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Question Paper Code : 71433

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2015.

Eighth Semester

Electronics and Communication Engineering

EC 2050/EC 804/10144 ECE 53 — MOBILE ADHOC NETWORKS

(Regulation 2008/2010)

(Common to PTEC 2050 – Mobile Adhoc Networks for B.E. (Part-Time) Seventh Semester — ECE – Regulation 2009)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Define ad Hoc Networks.

2. Differentiate infrastructure and infrastructure less network.

3. State the low power states of IEEE 802.15

4. Define scalability.

5. What is the function of the sequence number in the AODV routing protocol?

6. Why DSDV is not suitable for high mobility networks?

7. What are the different attacks possible over adhoc networks?

8. What are the issues to be considered while designing a transport layer protocol for AdHoc networks?

9. What is the need for cross layer design?

10. Differentiate 4G from 3G networks.

PART B — (5 × 16 = 80 marks)

11. (a) How the Path Loss and fading affects the wireless channel? Explain it.(16)

Or

(b) (i) Compare Cellular and Ad Hoc Wireless Networks. (8)

(ii) What are the issues and challenges of Ad Hoc System? (8)

12. (a) (i) What are the advantages of reservation based MAC protocols over contention based MAC protocols? (8)

(ii) Compare and Constrast : IEEE 802.11a, IEEE 802.11b and IEEE 802.11g. (8)

Or

(b) (i) With a neat diagram explain the protocol architecture of IEEE 802.15. (8)

(ii) Channel quality estimation can be done both at the sender and the receiver. Which is more advantages? Why? (8)

13. (a) (i) Is Table driven routing protocol suitable for high mobility environments? Justify your answer. (8)

(ii) How the route is established in AODV? Explain with an example. (adhoc network with 10 nodes). (8)

Or

(b) (i) How the routing overhead is reduced in hierarchy routing. (8)

(ii) What is the need for power aware routing protocol? How the energy efficiency is achieved by there protocols. (8)

14. (a) (i) Why does TCP not perform well in adhoc wireless networks? What are the changes made to traditional networks to suit adhoc networking environment. (8)

(ii) Briefly describe the attacks pertaining to the network layer. (8)

Or

(b) (i) Explain how security provisioning in ad hoc wireless networks differ from that in infrastructure based networks? (8)

(ii) What are the different key management techniques used for Ad Hoc Networks? Explain threshold cryptography. (8)

15. (a) How the cross layer techniques optimize the routing in ad hoc networks. (16)

Or

(b) What is the need to integrate ad hoc networks with Mobile IP? Explain. (16)

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