



TRADE MARK

LIONTM

Teacher's Lesson Note

2023-24 (SUMMER)

SUB:- FLUID MECHANICS
BRANCH:- MECH. ENGG (I&II)
SEM :- 4th

TEACHERS

Date	Week	Class	Subject	Topic (Concept)	Sub-Topic (Sub-Concept)	Learning Activities to be taken up	TLM to be used
06/2/24	1 st	1 st		Properties of fluid		Define fluid	
10/2/24	2 nd					Description of fluid Properties like Density, Specific weight, Specific gravity Volume.	
13/02/24	3 rd					Solve Problems	
20/2/24	4 th					Solve Problems	

LESSON NOTE

Evaluative Questions	Expected learning outcome	Project work to be assigned	Signature of the Teacher	Signature of the student	Remarks
9	10	11	12	13	14
- What is fluid? - Types of fluid? - Ideal & Real fluid	- Define fluid - types, concept - Classification		10/2/24 S. K. Mohantra		
- Density unit - Sp. Unit (in unit)	Description of fluid Properties like Density, sp w, Sg.		13/2/24		
Solve Problems on Viscosity, Density, Specific weight, Specific gravity	Numerical discussed on above		20/2/24		
Numerical discussed & solved					

TEACHERS

Date	1	2	3	4	5	6	7	8
Week								
Class								
Subject								
Topic (Concept)								
Sub-Topic (Sub-Concept)								
Learning Activities to be taken up								
TLM to be used								
06/2/24	1 st	1 st			Properties of fluid		Define fluid	
10/2/24		2 nd					Description of fluid Properties like Density, specific weight, specific gravity, volume.	
13/02/24		5 th					Solve Problems	
20/2/24		4 th					Solve Problems	

LESSON NOTE

Evaluative Questions	9	10	11	12	13	14
Expected learning outcome						
Project work to be assigned						
Signature of the Teacher						
Signature of the Headmaster						
Remarks						
What is fluid? Define fluid.						
Types of fluid? Classifications.						
Ideal & Real fluid.						
Density Unit						
SAE Unit (Density)						
SAE Unit (Density)						
Density, specific weight, specific gravity						
Solve Problems on Viscosity, Density, specific weight, specific gravity						
Numerical discussed on above						
Numerical discussed & Solved						
Signature of the Teacher						
Signature of the Headmaster						
Remarks						

TEACHERS

Date	Week	Class	Subject	Topic (Concept)	Sub-Topic (Sub-Concept)	Learning Activities to be taken up	TLM to be used
24/2/24	2nd	1st	Physics	Fluids	Properties of Matter	Definitions of unit of mass, unit of length, unit of time, unit of force, unit of pressure, unit of viscosity.	
12/3/24	3rd	2nd	Physics	Fluids	Properties of Matter	Kinematic Viscosity solve Problem.	
13/3/24	4th	3rd	Physics	Fluids	Properties of Matter	Surface Tension, Capillary Phenomena solve Problem.	
15/3/24	5th	4th	Physics	Fluids	Properties of Matter	Solve Problem on surface tension.	

LESSON NOTE

Class	Expected Learning Outcome	Project work to be assigned	Signature of the Teacher	Signature of the Student	Remarks
9	Definition of unit of mass, unit of length, unit of time, unit of force, unit of pressure, unit of viscosity.				
10	Kinematic Viscosity solve Problem.				
11	Surface Tension, Capillary Phenomena solve Problem.				
12	Solve Problem on surface tension.				

TEACHERS

Date	Week	Class	Subject	Topic (Concept)	Sub-Topic (Sub-Concept)	Learning Activities to be taken up	TLM to be used
16/3/24	5 th	1 st		Fluid Pressure & its Measurements		Definition's & units of fluid Pressure, Pressure Intensity & Pressure head.	
19/3/24		2 nd				Statement of Pascal's Law.	
20/3/24		3 rd				Concept of atmospheric Press, Gauge Press, Vacuum Press, & absolute Press.	
22/3/24		4 th				Pressure Relation derive. Measurement of Pressure	

