2123
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. Use of scientific calculator is allowed.*

x-x-x

I. (a) What do you mean by TDD. (2)

   (b) State standard interfaces of UMTS. (2)

   (c) What are wideband systems. (2)

   (d) What is frequency reuse in wireless systems. (2)

   (e) What are the parameters that will be affected by the size of cluster? (2)

Part- A

II. (a) What are the differences between paging and cordless systems. (5)

   (b) Explain the process of making a mobile call. (5)

III. (a) Compare various mobile generations in terms of its architecture, performance criteria and operations. (5)

   (b) Distinguish between signal and co-channel interference received by the mobile unit and cell site. (5)

IV (a) Derive the equation for co-channel interference in cellular systems. Find out the interference at the desired base station with $N=7$ cell pattern. (5)

   (b) Draw the architecture of UMTS. State the function of various blocks. (5)

Part-B

V. (a) Develop mathematical model for ML receiver under AWGN channels with ISI. (5)

   (b) What do you mean by equalizers in communication systems. Explain Decision feedback equalizer, its advantages and dis-advanrages. (5)

VI. (a) Explain MAHO techniques and queuing concept in handoffs. Also explain different types of handoffs in mobile communications. (5)

   (b) What are the different air-interfaces in GSM system and discuss significance of each interface. (5)

VII. (a) Explain p-n sequence generation process with the help of 3 bit linear feedback shift register. (5)

   (b) Explain how RAKE receiver works in CDMA receiver. Also discuss various air interfaces of CDMA 2000. (5)

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