Course Code	Course Name	Credits
MEL402	**Kinematics of Machinery**	**01**

Objectives:

1. To familiarize with various mechanisms and inversions
2. To acquaint with basics of power transmission systems

Outcomes: Learner will be able to…

1. Draw velocity diagram usingInstantaneous Centre method
2. Find velocity and acceleration of a point on a four-bar mechanism by using Relative method.
3. Analyze velocity and acceleration of a specific link of a slider crank mechanism using graphical approach by Relative method.
4. Plot displacement-time, velocity-time, and acceleration-time diagrams of follower motion.
5. Draw cam profile for the specific follower motion.
6. Develop and build mechanisms to provide specific motion.

Term Work: Comprises of (a) and (b)

(a) Laboratory Work

Sr. No.	Details	Hrs.
1.	Analysis of velocity of mechanisms by Instantaneous Centre of Rotation method – 3 to 5 problems	**04**
2.	Analysis of velocity of mechanisms by Relative Velocity method – 3 to 5 problems	**04**
3.	Analysis of acceleration of mechanism by Relative method including pairs involving Coriolis acceleration – 3 to 5 problems	**04**
4.	Motion analysis and plotting of displacement–time, velocity-time and acceleration-time, jerk-time, and layout of cam profiles - 2 to 3 problems	**06**
5.	Mini project on design and fabrication of any one mechanism for a group of maximum 4 students	**08**

(b) Assignments: Minimum two problems on each of the following topics

Sr. No.	Topic
1.	Belts and Chains
2.	Brakes
3.	Gears and Gear trains

Assessment:

Distribution of marks for Term Work shall be as follows:

1. Laboratory Work : 15marks.
2. Assignments : 05 Marks
3. Attendance : 05 marks