53 (EC 713) WRSY

2017

WIRELESS SYSTEMS

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) How a RAKE receiver is required in
        CDMA system ? With a neat block
        diagram explain its operation,
        advantages and limitations.   14

    (b) Differentiate between different multiple
        access techniques.   6

2. (a) Name different packet radio protocols.
        Derive the expression of throughput in
        ALOHA and slotted ALOHA.
                                                    3+12

(b) Describe the advantages and disadvantages of circuit switching and packet switching. 5

3. *(a)* Draw the block diagram of CDPD network and explain how end to end data transfer occurs. 10

   (b) Draw the block diagram of X·25 network and explain its operation.

   10

4. *(a)* Why mobile IP is challenging ? Describe the following operations in Mobile IP management 3+10

   (i) Discovery

   (ii) Registration

   (iii) Tunneling.

   (b) Name the full form of WAP. How does it work with mobile IP based systems ?

   7

5. *(a)* Describe the protocol architecture of SS7 signalling system. 12

   (b) Draw the frame structure of GSM and calculate its frame efficiency. 8

6. *(a)* What are the key requirements of wireless LAN ? Describe briefly all of them.   10

   (b) Name different types of WLAN technologies. Explain the strength and weakness of Infrared LANs.   10

7. Write short notes on : *(any two)*

                                                 $10×2$

   (i) ATM

   (ii) ISDN

   (iii) IPv4 and IPv6

   (iv) GSM architecture.