

THE KAVERY ENGINEERING COLLEGE*(An Autonomous Institution)***UG/PG DEGREE END SEMESTER THEORY EXAMINATIONS, APR/MAY 2026****Seventh Semester****Mechanical Engineering****ME3791- MECHATRONICS AND IOT****Regulations - 2021****Duration : 3 Hrs****Maximum : 100 Marks****PART – A(ANSWER ALL QUESTIONS) (Marks 10*2=20)**

Q.No	Questions	BTL	CO	Marks
1.	Describe the difference between sensor and transducer.	L2	1	2
2.	Name any four types of actuators used in mechatronic systems.	L1	1	2
3.	List out the types of buses used in PLC.	L1	2	2
4.	Give a ladder programming with an example.	L2	2	2
5.	Mention the applications of IoT in modern manufacturing.	L1	3	2
6.	Define embedded system.	L1	3	2
7.	Mention any four programming languages.	L1	4	2
8.	Outline the function of arduino.	L2	4	2
9.	Compare electronic ignition system vs traditional ignition systems.	L2	5	2
10.	How will you integrate the vision systems in autonomous robot?	L2	5	2

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

Q.No	Questions	BLT	CO	Marks
11. a	Describe the working principle and construction of a potentiometer transducer.	L2	1	16
	Or			
b	Explain the construction and working principle of brushless permanent magnet DC motor.	L2	1	16
12. a	Elaborate the basic structure of PLC with neat diagram.	L2	2	16
	Or			
b	Explain the role of operational amplifiers in mechatronics.	L2	2	16
13. a	Describe the features of IoT with neat diagram.	L3	3	16
	Or			
b	Describe the functions of single board microcontroller and give its key features.	L3	3	16
14. a	Discuss the basic features of Linux operating systems with neat sketch.	L3	4	16
	Or			
b	Discuss in detail about Raspberry Pi board functional elements with neat sketch.	L3	4	16
15. a	Explain the autonomous with vision systems in industrial applications.	L2	5	16
	Or			
b	Describe the component and benefits of centralized water management system.	L2	5	16