

THE KAVERY ENGINEERING COLLEGE*(An Autonomous Institution)***B.E/ B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL-MAY 2025*****Seventh Semester******Electronics and Communication Engineering*****OMR351- Mechatronics*****Regulations – 2021******Duration : 3 Hrs******Maximum Marks: 100******PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)***

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
1.	Define a mechatronics system.	L1	1	2
2.	List any two applications of hall effect sensor.	L1	1	2
3.	Give the classification of the instruction set in 8085.	L2	2	2
4.	List the various types of addressing modes in 8085 Microprocessor?	L2	2	2
5.	What are the tasks involved in keyboard interface?	L1	3	2
6.	Enumerate the definition of stepper motor control.	L2	3	2
7.	Define evolution of PLC.	L2	4	2
8.	Compare ON delay timer and OFF delay timer.	L2	4	2
9.	What are the steps involved in the mechatronics system design process?	L2	5	2
10.	List out the various sensors used in engine management system.	L1	5	2

PART – B (ANSWER ALL QUESTIONS) (Marks 5*16 = 80)

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
11.	a i Summarize the emerging areas of Mechatronics.	L3	1	8
	ii Explain the working principle and application of a potentiometer sensor.	L3	1	8
	Or			
	b Explain the construction and working principle of LVDT with suitable diagram.	L3	1	16
12.	a Explain the different types of addressing modes of 8085 microprocessors with example.	L3	2	16
	Or			
	b Illustrate about the pin configuration of 8085 microprocessor with a	L3	2	16

suitable sketch.

13.	a	i	Assess the features of 8255 PPI and explain it.	L4	3	8
		ii	Recommend the needs for interfacing on your own thought.	L4	3	8
			Or			
	b	i	Explain the concept of ADC interface.	L3	3	8
		ii	Explain the concept of traffic control interface.	L3	3	8
14.	a		Develop the architecture of a PLC and explain its elements.	L3	4	16
			Or			
	b		With the application of an internal relay draw the ladder diagram for A+B+B-A- cylinder sequence.	L3	4	16
15.	a	i	Analyze the stages of Mechatronics design process.	L4	5	8
		ii	Differentiate traditional and mechatronics systems.	L4	5	8
			Or			
	b	i	Categorize the advantages and disadvantages of stepper motor.	L4	5	8
		ii	Explain the construction and working principle DC Servomotor with neat diagram.	L4	5	8