53 (CS 712) MOCO

2014

MOBILE COMPUTING

Full Marks : 100

Pass Marks : 30

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) Why radio waves are mostly used for
    mobile communications ?

    (iv) Define A_{bis} interface.

(v) What should 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 the network and switching subsystem. 6+4=10

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

(b) Explain different services offered by GSM. 6

(c) What are the basic channels available in GSM ? Explain in brief. 8

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

(b) Compare the performance of CDMA, FDMA and TDMA. 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 agent advertisement and agent solicitation ? Explain IP packet delivery to and from a mobile node.

$$4+6=10$$

5. *(a)* What are the drawbacks of indirect TCP ? Explain snooping TCP. $3+7=10$

(b) Explain the following routing protocols in MANET

- *(i)* DSR
- *(ii)* DREAM. $5+5=10$

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

(b) Draw and explain the WAP architecture.

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(c) What do you mean by database hoarding ?

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7. Write short notes on the following : *(any two)*

$2 \times 10 = 20$

(i) GSM TDMA frame

(ii) Piconet and Scatternet

(iii) Security in MANET

(iv) Localization and calling in GSM.

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