

2nd Sem MTech Regular / Back Examination – 2014-15

MOBILE COMPUTING

Branch: CSE

FULL MARKS: 70

TIME – 3.0HRS

Q.code:T507

Answer Question No.1 which is compulsory and any five from the rest.

The figures in the right hand margin indicate marks.

- 1[a] In today's Internet, why is it difficult to support continuous communication with a host while it moves? Why would an Internet based on MAC addresses have the potential to make mobile hosts easier to support?
- 1[b] What are the different characteristics of mobile agent?
- 1[c] Explain why wired Ethernet cannot be used for WLANs?
- 1[d] Describe the roles of the VLR and HLR. Why are these essential to the operation of the network?
- 1[e] What is "triangle routing" in Mobile-IP?
- 1[f] What are the roles of the MSC and BSC in a GSM network?
- 1[g] Why cellular IP cannot be used in place of mobile IP?
- 1[h] What is user agent profile? What happens if a user agent profile is not used in WAP?
- 1[i] Define and differentiate between proactive and reactive routing?
- 1[j] Define "hand off latency" in Mobile-IP?

[2×10]

- 2[a] What are the design issues to be considered in providing user mobility? What are the challenges introduced by the portability in the hardware of handheld computer?
- 2[b] Why are many packet losses in wireless networks detected by a timeout rather than a triple-duplicate acknowledgment? What are the performance implications?

[5+5]

- 3[a] How does mobility affect data replication, when data is replicated on the mobile platform? Discuss different possible replicating schemes when both client and server; move only within their home location servers.
- 3[b] Discuss the hidden terminal and exposed terminal problems and their effect in WLANs.

[5+5]

4[a] What are the main difference between HiperLAN v1 and v2? How the HiperLANs are different from the IEEE 802.11 standard?

4[b] What is Adhoc networks? What are different MAC issues in adhoc networks and how are they addressed?

[5+5]

5[a] Define and differentiate DCF and PCF in context to wireless LAN ? Explain their coexistence in wireless LAN with appropriate diagram?

5[b] Define the reactive routing protocol? Explain the route discovery in DSR?

[5+5]

6[a] Discuss IEEE 802.11 frame structure? Clearly indicating its various fields and their uses?

6[b] Why Errors in a wireless network are bad for TCP performance? Briefly explain how TCP snooping can improve this situation?

[5+5]

7[a] What is mobile agent? What are the different requirements for mobile agent system?

7[b] CDMA systems are proposed for increased cellular system capacity. What are the main factors that lead to higher capacity for CDMA systems, when compared to FDMA or TDMA systems?

[5+5]

8[a] What are the key characteristics of Ad hoc On-demand Distance Vector (AODV) routing protocol? How routing in Ad-hoc Network differed from routing in wired Network?

8[b] Discuss working of DHCP that allows host to dynamically obtain its IP address from network server when joining network

[5+5]