1.	Title of the course	Industrial Automation
2.	Course number	ME404L
3.	Structure of credits	3-0-0-3
4.	Offered to	UG
5.	New course/modification to	Modification To ME4204/8
6.	To be offered by	Department of Mechanical Engineering
7.	To take effect from	July 2022
8.	Prerequisite	Nil
9.	**Course Objective(s):** This course enables the student to suggest suitable level of automation for a given product manufacturing, design suitable material handling and storage systems for a given manufacturing situation, develop process plan and materials requirements plan, apply quality control techniques to monitor the quality of the products and processes.	
10.	**Course Content:** Automation and control technologies: Levels of production quantity and product variety, automation strategies, industrial control systems, numerical control, industrial robotics, programmable logic controllers (PLCs); Material handling and identification technologies: Material transport systems, storage systems, automatic data capture; Manufacturing Systems: Group technology and cellular manufacturing, flexible manufacturing systems (FMS), transfer lines; Quality control systems: Quality assurance, statistical process control, inspection technologies, total quality management (TQM); Manufacturing support systems: Process planning and concurrent engineering, aggregate planning, master production schedule, materials requirements plan (MRP), capacity planning, shop floor control, inventory control, manufacturing resource planning (MRP II), enterprise resource planning (ERP), justin-time (JIT) manufacturing.	
11.	**Textbook(s):** 1. Groover M P, *Automation, Production Systems, and Computer-Integrated Manufacturing*, 4th Edition, PHI (2016). 2. Singh N, *Systems Approach to Computer-Integrated Design and Manufacturing*, 1st Edition, Wiley (1995).	
12.	**Reference(s):** 1. Askin R G, Strandridge C R, *Modelling and Analysis of Manufacturing Systems*, 1st Edition, Wiley (1993).	