LESSON PLAN

Name of Faculty	Sh. Ankush Bharti
Department	Applied Science & Humanities
Semester	2nd
Subject	Engineering Mechanics
Lesson Plan for the Duration	22 Feb, 2023 to 15 June, 2023

Week	Theory	
1st (22-28 Feb 2023)	Topics	Significance and relevance of Mechanics, Applied mechanics, Statics, Dynamics. Space, time, mass, particle, flexible body and rigid body
2nd (01-07 March 2023)	Topics	Scalar and vector quantity, Units of measurement (SI units) - Fundamental units and derived units
3rd (09-16 March 2023)	Topics	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 (17-23 March 2023)	Topics	Resolution of a force - Orthogonal components of a force, moment of a force, Varignon's Theorem.
5th (24-31 March 2023)	Topics	Composition of forces – Resultant, analytical method for determination of resultant for concur- rent, non-concurrent and parallel co-planar force systems – Law of triangle, parallelogram and polygon of forces.
6th (01-10 April 2023)	Topics	Equilibrium and Equilibrant, Free body and Free body diagram, Analytical and graphical meth-ods of analyzing equilibrium.
7th (11-19 April 2023)	Topics	Lami's Theorem – statement and explanation, Application for various engineering problems.
8th (20-27 April 2023)	Topics	Types of beam, supports (simple, hinged, roller and fixed) and loads acting on beam (vertical point load, uniformly distributed load)
9th (28 April-04 May 2023)	Topics	Beam reaction for cantilever, simply supported beam with or without overhang – subjected to combination of Point load and uniformly distributed load. Beam reaction graphically for simply supported beam subjected to vertical point loads
10th (06-11 May, 2023)	Topics	Friction and its relevance in engineering, types and laws of friction, limiting equilibrium, limiting friction, co-efficient of friction, angle of friction, angle of repose, relation between co-efficient of friction and angle of friction.
11th (12-19 May 2023)	Topics	Centroid of geometrical plane figures (square, rectangle, triangle, circle, semi-circle, quarter circle). Centroid of composite figures composed of not more than two geometrical figures
12th (20-26 May 2023)	Topics	Centre of Gravity of simple solids (Cube, cuboid, cone, cylinder, sphere, hemisphere) Centre ofGravity of composite solids composed of not more than two simple solids.
13th (27 May-02 June 2023)	Topics	Simple lifting machine, load, effort, mechanical advantage, applications and advantages. Velocity ratio, efficiency of machines, law of machine.
14th (03-09 June 2023)	Topics	Ideal machine, friction in machine, maximum Mechanical advantage and efficiency, reversible and non-reversible machines, conditions for reversibility.
15th (12-15 June 2023)	Topics	Velocity ratios of Simple axle and wheel, Differential axle and wheel, Worm and worm wheel, Simple screw jack

Anil Rewal
HOD(AS&H)

Ankush Bharti
Lecturer Physics
17.02.2023

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