Seat No.: _____   Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER–VI (NEW) EXAMINATION – WINTER 2023

Subject Code:3160716   **Date:07-12-2023**
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. Also Write the merits and demerits of IOT.	**03**
	(b)	Discuss smart health using IOT.	**04**
	(c)	Explain the architecture of the IOT.	**07**
Q.2	**(a)**	Which are the network and communication technologies can be used to implement an IOT application?	**03**
	(b)	Explain IOT value chains.	**04**
	(c)	For building an architecture of IOT explain main design principles and needed capabilities.	**07**
		OR	
	(c)	Which are hardware and software components of IOT? How do these components get synchronised in an IOT based application?	**07**
Q.3	**(a)**	Explain IOT Domain Model.	**03**
	(b)	What is cloud? What is the role of cloud platforms in IOT?	**04**
	(c)	What is ARM? Explain special feature of ARM processor.	**07**
		OR	
Q.3	**(a)**	Differentiate between IPv4 and IPv6.	**03**
	(b)	What are the security challenges of IOT?	**04**
	(c)	List and explain cloud deployment models.	**07**
Q.4	**(a)**	Differentiate between M2M and IOT.	**03**
	(b)	Explain IPv4 header format with diagram.	**04**
	(c)	Exaplin case study of Adafruit cloud.	**07**
		OR	
Q.4	**(a)**	What is fog computing? List the characteristics of fog computing.	**03**
	(b)	Discuss various register set of 8051.	**04**
	(c)	What is cloud analytics? Explain in brief future factory concepts.	**07**
Q.5	**(a)**	What is Raspberry Pi and Li-Fi ?	**03**
	(b)	Explain features of Arudino architecture.	**04**
	(c)	What is CoAP and MQTT? List out the key features of CoAP.	**07**
		OR	
Q.5	**(a)**	What is man in the middle attack?	**03**
	(b)	Explain application of IOT in water monitoring system.	**04**
	(c)	What are the security and private issues of IOT? Explain using suitable case scenario.	**07**

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