

Devi Ahilya University, Indore, India Institute of Engineering & Technology			II Year B.E. (Mechanical Engg.) (Full Time)				
Subject Code & Name	Instructions Hours per Week			Credits			
MER4L2 Workshop/Practical (MECHATRONICS)	L	T	P	L	T	P	Total
Duration of Theory Paper: 0 Hrs.	-	-	2	0	0	1	1

Learning Objectives:

1. To learn about the construction and working of a variety of sensors/transducers used in mechatronic applications.
2. To learn about the actuation and control of mechatronic systems using hydraulic and pneumatic methods.
3. To learn about the construction and working of mechatronic systems used in a day-to-day lives.

Pre requisite(s): Basic course in electrical and electronic devices along with the concepts of digital electronics.

Learning Outcomes:

Upon completing the course, student will able to:

1. Acquire the basic understanding of the characteristics of various sensors and transducers used in mechatronic and measurement systems.
2. Select the suitable devices and arrange them in the circuit for the control of actuators using hydraulic and pneumatic means.
3. Acquire the basic understanding of common mechatronic systems.

LIST OF PRACTICAL ASSIGNMENT

1. Study of electrical resistance strain gauges.
2. Study of linear variable differential transformer(LVDT).
3. Study of capacitive transducer.
4. Study of piezoelectric transducer.
5. A mechatronic approach to the study of the following: Printers, Photocopier machine, Ignition system in automobiles, TV remote control, Washing Machine etc.
6. Calibration of pressure gauge using dead weight pressure gauge tester.
7. Calibration of orifice plate using anemometer.
8. Study and Calibration of Thermocouple.
9. Study on Hydraulic system power pack.
10. Study on Pneumatic system power pack.