Model Question Paper

COURSE: M.TECH.   **BRANCH**: COMPUTER SCIENCE ENGINEERING

SEMESTER: 1 .   **SUBJECT**: WIRELESS SENSOR NETWORK

Duration: 3:00 hrs   **Max marks: 100**

Note: Attempt all questions.

1. **Attempt any four parts of the following.**   **5x4 = 20**
   A. What are the application and limitation of wsn.
   B. Draw the architecture of a sensor node. List various modes of a sensor node.
   C. Discuss energy consumption concept of the different components of a sensor node.
   D. Explain major issues for design wireless sensor applications in detail.
   E. Explain the basic working of network security?
   F. Explain any four major challenges of security in WSN.

2. **Attempt any two parts of the following.**   **10x2=20**
   A. What do understand by sensor in wsn? Explain Types of sensor and its application in detail.
   B. Explain sensor network architecture: layered, clustered, OSI based, cross layer Architecture in detail.
   C. Explain top-down design process and bottom up implementation process for wsn Application in detail.

3. **Attempt any two parts of the following.**   **10x2=20**
   A. What do you understand by mac protocol? Explain the classification of mac protocol in detail.
   B. Explain schedule-based protocol and random Access-based protocol in detail; also write the difference between them.
   C. Write a short note on
      i) Design goal of Mac protocol in wireless sensor network.
      ii) Major issues for design mac protocol in wsn.

4. **Attempt any two parts of the following.**   **10x2=20**
   A. Explain energy efficient weight-clustering algorithm in wsn with the help of suitable example.
   B. Explain Low-energy adaptive clustering hierarchy ("LEACH") with the help of suitable example.
   C. Write a short note on
      i.   Data centric protocol
      ii. Location based protocol

5. Attempt any two parts of the following.   **10x2=20**

   A. Explain basics of zigbee technology also explain Zigbee network architecture and how it is established?

   B. Explain all the power saving features of IEEE 802.15.4. Also, explain the situations in which features could be useful.

   C. What do understand by attacks in sensor network .explain different types of attacks in details?