III B. Tech – II Semester

(20ME6110) THEORY OF MACHINES LAB

Int. Marks	Ext. Marks	Total Marks	L	T	P	C
15	35	50	-	-	3	1.5

Pre-Requisites: Theory of machines

List of Experiments:

1. To determine whirling speed of shaft theoretically and experimentally.
2. To determine the position of sleeve against controlling force and speed of a Hartnell governor and to plot the characteristic curve of radius of rotation.
3. To analyse the motion of a motorized gyroscope when the couple is applied along its spin axis.
4. To determine the frequency of undamped free vibration of an equivalent spring mass system.
5. To determine the frequency of damped force vibration of a spring mass system
6. To study the static and dynamic balancing using rigid blocks.
7. To find the moment of inertia of a flywheel
8. To plot follower displacement vs cam rotation for various Cam Follower systems.
9. To plot slider displacement, velocity and acceleration against crank rotation for single slider crank mechanism/Four bar mechanism
10. To find coefficient of friction between belt and pulley.
11. To study simple and compound screw jack and determine the mechanical advantage , velocity ratio and efficiency
12. To study various types of gears- Spur, Helical, Worm and Bevel Gears

Course Outcomes:

After successful completion of the course, the students will be able to:

S. No	Course Outcome	BTL
1.	To determine whirling speed of shaft.	L2
2.	To determine the position of sleeve against controlling force and speed of a Hartnell governor.	L2
3.	To determine the frequency of damped force vibration of a spring mass system	L4
4.	To find coefficient of friction between belt and pulley.	L4

Correlation of COs with POs& PSOs:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	3	0	0	3	1	0	3	3	3	3	3	2
CO2	3	2	3	0	0	3	1	0	3	3	3	3	2	2
CO3	3	2	3	0	0	3	1	0	3	3	3	3	3	2
CO4	3	2	3	0	0	3	1	0	3	3	3	3	3	1