

G 6173

M.E. DEGREE EXAMINATION, MAY/JUNE 2007.

Elective

Computer Science and Engineering

CS 1633 — AD HOC NETWORKS

(Regulation 2005)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Differentiate fast fading and slow fading.
2. What is wireless internet?
3. What is exposed terminal problem?
4. List any four characteristics of an ideal routing protocol for ad hoc wireless networks.
5. What is a source-initiated multicast routing protocol?
6. Give the difference between tree-based and mesh-based multicast routing protocols.
7. What is the impact of the failure of proxy nodes in split TCP?
8. What is meant by wormhole attack?
9. What are the limitations of IEEE 802.11 MAC protocol that prevent it from supporting QoS traffic?
10. Mention the need for system power management.

PART B — (5 × 16 = 80 marks)

11. (a) Explain in detail the CSMA/CA mechanism used in IEEE 802.11 WLANs. (16)

Or

- (b) List the applications of sensor networks. Discuss the issues and challenges in designing a sensor network. (16)

12. (a) Explain the routing mechanism of Wireless Routing Protocol (WRP). (16)

Or

- (b) Explain how Dynamic Source Routing (DSR) protocol takes care of routing data. (16)

13. (a) Explain the operation of Associativity-Based Ad Hoc multicast routing (ABAM) protocol. (16)

Or

- (b) Write notes on:

(i) Role-based multicast. (8)

(ii) Content-based multicast. (8)

14. (a) Why does not traditional TCP perform well in ad hoc wireless networks? (16)

Or

- (b) Write notes on security requirements and issues in security provisioning. (16)

15. (a) Explain in detail the components and operation of QoS framework for ad hoc wireless networks. (16)

Or

- (b) Discuss different schemes for conserving power at the data link layer. (16)