Seat No.: _____   Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER–VI(NEW) EXAMINATION – WINTER 2022

Subject Code:3160716   **Date:15-12-2022**
Subject Name:IOT and applications
Time:02:30 PM TO 05:00 PM   **Total Marks:70**
Instructions:
1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**
4. **Simple and non-programmable scientific calculators are allowed.**

			MARKS
Q.1	(a)	Define IOT. Discuss advantages and disadvantages of IOT.	03
	(b)	Explain different characteristics of IOT.	04
	(c)	Draw and explain IOT architecture.	07
Q.2	(a)	What is M2M and IOT?	03
	(b)	Explain sensor and microcontroller.	04
	(c)	Discuss levels of IOT.	07
		OR	
	(c)	Discuss various applications of IOT.	07
Q.3	(a)	What is and IOT massaging protocol?	03
	(b)	Give difference between MQTT and COAP protocols.	04
	(c)	List out types of IOT protocols and explain any one in brief.	07
		OR	
Q.3	(a)	Write short note on: Zigbee.	03
	(b)	Give difference between IPV4 and IPV6 transport protocol.	04
	(c)	What is BLE? Explain components of BLE.	07
Q.4	(a)	Explain features of Arduino.	03
	(b)	Explain IOT challenges.	04
	(c)	Draw and explain Arduino architecture.	07
		OR	
Q.4	(a)	Explain cloud for IOT.	03
	(b)	Explain IOT for the retailing industry.	04
	(c)	Explain interfacing of LED with Raspberry Pi.	07
Q.5	(a)	Explain web of things.	03
	(b)	Describe IOT security needs and issues.	04
	(c)	Explain security architecture in detail with diagram.	07
		OR	
Q.5	(a)	What are the challenges of IOT security?	03
	(b)	Explain Raspberry Pi interface.	04
	(c)	Draw the block diagram of Raspberry Pi and explain components of Raspberry Pi in brief.	07

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