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Question Paper Code: BCSB04

M.Tech I Semester End Examinations (Regular) - January, 2019
Regulation: .–R18
WIRELESS SENSOR NETWORKS
Time: 3 Hours (CSE) Max Marks: 70

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the question must be answered in one place only

UNIT – I

1. (a) Explain about Wireless Sensor Network Architecture with neat sketch. [7M]
   (b) Define Motes. Explain the components involved in mote architecture. [7M]
2. (a) Discuss briefly about the various applications related to wireless sensor networks. [7M]
   (b) Write the importance of cross layer design in wireless sensor networks and explain it with neat sketch. [7M]

UNIT – II

3. (a) Define Topology. Explain how to build topologies by considering example using ns3 simulator. [7M]
   (b) Illustrate different queues used in Network Simulator-3(NS3) with examples. [7M]
4. (a) Define Simulation. How Network Simulator-3(NS3) is different from NS2? [7M]
   (b) Describe Network Simulator-3(NS3) modules and routing process with example. [7M]

UNIT – III

5. (a) Write any two medium access control protocols in WSN and explain with an example. [7M]
   (b) Explain discrete time Markov chain model with example. [7M]
6. (a) Explicate asynchronous duty cycle and problems in that scheme. [7M]
   (b) Elucidate fixed access and random access methods in Medium Access Control Protocols(MAC). [7M]

UNIT – IV

7. (a) Discuss the counter measures in security with example. [7M]
   (b) Explain about static and dynamic key distribution of security. [7M]
8. (a) Define attack. What are the different types of possible attacks? Explain them briefly. [7M]
   (b) Describe SPINS. Explain security protocols for sensor networks related to SPINS. [7M]

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UNIT – V

9. (a) Explain about resource-aware and broadcast routing protocols in wireless sensor networks. [7M]
   (b) Discuss about analysis of opportunistic routing in wireless sensor networks. [7M]

10. (a) Define MANET. Explain the types of MANET protocols. [7M]
    (b) Summarize the operations and properties of LEACH protocol. [7M]

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