B.Tech 5th Semester (Mechanical Engineering)

LESSON PLAN: Dynamics of Machines (PCC-ME-502/21)
Session: Jul-Dec 2025

SN.	Topic	LN
	Unit 1: Static force and dynamic force analyisis	
1	**Introduction**	1
2	Syllabus talk and introduction of Subject	2
3	SFA of 4 Bar Mechanis	3
4	SFA of Slider Crank Mechanism	4
5	SFA with double force application	5
6	Numerical Prob practice	6
7	Introduction to Interia Force	7
8	Derivation of Dynamic force SCM	8
9	Numerical prob practice	9
10	Numerical problem_ graphical	10
11	Dynamically equivalent problem	11
12	Practices numerical	12
	unit2; Balalncing	
13	Introduction to Balancing: static dynamic	13
14	Staic Basl	14
15	Dynamic bal	15
16	Balancing of reciprocating engine,	16
17	Balancing of multi-cylinder inline	17
18	Balancing of radial engine	18
19	Method of direct and reverse cranks	19
20	Numerical on multi cylinders	20
21	Numerical Practices	21
	Unit3: Governor	
22	Basics of Governor	22
23	Centrifugal Governor	23
24	Governor_ Hartnell	24

25	Properties of Governor	25
26	Consideration of Controlling force of Governor	26
27	Problem of 4 wheeler	27
28	Problem 2 wheelers	28
29	Numerical Problems	29
	Unit 4: Gyroscopic effect:	
30	Spinning and precession, gyroscopic couple	30
31	Directional analysis	31
32	Gyro Effect in 4-wheeler	32
33	Gyro Effect in two wheelers	33
34	Numerical problem	34
	Unit5: Mechanical vibration	
35	Vibrartion introduction	35
36	Types	36
37	Equivalent stiffness of springs	37
38	coefficient of dampers,	38
39	Damped Vibrations	39
40	Vibration Isolation, Forced damped vibrations,	40
41	Whirlings of shafts, Longitudinal vibrations	41
42	Transverse Vibrations,	42
43	Torsional Vibrations	43
44	Numerical problem	44