DEPARTMENT OF INFORMATION TECHNOLOGY

WIRELESS COMMUICATION

Q1. Explain in detail evolution of mobile radio communication.

Q2. Give in detail the comparison of various wireless systems.

Q3. Write short note on paging systems.

Q4. Write short note on cordless telephone system.

Q5. Between a pager, cellular phone & a cordless phone, which device will have the larger battery life?

Q6. Explain basic cellular system, its architecture performance criteria & operation.

Q7. Explain in detail various operation of cellular system.

Q8. Discuss various performance criteria employed in cellular system.

Q9. Write short note on Ananlog cellular systems.

Q10. Write short note on Digital cellular systems.

Q11. Differentiate between Ananlog and Digital cellular systems.

Q12. Highlight the different modulation techniques employed in mobile communication.

Q13. Write short notes on AMPS.

Q14. Differentiate between mobile device & cellular device.

Q15. List the factors that led to the development of the GSM systems along with detailed specifications and working of GSM.

Q16. Write short note on wireless in local loop.

Q17. Write short note on Personal area networks.

Q18. Explain the features of second & third generation wireless networks.

Q19. What is the required bandwidth for eight slots of the GSM system?

Q20. Present the various differences between WLAN and Blue Tooth technology .

Q21. Calculate the channel data rate of AMPs and GAM technology mobile devices.

Q22. Explain the detailed specifications & working of GSM.

Q23. Write short note on Wireless Local Area Network.

Q24. Explain the architecture of Wireless in Local Loop.

Q25. Discuss about the Soft & Hard hand off strategies in detail along its advantages & disadvantages.

Q26. List the various factors which decide the value of frequency reuse factor.

Q27. Write short note on Frequency Reuse.

Q28. Write short note on Cell Splitting.

Q29. What do you understand by capacity of Cellular system?

Q30. Given the following information

Situation 1: N= 600, k = 7, Blocking Factor = 0.02, a = 84 Erlang.

Situation 2: N= 300, k = 7, Blocking Factor = 0.02, a = 84 Erlang.

Calculate the decrease/increase in Trunking Efficiency if situation 1 is shifted to situation 2.

Q31. If a signal to interface ratio of 15dB is required for satisfactory forward channel performance of a cellular system. What is the frequency reuse factor & cluster size that should used for maximum capacity path loss component is a) n = 4 b) n = 3? Assume that there are six co-channel cells in the first tier and all of them are at the same distance from the mobile. Use suitable approximation.

Q32. Explain frequency reuse.

Q33. Explain Channel Assignment Strategies.

Q34. List and explain various methods through which overall system capacity can be improved.

Q35. Differentiate between noise & interference .Explain the concept of Co-channel & adjacent channel interference. Show up the various methods of reducing the Co-channel interference in detail.

Q36. What are the advantages of using small cells in a cellular system?

Q37. Write a short note on Sectoring.

Q38. Write a note on Co-channel interference & how does it affect the cellular system.

Q39. Why are MAHO and MCHO handled differently in the link transfer procedure? Why can MAHO and MCHO link transfers be handled in similar way? What are the main steps of MAHO link transfers?

Q40. Discuss in detail about Soft & Hard handoff f along with signalling diagram.

Q41. Explain various types of carrier sense multiple access protocols.

Q42.What is multiple acess? Differentite between FDMA, TDMA & SDMA.

Q43. Discuss the concept of Direct Sequence Spread Spectrum & Frequency Hopping.

Q44. Explain the concept of ISDN and how it is different from other networks.

Q45. Give an account of wireless data services.

Q46. Write short note on ISDN.

Q47. Write short note on Traffic routing in wireless network.

Q48. Explain the features of second & third generation wireless networks.

Q49. Explain Intelligent Cell Concept.

Q50. Write short note on “In Building Communication”.

Q51. Trace the History of mobile communication system.

Q52. Explain Performance Criteria of Cellular Communication system.

Q53. Compare various Wireless Communication systems.

Q54. What is the difference between Analog & Digital Cellular systems?

Q55. With a block diagram, explain the features & working of Paging system.

Q56.Explain the following with reference to wireless communication:.

(a) Simplex, Half Duplex & Duplex. (b)ESN & MIN (c) Control Channels

(d)Roaming (e) Handoff

Q57. What are various constituents of Cellular Communication system? How they are interconnected? Explain their functioning.

Q58.With a block diagram, explain the features & working of Wireless Communication System.

Q59. Between a pager, cellular phone and a cordless phone which device will have the larger battery life?

Q60. Explain detailed specification and working of GSM.

Q61.Explain the channel assignment strategies in details.

Q62. Discuss about the soft and hard handoff strategies in detail along with its advantages and disadvantages.

Q63. If 40 MHZ of total spectrum is allocated for a duplex wireless cellular system and each simplex channel has 25HZ RF bandwidth, find the number of duplex channels. the total number of channels per cell site. If N = 3, cell re-use is used.

Q64.Write short notes on: i)FDMA ii)TDMA iii)Frequency reuse iv) CDMA1

Q65. Differentiate between Slotted ALOHA and Pure ALOHA.

Q66. Explain in detail various wireless data services.

Q67 Explain the various methods to increase the coverage and capacity of cellular system.

Q68. Discuss the concept of intelligent cell, its types, advantages and applications.

Q69. Discuss the concept of in building communication.

Q70. Explain the differences between wired and wireless networks

Q71Draw and explain the structure of wireless communication link

Q72. Explain the generation, detection and bit error probability of QPSK technique.

Q73. What are the salient features of offset QPSK?

Q74. Explain the principle and operation of differential QPSK transmission and

reception.

Q75. What is BFSK? Derive the bit error probability of BFSK and also

explain the constellation diagram of it.

Q76. Explain the generation, detection and constellation diagram of MSK scheme.

Q77. Enumerate on Gaussian MSK. Why we prefer it for wireless communication?

Q78. Discuss about the error performance of various modulation techniques

in fading channels.

Q79. Describe in detail about the Digital modulation schemes DPSK and QPSK

Q80. Describe in detail about the Digital modulation schemes BPSK.

Q81Why the second generation was developed?

Q82. What are second generation are available?

Q83. Write advantages 2G over 1G.

Q84. What are services offered by GSM?

Q85. What is the function of NSS in GSM?

Q86. Define Abis Interface.

Q87. Define an Interface.

Q88. What is the function of VLR?

Q89. What are the basic channels available in GSM?

Q90. Define the bursts.

Q91. Write types of TCH channels of GSM?

Q92. What is the need guard period (space)?

Q93. Why Dummy burst is used?

Q94. Define burst formatting in GSM.

Q95. What is the need of pilot channel?

Q96. What are the supervisory signals are used AMPS?

Q97. What are the advantages of N-AMPS over AMPS?

Q98. Define Pico net.

Q99. What is Bluetooth?

Q100. Explain about IS-95 used for wireless communication