LESSON NOTE

Evaluative Questions	Expected learning outcome	Project work to be assigned	Teacher's Signature	Date
9	10	11	12	13
Definition & units of fluid Pressure Pressure Intensity & Pressure head			16/3/24	
Statement of Pascal's Law.			19/3/24	
Concept of atmospheric Press. Gauge Press, Vacuum Press, & absolute Press.			20/3/24	
Derive the Pressure Relation concept & Measurement of Pressure.			22/3/24	

S. K. Mohan
16/3/24

TEACHERS

LESSON NOTE

Date	Week	Class	Subject	Topic (Concept)	Sub-Topic (Sub-Concept)	Learning Activities to be taken up	TLM to be used
23/3/24	4 th	1 st				Pressure Measuring Instruments Types	
27/3/24	5 th	2 nd				Simple Manometer & its types	
30/3/24	6 th	3 rd				Differential Manometer Types	
2/4/24	7 th	4 th				Bourdon tube Pressure gauge Solve Problems on Manometer	

Explanatory Questions	Expected Learning Outcome	Project Work to be assigned	Signature of the Teacher	Signature of the Student	Remarks
9	10	11	12	13	14
	Pressure Measuring Instruments & Types		23/3/24		
	Simple Manometer & its types		27/3/24		
	Differential Manometer Type		30/3/24		
	Solve different Problems on Bourdon tube Pressure gauge		2/4/24		

S. K. Mohanta
26/3/24

TEACHERS

Date	Week	Class	Subject	Topic (Concept)	Sub-Topic (Sub-Concept)	Learning Activities to be taken up	TLM to be used
3/4/24	5th	1st		Hydrostatics		Define hydrostatic Pressure	
10/4/24	2nd					Total Pressure & Centre of Pressure on immersed bodies	
12/4/24	3rd					Force on a Horizontal Submerged Plane Surface.	
12/4/24	4th					Force on a Vertical Submerged Plane Surface.	

LESSON NOTE

Evaluating Questions	Evaluating Learning Outcomes	Teacher's Signature	Date
Hydrostatic Pressure	Hydrostatic Pressure	12/4/24	12/4/24
Total Pressure & Centre of Pressure on immersed bodies	Total Pressure & Centre of Pressure on immersed bodies	12/4/24	12/4/24
Force on a Horizontal Submerged Plane Surface	Force on a Horizontal Submerged Plane Surface	12/4/24	12/4/24
Force on a Vertical Submerged Plane Surface	Force on a Vertical Submerged Plane Surface	12/4/24	12/4/24

S.K. Mohan
12/4/24

LEADER

Week	Class	Subject	Type (Concept)	Sub-Topic (Sub-Concept)	Learning Activities to be taken up	TLM to be used
6 th	1 st				Solve problems total Press & Centre of Press- of submerged plane. Scintale.	
7 th	2 nd				Archimedes Principle. Concept of buoyancy.	
8 th	3 rd				Metacentric height & Metacenter	
9 th	4 th				Concept of flotation	

LESSON NOTE

Class	Subject	Topic	Sub-Topic	Learning Activities	TLM
6 th	1 st	Solve problems total Press & Centre of Press- of submerged plane. Scintale.			
7 th	2 nd	Archimedes Principle. Concept of buoyancy.			
8 th	3 rd	Metacentric height & Metacenter			
9 th	4 th	Concept of flotation			

TEACHERS

Date	Week	Class	Subject	Topic (Concept)	Sub-Topic (Sub-Concept)	Learning Activities to be taken up	TLM to be used
1	2	3	4	5	6	7	8
	4 th	1 st		Kinematic of flow		Types of fluid flow	
	5 th	2 nd				Continuity Equation (Statement of Proof for one dimensional flow)	
	6 th	3 rd				Explain Continuity eqn	
	7 th	4 th				Close test	

LESSON NOTE

Explanatory Questions	Expected learning outcome	Project/Assignments	Signature	Remarks
9	10	11	12	13
2. Discuss Types of fluid flow (with examples)		Extra class	Handwritten signature	
3. Continuity Equation (Statement of Proof for one dimensional flow)			Handwritten signature	S. H. Mohan
4. Explain Continuity eqn			Handwritten signature	
5. Apply Continuity eqn			Handwritten signature	

TEACHERS

LESSON NOTE

Date	Week	Page No.	Subject	Topic (Concept)	Sub-Topic (Sub-Concept)	Learning Activities to be taken up	TLM to be used
	2	3	4	5	6	7	8
	8 th	1 st				Bernoulli's theorem (Statement & Proof)	
		2 nd				• Application & limitations of Bernoulli's theorem, • Venturimeter	
		3 rd				• Pitot tube • Solve Problem	
		4 th				• Solve simple Problems.	

