

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**ME - SEMESTER-1 (NEW) EXAMINATION – WINTER 2018**

**Subject Code: 3710217****Date: 03/01/2019****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 mark.**

- Q.1** (a) How security in WSN is managed? How to design good WSN? List out various parameters with justifications. **07**  
 (b) Explain terms of WSN: (i) Data-Centric (ii) Energy Scavenging **07**
- Q.2** (a) What is content based addressing? Explain. **07**  
 (b) What is geographic addressing? How it is used in WSN? Explain with example. **07**
- OR**
- (b) Explain fundamental task of address management in WSN with example. **07**
- Q.3** (a) Differentiate: WSN Routing with Adhoc Routing **07**  
 (b) Explain Advantages of Localization and List out services of Localization. **07**
- OR**
- Q.3** (a) What are the major challenges and unique Constraints of wireless sensor networks ? Explain in details. **07**  
 (b) Explain issues in designing MAC protocols in WSN. Explain any One. **07**
- Q.4** (a) Explain Any One Energy Efficient Unicast Routing protocol. **07**  
 (b) Explain transport layer congestion and rate control in WSN. **07**
- OR**
- Q.4** (a) Explain various features of Location based routing with example. **07**  
 (b) Explain FLAT routing protocols of WSN. **07**
- Q.5** (a) What is TinyOS? Where it is used? **07**  
 (b) Classify Sensor node hardware. List out various Sensors and it use in WSN applications. **07**
- OR**
- Q.5** (a) Explain time synchronization problems in WSN. List out Protocols for it. **07**  
 (b) What are the characteristic requirements of Wireless sensor network? Why sensor networks are different? **07**

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