

Bhoj Reddy Engineering College for Women: Hyderabad

Department of General Engineering

Lesson plan of faculty member for the academic year 2020-21

Class: II B Tech

Branch-Section: EEE

Semester: I

Subject: Engineering Mechanics

Lectures per week: 04

Lecture Number	Topics to be covered	Date (s)
UNIT – I: INTRODUCTION TO ENGINEERING MECHANICS		
1	Introduction to engineering mechanics Basic concepts classification of forces,	01 Sep 2020
2	Tutorial: : Concurrent force system- problems	02 Sep 2020
3	Concurrent force system- problems	03 Sep 2020
4	Problems on resolution of forces	05 Sep 2020
5	Moment of force	08 Sep 2020
6	Tutorial: :Problems on moment of force	09 Sep 2020
7	Couple and couple force system	10 Sep 2020
8	Parallel force and general force system problems	12 Sep 2020
9	Equilibrium of forces- free body diagrams	15 Sep 2020
10	Tutorial: Problems on free body diagrams	16 Sep 2020
11	Spatial force system	17 Sep 2020
12	Problems on moment and vector component in spatial force	19 Sep 2020
13	Parallel force system in spatial	22 Sep 2020
14	Tutorial General and equilibrium forces in Spatial force	23 Sep 2020
UNIT – II: FRICTION & CENTROIDS		
15	Introduction to friction	24 Sep 2020
16	Limiting friction laws of friction	26 Sep 2020
17	Problems on static and dynamic friction	29 Sep 2020
18	Tutorial Problems on static and dynamic friction	30 Sep 2020
19	Wedge Screw-problems	01 Oct 2020
20	Wedge screw-problems	03 Oct 2020
21	Tutorial: Screw jack-problems	06 Oct 2020
22	Screw jack- problems	07 Oct 2020
23	Differential screw jack problems	08 Oct 2020
24	Tutorial: Problems	10 Oct 2020
25	Introduction to center of gravity, Centroid of area and composite figures-problems	13 Oct 2020
26	Theorem of Pappus and problems	14 Oct 2020
27	Centroid of bodies and volumes	15 Oct 2020
28	Tutorial: Center of gravity of composite figures	27 Oct 2020
UNIT-III AREA MOMENTS OF INERTIA		
29	Area moment of inertia introduction	28 Oct 2020
30	Polar moment of inertia –problems- radius of gyration	29 Oct 2020
31	Tutorial: Transfer theorem and integration problems	31 Oct 2020
I MID EXAM		
32	Mass moment of inertia of various solids -derivations	10 Nov 2020
33	Tutorial : Mass moment of inertia of various solids derivations	11 Nov 2020
35	Mass moment of inertia of various solids derivations	12 Nov 2020

36	Mass moment of inertia -problems	17 Nov 2020
37	Tutorial Mass moment of inertia problems on composite solids	18 Nov 2020
UNIT – IV: REVIEW OF PARTICLE DYNAMICS		
38	Introduction to kinetics=Particle dynamics	19 Nov 2020
39	Newton's 2 nd Law rectilinear and curvilinear motion	21 Nov 2020
40	Problems	24 Nov 2020
41	Tutorial Problems	25 Nov 2020
42	Motion in curved path –problems	26 Nov 2020
43	Motion in curved path –problems	28 Nov 2020
44	Problems	01 Dec 2020
45	Tutorial Problems	02 Dec 2020
46	Work energy and power	03 Dec 2020
47	Problems	05 Dec 2020
48	Principle of conservation of energy	08 Dec 2020
49	Tutorial Problems	09 Dec 2020
50	Problems, Impulse-momentum - theory	10 Dec 2020
51	Problems	12 Dec 2020
52	Impact –direct and oblique	15 Dec 2020
53	Tutorial Problems	16 Dec 2020
54	problems	17 Dec 2020
UNIT – V: KINETICS OF RIGID BODY		
55	Kinetics of Rigid bodies –theory and problems	19 Dec 2020
56	Instantaneous centre of rotation,	22 Dec 2020
57	D'Alembert's Principle	23 Dec 2020
58	Work energy Principle and problems,	24 Dec 2020
59	Kinetics of rigid body rotation problems	26 Dec 2020
60	Revision	29 Dec 2020
61	Tutorial Problems	30 Dec 2020
62	Revision	02 Jan 2020

TEXT BOOKS:

1. Shames and Rao(2006)-Engineering Mechanics,Pearson Education
2. Reddy Vijaya Kumar K and J Suresh Kumar (2010)Singer's Engineering Mechanics-Statics and Dynamics

References:

- 1.Timeshenko S.P and Young D.H , “Engineeering Mechanics “, McGrawHill International Edition 1983
2. Andrew Pytel, Jean Klusalaas “Engineering Mechanics” Cengage Learning,2014

3. Beer F P Johnston ER Jr Vector: Mechanics for ENgineers” TMH,2004
- 4.Hibbeler R.C& Ashok Gupta,”Engineering Mechanics” Pearson Education ,2011
5. Tayal A K “Engineering Mechanics-Statics and Dyanamics” Umesh Publications,2011,
- 6 .Basudeb Bhattacharya: Engineering Mechanics , Osford University Press 2008.
- 7.Meriam J L “Engineering Mechancis Volume II Dyanamics, John Wiley and Sons,2008

Name and signature of the faculty: L Priyanka

Name and signature of Head of the Department: . Anagha Deshpande