

**Final exam in the subject "Mobile Communications" for students of the Faculty of
"Radio and Mobile Communications" "Telecommunication Technologies
(Mobile Systems)" control questions**

1. Give the basics of organizing radio communications.
2. Describe the construction principle of a professional mobile radio communication system.
3. Provide information about the classification of radio frequencies.
4. Explain wireless telephony systems.
5. Explain the existing standards for mobile cellular communication systems.
6. Explain detailed information about the basic laws of radio wave propagation.
7. Provide recommendations for selecting digital trunking radio communication standards.
8. Give information about OFDMA technology.
9. Give information about personal radio paging systems.
10. Give information about FDMA technology.
11. Give information about TDMA technology.
12. Describe the evolution of cellular communication systems.
13. Give information about simplex and duplex communication types.
14. What is a repeater?
15. Explain requirements for PMR and PAMR
16. Explain trunking radio standards
17. Give information about analog standards for mobile cellular communication systems.
18. Give information about analog mobile communication standards.
19. Explain information about digital mobile communication standards
20. Give information about the NMT standard
21. Give information about CDMA technology.
22. Give list the types of personal and public communication.
23. Give information about the mission of HRT and the size of its service area.
24. Give information about the TETRA standard.
25. Give information about the evolution of cellular communication systems.
26. Provide information on the operating principles and devices used in FDMA technology.
27. Provide information about the principles of construction of the CDMA standard.
28. Explain the first generation - 1G standards.
29. Provide information on the application areas of TDMA technology.
30. Provide information about carrier channels in the GSM standard
31. Provide information about W-CDMA technology.
32. Provide information about mobile communication operating ranges
33. Describe the organization of "Handover".
34. Give the channel allocation in SDMA technology.
35. Provide information about 2.5G generation mobile communication systems.
36. Provide information about GPRS technology
37. Provide information on the application area of OFDMA technology.
38. Provide information about 2G – second generation standards.

39. Give the architecture of the CDMA-2000 standard.
40. Provide information about the CDMA-2000 1X standard.
41. Give the architecture of the GSM standard.
42. Explain list the existing standards for mobile cellular communication systems.
43. Explain list the radio interfaces of the CDMA-2000 standard.
44. Describe the organization of "Handover".
45. Provide information about 2.75G generation mobile communication systems.
46. Provide information about 3G generation mobile communication systems.
47. Explain information about HSPA.
48. Explain information about HSPA+.
49. Explain information about LTE.
50. Explain the architecture of LTE technology
51. Give a general structural diagram of GSM UMTS LTE standards.
52. Provide information about Wi-Fi.
53. Provide information about WiMAX
54. Provide information about 4G standards.
55. Provide information about cellular radio communication systems in motion
56. Give the architecture of the CDMA standard network.
57. Provide information about GPRS technology
58. Explain the architecture of the GSM standard network.
59. Give the technical parameters of the first generation mobile communication systems.
60. Give the technical parameters of second generation mobile communication systems.
61. Give the technical parameters of third generation mobile communication systems.
62. Give the technical parameters of fourth generation mobile communication systems.
63. Provide information about the LTE –Long Term Evolution standard
64. Explain information security issues in mobile communication systems
65. State the principles of mobile and satellite communication systems.
66. Please provide information about radio frequency classification.
67. Describe the characteristics of radio wave propagation in the UHF range.
68. Provide information about OFDMA technology
69. Provide information about OFDM technology
70. Explain the implementation of MIMO technology in the 4G standard.
71. Draw the architecture of a UMTS network.
72. Explain the history of the origin of the mobile communication system.
73. Explain the history of the origin of the GSM standard
74. Explain the analog standards of mobile cellular communication systems.
75. Explain the digital standards of mobile cellular communication systems.
76. Explain the frequency reuse model that includes two BTSs.
77. What are the advantages of the frequency reuse model in sectorized cells?
78. Provide information about GSM and DECT standards.
79. Explain the advantage of using frequency over repetition.
80. Describe the concept of cluster in a mobile communication system.
81. Provide information about the types of modulation used in mobile communication systems.
82. Explain the main technical characteristics of the GSM standard.

83. Provide a structural diagram of the GSM standard.
84. Explain the tasks and functions performed by a mobile switching center (MSC).
85. Explain contents of long-term data stored in the HLR and VLR registers .
86. Users identification methods in mobile communication system?
87. List the functions performed by the OMS Operation and Maintenance Center.
88. Explain the composition of the base station BSS equipment and its function.
89. Explain the function of the TSE transcoder.
90. Explain the structural diagram of a digital motion station.
91. Explain the content of long-term data stored in the HLR and VLR.
92. Explain the function of BTS in GSM standard.
93. Explain the function of BSC in GSM standard.
94. Provide information about the operating frequency and modulation type of the CDMA standard.
95. Explain the function of hand over.
96. Give the general structural diagram of the CDMA standard and explain it in blocks.
97. Explain the structural diagram of a base station.
98. How is frequency planning done in HSAT?
99. CDMA standard architecture and from the GSM standard advantages .
100. GSM standard interfaces tasks Please enlighten me.