

Lesson Plan

Subject-FERROUS METALLURGY - II (Code): TH4 Name of faculty: Semester: 5th

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	1.0 Steel Making Processes 1.1 Brief history of principles of steel making & processes of steel making. 1.2 Bistre steel making 1.3 Shear steel making	White board & Marker
2	08/07/2024 TO 13/07/2024	1.4 Crucible steel making 1.5 Bessemer steel making. 1.6 Open hearth steel making	White board & Marker
3	15/07/2024 TO 20/07/2024	1.7 Explain these processes with suitable sketches 2.0 Principles of steel making. 2.1 Mention different reactions involved in steel making. 2.2 Differentiate between acid process & basic process of steel making. 2.3 Explain the principles and conditions required in removal of „P“, „S“, Si“, „Mn“ and „C“ in steel making.	White board & Marker
4	22/07/2024 TO 27/07/2024	3.0 Raw Materials for Steel Making 3.1 List the different raw materials required for steel making 3.2 State the important raw materials available in India	White board & Marker
5	29/07/2024 TO 03/08/2024	4.0 Steel Making by LD Converter 4.1 Give different raw materials of LD process 4.2 Explain the construction and operation of LD converter	White board & Marker
6	05/08/2024 TO 10/08/2024	4.3 Describe the refining reaction in LD converter with reference to decarburization and dephosphorisation. 4.4 Mention the quality of steel and composition of slag in LD process	White board & Marker

7	12/08/2024 TO 17/08/2024	4.5 Give the advantages and limitations of LD process. 4.6 Describe different developments of LD process a. Bottom, top and combined blowing b. Multi nozzle converter. 4.7 Explain OLP process	White board & Marker

Signature of HOD

Signature of faculty

Week	Date/Period	Theory/ Practical –Topics/Lesson	Teaching Aid
8	20/08/2024 TO 24/08/2024	5.0 Electric and Induction Furnace Process 5.1 Explain the principle, types of slags prepared by electric arc furnace 5.2 Explain the steps of electric arc furnace heating to produce steel 5.3 Mention advantages of electric arc furnace process.	White board & Marker
9	27/08/2024 TO 31/08/2024	5.4 Explain the steel making induction furnace. 5.5 Mention advantages and limitations of induction furnace process 6.0 Brief Study of Other Recent Processes of Steel Making. 6.1 Briefly describe the principle of operation, merits and demerits of the recent steel making processes such as	White board & Marker
10	02/09/2024 TO 06/09/2024	a. Ajax Process b. OBM Process c. Spray Steel Making Process	White board & Marker
11	09/09/2024 TO 13/09/2024	I.A	White board & Marker
12	14/09/2024 TO 21/09/2024	7.0 De-Oxidation Practice 7.1 Explain different De-Oxidisers and their use. 7.2 Differentiate between killed steel semi killed steel and rimming steel	White board & Marker

13	23/09/2024 TO 28/09/2024	8.0 Pit Side Practice 8.1 Describe different teeming methods such as: a. Direct pouring b. Tundish teeming and c. Bottom teeming 8.2 Describe different ingot defects, their causes and remedies	White board & Marker
14	30/09/2024 TO 05/10/2024	9.0 Continuous Casting of Steel 9.1 Explain the principle and operation of continuous casting 9.2 Describe different types of casters.	White board & Marker
15	07/10/2024 TO 09/10/2024	9.3 Describe about the moulds and mould maintenance in continuous casting. 9.4 Discuss advantages of continuous casting 9.5 Continuous casting of Billets, Blooms and Slabs	White board & Marker

Signature of HOD

Signature of faculty

Week	Date/Period	Theory/ Practical –Topics/Lesson	Teaching Aid
16	17/10/2024 TO 19/10/2024	10.0 Secondary Steel Making Processes 10.1 Explain the principle operation and advantages of secondary steel making processes such as a. VAD Process b. VOD Process	White board & Marker
17	21/10/2024 TO 26/10/2024	c. AOD Process 10.2 Describe the stream degassing process..	White board & Marker

S. Patel
Signature of HOD

Sagarika Patel
Signature of faculty