



Sixth Semester B.E./B.Tech. Degree Examination, June/July 2025

Mechatronics Engineering

Time: 3 hrs.

Max. Marks: 100

- Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.

Module – 1			M	L	C
Q.1	a.	Define control system. Explain types of control systems.	10	L2	CO1
	b.	Explain with block diagram, elements of mechatronics system.	10	L2	CO1
OR					
Q.2	a.	Illustrate the working of an Automatic Washing Machine.	10	L2	CO1
	b.	Explain the application of Mechatronics Systems.	10	L2	CO1
Module – 2					
Q.3	a.	Define Transducer. List the classification of Transducers.	10	L1	CO2
	b.	Explain LVDT with a neat sketch. List the advantages of LVDT.	10	L2	CO2
OR					
Q.4	a.	Define Strain. Explain the construction and working principle of a strain gauge.	10	L2	CO2
	b.	Illustrate the construction and working of an optical proximity sensor.	10	L2	CO2
Module – 3					
Q.5	a.	Explain any four methods adopted for signal conditioning.	10	L2	CO3
	b.	Explain RAMP type ADC in detail.	10	L2	CO3
OR					
Q.6	a.	Illustrate the block diagram of digital data Acquisition system.	10	L2	CO3
	b.	Explain Basic Components of SCADA systems.	10	L2	CO3
Module – 4					
Q.7	a.	Define Relay. Explain the types of Relays.	10	L2	CO4
	b.	Explain the components and working of DC servo motor.	10	L2	CO4
OR					
Q.8	a.	List the applications of solenoids in industry and brief the same.	10	L2	CO4
	b.	Explain the basic structure of PLC (Programmable Logic Controller).	10	L2	CO4

Module – 5					
Q.9	a.	Define Mechantronics. Discuss the Design Issues in mechantronics systems.	10	L1	CO5
	b.	Illustrate the stages in Designing Mechatronics system.	10	L2	CO5
OR					
Q.10	a.	Discuss the advantages and disadvantages of mechatronics systems.	10	L1	CO5
	b.	With a help of mechatronics system, explain automatic Car Park System.	10	L2	CO5
