KUMARAGURU college of technology
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Register Number:……..

B.E DEGREE EXAMINATIONS: MAY 2015

(Regulation 2009)

Seventh Semester

COMPUTER SCIENCE AND ENGINEERING

ITY107: Mobile Communications

Time: Three Hours **Maximum Marks: 100**

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. The uplink frequency range of GSM 900 system is _____.

   a) 900 - 925 MHz b) 890 - 915 MHz

   c) 935 - 960 MHz d) 800 - 825 MHz

2. Among the two spread spectrum methods, _____ system uses a portion of the total band at any time, while _____ system always uses the total bandwidth available.

   a) FHSS, DSSS b) DHSS, FHSS

   c) FSSS, DSSS d) DSSS, FHSS

3. In GSM architecture, the ___ interface uses the Signalling System No. 7 (SS7) based on X.25 carrying management data to/from the RSS.

   a) A b) O

   c) U_m d) A_{bis}

4. Using a _____ disk, all blocks are repeated one after another. _____ disks favour one or more data blocks by repeating them once or several times.

   a) Multi, skewed b) flat, multi

   c) flat, skewed d) flat, dual

5. Which service is provided by MAC layer in IEEE 802.11?

   a) asynchoronous data service b) security data service

   c) packet data service d) synchoronous data service

6. Bluetooth operates on 79 channels in the _____ band with 1 MHz carrier spacing.

   a) 655 MHz b) 900 MHz

   c) 2.4 GHz d) 6 GHz

7. In a DHCP environment, clients broadcast_____ and servers reply with _____

   a) DHCPREQUEST, DHCP OFFER b) DHCPREQ, DHCPOFFER

   c) DHCPREQ,DHCPREPLY d) DHCPREQUEST, DHCPREPLY

8. DSDV adds sequence numbers and _____ to the distance vector algorithm to ake it adaptable to wireless networks.

   a) Count value b) Damping

   c) positive ack d) negative ack

9. _____ segments the TCP connection into two - a fixed part and a wireless part.

   a) ITCP b) STCP

   c) MTCP d) Standard TCP

10. In the WAP architecture, _____ service has been optimized for low bandwidth, high-delay bearer networks.

    a) Authentication b) message digest

    c) WTLS d) WAE

PART B (10 x 2 = 20 Marks)

11. How can the gain of an antenna be improved?
12. List two advantages of CDMA.
13. List the three different categories of services of GSM.
14. Name the two basic transport mechanisms used by digital audio broadcasting.
15. List the basic services provided by the MAC layer in WLANs.
16. What is EY-NPMA in HIPERLAN1?
17. List the three types of encapsulation in mobile IP.
18. What are the two important tasks performed in dynamic source routing?
19. End-to-End semantics is preserved in Snooping TCP. Justify.
20. What are the three classes of transaction services offered by WTP in WAP?

PART C (5 x 14 = 70 Marks)

21. a) i) What are the different signal propagation methods? Explain. (7)

    ii) Discuss about amplitude, frequency and phase shift keying methods. (7)

(OR)

    b) Explain direct sequence and frequency hopping spread spectrum techniques in detail.

22. a) Explain the protocol architecture of GSM in detail with help of a neat diagram.

(OR)

b) Draw the frame structure and explain the components of DAB.

23. a) Explain CSMA/CA and RTS/CTS mechanisms employed in the MAC layer of 802.11.

(OR)

b) Discuss in detail about the protocol stack of Bluetooth.

24. a) Explain IP packet delivery mechanism with the help of a neat diagram.

(OR)

b) Explain how Dynamic source routing algorithm performs in a wireless networks.

25. a) Explain fast retransmit/ fast recovery, selective retransmission, Transaction oriented TCP. List out the advantages and disadvantages.

(OR)

b) Explain in detail about the procedure used to establish a secure session and datagram transfer using WTLS.

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