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RM-7823

B. E. IV (Sem. VIII) (I.T.) Examination

May / June – 2010

Mobile Computing

(Elective - II)

Time : **3** Hours] [Total Marks : **100**

Instruction :

(1)

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fillup strictly the details of ☛ signs on your answer book.

Name of the Examination :

☛ **B. E. 4 (Sem. 8) (I.T.)**

Name of the Subject :

☛ **Mobile Computing (Elective - 2)**

☛Subject Code No. : **7 8 2 3** ☛Section No. (1, 2,.....) : **1&2**

Seat No. :

Student's Signature

(2) Answer to both the sections must be written in **separate** answer books.

(3) Figure to the extreme **right** indicates maximum marks.

(4) Support your answers with necessary diagrams.

(5) Assume suitable data, when **necessary**.

SECTION – I

Q:1 (a) Choose Appropriate Answer from the given options: **(10)**

1. Directed Micro-wave works in which frequency band
   a) UHF b) VHF
   c) SHF d) EHF
2. Infrared falls in which frequency band
   a) UHF b) VHF
   c) SHF d) EHF
3. GSM falls in to _____ Mobile Generation
   a) 2.5 G b) 1 G
   c) 3 G d) 2 G
4. Full rate TCH channel has a data rate of
   a) 22.4 kbps b) 33.8 kbps
   c) 22.8 kbps d) None of Above
5. Which type of Handover is performed by BTS?
   a) Intra cell b) Inter cell , Intra BSC
   c) Inter BSC , intra MSC d) None of Above
6. Which is the Heart of GSM System
   a) RSS b) NSS
   c) OSS d) OMC

7. User of GSM System only knows
   a) MSISDN b) TMSI
   c) IMSI d) MSRN
8. In which Technique we have Soft Handover
   a) FDMA b) TDMA
   c) CDMA d) SDMA
9. Which kind of scenario can cause Collision in wireless environment?
   a) Hidden Terminals
   b) Exposed Terminals
   c) Near and Far Terminals
   d) None of Above
10. Which one of these is Broadcast Control Channel?
   a) Paging Channel
   b) Access Grant Channel
   c) Random Access Channel
   d) Frequency Correction Channel

Q:1 (b) Write a short-note on Different Types of Antennas used in Wireless Communications in detail with the diagrams of different types of Antennas and their radiation patterns. **(6)**

Q:1 (c) Explain Classical ALOHA and Slotted ALOHA MAC Schemes in detail. **(4)**

Q:2 (a) Explain GSM Radio Interface with GSM TDMA Frame, Slots and Bursts, also explain logical channels. **(8)**

OR

(a) 1. Give the Comparison of SDMA, FDMA, TDMA and CDMA. **(5)**

2. Show that the GSM Physical TDM channel has raw data rate of 33.8 kbps. **(3)**

Q:2 (b) Explain the GSM Security Services in detail with corresponding Diagrams. **(7)**

OR

(b) 1. Write a short note on: Different Types of Frequency Bands. **(4)**

2. Explain HSCSD in detail. **(3)**

Q:3 (a) Explain the Mobile Services of GSM in Detail. **(4)**

OR

(a) Discuss the Different types of Hand-over in GSM in detail with necessary diagrams. **(4)**

(b) What are Ping Pong Effect and HO_MARGIN? **(2)**

(c) Explain the Following (Any three). **(9)**

1. FDMA
2. Demand Assigned Multiple Access
3. Hidden Terminals and Exposed Terminals
4. GPRS
5. RSS of GSM Architecture

SECTION - II

Q-4 (a) Answer the following **(10)**

1. Define footprint and perigee for satellite systems.
2. Give two advantages of Radio Transmission.
3. What is agent solicitation?
4. What is the task of Foreign Agent and Home Agent?
5. List out layers of WAP architecture.

Q-4 (b) 1. Explain Dynamic Source Routing with example. **(6)**

2. Explain Destination Sequence Distance Vector. **(4)**

Q-5 (a) 1. Explain architecture of HAWAII with diagram. **(6)**

2. What is tunneling and encapsulation? **(2)**

OR

(a) Explain entities and terminologies of Mobile IP. **(8)**

Q-5 (b) 1. Explain slow start mechanism in TCP. **(5)**

OR

1. Explain Transaction Oriented TCP. **(5)**

2. Give advantages of S-TCP. **(2)**

Q-6 Attempt any three. **(15)**

1. Explain LEO with advantages and disadvantages.
2. WTP class 0 services.
3. MN registration to HA.
4. Applications of Satellite Systems.
