



Name :
Roll No. :
Invigilator's Signature :

CS/M.TECH(CSE)/SEM-2/CST-1202-C3/2012

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 for any *ten* of the following :

10 × 1 = 10

- i) Which of the following is not an example of 3G network ?
 - a) CDMA 2000 b) UMTS
 - c) GPRS d) WCDMA.
- ii) SyncML protocol is a standard for
 - a) data security b) data synchronization
 - c) data inheritance d) none of these.
- iii) Business logic and rules are executed in which layer of mobile computing architecture ?
 - a) Presentation Tier b) Application Tier
 - c) Data Tier d) all of these.



- iv) COBRA is an example of
 - a) transaction processing middleware
 - b) communication middleware
 - c) database middleware
 - d) distributed object and component.
- v) Which server is responsible for authentication checking in IS-95 ?
 - a) AUX
 - b) AUC
 - c) AC
 - d) VLR.
- vi) IEEE 802.11 standard is
 - a) wireless MAN
 - b) wireless LAN
 - c) wired LAN
 - d) both (a) and (b).
- vii) Roaming is movement of point of attachment from
 - a) one base station to another base station
 - b) one base station of one network to another base station of another same type of network
 - c) one base station of one network to another base station of another different type of network
 - d) both (b) and (c).
- viii) Blue-tooth uses to communicate between two devices.
 - a) radio wave
 - b) microwave
 - c) infrared
 - d) none of these, a separate technology exists.
- ix) GPS is
 - a) Global Positioning System
 - b) Global Packet Service
 - c) General Packet Service
 - d) General Positioning System.



- x) In GSM network, IMSI is stored in
 - a) MSC
 - b) HLR
 - c) VLR
 - d) SIM.
- xi) A8 algorithm in GSM security model is used for
 - a) authentication
 - b) encryption
 - c) non-repudiation
 - d) all of these.
- xii) The address size for each packet of IPv6 is
 - a) 16 byte
 - b) 32 byte
 - c) 64 byte
 - d) 128 byte.

GROUP – B

(Short Answer Type Questions)

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

- 2. a) Why ad-hoc network is called infrastructureless network ?
b) What are the advantages of it with mobile network ?
 $3 + 2$
- 3. Describe the data flow diagram in ICAP environment in brief.
- 4. What are the essential functional differences between 1st Generation, 2nd Generation and 3rd Generation of networks ?
- 5. How does MSC check the authenticity of MS in GSM network ?
- 6. Explain how the Mobile IP works.

GROUP – C

(Long Answer Type Questions)

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

- 7. Why are context aware systems necessary for mobile computing ? Describe the content architecture with respect to mobile computing. $8 + 7$
- 8. a) How call routing is processed in GSM ?
b) Describe the signalling protocol structure in GSM. $8 + 7$

CS/M.TECH(CSE)/SEM-2/CST-1202-C3/2012



9. What are the functionalities of Bluetooth protocol stack in different layers ? How each application model in Bluetooth is realized through a Profile ? 9 + 6
10. a) What are the differences between GSM and CDMA ?
b) What are the strengths of SMS ?
c) Explain the GPRS network architecture. 5 + 5 + 5
11. Write short notes on any *three* of the following : 3 × 5
- a) CC/PP
 - b) MOM
 - c) WiMax *vs* WiFi
 - d) Handover in GSM
 - e) MMS Architecture.

=====