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Paper Id: 2 3 1 5 5 0 Roll No.

B.TECH.
(SEM VII) THEORY EXAMINATION 2022-23
MOBILE COMPUTING

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

Note: Attempt all Sections. If you require any missing data, then choose suitably.

SECTION A

1. Attempt *all* questions in brief. **2x10 = 20**

(a) What do you understand by Mobile Computing?
(b) Differentiate between soft and hard handoff.
(c) Distinguish between collisions on PHY and MAC layer.
(d) What is Mobile IP?
(e) Explain the need of mobile database.
(f) How data replication can increase performance?
(g) Explain kangaroo transaction processing.
(h) How does a mobile agent function in a network?
(i) Describe Temporary Ordered Routing Algorithm (TORA).
(j) Which routing algorithm used in MANETs?

SECTION B

2. Attempt any *three* of the following: **10x3 = 30**

(a) Describe cellular systems with three levels and seven level clustering. Also explain the merits and demerits of it.
(b) What is Bluetooth? Explain the Bluetooth Protocol stack and describe the specific functionality of each protocol layer?
(c) Describe, Briefly, design of Coda file system and hence explains the different states of Venus. Draw a State transition diagram of Venus.
(d) What is mobile agent system? What are the security design and performance issues in mobile agent systems?
(e) Explain the (quality of service) QoS in different terms of mobile adhoc networks.

SECTION C

3. Attempt any *one* part of the following: **10x1 = 10**

(a) Describe the GSM architecture and also describe different elements in this architecture.
(b) Describe various multiplexing techniques in brief. "CSMA/CD is not a suitable protocol for wireless LAN". Give reasons in favor of or against the statement.

4. Attempt any *one* part of the following: **10 x1 = 10**

(a) Draw and define 802.11 protocol stack regarding to the following points:
(i) Physical layer
(ii) MAC sub-layer protocol
(iii) Frame architecture

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

5. Attempt any *one* part of the following: 10x1 = 10

(a) Explain adaptive clustering for wireless networks. How clustering is done in wireless transmission? Give a suitable example.

(b) Illustrate different data management issues in mobile computing. Also discuss different strategies of data replication.

6. Attempt any *one* part of the following: 10x1 = 10

(a) Discuss the schemes of mobile transaction management. List out various issues concerned to transaction management.

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

7. Attempt any *one* part of the following: 10x1 = 10

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

(b) Explain the listed routing protocols:
(i) Destination sequenced Distance-Vector(DSDV)
(ii) Fisheye State Routing

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