Lesson Plan

Subject : **Industrial Metallurgy (TH-3)** Name of faculty: **SARIKA PALEI**

Semester: 6th Class allotted:5p/week Branch: Metallurgy Session: 2026(S)

Discipline	Semester	From date: **22/12/2025** To date: **18/04/2026**	Teaching Aid
Subject:	No. of days/ per week	Theory/ Practical –Topics/Lesson	
Week	Date/Period		
1	**22/12/2025 TO 27/12/2025**	**Classification of Welding Processes.** Classify different welding process such as pressure welding processes and nonpressure welding process. **Gas Welding** Explain different flames,	White Board Marker Smart board
2	**29/12/2025 TO 03/01/2026**	equipments, steps, advantages, disadvantages and application of gas welding. **Arc Welding** Describe various arc welding process such as.	White Board Marker Smart board
3	**05/01/2026 TO 10/01/2026**	a. Metallic Arc b. Submerged Arc c. TIG Welding d. MIG Welding..	White Board Marker Smart board
4	**12/01/2026 TO 17/01/2026**	**Resistance Welding .** Explain the principle and various types of resistance welding.	White Board Marker Smart board
5	**19/01/2026 TO 24/01/2026**	**Welding of Steel, C.I. and Cu Alloys.** Mention the precaution required for welding of steel. Explain the joint design and techniques required for C.I. welding. Describe the welding of copper and its alloys	White Board Marker Smart board

Signature of H.O.D

Signature of Faculty

6	27/01/2026 TO 31/01/2026	**Metallurgy of Welding.** Explain the temperature distribution in we1dng of steel. Discuss the structural changes in weld metal and parent metal after welding. Define weldability. Mention different welding defects. Discuss various methods for testing welding joints. **Brazing and Soldering** Define brazing and explain its principle and procedure	White Board Marker Smart board
7	02/02/2026 TO 07/02/2026	Discuss various brazing methods of common ferrous and nonferrous metals. Define soldering and explain various types of solders. Describe the basic steps of soldering of common metals. **POWDER METALLURGY** **9.Scope of Powder Metallurgy.** Define powder metallurgy.	White Board Marker Smart board
8	09/02/2026 TO 14/02/2026	Depict the historical development of powder metallurgy. Mention advantages disadvantages and applications of P/M. Briefly describe primary and secondary characteristics of powders.	White Board Marker Smart board
9	16/02/2026 TO 21/02/2026	**Methods of Powder Production** Name different methods of powder production..	White Board Marker Smart board
10	23/02/2026 TO 28/02/2026	Describe the mechanical, physical, chemical and electro chemical methods.	Marker White Board Smart board
11	02/03/2026 TO 07/03/2026	**Compaction of Metal Powders** Give the significance and different methods of conditioning. Explain different die-compaction techniques, Describe isostatic pressing with advantages, limitation applications..	White Board Marker Smart board
12	09/03/2026 TO 14/03/2026	Give brief outline on continuous compaction. Sintering of Metal Powder. Define sintering and Explain its various stages. Explain briefly mechanism of sintering process.	Marker White Board Smart board
13	16/03/2026 TO 18/03/2026	, Explain the process variables and furnaces used for sintering . Give a note on liquid phase sintering.	White Board Marker Smart board

Signature of H.O.D

Signature of Faculty

14	23/03/2026 TO 28/03/2026	**Flow Sheets of Production** Give Flow Sheets for the Production of the Following.	White Board Marker Smart board
15	30/03/2026 TO 04/03/2026	a. Porous bearing b. Sintered friction materials c. Sintered carbides	White Board Marker Smart board
16	06/04/2026 TO 11/04/2026	d. Magnetic Materials e. Cermets f. Dispersion strengthened materials	White Board Marker Smart board
17	13/04/2026 TO 18/04/2026	Revision……	White Board Marker Smart board

Signature of H.O.D

Signature of Faculty