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B.E/B.TECH DEGREE END SEMESTER EXAMINATION, APR/MAY- 2013

Computer Science and Engineering

Sixth Semester

CS9352 – Mobile and Pervasive Computing

(Regulation 2008)

40

Duration: 3 Hours **Maximum marks: 100**

Answer all the questions

PART-A (10*2=20 Marks)

1. Discuss the classes of IP addresses with its ranges
2. List out the groups of logical channels in GSM
3. Detail any three IEEE standards which emphasis more on wireless communications
4. Discuss the role played by GTP in GPRS transmission plane reference model
5. List out any five design goals to be taken into account for WLANs to ensure their commercial success.
6. Explain Orthogonality with an example
7. Differentiate Synchronous connection-oriented link and Asynchronous connectionless link
8. List out the protocols promoting security in Wi-Fi
9. What are the possibilities for the location of the COA: Discuss
10. Highlight all the technologies access by a PDA

Part B (5*16=80 Marks)

11. a (i) With specifications classify wireless frequency spectrum as per their application.(4)
    (ii) Explain the mechanism to authenticate a subscriber to use any service from GSM network. (6)
    (iii) Explain diagrammatically demand assigned multiple access with implicit reservation. (6)

12. a (i) Detail the spread spectrum which separates different networks using different hopping sequences. (6)
    (ii) Explain the major baseband states of a Bluetooth device with an example. (6)
    (iii) Highlight the technical specifications of WiMAX technology. (4)

or

12.b (i) Detail the time-bounded service on top of the standard DCF mechanism where ad hoc networks cannot use this function. (8)
    (ii) List out the phases of HIPERLAN and discuss with and example (8)

13.a (i)Discuss the technique which allows the encapsulation of packets of one protocol suite into the payload portion of a packet of another protocol suite. (8)

(ii) Detail the working procedure of a multicast routing protocol highlighting routing update mechanisms with an example. (8)

or

13.b (i) Compare the route discovery and route maintenance mechanisms between any two unicast routing protocols with example. (10)

(ii) Diagrammatically represent the agent advertisement packet with the extension for mobility. (6)

14.a (i) Highlight how fast recovery improves the efficiency of TCP dramatically. (6)

(ii) List out and detail all the mechanisms introduced to increase TCP's performance which segments a TCP connection into a fixed part and a wireless part. (10)

or

14.b (i) Sketch the sequence of service primitives needed for establishing a secure session by Wireless Transport Layer Security Service. (8)

(ii) Create a general purpose application environment based on existing technologies and philosophies of the world wide web and explain with an example (8)

15.a (i) Compare and highlight the technical features of three recent mobile operating systems in the market (Note: Recent OS includes Android, iOS, Symbian, Windows Mobile etc.) (8)

(ii) Discuss and Differentiate the tradeoff between Server side security and Device security with technical justification. (8)

or

15.b(i) Sketch an application highlighting the communication between diverse collection of electronic devices. Exhibit the various technologies involved with specifications, also highlight the significance of the application. (6)

(ii) Detail and Discuss the user interface challenges in a pervasive computer architecture. (6)

(iii) List any four advanced Biometric UI devices. (4)