

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

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

Subject Expert
Metallurgy Engineering

JT. POLYTECHNIC MAYURBHANJ
ON PLAN FOR MATERIAL TESTING
SUMMER-2023-24

Name of the Teaching Faculty : SUBHASMITA SAHOO

Semester From date : 16.01.2024

To Date : 26.04.2024

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 mho'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

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

CLASS TEST-1

CLASS TEST-1

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
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INTERNAL-EXAM
INTERNAL-EXAM
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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CLASS TEST-2
CLASS TEST-2
Explain the procedure of fatigue testing and fatigue testing machine
Explain the procedure of fatigue testing and fatigue testing machine
Explain different types of pyrometer and thermocouples.
Explain different types of pyrometer and thermocouples.

HOD, Metallurgy Engg.
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Accademic Co-ordinator
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