Name : ....

Roll No. : ....

Invigilator's Signature : ....

CS/M.Tech (CSE)/SEM-2/CST-1202-C3/2010
2010
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 for any *ten* of the following :

                                                    10 × 1 = 10

    i) .... allows for access to personal files, corporate databases and the World Wide Web.

        a) Computing models   b) Mobility

        c) Mobile computing   d) All of these.

    ii) A .... to which LANs, MANs and Wireless cells are attached.

        a) LAN   b) MAN

        c) WANd)   All of these.

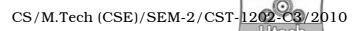30014 (M.Tech)   [Turn over

iii) Mobile computing technology enables the mobile worker to create, process, store and communicate information without being constrained to

    a) multiple locations

    b) multiple environments

    c) a single location

    d) None of these.

iv) Mobility of bits means

    a) migration of devices

    b) migration of bits

    c) migration of address

    d) both (b) & (c).

v) The mobile computing market is expected to grow to an estimated .... in the year 2000.

    a) $ 37·2 billion

    b) $ 38·2 billion

    c) $ 35·2 billion

    d) $ 35·7 billion.

vi) When mobile computing is added with normadic computing, it is called

    a) Conventional computing

    b) Normadic computing

    c) Ubiquitous computing

    d) None of these.

vii) Email, web, voice and video are the examples of

    a) Diversion

    b) Location based information service

    c) Ubiquitous communication

    d) All of these.

viii) "Need based network formation" means

    a) Paging Network   b) Satellite Network

    c) Wireless LAN   d) None of these.

ix) What types of microprocessor used in Laptop ?

    a) Low power RISC

    b) Higher power CISC/Intel 386

    c) Intel 486 or Pentium Class

    d) Pentium MNX or PII or Higher.

x) CDPD stands for

a) Communication Device Packet Data

b) Communication Digital Packet Dictionary

c) Cellular Digital Packet Data

d) Cellular Data Packet Data.

xi) The .... model, or simply the web, used on the Internet gives a client the possibility to receiver contents in a well specified data format from the web servers.

a) WAP   b) WWW

c) HTML   d) WML.

xii) VSAT stands for

a) Virtual Small Aperture Transmission

b) Virtual Small Aperture Terminal

c) Very Small Aperture Terminal

d) All of these.

xiii) A .... is a mobility aware third party.

a) thin client   b) Dummy terminal

c) Server   d) Proxy.

xiv) FCC stands for

    a)   Federal Commission Communications

    b)   Federal Communication Commission

    c)   Federal Connections Commissions

    d)   Federal Commissions Connections.

GROUP – B
(Short Answer Type Questions)
Answer any *three* of the following.   3 × 5 = 15

2.   a)   What is GSM ? What are the services of GSM ?

    b)   What do you mean by "Mobility" ?   1 + 2 + 2

3.   Define the term "Broad Band". Explain what are the functions of broad band communications. What are the merits of broad band communications ?   1 + 2 + 2

4.   a)   What is ISDN ? Define "B-channel" and "D-channel". What are the uses of ISDN ?

    b)   What are the basic requirements for Wireless LAN ?

    1 + 1 + 1 + 2

5.   Explain with diagram Cellular Network Architecture.

6.   Explain various types of Mobile Information Devices used in Mobile Commerce.

7. Draw and explain IEEE 802.11 architecture.

8. What is mode of communication ? Explain with diagram different types of mode of communication used in Mobile Computing Technology. 1 + 4
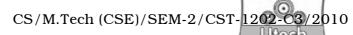
GROUP – C
(Long Answer Type Questions)
Answer any *three* of the following. 3 × 15 = 45

9. a) What is Bluetooth ?

b) Explain with diagram Bluetooth Protocol Stack.

c) What are the protocols used in Bluetooth Architecture ? 2 + 10 + 3

10. a) What are Cells ? What is Ad-hoc network ?

b) Draw Mobile Telephone System using a Cellular architecture and explain.

c) What do you mean by Mobile Computing ? 2 + 10 + 3

11. a) Define "Hand off" with neat diagram. What is Cluster ? Draw seven cell clusters.

b) Draw and explain Cellular System Components.

3 + 2 + 5 + 5

12. a) What are the differences between Wireless Computing and Mobile Computing ? Explain with diagram and truth table.

   b) Explain with diagram Mobile Computing Architecture.

   c) What are the merits and drawbacks of Mobile Computing ?   5 + 7 + 3

13. Write short notes on any *five* of the following :   5 × 3

   a) Mobile IP

   b) Mobile Computing and WAP Architecture

   c) Architecture of WWW

   d) WML

   e) LAN Access

   f) Wireless Communication System

   g) Satellite Communication System

   h) GSM Network Components.