	Derivation of work done on series of vanes and condition for maximum efficiency.	7	3	LM/IM
33	Impact of jet on moving curved vanes, illustration using velocity triangles, derivation of work done, efficiency	7	4	LM/IM

Signature of the Faculty **Signature of the HoD**