EPCET LIBRARY BANGALORE-49

EAST POINT COLLEGE OF ENGINEERING & TECHNOLOGY
An Autonomous Institution Affiliated to Visvesvaraya Technological University (VTU) Belagavi

USN | | | | | | | | | | |

25MPD12

First Semester M.Tech Degree Examination, March 2026

MECHATRONICS FOR INDUSTRIAL APPLICATIONS

TIME:3 hrs. Max.Marks:100

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

		Module-1	M	L	C
Q.1	a	Define Mechantronics. Explain the basic elements of Mechatronics with a neat block diagram.	10	L1	CO1
	b	Discuss and Explain the elements of a closed Loop System with a neat block diagram.	10	L2	CO1
		OR			
Q.2	a	Explain with a neat diagram the Potentiometer sensor used for the positioning system.	10	L2	CO1
	b	Explain with a neat diagram of a Incremental Encoder used for the measurement of angular displacement.	10	L2	CO1
		Module–2			
Q.3	a	Describe translational and rotational system in building up a mechanical system model	10	L2	CO2
	b	Explain with a neat block diagram the Electro Mechanical Systems used in Mechatronics.	10	L2	CO2
		OR			
Q.4	a	Explain the Basis elements of CNC system with a neat block diagram	10	L2	CO2
	b	Explain the advantages Disadvantages and applications of CNC systems	10	L2	CO2
		Module–3			
Q.5	a	Explain the need and applications of Mechatronics in automobile sectors	10	L2	CO3
	b	Explain with a case study in Hybrid EV Electronic Ignition Engine control system	10	L2	CO3
		OR			
Q.6	a	Explain with a case study in Robotic Arm in International space station system .	10	L2	CO3
	b	Explain with a case study in Survilance Drone Navigation system.	10	L2	CO3
		Module–4			
Q.7	a	Explain with a case study the application of Mechatronics in automated production line	10	L2	CO4
	b	Explain with a case study the application of Mechatronics using Additive Manufacturing	10	L2	CO4
		OR			
Q.8	a	Explain with a case study the application of Mechatronics in automated production line	10	L2	CO4

	b	Explain with a case study the application of Mechatronics using ASRS system.	**10**	**L2**	**CO4**
Module–5					
Q.9	**a**	Explain the applications of Mechatronics in surgical robots	**10**	**L2**	**CO5**
	b	Explain the analysis of Force in orthopedicimplants using Mechatronics	**10**	**L2**	**CO5**
OR					
Q.10	**a**	Explain the applications of Mechatronics Considering rehabilitation of wheel chairs for mobikity assistance	**10**	**L2**	**CO5**
	b	Explain the role of Mechatronics in IOT assisted home automation devices	**10**	**L2**	**CO5**

*****

EPCET