

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER- VI EXAMINATION – SUMMER 2026

Subject Code:3160716

Date:26-05-2026

Subject Name: IOT and applications

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 IOT. Discuss advantages and disadvantages of IOT.	03
(b) What is Sensor? List different types of Sensors used to develop IOT.	04
(c) Draw and explain IOT architecture.	07
Q.2 (a) Explain MQTT Broker and client.	03
(b) Difference between Microcontroller and Microprocessor.	04
(c) Explain IoT Technology Stack.	07
OR	
(c) Draw and Explain ATMEGA328P Microcontroller Pin diagram.	07
Q.3 (a) What is and IOT massaging protocol?	03
(b) Write an Aurdiono code to blink LED ON and OFF.	04
(c) Explain with diagram IPv4 header format.	07
OR	
Q.3 (a) Write short note on: Zigbee.	03
(b) Write an Aurdiono code for Measuring Temperature and Humidity using Sensor DHT-11 and Arduino UNO.	04
(c) Explain with diagram IPv6 header format.	07
Q.4 (a) List and explain Various application of IoT in Retail.	03
(b) Explain IOT value chains.	04
(c) Explain various types of Cloud Deployment Models; also discuss their merits and demerits.	07
OR	
Q.4 (a) List and explain Various application of IoT in Food and Healthcare.	03
(b) What is fog computing? List the characteristics of fog computing.	04
(c) Explain various types of Cloud Computing	07
Q.5 (a) What is Raspberry Pi and Li-Fi?	03
(b) Explain features of Arudino architecture.	04
(c) Draw the block diagram of Raspberry Pi and explain components of Raspberry Pi in brief	07
OR	
Q.5 (a) What are the challenges of IOT security?	03
(b) Explain application of IOT in water monitoring system.	04
(c) Explain security architecture in detail with diagram.	07
