

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER– VI (NEW) EXAMINATION – WINTER 2021****Subject Code:3160716****Date:30/11/2021****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.

- Q.1** (a) Define following terms: IoT, Sensor, WSN. **03**
 (b) Explain characteristics of the IoT. **04**
 (c) Explain various levels of IoT. **07**
- Q.2** (a) List down components of IoT system. **03**
 (b) Explain CSPP in ARM. **04**
 (c) Explain IoT Technology Stack. **07**
- OR**
- (c) Explain challenges of IoT. **07**
- Q.3** (a) What is IP addressing? **03**
 (b) Difference between Microcontroller and Microprocessor. **04**
 (c) What is ARM? Explain special feature of ARM processor. **07**
- OR**
- Q.3** (a) What is heartbeat sensor? **03**
 (b) Explain specification of sensor. **04**
 (c) Explain with diagram IPv4 header format. **07**
- Q.4** (a) What is MQTT? **03**
 (b) Explain CoAP. List the key features of CoAP **04**
 (c) What is fog computing? List the characteristics of fog computing. **07**
- OR**
- Q.4** (a) List and explain cloud components. **03**
 (b) Explain limitation of cloud computing. **04**
 (c) What are the security challenges of IoT? **07**
- Q.5** (a) Explain in brief future factory concepts. **03**
 (b) What is smart city? What are the features of IoT based smart city? **04**
 (c) What is Arduino? Explain features of Arduino architecture. **07**
- OR**
- Q.5** (a) What is Raspberry Pi? **03**
 (b) Explain security architecture. **04**
 (c) What risks do insecure IoT devices bring to privacy and security? **07**
