B.Tech.
(SEM VIII) EVEN SEMESTER THEORY EXAMINATION, 2009-2010

MOBILE COMPUTING

Time: 3 Hours
Total Marks: 100

Note: (i) Attempt all questions.

   (ii) All questions carry equal marks.

1. Attempt any four parts: \((4 \times 5 = 20)\)
   (a) What are the various characteristics of mobile computing environment? Discuss challenges being faced to support mobile computing.
   (b) What do you mean by hand-offs? Differentiate hard and soft hand-off in wireless communication.
   (c) Compare the generations of wireless communication.
   (d) Explain the working of GSM, Global System for Mobile.
   (e) Discuss CDMA channel access method.
   (f) In context to cellular networks, explain the following terms:
      (i) GPRS
      (ii) Location management with HLR-VLR
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      (ii) Location management with HLR-VLR
2. Attempt any two parts: \((2\times10=20)\)

(a) Discuss the basic principles of WAP protocol architecture. Identify the mapping of elements of HTTP systems to WAP systems.

(b) Explain the different MAC protocols for IEEE 802.11 standards.

(c) What kind of problems may arise, if TCP is implemented over wireless networks? Explain.

3. Attempt any two parts: \((2\times10=20)\)

(a) What do you mean by location dependent information system (LDIS)? What may be various components and challenges being faced by them?

(b) Describe the different data management issues related to mobile computing.

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

4. Attempt any two parts: \((2\times10=20)\)

(a) What do you understand Mobile agent? Describe the model for mobile agent based computing.

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

(c) Describe fault tolerance in mobile computing environment in details.
5. Attempt any two parts: (2x10=20)

(a) Describe the working of AODV routing protocol in MANETs. Describe how routing table will be maintained in AODV routing protocol.

(b) Explain the mechanisms to address quality of services and energy-efficient issues in MANETs.

(c) What are the characteristics of MANETs? Explain the process of path discovery and path maintenance in DSR routing protocols.

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