

B.E. (Computer Technology) Seventh Semester (C.B.S.)  
**Elective - II : Wireless Sensor Networks**

P. Pages : 2

Time : Three Hours



**TKN/KS/16/7573**

Max. Marks : 80

- 
- Notes :
1. All question carry marks as indicated.
  2. Solve Question 1 OR Questions No. 2.
  3. Solve Question 3 OR Questions No. 4.
  4. Solve Question 5 OR Questions No. 6.
  5. Solve Question 7 OR Questions No. 8.
  6. Solve Question 9 OR Questions No. 10.
  7. Solve Question 11 OR Questions No. 12.
  8. Due credit will be given to neatness and adequate dimensions.
  9. Assume suitable data whenever necessary.
  10. Illustrate your answers whenever necessary with the help of neat sketches.

1. a) Explain design issues of sensor network. 7  
b) Describe different influencing factors of sensor networks in details. 7

**OR**

2. a) Explain sensor network communication architecture. 7  
b) What are the characteristics requirements of wireless sensor networks? 7
3. a) Differentiate between sensor networks and traditional. 6  
b) Describe the aspects of efficient sensor network applications. 8

**OR**

4. a) Explain the frame work for system for directed diffusion. 7  
b) Explain COUGAR in details. 7
5. a) Explain design issues in WSN routing. 6  
b) What are the different routing techniques. Explain the flat routing. 7

**OR**

6. a) Explain the Query based routing protocol with an example. 6  
b) Explain the LEACH protocol in details. 7
7. Explain about time synchronization mechanism in WSN. 13

**OR**

8. Explain in details about different localization mechanism. **13**
9. a) What are the requirements of a MAC protocols. Explain the CSMA/CA in details. **7**  
b) Explain the gateway concepts. **6**

**OR**

10. a) What are the various applications of WSN and. Explain any two with an example of each. **7**  
b) Discuss the sinle-to-sensor transport in details. **6**
11. a) Explain the cell-based WSNs. **7**  
b) Differentiate between MANET and Adhoc sensor network. **3**  
c) Describe security challenges in sensor networks. **3**

**OR**

12. Write short notes on :- **13**  
i) Dynamic energy and power management.  
ii) Tiny DB.  
iii) Programming models in WSN.  
iv) Active and passive sensor.

\*\*\*\*\*