

LessonPlan

Subject: MATERIAL TESTING

Name of faculty: Sagarika Palei

Semester: 4TH Class allotted: 4p/week Branch: METALLURGICAL Session: 2024(S)

Discipline	Semester	Fromdate:	Todate:	TeachingAid
Subject:	No.ofdays/per week	Theory/Practical-Topics/Lesson		
Week	Date/Period			
1	16/01/2024 TO 20/01/2024	Hardness Test Explain and derive expressions for Brinell, Vickers and Rockwell hardness test		WhiteBoard Marker Smart board
2	22/01/2024 TO 27/01/2024	Discuss rebound hardness with reference to shore's Scleroscope. Describe scratch hardness and explain mho's scale.		WhiteBoard Marker Smart board
3	29/01/2024 TO 03/02/2024	Discuss the imperial relationship of hardness with strength. Tensile Test Draw and explain stress-strain curve		WhiteBoard Marker Smart board
4	05/02/2024 TO 10/02/2024	Explain modulus of elasticity, proof stress Discuss with sketch about yield point phenomenon.		WhiteBoard Marker Smart board

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Week	Date/Period	Theory/Practical-Topics/Lesson	ng Aid
5	12/02/2024 TO 17/02/2024	Explain true stress and true strain curve. Define ductility and toughness	WhiteBoard Marker Smartboard
6	19/02/2024 TO 24/02/2024	Impact Test: Define impact strength. Discuss about Charpy and Izod impact tests	WhiteBoard Marker Smartboard
7	26/02/2024 TO 02/03/2024	Discuss about transition temperature and ductility, brittle fracture Fatigue Test: Explain different stress cycles	Marker WhiteBoard
8	04/03/2024 TO 09/03/2024	Describe S.N curve and endurance limit Explain the procedure of fatigue testing and fatigue testing machine	WhiteBoard Marker Smartboard
9	11/03/2024 TO 16/03/2024	Mention different metallurgical factors that affect fatigue behavior Define creep and its importance Discuss engineering creep curve, constant stress creep curve and Andrad concept	WhiteBoard Marker Smartboard
10	18/03/2024 TO 23/03/2024	Explain equicohesive temperature State various factors that affect creep Describe creep testing machine. Describe stress rupture test	Marker WhiteBoard Smartboard
11	27/03/2024 TO 30/03/2024	Discuss the scope and elementary idea about different NDT and their significance Give brief description of the following NDT Visual testing	WhiteBoard Marker Smartboard

12	02/04/2024	Leakage test Magnetic particle testing	Marker WhiteBoard Smart board
	To 06/04/2024		
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13.	08/04/2024	Leakage test Magnetic particle testing Dye penetration test Acoustic methods and ultrasonic testing	White Board Marker Smart board
	To 13/04/2024		
14	15/04/2024	Eddy current testing X – ray diffraction 7. Temperature Measurement and Calibration: Analysis the basic principle of pyrometry	White Board Marker Smart board
	To 20/04/2024		
15	22/04/2024 TO 26/04/2024	Explain different types of pyrometer and Thermocouples	

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