



- Notes :
1. All questions 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) What is WSN? Explain different types of sensor network applications. 7  
b) Explain the goals for real time distributed Network computing for sensor data fusion. 6

**OR**

2. a) Describe the technical challenges in WSN. 6  
b) Give the importance of convergence of networking and real-time computing in WSN. 7
3. a) What are the difference between sensor networks and traditional data networks. 7  
b) What are the aspects of efficient sensor network application. 6

**OR**

4. a) Explain in detail about model for programmability in sensor network. 7  
b) Explain the importance of packing in MEMs. 6
5. a) What are the different routing challenges in WSNs. 4  
b) Explain the following routing protocols in WSNs. 10
  - i) Flat routing
  - ii) Adaptive routing.

**OR**

6. a) Explain the modeling of perceptual systems in reference with 6
  - i) Sensor fusion
  - ii) Error handling
  - iii) Reasoning.
- b) Explain the motivation and design issues in WSN routing. 8

7. Describe in brief about WSN. 13
- i) Localization protocol.
  - ii) Time synchronization protocols.

**OR**

8. a) Explain in detail about Application layer protocol. 9
- b) How the Target detection and tracking is done Application specific support at Application layer protocol? 4
9. a) Write a short note on transport layer protocol. 9
- i) Event to-sink transport
  - ii) Sink -to- sensor transport.
- b) Explain about several facts for finding reliability to achieve QoS in WSNs. 5

**OR**

10. Explain in brief about. 14
- i) Network layer protocols
  - ii) Data link layer protocols work in WSNs.
11. a) Explain the privacy protection in WSN. 7
- b) Explain the unique security challenges in sensor Networks. 6

**OR**

12. Explain in detail about security architectures of WSNs 13
- i) Cell - Based WSNs
  - ii) Ad-Hoc-sensor Networks.

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