Lesson Plan

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

Semester: 6th Class allotted:5p/week Branch: Metallurgy Session: 2025(S)

Discipline	Semester	From date: To date:	Teaching Aid
Subject:	No. of days/ per week	Theory/ Practical –Topics/Lesson	
Week	Date/Period		
1	04/02/2025 TO 08/02/2025	**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	10/02/2025 TO 15/02/2025	equipments, steps, advantages, disadvantages and application of gas welding. **Arc Welding** Describe various arc welding process such as.	White Board Marker Smart board
3	17/02/2025 TO 22/02/2025	a. Metallic Arc b. Submerged Arc c. TIG Welding d. MIG Welding..	White Board Marker Smart board
4	24/02/2025 TO 01/03/2025	**Resistance Welding .** Explain the principle and various types of resistance welding.	White Board Marker Smart board
5	03/03/2025 TO 08/03/2025	**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
6	10/03/2025 TO 15/03/2025	**Metallurgy of Welding.** Explain the temperature distribution in weldng of steel. Discuss the structural changes in weld metal and parent metal after welding.	White Board Marker Smart board

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		Define weldability. Mention different welding defects. Discuss various methods for testing welding joints. **Brazing and Soldering** Define brazing and explain its principle and procedure	
7	17/03/2025 TO 22/03/2025	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	24/03/2025 TO 29/03/2025	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	31/03/2025 TO 05/04/2025	**Methods of Powder Production** Name different methods of powder production..	White Board Marker Smart board
10	07/04/2025 TO 12/04/2025	Describe the mechanical, physical, chemical and electro chemical methods.	Marker White Board Smart board
11	14/04/2025 TO 19/04/2025	**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	21/04/2025 TO 26/04/2025	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	28/04/2025 TO 03/05/2025	Explain the process variables and furnaces used for sintering . Give a note on liquid phase sintering.	White Board Marker Smart board
14	05/05/2025 TO 10/05/2025	**Flow Sheets of Production** Give Flow Sheets for the Production of the Following. a. Porous bearing b. Sintered friction materials	White Board Marker Smart board

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15	12/05/2025 TO 17/05/2025	c. Sintered carbides d. Magnetic Materials e. Cermets f. Dispersion strengthened materials	White Board Marker Smart board

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