

PADMASHREE KRUTARTHA ACHARYA INSTITUTE OF
ENGINEERING & TECHNOLOGY, BARGARH



LESSON PLAN
Session-2024-2025

Semester: 2nd Discipline: ALL Engg.

Subject: Engineering Mechanics

Name of the Teaching Faculty: D.K. Meher

Subject: Engg. Mechanics No. of Days/per week class allotted : 4

Semester From Date: 14-2-25 To Date: 17-5-25 No. of Weeks : 60

Week	Class Day	Theory /Practical Topics
01	1	Significance & relevance of Mechanics Applied mechanics, space, time, mass, rigid body
	2	Scalar & vector quantity units of measurement
	3	Force, its units, Bow's notation
	4	characteristics of a force
02	1	Effects of a force
	2	Force system, its classification
	3	Resolution of a force
	4	Varignon's theorem
03	1	Resultant force, Analytical method
	2	concurrent, non concurrent forces
	3	law of triangle law of Parallelogram
	4	Polygon of forces


Signature of the Faculty

subject: Engg. Mechanics No. of Days/per week class allotted : 04

Semester From Date : 4.2.25 To Date: 17.5.25 No. of Weeks : 15

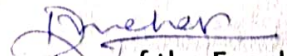
Week	Class Day	Theory /Practical Topics
04	1	Equilibrium & equilibrium- FBD, Analysis of equilibrium
	2	Lami's theorem (statement-)
	3	Lami's theorem (Explanation)
	4	Solve some problems
05	1	Types of beams
	2	supports (simple, hinged, roller & fixed)
	3	Load acting on beams
	4	couple
06	1	Beam reaction for cantilever
	2	Simply supported beam with or without overhang
	3	Beam reaction graphically for Simply supported beam subjected to point load
	4	Beam reaction graphically


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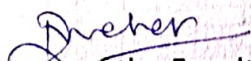
Week	Class Day	Theory /Practical Topics
07	1	Friction
	2	types of friction
	3	laws of friction
	4	Limiting equilibrium
08	1	Limiting friction
	2	C.O.F
	3	Angle of friction
	4	Angle of repose
09	1	Relation between C.O.F & angle of friction
	2	Equilibrium of bodies on level surface subjected to parallel force
	3	Equilibrium of bodies on level surface subjected to inclined plane
	4	Equilibrium of bodies on inclined plane subjected to force parallel to the plane only.


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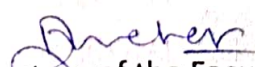
Week	Class Day	Theory /Practical Topics
10	1	centroid of square
	2	centroid of triangle
	3	centroid of circle
	4	centroid of semicircle & quarter circle
11	1	centroid of composite figure
	2	centroid of composite figure
	3	centroid of composite figure
	4	centroid of composite figure
12	1	CG. of cube, cuboid, cone
	2	CG of sphere, hemisphere
	3	CG of composite solids
	4	solve simple problems


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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
13	1	Simple lifting machine, load, effort
	2	Mechanical advantage, applications & advantages
	3	velocity ratio, Efficiency of m/c
	4	laws of machine
14	1	Ideal m/c, friction in m/c
	2	max. mechanical advantages & efficiency
	3	Reversible & non reversible m/c's.
	4	Conditions for reversibility
15	1	Simple axle & wheel
	2	worm & worm wheel, single purchase crab winch
	3	Double purchase crab winch, simple screw jack
	4	Differential pulley block geared pulley block.


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