Discipline: Mechanical Engineering	Semester : 3rd Semester 2025-2026 Dt 15/07/2025 To 15/11/2025	Name of the Teaching faculty: Tapas Kumar Satpathy, Lecturer, Dept of Mechanical Engineering
Subject : Material Testing Lab	Class Allotted: 60 Hours	No of weeks :18
Week	Class Day	Practical Topics
1st	1st	Introduction of MEL lab
	2nd	Introduction of MEL lab
2nd	1st	Determination of microstructure of ferrous and non ferrous material using a prepared specimen .
	2nd	Determination of microstructure of ferrous and non ferrous material using a prepared specimen.
3rd	1st	Crack detection of a specimen using Visual inspection and ring test
	2nd	Crack detection of a specimen using Die penetration test
4th	1st	Crack detection of a specimen using Magnetic particle test
	2nd	Determination of Rockwell's Hardness Number for mild steel, high carbon steel
5th	1st	Determination of Rockwell's Hardness Number for brass, copper and aluminium
	2nd	Finding the resistance of materials to impact loads by Izod test
6th	1st	Finding the resistance of materialsto impact loads by Charpy test
	2nd	Torsion test on mild steel – relation between torque and angle of twist
7th	1st	Torsion test on mild steel – relation between shear modulus and shear stress
	2nd	Finding Young's Modulus of Elasticity, yield points in mild steel
8th	1st	Finding the percentage elongation and percentage reduction in area in mild steel
	2nd	Plotting stress strain diagram for mild steel
9th	1st	Determination of modulus of rigidity of Open & Closed coil spring by load deflection method
	2nd	Determination of strain energy of Open & Closed coil spring by load deflection method
10th	1st	Determination of shear stress and stiffness of Open & Closed coil spring by load deflection method

11th	1st	Single or double Shear test on M.S. bar to finding the resistance of material to shear load
	2nd	Single or double Shear test on M.S. bar to finding the resistance of material to shear load
12th	1st	Revision
	2nd	Revision
13th	1st	Revision
	2nd	Revision
14th	1st	Revision
	2nd	Revision
15th	1st	Revision
	2nd	Revision
16th	1st	Revision
	2nd	Revision
17th	1st	Revision
	2nd	Revision

Tapas Kumar Satpathy
14/07/2025
(FACULTY)

14/07/25
HOD