Question Paper Code : 40883

02/05/18
(AN)

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2018
Seventh/Eighth Semester
Computer Science and Engineering
CS 6003 – AD HOC AND SENSORS NETWORKS
(Common to : Biomedical Engineering/Electronics and Communication
Engineering/Information Technology)
(Regulations 2013)

Time : Three Hours   Maximum : 100 Marks

Answer ALL questions

PART – A   (10×2=20 Marks)

1. Compare between fast fading and slow fading.

2. List the three radio waves propagation mechanisms.

3. How mobility of nodes affects the throughout in wireless networks ?

4. How does Multi-Hop Coordination mechanism work ?

5. Differentiate intra-zone and inter-zone routing protocol in hybrid routing.

6. Sketch the classification tree of transport layer protocol.

7. List some design challenges posed by sensor networks.

8. What is data aggregation strategy in wireless sensor networks ?

9. List the benefits of OLSR protocol.

10. What is Multi-Lateration (ML) technique ? List some of the ML techniques.

PART – B   (5×16=80 Marks)

11. a) i) Describe about the electromagnetic spectrum and its frequency bands with
        its uses.   (8)
    ii) Explain about the characteristics of the wireless channel.   (8)

                    (OR)

    b) Discuss in detail about the design challenges in Ad hoc and sensor networks. (16)

12. a) i) Sketch the transmission in Busy Tone Multiple Access (BTMA) protocol and explain it. **(7)**

   ii) Write in detail about the Five Phase Reservation Protocol (FPRP) and its frame structure. **(9)**

   (OR)

   b) i) Illustrate the operation of Multichannel MAC Protocol. **(6)**

   ii) Explain about the contention based MAC protocols with scheduling mechanisms. **(10)**

13. a) i) Discuss the operation of AODV routing protocols with neat diagram. **(10)**

   ii) Identify the major reasons behind that TCP not perform well in Ad hoc Networks. **(6)**

   (OR)

   b) i) Explain the DSR routing protocols with neat diagram. **(8)**

   ii) Illustrate the operations of Ad Hoc TCP and split TCP with neat diagram. **(8)**

14. a) Explain in detail about the single node architecture in wireless sensor networks. **(16)**

   (OR)

   b) Describe in depth about the MAC Protocols for Sensor Networks. **(16)**

15. a) Discuss on the parameters of Coverage and Exposure to improve the quality of sensor Networks. **(16)**

   (OR)

   b) i) Why synchronization is essential in Multi-Hop wireless networks ? Discuss how shifting of frames carried out in resynchronization. **(10)**

   ii) Write short notes on Transport Layer issues in sensor networks. **(6)**