

Lesson Plan

Subject: MATERIAL TESTING(Th-1)

Name of faculty: Sagarika Palei

Semester: 4TH Class allotted: 4p/week Branch: METALLURGY Session:2025(S)

Discipline	Semester	Fromdate:	Todate:	TeachingAid	
Subject:	No.ofdays/per week	Theory/Practical-Topics/Lesson			
Week	Date/Period				
1	04/02/2025 TO 08/02/2025	Hardness Test Explain and derive expressions for Brinell, Vickers and Rockwell hardness test		White Board Marker Smart board	
2	10/02/2025 TO 15/02/2025	Discuss rebound hardness with reference to shore's Scleroscope. Describe scratch hardness and explain mho's scale.		White Board Marker Smart board	
3	17/02/2025 TO 22/02/2025	Discuss the imperical relationship of hardness with strength. Tensile Test : Draw and explain stress-strain curve		White Board Marker Smart board	
4	24/02/2025 TO 01/03/2025	Explain modulus of elasticity, proof stress Discuss with sketch about yield point phenomenon.		White Board Marker Smart board	
5	03/03/2025 TO 08/03/2025	Explain true stress and true strain curve. Define ductility and toughness		White Board Marker Smart board	
6	01/03/2025 TO 15/03/2025	Impact Test: Define impact strength Discuss about Charpy and Izod impact tests		White Board Marker Smart board	


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Week	Date/Period	Theory/Practical-Topics/Lesson	Teaching Aid
7	17/03/2025 TO 22/03/2025	Discuss about transition temperature and ductility, brittle fracture Fatigue Test: Explain different stress cycles	Marker White Board
8	24/03/2025 TO 29/03/2025	Describe S.N curve and endurance limit Explain the procedure of fatigue testing and fatigue testing machine	White Board Marker Smart board
9	31/03/2025 TO 05/04/2025	Mention different metallurgical factors that affect fatigue behavior Define creep and its importance Discuss engineering creep curve, constant stress creep curve and Andrad concept	White Board Marker Smart board
10	07/04/2025 TO 12/04/2025	Explain equicohesive temperature State various factors that affect creep Describe creep testing machine Describe stress rupture test	Marker White Board Smart board
11	14/04/2025 TO 19/04/2025	Discuss the scope and elementary idea about different NDT and their significance Give brief description of the following NDT Visual testing	White Board Marker Smart board
12	21/04/2025 TO 26/04/2025	Leakage test Magnetic particle testing	Marker White Board Smart board
13.	28/04/2025 TO 03/05/2025	Leakage test Magnetic particle testing Dye penetration test Acoustic methods and ultrasonic testing	White Board Marker Smart board


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14	05/05/2025 TO 10/05/2025	Eddy current testing X – ray diffraction 7. Temperature Measurement and Calibration: Analysis the basic principle of pyrometry	White Board Marker Smart board
15	12/05/2025 TO 17/05/2025	Explain different types of pyrometer and Thermocouples	White Board Marker Smart board



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