

OSME Keonjhar

Department of Mechanical Engineering

Lesson Plan

Discipline: Math and Science		Semester: 2nd		Faculty: <i>Mr Barun Kumar Barik</i>
Subject: Engineering Mechanics (TH4)		No of day/week of class allotted: 4		Semester starts from- 20/03/2023 To:27/06/2023
MONTH	WEEK	AVAILABILITY OF CLASSES	CLASS DAY	THEORY TOPICS
MARCH	1 st	04	20/03/2023	Module 1: fundamentals of Engineering mechanics Defination of mechanics, static, dynamics, rigid body
			22/03/2023	
MARCH	2 nd	04	27/03/2023	Principle of transmissibility, principle of super position ,law of action and reaction
			27/03/2023	Free body diagram.
			29/03/2023 29/03/2023	Resolution of force (perpendicular and non perpendicular component),Composition of force (resultant force, triangle law)
	3 rd	04	03/04/2023	Parallelogram law and polygon law of force.
			03/04/2023	Method of resolution and graphical method of resultant force.
			05/04/2023 05/04/2023	Numerical solve on resultant force.
	4 th	04	10/04/2023	Moment of force (defination, law and classification)
			10/04/2023	Couple (defination ,classification and properties)
			12/04/2023 12/04/2023	Numerical solve on moment of force and couple.
	APRIL	5 th	04	17/04/2023
17/04/2023				Lami's theorem (statement ,prove and application)
19/04/2023 19/04/2023				Numerical solve on lami's theorem
6 th		04	24/04/2023	CLASS TEST 1
			24/04/2023	Modue 3: FRICTION Defination, frictional force and classification
			26/04/2023 26/04/2023	Limiting friction, coefficient of friction, angle of repose. Law of limiting friction, advantages and disadvantages of friction.
			01/05/2023	Equilibrium of body –force applied on horizontal

MAY				plane. Equilibrium of body-Force apply on inclined plane.
			01/05/2023	Ladder friction, Wedge friction.
			03/05/2023 03/05/2023	Numerical on friction
	8th	04	08/05/2023	MODULE 4: CENTROID AND MOMENT OF INERTIA: Defination, moment of an area about an axis, Centroid of geometrical figure such as square, rectangle ,triangles, circles.
			08/05/2023	Centroid of geometrical figures such as semicircles and quarter circles, centroid of composite figures.
			10/05/2023 10/05/2023	Numerical on centroid.
9th	04	15/05/2023	Moment of inertia- defination, M.I. of plane lamina. M.I. of different engineering section	
		15/05/2023	CLASS TEST 2	
		17/05/2023 17/05/2023	Parallel and perpendicular axis theorem. Numerical practice	
MAY	10th	04	22/05/2023	MODULE 5: SIMPLE MACHINE Defination of simple machine, compound machine, Mechanical advantage, Velocity Ratio ,efficiency.
			22/05/2023	Relation between M.A , V.R and efficiency. V.R. of Simple and compound gear train.
			24/05/2023 24/05/2023	Law of machine, reversibility of machine, self locking machine. Numerical solve
	11th	02	29/05/2023	Study of simple machine- simple axle and wheel, worm and worm wheel.
			29/05/2023	Single purchase crab winch and double purchase crab winch. Numerical solve
	12th	04	31/05/2023	Screw jack. Numerical solve
31/05/2023			Hoisting machine like derricks use and working principle	
05/06/2023 05/06/2023			MODULE 6: DYNAMICS: Kinematics and kinetics, principle of dynamics, Newton's law of motion.	
JUNE	13th	04	07/06/2023	CLASS TEST 3
			07/06/2023 12/06/2023 12/06/2023	Motion of particles acted upon by a constant force, equation of motion, De albert's principle. Work ,power, energy and its engineering application. Kinetic energy and potential energy and its application. Numerical solve
	14 th	04	19/06/2023	Momentum and impulse, conservation of energy and linear momentum, collision of elastic bodies and co efficient of restitution. Numerical solve
15th	02	21/06/2023	PREVIOUS YEAR QUESTION SOLVE	
		26/06/2023	PREVIOUS YEAR QUESTION SOLVE	