Name : .....

Roll No. : .....

Invigilator's Signature : .....

CS/M.Tech(MCSE)/SEM-3/PGCS-301/2012-13

2012

MOBILE COMPUTING

Time Allotted : 3 Hours Full Marks : 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

GROUP – A
(Multiple Choice Type Questions)

1. Choose the correct alternatives of the following : 10 × 1 = 10

   i) Issues vital to cellular

      a) frequency allocation

      b) location management

      c) multiple acuss

      d) all of these.

   ii) Mobile Telecommunications Switching Office (MTSO)

      a) essentially an end office to connect calls between mobile units

      b) BS not connected to MTSO

      c) ATM can be without MTSO

      d) control channels & traffic channel are same.

iii) Hardoffs typically ranges 30 m scals why

a) MTSO arigns new channel to the MS and notifies MS of new boy

b) BS & MS no communication

c) MTSO & BS not connected

d) BS gets strong signal.

iv) Advantage of AMPS over IMTS

a) none

b) Exclusively digital

c) analog & digital both

d) could use 5 to 10 times more users in same area by using.

v) Cellular digital packet date was developed by

a) IBM b) MAC

c) TOSHIBA d) ISO.

vi) GSM uses ..... channels per cells.

a) 100 b) 200

c) 300 d) 124.

vii) GSM protocol architecture conirts of ..... layers.

a) 7 layers b) 3 layers

c) 6 layers d) 5 layers.

viii) Advantages of CDMA for cellular is

a) multipath resistance

b) TDMA support

c) don't any privacy

d) frequency is independent.

ix) Draw back of CDMA

a) soft hand off b) no problem

c) no jamming d) no attemation.

x) Mobile wireless CDMA design considers

a) soft handoff b) none of these

c) TDMA d) FDMA.

GROUP – B
(Short Answer Type Questions)

Answer any *three* of the following. 3 × 5 = 15

2. Show the frequency allocation chart of wavelength & frequency.

3. Show the cell design.

4. Show the CPDP operation.

5. Difference between mobile station and base statia subsystem.

6. GSM protocol architecture.

7. Show a traditional routing protocol.

GROUP – C
(Long Answer Type Questions)

Answer any *three* of the following. 3 × 15 = 45

8. a) Give the issues vital to cellular.

b) How to allocate users in multiple access technique ?

c) Show a cellular network. 5 + 5 + 5

9. a) Elaborate location services.

   b) Handoffs rages typically 30 m seconds explain in brief.

10 + 5

10. a) What is reactive routing ?

    b) How to increase the capacity designing cell ?

    c) What is DSR ? 5 + 5 + 5

11. a) Explain AMPS operation.

    b) Advantages of digital communication for wireless.

    c) Requirement analysis of a wireless LAN.

12. a) Difference between first and 2nd generation systems.

    b) Explain MAC collision avoidance.

    c) Show the effect of mobility on the protocol stack.

5 + 5 + 5

13. a) What are the challenges in mobile environments.

    b) What is Ad-hoc network ?

    c) What is unicast routing ? 5 + 5 + 5