

Ch. Ranbir Singh State Institute of Engg. & Technology

LESSON PLAN

Semester (B.Tech)	3rd	Year	2020	Contact Hours per week =4
Sub: Engineering Mechanics		Branch Mechanical Engineering		Total Credit 4
TEACHER		Sh. Manjeet Kumar		
Period		July 2020-Dec. 2020		
Recommended books		Text book: 1. Engineering mechanics: A.K. Tayal Reference books: 1. Fundamental of Engineering mechanics (2 nd Edition): S Rajasekharan & G Shankara Subramaniam; Vikas Pub. House Pvt ltd. 2. Engineering mechanics: K.L. Kumar; Tata MC Graw Hill.		
Sl. No.	Lecture No.	Topics to be covered		No. of Classes
		MODULE-1		10
1	Lecture-01	Introduction to mechanics		
2	Lecture-02	Concurrent forces on a plane: Composition, resolution		
3	Lecture-03	Concurrent forces on a plane: equilibrium of concurrent forces		
4	Lecture-04	Concurrent forces on a plane: Problems on composition, resolution and equilibrium of concurrent forces		
5	Lecture-05	Concurrent forces on a plane: Problems on composition, resolution and equilibrium of concurrent forces		
6	Lecture-06	Concurrent forces on a plane: Method of Projections		
7	Lecture-07	Concurrent forces on a plane: Equilibrium of three forces in a plane		
8	Lecture-08	Concurrent forces on a plane: Problems on methods of projection and equilibrium of coplanar forces		
9	Lecture-09	Concurrent forces on a plane: Problems on methods of projection and equilibrium of coplanar forces		
10	Lecture-10	Concurrent forces on a plane: Method of moments, Problems on method of moments		
		MODULE-2		

11	Lecture-12	Concurrent forces on a plane: Friction	7
12	Lecture-13	Concurrent forces on a plane: Problems on friction	
13	Lecture-14	Parallel forces on a plane: General case of parallel forces	
14	Lecture-15	Parallel forces on a plane: Center of parallel forces and center of gravity	
15	Lecture-15	Parallel forces on a plane: Center of parallel forces and center of gravity	
15	Lecture-16	Parallel forces on a plane: Centroid of composite plane figure and curves	
16	Lecture-17	Class Test on Module-2	
		MODULE-3	
17	Lecture-18	General case of forces on a plane: Composition and equilibrium of forces in a plane, plane trusses, method of joints	11
18	Lecture-19	Problems on truss(method of joint)	
19	Lecture-20	General case of forces on a plane: method of sections	
20	Lecture-21	Problems on truss(method of section)	
21	Lecture-22	General case of forces on a plane: plane frame	
22	Lecture-23	Problems on truss(method of frame)	
23	Lecture-24	General case of forces on a plane: principle of virtual work, equilibrium of ideal systems.	
24	Lecture-25	Problems on virtual work	
25	Lecture 27	Moments of inertia: Plane figure with respect to an axis in its plane and perpendicular to the plane	
26	Lecture 28	Moments of inertia: parallel axis theorem, Problems	
27	Lecture 29	Moments of inertia: Problems	
		MODULE-4	
28	Lecture 28	Rectilinear Translation: Kinematics, principle of dynamics,	12
29	Lecture 29	Rectilinear Translation: D Alembert's Principle	
30	Lecture 30	Problems	
31	Lecture 31	Rectilinear Translation: momentum and impulse	
32	Lecture-32	Problems	
33	Lecture-33	Rectilinear Translation: work and energy, impact,problems	
34	Lecture-34	Curvilinear translation: Kinematics, equation of motion,	
35	Lecture 35	Curvilinear translation: projectile	
36	Lecture-36	Curvilinear translation: D Alembert's principle of curvilinear motion.	
37	Lecture-37	D Alembert's principle of curvilinear motion.	
38	Lecture-38	Kinematics of rotation of rigid body	
39	Lecture-39	Class Test on Module-4	
40		Tips for final exams	

Signature of Teacher

