1.	Title of the course	Design of Machine Elements
2.	Course number	ME302L
3.	Structure of credits	3-1-0-4
4.	Offered to	UG
5.	New course/modification to	Modification To ME3105/8
6.	To be offered by	Department of Mechanical Engineering
7.	To take effect from	July 2022
8.	Prerequisite	Nil
9.	**Course Objective(s):** The objective of the course is to introduce the students to the industrial practices followed in designing commonly used machine elements. Design procedure based on strength, stiffness, reliability and fatigue failure will be introduced. A probabilistic approach to design, use of data book and empirical relationships will be emphasised.	
10.	**Course Content:** Theories of failure, static theories, fatigue failure, theories for ductile and brittle materials, modes of failure; Design of shafts for strength, deflection and life; Bearings, the theory of hydrodynamic bearings, calculation of bearing parameters, the design of journal bearing, selection of rolling element bearing based on stress and reliability; Gear design, force analysis, American Gear Manufacturers Association method for gear design; Design of threaded joints and power screws; Design of helical springs.	
11.	**Textbook(s):** 1. Budynas R and Nisbett K, *Shigley's Mechanical Engineering Design*, 1st Edition, McGraw-Hill Education (2014).	
12.	**Reference(s):** 1. PSG College, Design Data: Data Book of Engineers, Kalaikathir Achchagam (2012). 2. Norton R L, *Machine Design, An Integrated Approach*, 2nd Edition, Pearson Education (1997).	