53 (CS 712) MOCO

2017

MOBILE COMPUTING

Paper : CS 712

Full Marks : 100

Time : Three hours

The figures in the margin indicate full marks for the questions.

*Answer **any five** questions.*

1. *(a)* Briefly answer the following questions : 2×5=10

   (i) Can a communication device be fixed and wireless ? Justify.

   (ii) What is soft handoff ?

   (iii) If a normal GSM times lot consists of 6 trailing bits, 8·25 guard bits, 26 training bits and 2 traffic bursts of 58 bits of data, find the frame efficiency.

(iv) Define mobility binding.

(v) What would be the minimum distance between the centres of two cells with the same band of frequencies if cell radius is $1 km$ and the reuse factor is 12?

(b) Draw the GSM architecture and explain network and switching subsystem. 10

2. (a) What are the limitations of wireless networking? 6

(b) Explain the different services offered by GSM. 6

(c) Compare the performance of CDMA, FDMA and TDMA techniques. 8

3. (a) What are the basic reasons of handover? Briefly explain the possible handover scenarios. 4+6=10

(b) Explain the steps of "mobile terminated call" in a GSM network. 10

4. *(a)* Why mobile IP is needed ? Explain the requirements that accompanied the development of mobile IP standard. 2+8=10

(b) What do you mean by tunneling and encapsulation ? Explain IP packet delivery to and from a mobile node. 4+6=10

5. *(a)* Explain indirect TCP. Mention its merits and demerits. 8+4=12

(b) Explain Dynamic Source Routing in MANET with a suitable example. 8

6. *(a)* What is mobile database system (MDS) ? What are the different query types in MDS ? Give examples. 3+5=8

(b) What do you mean by database hoarding ? 5

(c) Why do MAC schemes in wired network fail in wireless networks ? 7

7. Write short notes on the following : ***(any two)*** 10×2=20

(a) GSM TDMA frame

(b) M-TCP

(c) Security in MANET.