



Name : .....

Roll No. : .....

Invigilator's Signature : .....

**CS/B.Tech (CSE)/SEM-8/CS-802A/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 the following :  $10 \times 1 = 10$ 
  - i) GSM system has
    - a) 120 pair of channels
    - b) 128 pair of channels
    - c) 124 pair of channels
    - d) 100 pair of channels.
  - ii) Wireless transport layer security ( WTLS ) of a WAP is used between
    - a) the client and the server
    - b) the gateway and the target server
    - c) the client and the gateway
    - d) none of these.



- iii) GSM operates in frequency band
  - a) uplink 890 MHz-915 MHz, downlink 935 MHz-960 MHz
  - b) uplink 5 MHz-30 MHz, downlink 35 MHz-60 MHz
  - c) uplink 450 MHz-475 MHz, downlink 500 MHz-525 MHz
  - d) none of these.
- iv) VLR maintains record for
  - a) IMSI
  - b) TMSI
  - c) SIM
  - d) None of these.
- v) SIM Algorithm checking is done by
  - a) HLR
  - b) VLR
  - c) AUC
  - d) EIR.
- vi) The security layer of WAP consists of
  - a) WTLS
  - b) WSP
  - c) WCOMP
  - d) WAE.
- vii) SIM stands for
  - a) Subscriber Identity Module
  - b) Subscriber Identification Module
  - c) Subscriber Identified Module
  - d) None of these.
- viii) Encryption technique is handled by
  - a) HLR
  - b) VLR
  - c) AUC
  - d) EIR.
- ix) Bluetooth uses
  - a) 2.5 GHz ISM band
  - b) 2.4 GHz ISM band
  - c) 2.4 MHz ISM band
  - d) None of these.
- x) The authentication and encryption in Bluetooth is provided by
  - a) LMP
  - b) L2CAP
  - c) SDP
  - d) None of these.



**GROUP – B**

**( Short Answer Type Questions )**

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

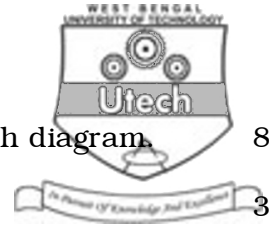
2. a) Explain why wireless LAN cannot implement CSMA/CD. 2
- b) Explain different transmission technologies used in WLAN. 3
3. Briefly describe WLL configuration.
4. Briefly describe about 3G mobile services.
5. Explain steps of communication using mobile IP.
6. What do you mean by hand off ? Discuss how hard hand off is different from soft hand off. 2+ 3

**GROUP – C**

**( Long Answer Type Questions )**

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

7. a) Explain the following terminologies with respect to mobile IP : 3 × 2
  - i) Care-Of Address ( COA )
  - ii) Foreign Agent ( FA )
  - iii) Home Network ( HN ).
- b) Describe steps involved in data transfer from mobile mode to a fixed mode and vice-versa. 4
- c) Explain why Tunnelling and Encapsulation go hand in hand. 2
- d) Explain IP-in-IP encapsulation. 3



8. a) Describe the architecture of GPRS with diagram. 8
- b) Explain different types of GPRS. 3
- c) Describe different types of GPRS handsets. 4
9. a) Write down the limitations of accessing the mobile internet. 5
- b) What is WAP gateway ? Write down it's functionalities. 3 + 2
- c) Discuss different WAP protocols. 5
10. a) What do you mean by satellite network ? 3
- b) Briefly explain different types of satellites. 6
- c) Discuss the Irridium satellite system. 6
11. a) What is the basic unit of networking in Bluetooth ? 4
- b) Briefly discuss Bluetooth protocol stack. 8
- c) Give two examples of Bluetooth application. 3
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