

Approval: 6th Senate Meeting

Course Number: ME 309P

Course Name: Theory of Machines Lab.

Credit: 0-0-2-1

Prerequisites: IC 240 Mechanics of Rigid Bodies

Students intended for: UG

Elective or Core: Core for ME, Elective for CSE/EE

Semester: Even

Preamble:

To introduce students to kinematic and dynamic behaviour of common machine elements and mechanisms and to enable students to identify necessary machine elements during design process and to identify tests for different design applications.

Course Outline:

The course introduces the basic mechanisms, synthesis of the mechanism, introduction to machine elements e.g. cams, governors and also includes introduction to balancing, gyroscope and vibrations.

Course/Lab. Modules:

Synthesizing a simple mechanism to produce given out put motion.

Balancing of engines.

Use of Governors for automatic fuel supply regulation.

Cams.

Gyroscope for stabilization.

Whirling speed of a shaft.

Vibrations of single and multi degree of freedom systems.

Effect of damping on vibrations.

Forced vibrations.

Torsional vibrations.

Transmissibility of vibrations to the support.

Mass dampers

Balancing of rotary machines.

