53 (EC 713) WRCM

2014

WIRELESS SYSTEM

Paper : EC 713

Full Marks : 100

Time : Three hours

The figures in the margin indicate full marks for the questions.

*Answer **any five** questions.*

1. *(a)* Write *at least two* differences between FDMA and TDMA and mention *at least one* example where these techniques are deployed. 4

(b) Explain Code Division Multiple Access (CDMA) and Space Division Multiple Access (SDMA). 16

2. *(a)* What do you mean by Home Agent and Foreign Agent in mobile-ip ? Explain the working principle of mobile-ip network. 2+8=10

(b) Explain each of the five layers specified in WAP Architecture. 10

3. *(a)* Name the *two* different topologies used in WLAN. Give a brief description of each of the different technologies used in WLAN. 2+9=11

(b) Briefly explain how to integrate WLAN with existing networks and how to provide roaming facility to WLAN. 7

(c) What is WLL Technology ? 2

4. *(a)* What do you mean by connection-oriented and connectionless routing ? 2

(b) Explain the mechanism of Virtual-Circuit Switching and Datagram Switching Techniques. 5+5=10

(c) Explain how Common Channel Signalling Technique enhances the capacity of PSTN. 6

(d) How is pure ALOHA different from slotted ALOHA ? 2

5. (a) What is CDPD ? Explain its working mechanism. 6

(b) Mention *two* advantages of ISDN over PSTN. Differentiate between Bearer channels *(B)* and Data channels *(D)*. 2+2=4

(c) What is Broadband ISDN ? Explain the benefits of B-ISDN based on Asynchronous Transfer Mode (ATM). 2+8=10

6. (a) What is wireless ATM ? State the basic components of a wireless ATM network. 5

(b) Discuss the error control techniques used in a wireless ATM network. 5

(c) Mention the *two* types of GSM short-messaging service. 2

(d) Explain the working of GSM-SMS architecture in terms of Mobile-Terminated and Mobile-Originated. 8

7. Write notes on : ***(any two)*** 10+10=20

(i) Bluetooth

(ii) GPRS

(iii) SS7

(iv) IEEE 802·11