

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII (NEW) EXAMINATION – WINTER 2021****Subject Code:3171108****Date:23/12/2021****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 IOT. Also few Applications of IOT.	03
	(b) Write Various characteristics of IOT.	04
	(c) Write about Request – Response and Exclusive Pair Communication model of IOT.	07
Q.2	(a) Describe Bluetooth and BLE.	03
	(b) What is REST? Write various methods of REST.	04
	(c) Write about IOT Level – 5 and IOT Level – 6.	07
	OR	
	(c) What is NFV(Network Function Virtualization)? And write key elements of NFV.	07
Q.3	(a) Write various Security concerns dealing with IOT.	03
	(b) What is M2M? Describe it with few examples.	04
	(c) Discuss Difference between IOT and M2M.	07
	OR	
Q.3	(a) Write functionality of XMPP.	03
	(b) Write an arduino code for connecting NodeMCU with temperature and Humidity sensor. And display current temperature and humidity with 5 second delay.	04
	(c) Explain SDN(Software Define Networking).	07
Q.4	(a) Write Names of various protocols that are used at Network Layer of IOT.	03
	(b) Write Names of Protocols that are used at Link Layer of IOT.	04
	(c) Write various Static Characteristics of Sensors.	07
	OR	
Q.4	(a) Define Sensors, Actuators, Transducers.	03
	(b) Write about any 4 sensors that you know. And their usages.	04
	(c) Write an arduino code for connecting NodeMCU with moisture sensor, servo motor and water pipe lines for automatic watering a plant when moisture level is decreasing.	07
Q.5	(a) Write about LoraWan.	03
	(b) Differentiate ESP8266 and ESP32.	04
	(c) Write about Encapsulation Protocol 6LowPan.	07
	OR	
Q.5	(a) Briefly write about CARP protocol.	03
	(b) Discuss Zigbee.	04
	(c) Discuss MQTT protocol in Detail.	07

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII (NEW) EXAMINATION – SUMMER 2022****Subject Code:3171108****Date:18/06/2022****Subject Name:Internet of things****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 Internet of Things and explain it in brief.	03
	(b) Determine the applications of Internet of Things.	04
	(c) Describe IoT architecture in detail.	07
Q.2	(a) Discuss the IoT Sensors.	03
	(b) Describe the characteristics of IoT.	04
	(c) Explain Smart Home Automation in detail.	07
	OR	
	(c) Explain how Smart City and IoT are associated with each other?	07
Q.3	(a) Write applications of Internet of Things for Medical field.	03
	(b) Discuss vulnerabilities of Internet of Things.	04
	(c) Describe Internet of Things protocols in detail.	07
	OR	
Q.3	(a) Write applications of Internet of Things for Smart Parking in Smart City.	03
	(b) Describe Constrained application protocol.	04
	(c) Explain access control and message integrity of Internet of Things in detail.	07
Q.4	(a) Discuss IoT Levels in details.	03
	(b) Describe Transport layer protocol.	04
	(c) Describe Gas Sensors in brief.	07
	OR	
Q.4	(a) Write short note on Network layer protocols.	03
	(b) Describe IoT Gateway in brief.	04
	(c) Describe how does a sensor data travel from one device to the Cloud?	07
Q.5	(a) Write short note on Message Queue Telemetry Transport protocol.	03
	(b) Determine the challenges in IoT Security.	04
	(c) Describe recent developments and future aspects of IoT in brief.	07
	OR	
Q.5	(a) Describe Security components in IoT Security.	03
	(b) Define the roles of IoT in Health Care Monitoring.	04
	(c) Explain Commercial IoT with an example.	07
