Code No: 07A70510 **R07** **Set No. 2**

IV B.Tech I Semester Examinations,December 2011
MOBILE COMPUTING
Common to Information Technology, Electronics And Computer Engineering, Computer Science And Engineering

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) What is the purpose of agent advertisement messages?
   (b) What is agent solicitation? [8+8]
2. What are the different types of data dissemination techniques? Briefly explain each of them. [16]
3. With the help of a diagram, explain system architecture of GSM. [16]
4. Discuss in detail the data management issues involved in mobile environment. [16]
5. Name the main differences between multi-hop ad-hoc networks and other networks. What advantages do these ad-hoc networks offer. [16]
6. What are the classical solutions that make TCP work in mobile environment? Why they are not complete solutions. [16]
7. With a neat diagram explain the architecture of J2ME stack. [16]
8. (a) RTS/CTS introduces overhead in case of MACA. Comment.
   (b) What is the necessity of ACKs in case of MACA?
   (c) After an unsuccessful RTS/CTS transmission attempt, how many times a station retransmits RTS/CTS transmission. Comment. [6+5+5]

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Code No: 07A70510 **R07** **Set No. 4**

IV B.Tech I Semester Examinations,December 2011
MOBILE COMPUTING
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Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. What are the Data base issues involved in mobile environments? Discuss them in detail. [16]
2. (a) What is MANET? How is it different from cellular system?
   (b) What are the essential features of MANET?
   (c) What are the applications of MANET? [6+5+5]
3. Explain in detail about Mobile IP. [16]
4. (a) Why Access point maintains buffers in Indirect TCP?
   (b) How Indirect TCP hides the problems of wireless links from fixed host?
   (c) The foreign agent can act as a gateway to translate between the different protocols in Indirect TCP. Comment. [5+5+6]
5. (a) Why CSMA/CD cannot be used in mobile networks?
   (b) In CSMA/CA why stations backoff after a collision. What is the the value of backoff interval after one collision, after two collisions etc? Is it constant value or varies with number of collisions.
   (c) What is starvation? Is starvation possible in CSMA/CA. comment? [4+8+4]
6. What are the applications for which fixed networks are suitable? Explain any two of them. What are the applications of wireless and mobile networks? Explain any two of them. [16]
7. Discuss in detail the multi attribute air indexing. [16]
8. Why does WAP define its own security layer and does not rely on the security provided by the mobile phone network? What problem does the WAP security layer causes? Think of end-to-end security. [16]

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Code No: 07A70510 **R07** **Set No. 1**

IV B.Tech I Semester Examinations,December 2011
MOBILE COMPUTING
Common to Information Technology, Electronics And Computer Engineering, Computer Science And Engineering

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. What is communication asymmetry? Explain in detail about communications asymmetry. [16]
2. Explain in detail about encapsulation procedures of mobile IP. [16]
3. (a) Mobile TCP is especially adapted to the problems arising from lengthy or frequent disconnections. Explain.
   (b) Mobile TCP splits the TCP connection in to two parts as Indirect TCP does, but still end-to-end connectivity is maintained. How? [6+10]
4. (a) What are the limitations/problems with wireless and mobile networks? Explain them. Suggest solutions for the problems identified.
   (b) What are the market trends of wireless and mobile networks? [10+6]
5. (a) How the performance of MACA varies in the following cases when RTS/CTS scheme is used:
      i. Small packets are transmitted.
      ii. Large packets are transmitted.
      iii. Mix of small and large packets are transmitted.
   (b) Is the use of RTS/CTS a virtual reservation scheme. Comment. [10+6]
6. Explain in detail about wireless session protocol. [16]
7. (a) Discuss the improvement of various factors by cache in detail.
   (b) Discuss various transactional models. [8+8]
8. Explain in detail about Hybrid routing protocols. [16]

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Code No: 07A70510 **R07** **Set No. 3**

IV B.Tech I Semester Examinations,December 2011
MOBILE COMPUTING
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Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. Compare the two methods for agent discovery. Which one do you prefer and why. Explain how they work. [16]
2. What is the basic purpose of DHCP? Name the entities of DHCP. [16]
3. Explain in detail pull based mechanisms. [16]
4. What are the mechanisms of traditional TCP that influence its efficiency in a mobile environment? Explain it [16]
5. Write short notes on the following:
   (a) Caching invalidation
   (b) Wireless Qos
   (c) Query processing. [8+8]
6. (a) How vehicular traffic can be controlled using wireless and mobile networks?
   (b) How pollution can be controlled using wireless and mobile networks?
   (c) How emergency services can be provided using wireless and mobile networks? [6+4+6]
7. Discuss the configuration and profile of J2ME in detail. [16]
8. (a) Assume all stations can hear all other stations. One station wants to transmit and senses the carrier idle. Why can a collision still occur after the start of transmission?
   (b) Which of the MAC schemes can give hard guarantees related to bandwidth and access delay? Justify. [6+10]

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