

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII (NEW) EXAMINATION – SUMMER 2022****Subject Code:3171106****Date:10/06/2022****Subject Name:Wireless Sensor Networks****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.

- Q.1** (a) What is wireless sensor network? List the type of wireless sensor networks. **03**
(b) Compare WSN's and MANET's. **04**
(c) Write short note on applications of wireless sensor networks. **07**
- Q.2** (a) What are the advantages of sensor networks. **03**
(b) Explain the enabling technologies for wireless sensor networks. **04**
(c) Write short note on Zigbee. **07**
- OR**
- (c) Explain the issues and challenges in wireless sensor networks. **07**
- Q.3** (a) Give the classification of MAC protocols. **03**
(b) What is routing? List the challenges for routing protocol in WSN. **04**
(c) Explain: S-MAC routing protocol. **07**
- OR**
- Q.3** (a) Explain design principles for WSNs. **03**
(b) Write short note on Quality of a sensor network. **04**
(c) Explain: B-MAC routing protocol. **07**
- Q.4** (a) Write note on Real-time traffic support. **03**
(b) Explain dissemination protocol for large sensor network. **04**
(c) Write short note on: (i) Temperature Sensor (ii) Pressure Sensor. **07**
- OR**
- Q.4** (a) Explain need for Gateway. **03**
(b) Write short note on MSME sensors. **04**
(c) Write short note on IEEE 802.15.4 standard. **07**
- Q.5** (a) What is data gathering? **03**
(b) Explain in brief: (i) Data dissemination (ii) Data fusion. **04**
(c) Write short note on the IMote Node Architecture. **07**
- OR**
- Q.5** (a) Explain Gateway concept. **03**
(b) Explain WSN to Internet Communication. **04**
(c) Write short note on the Hogthrob Node Architecture. **07**
