

GO

LESS

Discipline : METALLURGY ENGG.		Semester: 4th		
Subject : Material Testing(MT) Course Code: TH1		No. of Days / per week class allotted		
MONTH	Week	Day	Unit	
FEBRUARY	3rd		UNIT-1	
		3rd		
	4th	2nd		
		3rd		
		2nd		
				UNIT-2
	5th	2nd		
		3rd		
		2nd		
		3rd		
	MARCH	2nd	3rd	
		3rd	2nd	
3rd				
3rd				UNIT-3
4th		1st		
		2nd		
		3rd		
		4th		
				UNIT-4
5th		3rd		
		2nd		
		3rd		
		2nd		
6th	2nd			
APRIL	1st	3rd		
		2nd		
		3rd		
	2nd	2nd		
		3rd		
		2nd		UNIT-6
		3rd		
	3rd	2nd		
		3rd		
				UNIT-7

		3rd	
	4th	2nd	
		3rd	
		4th	
		2nd	
	5th	3rd	
MAY	1st	1st	
		2nd	
		3rd	
		4th	
	2nd	1st	
		2nd	
		3rd	
		4th	
	3rd	1st	
		2nd	
		3rd	
		4th	

Subject Expert
Metallurgy Engineering

SVT. POLYTECHNIC MAYURBHANJ
SYLLABUS PLAN FOR MATERIAL TESTING
SUMMER-2024-25

Name of the Teaching Faculty : SUBHASHMITA SAHOO

Semester From date : 04.02.2025

To Date : 17.05.2025

Topics

HARDNESS TEST

Explain and Derive expressions for Brinell,vickers and Rockwell Hardness test

Discuss rebound hardness with reference to shore's Scleroscope

Describe scratch hardness and explain rho's scale.

Discuss the imperial relationship of hardness with strength

TENSILE TEST

Draw and explain stress-strain curve

Explain modulus of elasticity, proof stress

Discuss with sketch about yield point phenomenon.

Explain true stress and true strain curve.

Define ductility and toughness

Required properties of coke for making iron

Discuss with sketch about yield point phenomenon.

IMPACT TEST

Define impact strength

Discuss about Charpy and Izod impact tests

Discuss about transition temperature and ductility, brittle fracture

CLASS TEST-1

CLASS TEST-1

FATIGUE TEST

Explain different stress cycles

Describe S.N curve and endurance limit

Explain the procedure of fatigue testing and fatigue testing machine

Mention different metallurgical factors that affect fatigue behavior

CREEP TEST

Define creep and its importance

Discuss engineering creep curve,constant

Explain equicohesive temperature

State various factors that affect creep

Describe creep testing machine

Describe stress rupture test

Non Destructive Testing

Give brief description of the following NDT

Visual testing ,Leakage test

Acoustic methods and ultrasonic testing Eddy current testing X – ray diffraction

Temperature Measurement and Calibration

Analysis the basic principle of pyrometry
Explain different types of pyrometer and thermocouples.
State various factors that affect creep
State various factors that affect creep
INTERNAL-EXAM
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State various factors that affect creep
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Acoustic methods and ultrasonic testing Eddy current testing X – ray diffraction
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Explain the procedure of fatigue testing and fatigue testing machine
CLASS TEST-2
CLASS TEST-2
Explain the procedure of fatigue testing and fatigue testing machine
Explain different types of pyrometer and thermocouples.

HOD, Metallurgy Engg.
Govt. Polytechnic Mayurbhanj

Accademic Co-ordinator
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