

Sec - B (Mech)

BHARAT INSTITUTE OF ENGINEERING & TECHNOLOGY

SIVARAM VIHAR, GHATAKESWAR HILLS
MOHADA, BERHAMPUR (GM.)



STUDENT'S ATTENDANCE REGISTER

Time	9.55	10.45			
Day	10.45	11.35			
Mon		Mech.			
Tue	Mech.				
Fri		Mech.			
Sat	Mech.				

Year/ Session	2023 - Summer.
Semester & Branch	2 nd sem, Mechanical - B
Subject with Code	Engg. Mechanics.
Name of the Faculty Member	Dharmendra Kumar Sahu M. Roshan Kumar Patra.

B.I.E.T., COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic	
March	3rd 4 th	20/03/23	<u>fundamentals</u> : Introduction to Mechanics ; Definition of Mechanics	
		21/03/23	Statics, Dynamics, Rigid Bodies	
		24/03/23	<u>force</u> : Definition & characteristics of force Effect of force	
		25/03/23	<u>force system</u> : Definition Classification of Force system according to Plane & line of action	
	5 th	27/03/23		<u>Resolution of a Force</u> : Definition Method of Resolution Types of Component forces Perpendicular & Non-perpendicular Components
			28/03/23	Principle of Transmissibility ; Principle of Superposition
		29 31/03/23		<u>Composition of forces</u> : Definition, Resultant force, Method of Composition of forces

B.I.E.T., COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic
April	1 st	03/04/23	<u>Analytical Method</u> : Law of Parallelogram of forces Method of Resolution
		04/04/23	Numericals on above
		08/04/23	<u>Graphical Method</u> : Introduction Space diagram Vector diagram Polygon law of forces
	2 nd	10/04/23	Action & Reaction forces Tension & Compression
		11/04/23	Concept of free body diagram Questions on FBD
		15/04/23	Resultant of concurrent, non-concurrent & parallel force system by Analytical & Graphical method
	3 rd	17/04/23	<u>Moment of force</u> : Definition Geometrical meaning of moment of force Measurement of moment of force & units Classification of moments according to direction of rotation Sign convention, Law of moments

B.I.E.T., COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic
		18/04/23	Varignon's theorem <u>Couple</u> - Definition, SI units Measurement of couple Properties of Couple
		21/04/23	Numericals on moment of force and couple.
		22/04/23	<u>Equilibrium</u> : Definition Condition of equilibrium Equilibrant
	4th	24/04/23	Analytical & Graphical Conditions of equilibrium for concurrent and non-concurrent forces
		25/04/23	<u>Lami's theorem</u> : Statement, Derivation
		28/04/23	Numericals on Lami's theorem
		29/04/23	Application for solving various engineering problems
May	1st	01/05/23	<u>Friction</u> : Definition ; Frictional forces ; Limiting frictional force, Coefficient of friction

B.I.E.T., COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic	
May	1st	02/05/23	Angle of friction; Angle of Repose; Law of friction; Advantages & Disadvantages of friction	
		06/05/23	Equilibrium of bodies in inclined plane - force applied horizontally (Up & down)	
	2nd	08/05/23	Numericals on above	
		09/05/23	Numericals on above	
		12/05/23	friction in belt	
		13/05/23	Numericals on above	
	3rd	15/05/23	Wedge friction	
		16/05/23	Numericals on above	
	4th			<u>Centroid</u> :
			20/05/23	Definition; Moment of an area about an axis
			22/05/23	Centroid of geometrical figures, such as rectangle, square, triangle, circle, Semi circle & Quarter circle
			23/05/23	Centroid of Composite figures
			26/05/23	Numericals on above
			27/05/23	Numericals on above

B.I.E.T., COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic	
June	5 th	29/05/23	<u>Moment of Inertia</u> : Definition ; Parallel axis theorem ; Perpendicular axis theorem	
	1 st	30/05/23	M.I. of plane lamina	
		02/06/23	Numericals on above	
	2 nd	03/06/23	M.I. of different engineering sections	
		05/06/23	Numericals on above	
		06/06/23	Numericals on above	
	3 rd			<u>Dynamics</u> :
		09/06/23	Kinematics ; Kinetics ; Equations of motion	
		10/06/23	Principles of dynamics ; Newton's laws of Motion	
		12/06/23	Numericals on above	
		13/06/23	Motion of particle acted upon by a constant force ; De-Alembert's principle	
		16/06/23	Work, Power, Energy, Kinetic energy, Potential energy	
		17/06/23	Numericals on above	
		4 th	19/06/23	Momentum & Impulse

B.I.E.T., COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic
		23/06/23	Conservation of Energy; Conservation of linear momentum
		24/06/23	Collision of elastic bodies; Coefficient of restitution
	5 th	26/06/23	Numericals on above
		27/06/23	Numericals on above