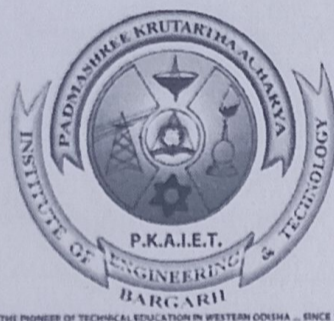


PADMASHREE KRUTARTHA ACHARYA INSTITUTE OF ENGINEERING & TECHNOLOGY, BARGARH



LESSON PLAN Session-2024-2025

Semester: 4th Discipline: Metallurgy Engg.

Subject: Material testing

Name of the Teaching Faculty: Santosh Panda

Subject: MT No. of Days/per week class allotted : 04
 Semester From Date : 4-2-25 To Date: 17-5-25 No. of Weeks : 15

Week	Class Day	Theory /Practical Topics
01	01	Introduction to Hardness Test
	02	Brinell Hardness Test
	03	Vickers Hardness Test
	04	Rockwell Hardness Test
02	01	Rebound Hardness
	02	Shore's scleroscope
	03	Scratch Hardness
	04	Mho's scale
03	01	Imperial Relationship of hardness with strength
	02	Overall chapter discussion
	03	Introduction to Tensile Test
	04	Draw stress-strain Curve

S. Panda
 Signature of the Faculty

Subject: MT

Semester From Date: 4-2-25 To Date: 17-5-25 No. of Days/per week class allotted: 04

No. of Weeks: 15

Week	Class Day	Theory / Practical Topics
04	01	Explain stress-strain curve
	02	Modulus of elasticity
	03	Proof stress
	04	Yield point phenomenon
05	01	True stress
	02	True strain curve
	03	Ductility
	04	Toughness
06	01	Introduction to impact test
	02	Define impact strength
	03	Charpy test
	04	Izod impact test

S. Panda
Signature of the Faculty

Subject: MT No. of Days/per week class allotted: 04

Semester From Date: 4-2-25 To Date: 17-5-25 No. of Weeks: 15

Week	Class Day	Theory / Practical Topics
07	01	Discuss about transition temperature and ductility
	02	Brittle fracture
	03	Introduction to fatigue test
	04	Explain different stress cycles.
08	01	Describe S.N curve
	02	Endurance limit
	03	Explain the procedure of fatigue testing
	04	Fatigue testing machine
09	01	Different metallurgical factors that affect fatigue behavior.
	02	Overall chapter discussion
	03	Introduction to creep testing
	04	Creep and its importance

S. Panda

Signature of the Faculty

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 Semester From Date : 4-2-25 To Date: 17-5-25 No. of Weeks : 15

Week	Class Day	Theory /Practical Topics
10	01	Discuss engineering creep curve, Constant Creep Curve and Concept
	02	Explain equicohesive temperature, Various factors that effect creep
	03	Describe creep testing machine
	04	Stress rupture test.
11	01	Introduction to nondestructive testing
	02	Scope of NDT
	03	Elementary idea about difference NDT.
	04	Significance of NDT.
12	01	Visual testing
	02	Leakage of testing
	03	Magnetic Particle testing
	04	Dye Penetration test

S. Panda
 Signature of the Faculty

Subject: MT No. of Days/per week class allotted: 04
 Semester From Date: 4-2-25 To Date: 17-5-25 No. of Weeks: 15

Week	Class Day	Theory / Practical Topics
13	01	Acoustic methods
	02	Ultrasonic testing
	03	Eddy current testing
	04	x-ray diffraction
14	01	Doubt clear class
	02	overall chapter discussion
	03	Temperature measurement
	04	Calibration
15	01	Analysis the basic principle of Pyrometry
	02	Explain the different types of Pyrometers
	03	Thermocouples
	04	overall chapter discussion

S. Panda
 Signature of the Faculty