GOVERNMENT POLYTECHNIC, MALKANGIRI
DEPARTMENT OF MECHANICAL ENGINEERING

LESSON PLAN

Discipline: **Mechanical Engineering**	Semester: 2nd	Name of the Teaching Faculty: **CHINMAYA BRAHMADARSHI MISHRA**
Subject: **Engineering Mechanics Lab**	No. of days/week class allotted 4	Semester From date:09.01.2026 To date:08.05.2026 No. of Week: 15
Course Outcomes	1. Analyze different simple machines to find out different influencing parameters viz. Mechanical Advantage, Velocity Ratio and Efficiency. 2. Understand the phenomena of friction in different condition and make analysis through experiment to find out coefficient of friction. 3. Determine resultant of various force systems and analyse the equilibrium of a rigid body by Lamis theorem. 4. Analyse and find out the value of support reactions of different types of beam.	

Week	Class Day	Theory/Practical Topics
1st	1st	To study various equipments related to Engineering Mechanics.
	2nd	To study various equipments related to Engineering Mechanics.
2nd	1st	To find the M.A., V.R., Efficiency and law of machine for Differential Axle and Wheel
	2nd	To find the M.A., V.R., Efficiency and law of machine for Differential Axle and Wheel
3rd	1st	To find the M.A., V.R., Efficiency and law of machine for Simple Screw Jack.
	2nd	To find the M.A., V.R., Efficiency and law of machine for Simple Screw Jack.
4th	1st	Derive Law of machine using Worm and worm wheel
	2nd	Derive Law of machine using Worm and worm wheel
5th	1st	Derive Law of machine using Single purchase crab
	2nd	Derive Law of machine using Single purchase crab
6th	1st	Derive Law of machine using double purchase crab
	2nd	Derive Law of machine using double purchase crab
7th	1st	Derive Law of machine using Weston's differential or wormed geared pulley block.
	2nd	Derive Law of machine using Weston's differential or wormed geared pulley block.
8th	1st	Determine resultant of concurrent force system applying Law of Polygon of forces using force table.
	2nd	Determine resultant of concurrent force system applying Law of Polygon of forces using force table.
9th	1st	Determine resultant of concurrent force system graphically
	2nd	Determine resultant of parallel force system graphically
10th	1st	Verify Lami's theorem
	2nd	Verify Lami's theorem
11th	1st	Study forces in various members of Jib crane
	2nd	Study forces in various members of Jib crane
12th	1st	Determine support reactions for simply supported beam
	2nd	Determine support reactions for simply supported beam
13th	1st	Obtain support reactions of beam using graphical method.
	2nd	Obtain support reactions of beam using graphical method.
14th	1st	Determine coefficient of friction for motion on horizontal and inclined plane.
	2nd	Determine coefficient of friction for motion on horizontal and inclined plane.
15th	1st	Determine centroid of geometrical plane figures.
	2nd	Determine centroid of geometrical plane figures.

Chinmaya Brahmadarshi Mishra
Signature of Faculty

Signature of HOD/

Signature of Academic Coordinator

Signature of Principal