



Name :

Roll No. :

Invigilator's Signature :

CS / B.TECH (CSE) / SEM-8 / CS-802A / 2011

2011

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 the following : $10 \times 1 = 10$
 - i) GSM uses for multiplexing.
 - a) CDMA
 - b) TDMA
 - c) FDMA
 - d) both (b) and (c).
 - ii) The wireless standard which is a set of protocols that allows portable devices to communicate with the Internet, is
 - a) TDMA
 - b) CDMA
 - c) WAP
 - d) VXML.
 - iii) SIM algorithm is checked by
 - a) AUC
 - b) HLR
 - c) VLR
 - d) EIR.



- iv) What does 'GSM' stand for ?
 - a) Greater System's Mobile
 - b) Global System for Mobile Communication
 - c) Global System Mobile
 - d) None of these.
- v) Mobile IP is
 - a) layer 2 protocol
 - b) layer 3 protocol
 - c) layer 4 protocol
 - d) none of these.
- vi) WLL stands for
 - a) Wireless Local Loop
 - b) Wired Local Loop
 - c) Wireless Live Loop
 - d) Wire Less Loop.
- vii) Piconet consists of
 - a) six devices
 - b) eight devices
 - c) eight bluetooth devices
 - d) seven bluetooth devices.
- viii) Access method in IEEE 802.11 for wireless LANs is based on
 - a) CSMA CD
 - b) CSMA CA
 - c) Token Passing
 - d) CSMA.
- ix) Functions of GPRS include
 - a) radio resource management
 - b) mobility management
 - c) network management
 - d) all of these.
- x) CDMA allows
 - a) many users to share a common frequency / time channel
 - b) many users to share only a common frequency
 - c) many users to share only a common time channel
 - d) none of these.



GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following. $3 \times 5 = 15$

2. Explain different types of satellite.
3. a) What services are provided by GSM system ?
b) What are the uplink and downlink frequency of GSM system ? $3 + 2$
4. Explain the functionalities of serving GPRS support node and gateway GPRS support node after illustrating the GPRS architecture.
5. a) What is meant by an Wireless Enterprise Network ?
b) What issues are to be supported for such networks ? $3 + 2$
6. a) What are the characteristics of 3G systems ?
b) Compare between W-CDMA and CDMA 2000 with reference to chip rate and timing synchronization with base station. $3 + 2$

GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following. $3 \times 15 = 45$

7. a) Show the Wireless Application Protocol stack.
b) Describe Wireless Transport Layer Security and Wireless Session Protocol. $3 + 12$



8. a) Briefly describe the WLL architecture.
b) Name any two major WLL technologies. What are the advantages and disadvantages of these approaches ?
 $5 + (2 + 8)$
9. a) What are the different strategies for detecting hand-off ?
b) How is roaming of a Mobile station managed ? $5 + 10$
10. a) What is the difference between care-of-address and co-located care-of-address ?
b) How does a reverse tunnel differ from a forward tunnel in mobile IP protocol ?
c) What is IMT 2000 ?
d) What is the purpose of WML ? What are its characteristics ?
 $3 + 4 + 2 + (3 + 3)$
11. Write short notes on any *one* of the following : 1×15
a) Bluetooth protocol stack and its description.
b) Global star satellite system.
c) Personal communication service.

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