	Utech
Name:	
Roll No.:	A Annual (V Knowledge 2nd Copilises)
Invigilator's Signature :	

${\tt CS/M.TECH(CSE)/SEM-2/CST-1202-C3/2012}$

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:

 $10 \times 1 = 10$

- 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.

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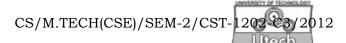
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- iv) COBRA is an example of
 - a) transaction processing middleware
 - b) communication middleware
 - c) database middleware
 - d) distributed object and component.
- v) Which server is responsible for authentication checking in IS-95?
 - a) AUX

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

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- 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.

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