

THE KAVERY ENGINEERING COLLEGE
(An Autonomous Institution)

MCA DEGREE END SEMESTER THEORY EXAMINATIONS, NOV /DEC 2024

Third Semester

Master of Computer Applications

MC4302 – Internet of Things

Regulations - 2021

Duration : 3 Hrs

Maximum: 100 Marks

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.	List any four characteristics of IoT.	RE	1	2
2.	How the actuator differs from a sensor?	UN	1	2
3.	Distinguish between IoT and M2M.	AP	2	2
4.	Infer the usage of modbus communication protocol in IoT.	UN	2	2
5.	State the importance of SPI interface in Arduino/Raspberry Pi device.	RE	3	2
6.	Identify the ways to reading the input pins in Arduino.	AP	3	2
7.	Recall the objectives and contributions of FP7 to the IoT.	RE	4	2
8.	What is SMARTIE approach?	RE	4	2
9.	Interpret the term “Brownfield” in IoT.	UN	5	2
10.	Spell out the uses of hydra IoT middleware application.	RE	5	2

PART – B (ANSWER ALL QUESTIONS) (Marks 5*13 = 65)

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
11.	a i Explain the most commonly used sensors in the architecture of IoT.	UN	1	7
	ii Explain the various kinds of IoT enabling technologies.	UN	1	6
	Or			
	b i Narrate briefly about the different levels of IoT.	UN	1	7
	ii Summarize the role of IoT in creating smart cities.	UN	1	6
12.	a Organize how the SCADA and RFID protocols are used to improve the industrial processes and making them more efficient and secure.	AP	2	13
	Or			
	b i Make use of BACNet communication protocol to establish the interoperability between different manufacturers.	AP	2	7
	ii Identify how to enhance the long battery life and secure networking in low data rate applications with ZigBee networking protocol.	AP	2	6

13.	a	Examine the various steps involved in the installation of Arduino and Raspberry Pi.	AN	3	13
		Or			
	b	Analyze the python program with interfacing external gadgets and controlling output along with Raspberry Pi.	AN	3	13
14.	a	List the key challenges for Governance, Privacy in IoT and Security Issues related with IoT.	AN	4	13
		Or			
	b	Examine the diverse steps that can be applied to secure an IoT platform.	AN	4	13
15.	a	Apply the IoT technology to smart home automation system for control and monitor the home systems and appliances.	AP	5	13
		Or			
	b	Utilize IoT platform to healthcare industry to communicate the system of apps and devices that connects patients and health providers to diagnose, monitor, track and store the statistics and medical information.	AP	5	13

*PART – C (Marks 1*15 = 15)*

<i>Q.No</i>		<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
16.	a	Assess the various communication models used in IoT device for communicating to other devices with suitable architecture diagram.	EV	1	15
		Or			
	b	Evaluate the challenges, benefits and productivity of Implementing IoT in Agriculture Industry.	EV	1	15