Orissa School of Mining Engineering Keonj

Department of Mechanical Engineering
Lesson Plan w.e.f 04.02.2025 TO 17.05.2025

Subject: Engineering Mechanics (TH 4(b))				
Discipline: Mechanical Engineering (Sec-B)			Name of the Faculty: Barun Kumar	
Course Code:		Th.4(b)	Semester:	
Total Periods:		60	Examination:	
Theory Periods:		4P/W	Class Test:	
Maximum Marks:		100	End Semester Examination:	

Month	Day	Availability of classes	Class Day	Theory Topics
FEB	1st	02	06/02/2025	**Unit – I Basics of mechanics and force system** relevance of Mechanics, Applied mechanics, Sta
			06/02/2025	Space, time, mass, particle, flexible body and rig
	2nd	01	07/02/2025	Scalar and vector quantity, Units of measuremer units and derived units.
	3rd	02	13/02/2025	Force – unit, representation as a vector and by B
			13/02/2025	characteristics and effects of a force, Principle of
	4TH	01	14/02/2025	Force system and its classification and numerica
	5TH	02	15/02/2025	Resolution of a force - Orthogonal components
			15/02/2025	moment of a force, Varignon's Theorem.
	6th	02	20/02/2025	Composition of forces – Resultant, analytical me resultant for concurrent.
			20/02/2025	non-concurrent and parallel co-planar force syst parallelogram.
	7th	01	21/02/2025	non-concurrent and parallel co-planar force syst Topic end, Question answer discussion, Assignm
	8th	02	27/02/2025	**Unit– II Equilibrium** Equilibri body.
			27/02/2025	Free body diagram, Analytical and graphical met equilibrium.
	9th	01	28/02/2025	Lami's Theorem – statement and explanation, A engineering problems.
	10th	02	01/03/2025	Lami's Theorem solving simple numerical proble
			01/03/2025	Types of beam, supports (simple, hinged, roller a
	11TH	02	06/03/2025	loads acting on beam (vertical and inclined point
			06/03/2025	loads acting on beam uniformly distributed load
	12TH	01	07/03/2025	Beam reaction for cantilever, simply supported k overhang – subjected to combination of Point lo
	13TH	02	13/03/2025	Beam reaction for cantilever, simply supported k overhang– uniformly distributed load.
			13/03/2025	Beam reaction graphically for simply supported point loads only.

MARCH	14TH	02	20/03/2025	Solving numerical problem.Topic end, Question Assignment 2
			20/03/2025	**CLASS TEST- 1**
	15TH	01	21/03/2025	**Unit– III Friction-** Friction and its relevance in er of friction.
	16TH	02	27/03/2025	limiting equilibrium, limiting friction, co-efficient
			27/03/2025	angle of friction, angle of repose, relation betwe and angle of friction.
	17TH	01	28/03/2025	INTERNAL ASSESSMENT 1
	18TH	02	29/03/2025	Equilibrium of bodies on level surface subjected inclined to plane.
			29/03/2025	Solving numerical problem.
APRIL	19TH	02	03/04/2025	Equilibrium of bodies on inclined plane subjecte plane only.
			03/04/2025	Solving numerical problem. Topic end, Question answer discussion, Assignm
	20TH	01	04/04/2025	**Unit– IV Centroid and centre of gravity** Centroi figures (square, rectangle, triangle, circle, semi-c
	21TH	02	05/04/2025	Centroid of composite figures composed of not i geometrical figures
			05/04/2025	Centre of Gravity of simple solids (Cube, cuboid, hemisphere)
	22TH	02	10/04/2025	Centre of Gravity of composite solids composed simple solids
			10/04/2025	Solving numerical problem.
	23TH	01	11/04/2025	Solving numerical problem.Topic end, Question Assignment 4
	24TH	02	17/04/2025	**CLASS TEST 2**
			17/04/2025	**Unit – V Simple lifting machine** Simple lifting m mechanical advantage, applications and advanta
	25TH	02	19/04/2025	Velocity ratio, efficiency of machines.
			19/04/2025	law of machine,Ideal machine
	26TH	02	24/04/2025	Solving numerical problem.
			24/04/2025	friction in machine, maximum Mechanical advar
	27TH	01	25/04/2025	reversible and non-reversible machines.
MAY	28TH	02	01/05/2025	condition**s** for reversibility and numerical.
			01/05/2025	Velocity ratios of Simple axle and wheel, and nu
	29TH	01	02/05/2025	Velocity ratios of Differential axle and wheel, an
	30TH	02	03/05/2025	Velocity ratios of Worm and worm wheel and n
			03/05/2025	Velocity ratios of Single purchase crab winch and
	31TH	02	08/05/2025	Velocity ratios of double purchase crab winch ar
			08/05/2025	Velocity ratios of Simple screw jack and numeric
	32TH	01	09/05/2025	**INTERNAL ASSESSMENT 2**
	33TH	02	15/05/2025	Weston's differential pulley block
			15/05/2025	Weston's geared pulley block. answer discussion, Assignment 5
	34TH	01	16/05/2025	REVISION
	35TH	02	17/05/20205	REVISION
			17/05/2025	REVISION

Prepared by	HOD, Math and science	
Er Barun Kumar Barik	OSME,Keonjhar	

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Principal
JSME,Keonjhar