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

Subject Code:3171108   **Date:20-01-2023**
Subject Name:Internet of Things
Time:10:30 AM TO 01:00 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 Internet of Things. Briefly describe vision of IoT.	**03**
	(b)	What are the emerging trends in IoT? Explain briefly.	**04**
	(c)	Describe IoT architecture in detail with block diagram.	**07**
Q.2	**(a)**	Write names of protocols which are used in Application layer.	**03**
	(b)	Explain Publish – Subscribe communication model.	**04**
	(c)	Describe characteristics of IoT in detail.	**07**
		OR	
	(c)	With block diagram, explain various functional blocks in IOT.	**07**
Q.3	**(a)**	Write a python program for blinking LED on Raspberry Pi.	**03**
	(b)	Classify sensors. Give example of each.	**04**
	(c)	Explain interfaces available on Raspberry Pi board.	**07**
		OR	
Q.3	**(a)**	Differentiate IOT and M2M.	**03**
	(b)	Explain role of cloud computing in IoT.	**04**
	(c)	Explain MQTT, XMPP and AMQP protocols.	**07**
Q.4	**(a)**	Explain 802.16 – WiMAX with respect to IoT protocol.	**03**
	(b)	Compare REST based and WebSocket based APIs.	**04**
	(c)	With block diagram, explain IoT deployment level 3. Also give an example of working of such system.	**07**
		OR	
Q.4	**(a)**	Write short note on Network layer protocols.	**03**
	(b)	Write about any four sensors and their usages.	**04**
	(c)	Describe implementation of IoT with Edge devices.	**07**
Q.5	**(a)**	Give examples of commonly used actuators in IoT.	**03**
	(b)	Explain vulnerabilities in IoT.	**04**
	(c)	Enlist good practices for securing IoT systems.	**07**
		OR	
Q.5	**(a)**	Write a short note on IoT devices for home automation.	**03**
	(b)	Define the roles of IoT in Health Care Monitoring.	**04**
	(c)	Explain major issues and challenges with IoT.	**07**

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