


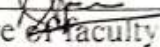
## Lesson Plan

Subject-HEAT TRANSFER, FLUID FLOW & FURNACES (Code):TH.2 Name of faculty:Semester: 5<sup>th</sup>

Class allotted :50/60p Branch :METALLURGY Session: 2024(w)


Discipline	Semester	From date: 01/07/24 To date:26/10/24	Teaching Aid
Subject:	No. of days/ per week: 4p/week	Theory/ Practical –Topics/Lesson	
Week	Date/Period		
1	01/07/2024 TO 06/07/2024	<b>1.0 FLUID FLOW</b> 1.1 i) Discuss types of fluids (ideal and real).	White board & Marker
2	08/07/2024 TO 13/07/2024	ii) Discuss the type of flow (stream line & turbulent 1.2 i) State and explain Bernoulli's equation.	White board & Marker
3	15/07/2024 TO 20/07/2024	ii) Discuss the flow through orifices, Pitot tube and venturies	White board & Marker
4	22/07/2024 TO 27/07/2024	1.3 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	29/07/2024 TO 03/08/2024	<b>2.0 HEAT FLOW</b> 2.1 Discuss the elementary idea on different modes of heat transfer. 2.2 i) Define and derive the Fourier's law.	White board & Marker
6	05/08/2024 TO 10/08/2024	ii) Explain & calculate the steady state heat conduction through flat walls. 2.3 i) Define Convection	White board & Marker
7	12/08/2024 TO 17/08/2024	iii) Define and differentiate between natural and forced convection iii) State the natural and forced heat transfer co-efficient (equation only, no derivation	White board & Marker

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Week	Date/Period	Theory/ Practical –Topics/Lesson	Teaching Aid
8	20/08/2024 TO 24/08/2024	2.4 i) Define radiations ii) State the Stefan Boltzmann's Law iii) Define emissivity of black bodies and grey bodies	White board & Marker

9	27/08/2024 TO 31/08/2024	3.0 FURNACES 3.1 Classify the furnaces based on use, heat source and material movements	White board & Marker
10	02/09/2024 TO 06/09/2024	3.2 Discuss the following metallurgical furnaces (a) soaking pits, (b) reheating furnace	White board & Marker
11	09/09/2024 TO 13/09/2024	I.A .	White board & Marker
12	14/09/2024 TO 21/09/2024	c) heat treatment furnace (d) melting (e) smelting (f) refining furnaces	White board & Marker
13	23/09/2024 TO 28/09/2024	4.0 State the principles of heat generation in electric furnaces such as arc, resistance	White board & Marker
14	30/09/2024 TO 05/10/2024	and induction (core less) 5.0 Discuss on heat losses,	White board & Marker
15	07/10/2024 TO 09/10/2024	heat balance and furnace efficiency. 6.0 Explain the types of" waste heat recovery system	White board & Marker

  
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Week	Date/Period	Theory/ Practical –Topics/Lesson	Teaching Aid
16	17/10/2024 TO 19/10/2024	6.0 Explain the types of" waste heat recovery system	White board & Marker

17

21/10/2024  
TO  
26/10/2024

Revision.....

White board  
&  
Marker

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*Sagarika Palei*  
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