

THE KAVERY ENGINEERING COLLEGE*(An Autonomous Institution)***MCA DEGREE END SEMESTER THEORY EXAMINATIONS, NOV/DEC 2025***Third Semester**Master of Computer Applications***MC4302 / PMCT2432- Internet of Things***Regulations – 2021 & 2024**Duration : 3 Hrs**Maximum : 100 Marks***PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)**

<i>Q.No</i>	<i>Questions</i>	<i>BTL</i>	<i>CO</i>	<i>Marks</i>
1.	Define actuators with an example.	L1	1	2
2.	Mention two examples of industrial IoT applications.	L1	1	2
3.	Differentiate between M2M and WSN protocols.	L2	2	2
4.	Explain the function of the Modbus protocol in IoT devices.	L2	2	2
5.	Apply the steps to write and run a Python program on Raspberry Pi.	L3	3	2
6.	Apply the command to list connected I2C devices in Raspberry Pi.	L3	3	2
7.	What are the contributions of FP7 projects toward IoT standardization and security?	L2	4	2
8.	Analyze the interrelationship between privacy, trust, and data sharing in IoT.	L4	4	2
9.	Differentiate between Smart Objects and Smart Applications.	L2	5	2
10.	What is the purpose of data analytics in IoT-based industrial systems?	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 Discuss the IoT protocols used for communication.	L2	1	8
	ii Explain the levels of IoT and the IoT templates used for design.	L2	1	8
	Or			
	b i Write short notes on IoT-enabled technologies such as a) WSN b) Cloud Computing c) Embedded Systems	L2	1	8
	ii Explain how IoT supports smart environment and energy management.	L2	1	8
12.	a i Compare and contrast Zigbee protocol with other IoT communication protocols.	L2	2	8
	ii Explain the working principles of SCADA and RFID protocols in IoT applications.	L2	2	8
	Or			
	b i Discuss the security concerns related to IoT protocol standardization and how they can be mitigated.	L2	2	8
	ii Explain how RFID and IEEE 802.15.4 contribute to low-power and efficient IoT communication.	L2	2	8

13.	a	Apply the use of SPI and I2C protocols to build an IoT application using Raspberry Pi.	L3	3	16
		Or			
	b	Apply the procedure to connect and read multiple sensors via I2C protocol on Raspberry Pi.	L3	3	16
14.	a	Analyze the need for governance frameworks in IoT systems and their impact on data security.	L4	4	16
		Or			
	b	Analyze the security requirements for IoT data sharing across interconnected smart city networks.	L4	4	16
15.	a	Evaluate the Hydra IoT platform in terms of scalability, flexibility, and data management capabilities.	L5	5	16
		Or			
	b	Evaluate the readiness of existing industrial systems to transition toward IoT-enabled smart factories.	L5	5	16