

# LESSON PLAN 2025(W)

SUBJECT:- Heat Transfer, Fluid Flow & Furnaces

SUBJECT CODE:- TH-2

SEMESTER:-5<sup>th</sup>

BRANCH:-METALLURGICAL

NAME OF FACULTY:- Sagarika Palei

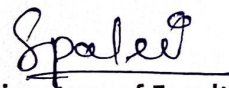
CLASS ALLOTTED:-4P/WEEK

WEEKS	DATE	DATE :- FROM- 14/07/2025 TO 15/11/2025	TEACHING AID
		THEORY- TOPIC/LESSON	
1	15/07/2025 TO 19/07/2025	<b>1.FLUID FLOW</b> Discuss types of fluids (ideal and real). Discuss the type of flow (stream line & turbulent).	White board & Marker
2	21/07/2025 TO 26/07/2025	State and explain Bernoulli's equation.	White board & Marker
3	28/07/2025 TO 02/082025	Discuss the flow through orifices, Pitot tube and venturies.	White board & Marker
4	04/08/2025 TO 09/08/2025	Define and calculate loss of head (friction loss) in straight pipes, in bends and channel with sudden enlargement and sudden contraction	White board & Marker
5	11/08/2025 TO 16/08/2025	<b>2.HEAT FLOW .</b> Discuss the elementary idea on different modes of heat transfer. Define and derive the Fourier's law Explain & calculate the steady state heat conduction through flat walls.	White board & Marker
6	18/08/2025 TO 23/08/2025	Define Convection. Define and differentiate between natural and forced convection).	White board & Marker
7	25/08/2025 TO 30/08/2025	State the natural and forced heat transfer co-efficient (equation only, no derivation	White board & Marker
8	01/09/2025 TO 06/09/2025	Define radiations State the Stefan Boltzmann's Define emissivity of black bodies and grey bodies	White board & Marker
9	08/09/2025 TO 13/09/2025	<b>3.Classification of Furnace. &amp; Examples of some Metallurgical Furnaces</b> Classify the furnaces based on use, heat source and material movements Discuss the following metallurgical furnaces (a) soaking pits,	White board & Marker
10	15/09/2025 TO 20/09/2025	(b) reheating furnace (c) heat treatment furnace (d) melting	White board & Marker

11	22/09/2025 TO 27/09/2025	(e) smelting (f) refining furnaces	White board & Marker
12	08/10/2025 TO 11/10/2025	<b>4.Principles of heat Generation in electric Furnaces</b> State the principles of heat generation in electric furnaces	White board & Marker
13	13/10/2025 TO 18/10/2025	. such as arc, resistance and induction (core less)	White board & Marker
14	20/10/2025 TO 25/10/2025	<b>5.Heat Losses, Heat Balance &amp; Furnace Efficiency</b> Discuss on heat losses, heat balance and furnace efficiency	White board & Marker
15	27/10/2025 TO 01/11/2025	<b>6.Waste heat Recovery System in Furnaces</b> Explain the types of" waste heat recovery system	White board & Marker
16	03/11/2025 TO 08/11/2025	such as regenerators and recuperates.	White board & Marker
17	10/11/2025 TO 15/11/2025	Revision.....	White board & Marker



Signature of HOD



Signature of Faculty