



Name : .....  
Roll No. : .....  
Invigilator's Signature : .....

**CS/M.TECH(CSE)/SEM-2/CSEM-204A/2012**

**2012**

**MOBILE COMPUTING - II**

*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) ..... is defined as an environment in a foreign network such that the mobile user can experience the same computing experience as they have in their home or corporate computing environment.
- a) Mobile computing Environment
  - b) Nomadic Computing Environment
  - c) Pervasive Computing Environment
  - d) Virtual Home Environment.
- ii) Which is not the characteristic of mobile computing ?
- a) Network Mobility
  - b) Host Mobility
  - c) Service Mobility
  - d) None of these.

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[ Turn over



- iii) Mobile Networks are generally termed as .....
- a) Wireline Network      b) Ad-hoc Network
- c) Spontaneous Network      d) Wireless Network.
- iv) SIM algorithm checking is done by
- a) HLR      b) VLR
- c) AUC      d) EIR.
- v) CSS stands for .....
- a) Common Style Sheet
- b) Cascading Standard Sheet
- c) Cascading Style Sheet
- d) None of these.
- vi) A series of distinct tones were generated by a machine called
- a) Dial Tone      b) Busy Tone
- c) Ring Tone      d) Ring Generator.
- vii) The authentication and encryption in Bluetooth is provided by .....
- a) L2CAP      b) SDP
- c) LMP      d) None of these.





xiii) What type of microprocessor is 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.

### GROUP – B

#### ( Short Answer Type Questions )

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

- 2. a) What are 3G Mobile Services ? Explain in brief.  
b) Explain the difference between ad-hoc versus Infra-structure modes.  $3 + 2$
- 3. a) What is GSM ? What are the supplementary services of GSM ?  
b) What do you mean by “Mobility” ?  $1 + 2 + 2$
- 4. What are the differences between 3G and WIFI ?  $5$



5. a) What is Mobile IP ?  
b) Explain the steps of communication using mobile IP. 1 + 4
6. Explain with neat diagram, the architecture of GPRS. 5

**GROUP – C**

**( Long Answer Type Questions )**

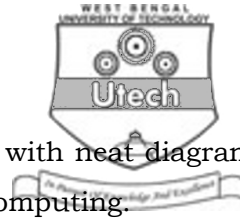
Answer any *three* of the following.  $3 \times 15 = 45$

7. a) Define J 2 me configuration and profile. Explain a configuration and a profile that used in standard java enabled phone.  
b) What is frequency reuse ?  
c) What do you mean by hand-off ?  
d) Distinguish between hard hand-off and soft hand-off.

$5 + 2 + 2 + 3 + 3$

8. a) What is Cell ? What is Ad-hoc network ?  
b) Draw and explain the GSM Network Architecture.  
c) Explain with neat diagram 802.11 Architecture.

$1 + 1 + 8 + 5$



9. a) What is mobile Computing ? Explain with neat diagram about 3-Tier Architecture of Mobile Computing.
- b) Explain different types of WAP Protocol in detail.
- c) Explain about GPRS. 7 + 5 + 3
10. a) Explain MIDLET architecture for J2me.
- b) What are the jobs of java archive and java application descriptor for J2ME application ?
- c) What is the event handling mechanism of a J2ME MIDlet ?
- d) Write down a MIDlet program to sort 10 values ?
- 4 + 3 + 3 + 5
11. a) Explain the following terminologies with respect to IEEE standards :
- i) IEEE 802.11 (ii) IEEE802.11a (iii) IEEE 802.11b  
(iv) IEEE 802.11g (v) IEEE 802.11x.
- b) Explain in detail about Tunneling & encapsulation.
- c) Explain about Internet Protocol Version 6 (IPV6)

10 + 3 + 2



12. Write short notes on any *three* of the following :  $3 \times 5 = 15$

- a) GSM
  - b) J2ME
  - c) WML
  - d) WAP Gateway
  - e) Mobile Ad-hoc Network *vs.* Sensor Network.
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