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Question Paper Code: 39406

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2018

Elective

Electronics and Communication Engineering

01UEC906 - WIRELESS SENSOR NETWORKS

(Regulation 2013)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. Explain the characteristics of Wireless sensor Networks.
2. List at least four applications of Wireless sensor Networks.
3. Draw the architecture of a sensor node.
4. State the use of gateways.
5. List the various modes of a sensor node.
6. Differentiate WSN routing and Adhoc routing.
7. Summarize the topology control.
8. What is time synchronization?
9. Mention the various types of nodes.
10. Classify the sensor node hardware.

PART - B (5 x 16 = 80 Marks)

11. (a) With required diagram explain the sensor network architecture and discuss about the design principles. (16)

Or

- (b) Brief note on the home control and industrial control applications of WSN. (16)

12. (a) Explain about energy consumption of sensor nodes in detail. (16)

Or

- (b) Explain the schedule based protocol (LEACH) with the help of neat diagram. Give its advantages and disadvantages. (16)

13. (a) Explain how to maximize the network life time with respect to available battery energy. (16)

Or

- (b) Discuss the principle of SMAC protocol (16)

14. (a) Illustrate the design and structure of transceiver in WSN. (16)

Or

- (b) Discuss about the importance of time synchronization in WSN. Explain the different latencies in a channel, Also estimate the clock phase difference using three message exchanges. (16)

15. (a) Elaborate the various examples of operating systems in sensor network. (16)

Or

- (b) Write detailed notes on any one Node-Level software platform. (16)
