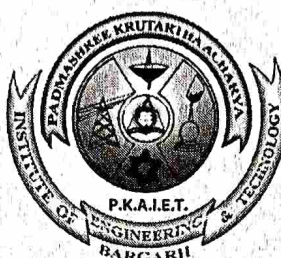


# PADMASHREE KRUTARTHA ACHARYA INSTITUTE OF ENGINEERING & TECHNOLOGY, BARGARH



## PROGRESS REGISTER

Session-2022-2023

Discipline: Mechanical Engg.

Semester: 4th

Subject: FM (A)

Name of the Teaching Faculty: Santosh Panda












Subject: PM (A) No. of Days/per week class allotted 4

Semester From Date: 14/2/23 To Date: 23/5/23 No. of Weeks: 15

Date	Topics to be covered as per Lesson Plan	Topics actually covered	Points/contents Discussed (in brief)	Signature of Teacher
14/2/23	Definition/ Types of fluids	Definition/ Types of fluids	Compressible Incompressible fluids, etc	Sa
15/2/23	Fluid Properties	Fluid Properties	Density, Sp. weight, etc	Sa
16/2/23	- do -	- do -	Specific gravity, sp. volume etc	Pa
20/2/23	Simple problems (discussion)	Simple problems (discussion)	Numericals on sp. weight, sp. gravity, etc	Sa
21/2/23	Dynamic viscosity	Dynamic viscosity	Definition, Unit, Numer- icals, etc	Sa
22/2/23	Kinematic viscosity	Kinematic viscosity	- do -	Sa
23/2/23	Surface tension/ roles	Surface tension/ roles	Droplets, Bubbles, Jet, etc	Sa
27/2/23	- do -	- do -	Numericals on surface tension	Sa
28/2/23	Capillary Action	Capillary Action	Rise, fall Equations etc.	Sa
1/3/23	Fluid pressure, Intensity, Head	Fluid pressure, Intensity, head	Basic concepts (Equations etc	Sa
2/3/23	Pascal's law, Its applications	Pascal's law, Its application	Statement only	Sa












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6/3/23	Fluid pressure (Droplets)	Fluid pressure (Concepts)	Atm-pressure, Abs. pressure, etc	
9/3/23	Pressure - Measurement	Pressure measurement	Basic concept Instruments required	
13/3/23	Simple Manometers	Simple Manometer	Figure, types, U-tube, etc.	
14/3/23	Differential Manometers	Differential Manometers	Simple form, Numericals	
15/3/23	- do -	- do -	- do -	
16/3/23	Bourdon tube pressure gauge	Bourdon tube pressure gauge	Working principle, description	
20/3/23	Simple problems on Manometers	Simple problems on Manometers	U-tube, inverted, differential	
21/3/23	Hydrostatic law, Pressure head Concept	Hydrostatic Law/Pressure head/concept	Principle/ Applications	
22/3/23	Total pressure Centre of Pressure (immersed body)	Total pr. Centre of Pressure	Horizontal surfaces	
23/3/23	- do -	- do -	Vertical surfaces triangular etc	
27/3/23	Solve simple problems	Solve simple problems	On the part topic	






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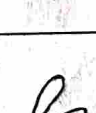
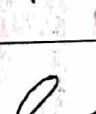
Date	Topics to be covered as per Lesson Plan	Topics actually covered	Points/contents Discussed (in brief)	Signature of Teacher
18/3/23	Archimedes' Principle	Buoyancy Concept	Principle, Concepts, examples	
24/3/23	- do -	- do -	Numericals (discussion)	
3/4/23	Meta-Center, Metacentric height	Meta-Center, Metacentric height	Definitions, case study, discussion	
4/4/23	Concept of floatation	Concept of floatation	Conditions of stability	
5/4/23	Kinematics of flow	Kinematics of flow	Governing equations	
6/4/23	Types of fluid flow (intro)	Types of fluid flow	Compressible, Incompressible, Computation	
10/4/23	- do -	- do -	Steady, unsteady, Uniform etc	
11/4/23	Continuity Equation	Continuity Eq <sup>n</sup>	Statement and proof	
12/4/23	Bernoulli's Theorem	Bernoulli's Theorem	Assumptions, Derivation	
13/4/23	Application of Bernoulli's Theorem	Application of Bernoulli's Theorem	Pitot tube, Venturimeter, etc	
17/4/23	Pitot tube	Pitot tube	Working Principle	

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Semester From Date: 14/2/23 To Date: 23/5/23 No. of Weeks: 15

Date	Topics to be covered as per Lesson Plan	Topics actually covered	Points/contents Discussed (in brief)	Signature of Teacher
18/4/23	Venturimeter	Venturimeter	Working principle	
19/4/23	Revision work	Revision work	Numericals on Topics covered	
20/4/23	Orifice meter	Orifice-meter	Working principle	
24/4/23	Applicat <sup>n</sup> of Orifice meter	Applicat <sup>n</sup> of Orifice meter	Diagram, Numericals	
25/4/23	Orifice coefficient and relations	Orifice coef. and relations	Vena-contracta $C_c, C_v$ , etc.	
26/4/23	Notches and Weirs	Notches and Weirs	Introduction, difference bet <sup>n</sup>	
28/4/23	Classification of Notches	Classification of Notches	Diagram, discussion, working	
1/5/23	Classification of Weirs	Classification of Weirs	- do -	
2/5/23	Rectangular notch/weir	Rectangular notch/weir	Working principle	
3/5/23	Triangular notch/weir	Triangular notch/weir	- do -	
4/5/23	Revision work	Revision work	Sample questions discussion	

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Date	Topics to be covered as per Lesson Plan	Topics actually covered	Points/contents Discussed (in brief)	Signature of Teacher
8/5/23	Flow through pipes	flow through pipes	Introduced to basic concepts	
9/5/23	Major losses and minor losses	Major losses and minor losses	Basic eq <sup>n</sup> for both losses	
10/5/23	Darcy's formulae	Darcy's formulae	Applicat <sup>n</sup> and simple Numericals	
11/5/23	Cherzy's formula	Cherzy's formula	- do -	
12/5/23	HGL	TEL	Eq <sup>n</sup> of Concept	
13/5/23	HGL	TEL	- do -	
14/5/23	Q/A discussion	Q/A discussions	Part topics covered	
15/5/23	Impact of Jet	Impact of Jet	On flat plates	
16/5/23	Impact of jet	Impact of jet	On moving plates	
17/5/23	Revision work	Revision work	On part topics covered	
18/5/23	Q/A discussion	Q/A discus.	Previews yr Questions	





FM(A)

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To Date: 23 (5/23)

No. of Weeks: 15

Date	Topics to be covered as per Lesson Plan	Topics actually covered	Points/contents Discussed (in brief)	Signature of Teacher
19/5/23	Impact of Jet	Impact of Jet	Vertical moving plate	
20/5/23	work done on center of vane	work done on series of vane	Derivation of work done	
22/5/23	Revision work	Revision work	Revision work	
23/5/23	Doubt clearing session	Doubt clearing session	- do -	
24/5/23	Condition for max <sup>m</sup> efficiency	Condition for Max <sup>m</sup> efficiency	As per syllabus	