Bhoj Reddy Engineering College for Women: Hyderabad

Department of Basic Sciences

Lesson plan of faculty member for the academic year 2016–17

Class: I B Tech Branch-Section: EEE Semester: I

Subject: Engineering Mechanics -I Lectures per week: 04

Lecture Number	Topics to be covered	Date (s)
UNIT – I: INTRODUCTION TO ENGINEERING MECHANICS		
1	Introduction to engineering mechanics	10 August 2016
2	Basic concepts classification of forces	11 August 2016
3	Concurrent force system- problems	12 August 2016
4	Problems on resolution of forces	17 August 2016
5	Moment of force	18 August 2016
6	Problems on moment of force	20 August 2016
7	Couple and couple force system	22 August 2016
8	Parallel force and general force system problems	24 August 2016
9	Equilibrium of forces- free body diagrams	27 August 2016
10	Problems on free body diagrams	29 August 2016
11	Spatial force system	30 August 2016
12	Problems on moment and vector component in spatial force	31 August 2016
13	Parallel force system in spatial	03 September 2016
14	General and equilibrium forces in Spatial force	06 September 2016
UNIT – II: FRICTION		
15	Introduction to friction	07 September 2016
16	Limiting friction laws of friction	10 September 2016
17	Problems on static and dynamic friction	12 September 2016
18	Problems on static and dynamic friction	14 September 2016
19	Wedge Screw-problems	17 September 2016
20	Wedge screw-problems	19 September 2016
21	Screw jack-problems	20 September 2016
22	Screw jack- problems	21 September 2016
23	Differential screw jack problems	24 September 2016
UNIT – III: CENTER OF GRAVITY AND AREA MOMENTS OF INERTIA		
24	Introduction to center of gravity	26 September 2016
25	Centroid of area and composite figures-problems	27 September 2016
26	Theorem of Pappus and problems	28 September 2016
27	Centroid of bodies and volumes	01 October 2016
28	Center of gravity of composite figures	03 October 2016
29	Problems	04 October 2016
AREA MOMENTS OF INERTIA		
30	Area moment of inertia introduction	17 October 2016
31	Polar moment of inertia –problems- radius of gyration	18 October 2016
32	Transfer theorem and integration	19 October 2016
33	Moment of inertia of composite figures-problems	22 October 2016
34	Product of inertia-problems	24 October 2016
35	Transfer formula for product of inertia	25 October 2016
UNIT – IV: MASS MOMENT OF INERTIA AND VIRTUAL WORK		
36	Mass moment of inertia introduction	26 October 2016
37	Radius of gyration –problems	29 October 2016
38	Transfer formula for mass moment of inertia	31 October 2016

39	Problems on mass moment inertia integration	05 November 2016
40	Mass moment of inertia of composite figures	07 November 2016
41	Problems	08 November 2016
VIRTUAL WORK		
42	Theory of virtual work-introduction	09 November 2016
43	Problems and applications of theory of virtual work	12 November 2016
UNIT – V: KINETICS AND MECHANICAL VIBRATIONS		
44	Introduction to kinetics	15 November 2016
45	D'Alemberts principle	16 November 2016
46	Motion in curved path –problems	19 November 2016
47	Work energy and power	22 November 2016
48	Principle of conservation of energy	23 November 2016
49	Kinetics of rigid body in translation	26 November 2016
50	Rotation and work done- problems	28 November 2016
51	Principle of work energy-impulse momentum	29 November 2016
MECHANICAL VIBRATIONS		
52	Introduction to mechanical vibrations	30 November 2016
53	Concept of simple harmonic motion- problems	03 December 2016
54	Free vibrations- simple and compound pendulums	05 December 2016
55	Revision and question paper discussion	06 December 2016

TEXT BOOKS:

1. Singer's Engineering Mechanics Statics and Dynamics/ K. Vijaya Kumar Reddy, J Suresh Kumar/BSP

2. Engineering Mechanics/ Irving Shames, G. Krishna Mohan Rao / Prentice Hall

3. Foundations and applications of Engineering Mechanics by HD Ram and AK Chauhan, Cambridge publications

References:

1. A Text of Engineering Mechanics /YVD Rao/ K. Govinda Rajulu/ M. Manzoor Hussain /Academic Publishing Company.

2. Engineering Mechanics / Bhattacharyya/ Oxford

Name and signature of the faculty: V. Ramakrishna----

Name and signature of Head of the Department: P. Anagha----