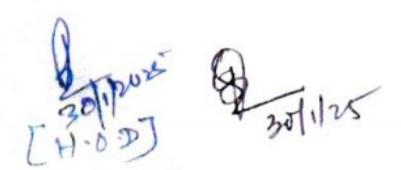
SYNERGY SCHOOL OF ENGINEERING, DHENKANAL

LESSONPLAN

Session(2024-2025)

Discipline: Mechanical Engineering	Semester: 2 nd , Summer/2025	Nameofthe Leaching Faculty: My G. (- Swain EmailID:	
Subject: EngineeringMechanics,Theory-4(b)	No.ofDays/Week:04	StartDate: 04/02/2025 EndDate: 17/05/2025	

Week	ClassDay	TheoryTopics		
1 st	1st	Significance and relevance of Mechanics, Applied mechanics, Statics, Dynamics. Space time, mass, particle, flexible body and rigid body		
	2nd	Scalar and vector quantity, Units of measurement (SI units) - I undamental units and		
	3rd	Force – unit, representation as a vector and by Bow's notation, characteristics and effects of a force. Principle of transmissibility of force, Force system and its classification.		
	4th	Composition of forces – Resultant, analytical method for determination of resultant for concurrent, Coplannar force system by parallelogram laws		
	1st	Solve numericals		
2nd	2nd	Resolution of a force - Orthogonal components of a force, solve the numericals		
	3rd	Finding resultant by graphical method applying triangle law and polygon law of forces		
	4th	Define moment of a force & Varignon's Theorem		
3rd	1st	Finding resultant of non-concurrent co-planar forces systems & solve numericals		
	2nd	Finding resultant of parallel coplannaar forces & solve numericals.		
	3rd	Solve numericals based on unit-1		
	4th	Equilibrium and Equilibrant, Free body and Free body diagram. Analytical and graphica methods of analysing equilibrium		
	1st	Lami's Theorem – statement and explanation. & solve numericals		
	2nd	Types of beam, supports (simple, hinged, roller and fixed) and loads acting on beam (vertical and inclined point load, uniformly distributed load, couple)		
4th	3rd	Beam reaction for cantilever beam with or without overhang - subjected to combination		
		of Point load and uniformly distributed load.		
	4th	Beam reaction for simply supported beam with or without overhang – subjected to combination of Point load and uniformly distributed load& combined load.		
5th	1st	Solve numericals		
	2nd	Beam reaction graphically for simply supported beam subjected to vertical point loads only& Solve numericals		
	3rd	Friction and its relevance in engineering, types and laws of friction, limiting		
	4th	Angle of friction, angle of repose, relation between co-efficient of friction and angle of friction & Solve numericals		
6th	1st	Equilibrium of bodies on level surface subjected to force parallel to plane.		
	2nd	Solve Numericals		
	3rd	Equilibrium of bodies on level surface subjected to inclined to plane.		
	4th	Solve Numericals		



	1st	Equilibrium of bodies on inclined plane subjersed to force parallel to the plane only	
7th	2nd	Solve Numericals	
	3rd	Surprise test Centroid Definition, Centroid of geometrical plane figures (square, rectangle, triangle,	
	4th	Centroid Definition, Centroid of geometrical plane rights (square, square, circle, semi-circle, quarter circle) Centroid of composite figures composed of not more than three geometrical figures	
8th	1 st	Centroid of composite figures composed of not more than three geometrical figures	
	2nd	Centroid of composite figures composed of not more than three geometrical figures	
	3rd	Centroid of composite figures composed of not more than three geometrical figures	
	4th	Centre of Gravity of simple solids (Cube, cuboid, cone, cylinder, sphere, hemisphere).	
	lst	Centre of Gravity of composite solids composed of not more than two simple solids	
	2nd	Centre of Gravity of composite solids composed of not more than two simple solids	
	3rd	Centre of Gravity of composite solids composed of not more than two simple solids	
9th	510	Doubt Clearing Class	
	4th	Simple lifting machine, load, effort, mechanical advantage, applications and advantages	
10th	1 st	Velocity ratio, efficiency of machines, law of machine & Solve numericals	
	2nd	Velocity ratio, efficiency of machines, law of machine de don't machine de	
	3rd	Solve Numericals	
	4th	Ideal machine, friction in machine, maximum Mechanical advantage and efficiency & solve numericals	
11th	1st	reversible and non-reversible machines, conditions for reversibility ,solve numericals	
	2nd	DoubtClearingclass	
	3rd	Velocity ratio of simple & differential axle & wheel	
	4th	Solve numericals	
	1st	Worm & worm wheel, single purchase crab winch	
	2nd	Solve numericals	
12th	3rd	Double purchase crab winch, simple screw jack	
	4th	Solve numericals	
	1st	Westons ' differential pulley block, geared pully block	
	2nd	Solve numericals	
13th	3rd	Classtest/Assignment-02	
	4th	QuizTest	
	1st	SemesterQuestion Discussion	
	2nd	SemesterQuestion Discussion	
14th	3rd	SemesterQuestion Discussion	
	4th	SemesterQuestion Discussion	
	1st	SemesterQuestion Discussion	
15th	2nd	SemesterQuestion Discussion	
	3rd	SemesterQuestion Discussion	
	4th	SemesterQuestion Discussion	

SignatureofConcernedTeacherSignatureofH.O.D