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B TECH

(SEM-VIII) EVEN SEMESTER THEORY EXAMINATION 2017-18

MOBILE COMPUTING

Time: 3 Hours ***Total Marks: 100***

Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief. 2 x 10 = 20

a. What is Roaming?
b. Distinguish between collisions on PHY and MAC layer.
c. Is a directional antenna useful for mobile phones? Why?
d. What advantages does the use of IPv6 offer for mobility?
e. What is the relation between GSM and GPRS?
f. What is Mobile IP?
g. List down the disadvantages of M-TCP.
h. Define Fisheye State Routing.
i. What are hidden node and exposed node problems in wireless LAN?
j. Explain HLR and VLR in GSM architecture.

SECTION B

2. Attempt any *three* of the following: 10 x 3 = 30

a. Compare the three generations of wireless telephone systems on the basis of features, technology used and applications.

b. How does mobility affect data replicating on mobile platform? Explain.

c. "CSMA/CD is not a suitable protocol for wireless LAN". Give reasons in favors of or against the statement.

d. Explain the various security threats during data transfer in mobile communication and give suitable example of authentication and privacy preceding for mobile computing.

e. Discuss the DSDV with example and differentiate it from AODV. Explain pro-active, reactive routing protocol.

SECTION C

3. Attempt any *one* part of the following: 10 x 1 = 10

(a) Where and when can collisions occur while accessing the GSM system? Compare possible collisions caused by data transmission in standard GSM, HSCSD and GPRS.

(b) Compare SDMA, TDMA, FDMA and CDMA in terms of transmission techniques, signal separation, advantages, disadvantages and applications?

4. **Attempt any *one* part of the following:** **10 x 1 = 10**

(a) What are the characteristics of MANET? Explain the process of Path Discovery and Path Maintenance in DSR Routing Protocols.

(b) Explain the concept of "Frequency Reuse" as applied to cellular communications. What are the advantages of this approach? How does it increase the capacity of the system?

5. **Attempt any *one* part of the following:** **10 x 1 = 10**

(a) What is the basic purpose of agent advertisement in packet forwarding? Explain the message format of agent advertisement.

(b) Explain registration and location updation of wireless mobile terminal in a foreign network.

6. **Attempt any *one* part of the following:** **10 x 1 = 10**

(a) Explain the different fundamental differences between ad hoc network and other networks. What advantages do ad hoc networks offer?

(b) List and define the entities of mobile IP and describe data transfer from a mobile node to a fixed node and vice-versa.

7. **Attempt any *one* part of the following:** **10 x 1 = 10**

(a) Why does WAP define its own security layer and does not rely on the security provided by the mobile phone network? What problems does the WAP security layer cause? Think of end-to-end security.

(b) Discuss fast-retransmit and fast-recovery mechanisms of mobile TCP in detail.