Explanatory Comments	Expected Learning Outcomes	Formative Assessment (Self, Peer, Teacher)	Resources (Text, Audio, Video, etc.)	Remarks
Define Bernoulli's theorem	Derive	✓		
App'n & limitations of Bernoulli's theorem, Venturimeter		✓		S. H. Mohan
Pitot tube	Solve Problem	✓		
Solve simple Problems.		✓		

TECHNIQUE

Week	Subject	Topic (Concepts)	Sub-Topic (Sub-Concepts)	Learning Activities to be taken up	T.M. to be used
9th	1st	Orifice, jetting, weirs		• Define orifice	
2nd				• Flow through orifice	
3rd				• Orifice coefficient	
4th				• The relation bet ⁿ the orifice coefficient.	

LESSON NOTE

Orifice is a hole in the wall of a tank or reservoir through which liquid flows out.	Equation	Area	
Flow through orifice	"	Area	S. K. Mahanta
Orifice Coefficient	"	Area	
The relation betⁿ the orifice coefficient	"	Area	

TEACHERS

Date	Period	Class	Subject	Topic (Concept)	Sub-Topic (Sub-Concept)	Learning Activities to be taken up	TLM to be used
1	2	3	4	5	6	7	8
				Flow through Pipe		Definition of pipe	
		1 st				loss of energy in pipes	
		2 nd				Headloss due to friction Darcy's Formula-	
		3 rd				Chzy's formula Explain-	
		4 th					

LESSON NOTE

Evaluative Questions	Expected Learning Outcomes	Project	Signature	Remarks
9	10	11	12	13
What is the definition of pipe?	Definition of pipe	Explain	<i>[Signature]</i>	4 th
What is the loss of energy in pipes?	loss of energy in pipes	"	<i>[Signature]</i>	5 th
What is the headloss due to friction Darcy's formula?	Headloss due to friction Darcy's formula-	"	<i>[Signature]</i>	6 th
What is Chzy's formula?	Chzy's formula Explain	"	<i>[Signature]</i>	7 th

HEADQUARTERS

LESSON NOTE

Date	Period	Class	Subject	Topic (Concept)	Sub-Topic (Sub-Concept)	Learning Activities to be taken up	TLM to be used
1	2	3	4	5	6	7	8
	10 th	1 st				Solve Problems using Darcy's Formula.	
		2 nd				Solve Problems using Chezy's formula.	
		3 rd				Hydraulic gradient line.	
		4 th				Total gradient line.	

Evaluative Questions	Expected learning outcomes	Project work to be assigned	Signature of the teacher	Signature of the student	Remarks
9	10	11	12	13	14
no text to be put colours box 17				17	18
no text to be put journal problem - colour box 17				19	20
no text to be put journal problem - colour box 17				21	22
no text to be put journal problem - colour box 17				23	24

S. K. Mohan

TEACHERS

LESSON NOTE

Date	Period	Class	Subject	Topic (Concept)	Sub-Topic (Sub-Concept)	Learning Activities to be taken up	TLM to be used
1	2	3	4	5	6	7	8
	13th	1st				Impact of Jet on Fixed plates	
		2nd				Impact of Jet in moving Vertical Flat Plates.	
		3rd				Impact of Jet on a hinged plate	
		4th				Force exerted by a Jet on a series of Curved Plates.	

Evaluative Questions	Expected learning outcome	Project work to be assigned	Signature of the Teacher	Signature of the Parent
9	10	11	12	13
				4th
				5th
				6th
				7th
				8th
				9th
				10th
				11th
				12th
				13th
				14th

ESKONOTE

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ESONOTE

Evaluative Questions	Expected learning outcome	Project work to be assigned	Signature of the Teacher	Signature of the Headmaster	Remarks
9	10	11	12	13	14

S.K. Mahanta