Exam. Code: 0931
Sub. Code: 6618

2074

B.E. (Electronics and Communication Engineering)
Seventh Semester
EC-710: Wireless and Mobile Communication

Time allowed: 3 Hours **Max. Marks: 50**

NOTE: *Attempt five questions in all, including Question No. I which is compulsory and selecting two questions from each Part.*

x-x-x

1. (a) Why was the GMSK modulation scheme preferred over QPSK in GSM? (2)

(b) What are the applications of non linear equalizers? (2)

(c) What is Rayleigh fading? (2)

(d) Why is more guard period provided in the RACH channel? (2)

(e) What is near-far problem? Does it occur in GSM also ? (2)

Part- A

2.(a) What is a mobile communication system? Discuss recent trends in cellular radio and personal communications. (5)

(b) What is EDGE technology ? How is it different from GPRS ? (5)

3.(a) How is the capacity of mobile communication enhanced by frequency reuse? Discuss the main constraints in implementing frequency reuse. Describe briefly the various techniques to enhance capacity of cellular communication. (5)

(b) Write a technical note on Bluetooth & personal area networks. (5)

4. (a) Describe various channel assignment strategies. (5)

(b) Describe various parameters for the mobile multipath channel. (5)

P.T.O.

Part-B

5.(a) What is ISDN ? Explain it with the help of a block diagram. **(5)**

(b) Compare wireless & fixed telephone networks with suitable examples. **(2)**

(c) If GSM uses a frame structure where each frame consists of eight time slots, and each time slot contains 156.25 bits, and data is transmitted at 270.833 kbps in the channel, find (i) the time duration of a bit, (ii) time duration of a slot, (iii) how long must a user occupying a single time slot wait between two successive transmissions. **(3)**

6.(a) What is small scale fading? Explain various factors influencing small scale fading and types of small scale fading. **(5)**

(b) With the help of a neat block diagram, explain how a RAKE receiver provides diversity to improve the performance of CDMA receiver. **(5)**

7. Write technical note on the following mobile standards:

(a) Global System for Mobile Communication **(5)**

(b) LTE-Advanced **(5)**

x-x-x