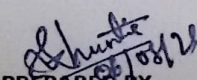
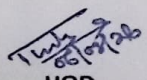
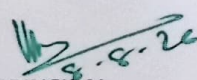


LESSON PLAN					
Discipline: Metallurgical Engineering			Semester: 5 TH Semester	Name of the Teaching Faculty: Er Sitanjali Khuntia	
Subject: HEAT TREATMENT LAB Sub code: (PR 2)M4			No of days /week class allotted:4	Semester from Date: 01.07.2026 to 05.11.2026 No of weeks:	
LEARNING OUT COMES:					
After completion of the course, the students will be able to:					
1. Familiarize students with heat treatment equipment and procedures.					
2. Develop practical skills in performing heat treatment processes.					
3. Identify the relationship between heat treatment, microstructure, and properties.					
4. Learn to analyse and interpret results from heat treatment experiments.					
5. Develop skills in metallographic sample preparation and analysis					
Month	week	No of periods available	Class Day	Theory topics	CO
July	1 st	4P	06.07.2026	Briefing about the Syllabus	CO1
	2 nd	4P	13.07.2026	Metallographic study of cylindrical/cubical nonferrous alloy sample by grinding, polishing and etching.	CO5
	3 rd	4P	20.07.2026	Lab Record Write Lab Record Submission and Check	CO4
	4 th	4P	27.07.2026	Annealing of plain carbon steel.	CO1,CO2
Aug	1 st	4P	03.08.2026	Lab Record Write Lab Record Submission and Check	CO4
	2 nd	4P	10.08.2026	Normalising of plain carbon steel.	CO1,CO2
	3 rd	4P	17.08.2026	Lab Record Write Lab Record Submission and Check	CO4
	4 th	4P	24.08.2026	Hardening (water quenching) of plain carbon steel.	CO1,CO2
	5 th	4P	31.08.2026	Lab Record Write Lab Record Submission and Check	CO4
Sept	1 st	4P	07.09.2026	Pack carburizing of plain carbon steel	CO1,CO2
	2 nd	4P	21.09.2026	Lab Record Write Lab Record Submission and Check	CO4
	3 rd	4P	28.09.2026	Heat Treatment of Non-Ferrous Alloys	CO1,CO2
Oct	1 st	4P	05.10.2026	Lab Record Write Lab Record Submission and Check	CO4
	2 nd	4P	12.10.2026	Micro hardness measurement of various heat treated steel samples.	CO3,CO4
	3 rd	4P	22.10.2026	Lab Record Write Lab Record Submission and Check	CO4
	4 th	4P	26.10.2026	VIVA	CO1,CO3
Nov	1st	4P	02.11.2026	VIVA	CO1, CO3, CO4


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