M.E., DEGREE EXAMINATIONS: NOV/DEC 2012

Third Semester

COMPUTER SCIENCE AND ENGINEERING

CSE554: Mobile AD HOC Networks

Time: Three Hours   **Maximum Marks: 100**

Answer All Questions:-

PART A (10 x 2 = 20 Marks)

1. Define path loss.

2. Write any three design goals of a MAC protocol for AD HOC wireless networks.

3. What are the advantages of hierarchical topology based protocols over protocols that use flat topologies?

4. What are the key differences between the LAR1 and the LAR2 algorithms?

5. What are the different topology maintenance approaches? Which of the two approaches is better when the topology is highly dynamic? Give reasons.

6. Why is ABM not efficient? How can its efficiency be increased?

7. Which battery is being commonly used for portable mobile nodes such as laptops? Why?

8. How can the Spin-down be performed on the disk drive?

9. What are the major differences between Ad hoc Wireless Networks and Sensor Networks?

10. What are the assumptions made by the LEAP Security Protocol?

PART B (5 x 16 = 80 Marks)

11. a) (i) Draw the IEEE 802.16 Protocol Stack and explain all the layers in detail.   (8)

   (ii) Explain HIPERACCESS in detail.   (8)

(OR)

   b) Explain the issues in Ad Hoc Wireless Networks in detail.

12. a) (i) Describe the characteristics of an Ideal Routing Protocol for Ad Hoc Wireless Networks.   (8)

(ii) Explain the DSDV Routing Protocol with an example. (8)

(OR)

b) Explain the Hierarchical Routing Protocols in detail.

13. a) (i) Discuss the operations of Multicast Routing Protocols. (8)

(ii) Explain Multicast Routing Protocol based on Zone Routing Protocol. (8)

(OR)

b) (i) Describe the On Demand Multicast Routing Protocol. (8)

(ii) Explain the Application-Dependent Multicast Routing. (8)

14. a) Briefly explain the Battery Management Schemes in detail.

(OR)

b) Explain the System Power Management Schemes in detail.

15. a) With the neat sketch explain the Sensor Network Architecture.

(OR)

b) (i) Discuss Location discovery in detail. (8)

(ii) Explain the Quality of a Sensor Network. (8)

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