

GUJARAT TECHNOLOGICAL UNIVERSITY**ME – SEMESTER –I-(New) EXAMINATION – SUMMER 2019****Subject Code: 3710217****Date: 10/05/2019****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.**

- Q.1** (a) Define wireless sensor network. Discuss various challenges and applications of wireless sensor network. **07**
- (b) Explain architecture of wireless sensor node. **07**
- Q.2** (a) Differentiate TinyOS and Contiki. **07**
- (b) Explain various types of mobility. **07**
- OR**
- (b) Explain pulse code modulation and binary symmetric channel in detail. **07**
- Q.3** (a) Discuss intermediate checksum schemes for link layer protocols. **07**
- (b) Explain S-MAC low duty cycle approach in detail. **07**
- OR**
- Q.3** (a) What is Geographic addressing? Explain one way matching algorithm for content based addressing. **07**
- (b) Explain LEACH protocol in detail. **07**
- Q.4** (a) Briefly explain Broadcast Increment Power algorithm. **07**
- (b) Explain energy efficient unicast routing. **07**
- OR**
- Q.4** (a) Discuss Data Aggregation with different matrices for judging efficacy. **07**
- (b) Explain Greedy Perimeter Stateless Routing (GPSR) protocol in detail **07**
- Q.5** (a) Explain PSFQ protocol in detail. **07**
- (b) Explain Lightweight Time Synchronization protocol. Discuss need of localization for WSN. **07**
- OR**
- Q.5** (a) Explain ZigBee. Discuss challenges of security in WSN. **07**
- (b) Discuss the security attacks on WSN. **07**
