

PCSS31A / PECS311 - Wireless Sensor Networks

P. Pages : 1

Time : Three Hours



GUG/S/25/11043

Max. Marks : 70

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- Notes :
1. All questions carry marks as indicated.
 2. Assume suitable data wherever necessary.
 3. Solve **any five** questions.
 4. Illustrate your answers wherever necessary with the help of neat sketches.

1. a) What are the application and limitation of WSN? 7
b) What are the characteristics required for a robust wireless sensor network. Discuss them in detail. 7
2. a) How can energy be saved in wireless sensor network. Derive the expressions for Energy saved. 7
b) Draw and explain main sensor node hardware component. 7
3. a) What is energy efficiency? What are the different ways in which energy efficiency may be computed. 7
b) Discuss some of the optimization goals in WSN. 7
4. a) What are the point influencing PHP design in WSN? Discuss in detail. 7
b) Discuss the requirement and design consideration for MAC protocol. 7
5. a) What are the different Geographic energy aware routing techniques. Explain Rumor routing. 7
b) Explain Low-energy adaptive clustering algorithm with the help of suitable example 7
6. a) What do you understand by attacks in sensor network? Explain different types of Attacks in brief. 7
b) Describe the time synchronization problem in WSN's. 7
7. Write a short note on **any two**. 14
 - a) Node level software platform
 - b) State centric programming
 - c) Gateway concepts.
8. a) Explain the information based sensor tracking. 7
b) Describe the important properties of localization and positioning procedure. 7
