

CE1.5-R4 : MOBILE COMPUTING

NOTE :

1. Answer question 1 and any FOUR from questions 2 to 7.
2. Parts of the same question should be answered together and in the same sequence.

Time: 3 Hours

Total Marks: 100

1.
 - (a) Explain transaction oriented TCP along with its advantages and disadvantages.
 - (b) Explain CSMA/CA.
 - (c) List GSM security protocols and explain authentication in detail.
 - (d) Explain four possible handover scenarios in GSM.
 - (e) What are the advantages and disadvantages of hoarding the data at the mobile device?
 - (f) List any four basic features and characteristics of Wireless Markup Language (WML).
 - (g) What is J2ME? What is J2ME configuration? (7X4)

2.
 - (a) Draw and explain GSM architecture with functionalities provided by each of its subsystems
 - (b) Explain Indirect TCP with example. How handover occurs in Indirect TCP? What are the advantages and disadvantages of Indirect TCP? (10+8)

3.
 - (a) Explain hidden terminal and exposed terminal problem with example for wireless networks. How MACA solves both the problems.
 - (b) Justify DHCP follows client-server model and explain various messages involved in DHCP protocol mechanism using sequence diagram.
 - (c) Explain message flow of MTC (Mobile Terminated Call) and MOC (Mobile Originated Call) in GSM. (6+6+6)

4.
 - (a) Describe the WAP protocol stack with suitable figure while enumerating the functions of different layers.
 - (b) Draw and explain in brief Bluetooth protocol stack. (9+9)

5.
 - (a) Explain the process of IP packet delivery i.e. data transfer between two mobile nodes.
 - (b) Compare GSM v/s CDMA.
 - (c) Draw Palm OS architecture and explain various role of various system managers. (6+6+6)

6. (a) Explain optimization of IP Packet forwarding in mobile IP using Triangular routing.
- (b) What are the key design concepts of Temporally-ordered routing algorithm (TORA)? Elaborate three basic functions of TORA: Route creation, Route maintenance, Route erasure. (9+9)
7. (a) Explain functional architecture of GPRS system. What are the limitations of GPRS?
- (b) Explain AODV (Adhoc On-demand Distance Vector) Routing Algorithm with its advantages and disadvantages. (9+9)

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