

Final Exam questions from the subject "Satellite communication".

1. Describe of principle of organization of satellite communications.
2. Describe of Organization of satellite communication networks.
3. Explain the principle of creating satellite communication systems using satellites.
4. Give and explain the structure of a satellite communication system using a VSAT network.
5. Give the structure of communication between two Earth Stations and describe the principle of operation.
6. Give the structure of direct duplex communication and describe the principle of operation.
7. Give the structure of direct duplex multi-channel communication and describe the principle of operation.
8. Give the structure of satellite communication "with each" and describe the principle of operation.
9. Give the structure of the organization of the asynchronous system of two-way satellite communication.
10. Describe the basic structure of satellite communication systems.
11. Describe the classification of satellite communication systems.
12. Explain the fields of view of satellites.
13. Explain the features of fixed satellite service.
14. Explain the features of mobile satellite service.
15. Explain the features of satellite broadcasting service.
16. Explain the features of personal satellite service.
17. Explain the features of radio detection satellite service.
18. Give the placement of satellite transceivers in orbits.
19. State the characteristics of geostationary orbits.
20. Give and describe the structural scheme of the location of satellites in a global orbit.
21. State the conditions for limiting the effective dimensions of the service areas of satellites in geostationary orbit.

22. How are the issues of choosing the geometric parameters of the geostationary satellite repeater for the given contour of the service area formulated?
23. Describe frequency reuse.
24. Give the location characteristics in medium altitude orbits.
25. Give the features of positioning in low-altitude orbits.
26. Give the features of location in elliptical orbits.
27. Give the architecture of satellite communication systems.
28. Describe satellite reflectors.
29. Explain satellite platform.
30. Give the structure and characteristics of the earth station.
31. Represent the space segment in satellite communication systems.
32. Explain the ground segment and system control of the Space Shuttle Launch Center.
33. Explain communication control center and gateway stations in satellite communication systems.
34. Explain the allocation of international radio frequencies in satellite communication systems.
35. Standardization in the field of satellite communication and broadcasting.
36. Satellite communication systems and broadcast problems.
37. Interaction of international and national organizations.
38. Basic principles of standards development.
39. Explain the activities of Satellite communication systems and international organizations on broadcast standardization.
40. Describe the quality indicators standards of satellite television channels.
41. Describe the signal-to-noise ratio in the image channel.
42. Describe a hypothetical reference chain of channels and group tracts in Satellite communication systems.
43. Describe normalization of digital channels and tracts in Satellite communication systems.
44. Explain digital satellite tracts in synchronous digital hierarchy.

45. Give a diagram of a hypothetical reference circuit of a satellite communication image channel.
46. Explain the procedure for normalization of satellite digital channels and tracts.
47. Present and explain the error probability norms for satellite GERT output.
48. Give and explain the norms of quality indicators of satellite GERT.
49. Describe and explain digital satellite tracts in a synchronous digital hierarchy.
50. Explain the normalization of digital satellite channels and traffic.
51. Give the types of modulation used in satellite communication systems.
52. Describe analog frequency division transmission systems.
53. Describe the types of manipulation of satellite transmission systems.
54. Draw and describe the functional diagram of the modem of the digital transmission system.
55. Graphically describe the waveform and describe the characteristics of amplitude shifting in digital transmission systems.
56. Draw the FSK waveform and describe its characteristics in SCS.
57. Present and describe the structure of a two-level RPK radio signal.
58. What are the channel allocation methods in satellite communication systems?
59. Explain the multi-address and directed (single-address) construction of a group message in Satellite communication systems.
60. Explain FDMA frequency-division multiplexing.
61. Explain TDMA time division multiplexing.
62. Explain CDMA code separated multistation connection.
63. How is the Direct Sequence Spread Spectrum (DSSS) method implemented in CDMA?
64. Explain the principle of OFDM.
65. Give and explain the functional schemes of OFDM signal modulation (a) and demodulation (b).
66. Give and explain spectrum of OFDM radio signal.
67. Explain the purpose of COFDM.
68. Explain how the Aloha system is organized.

69. Explain the pure ALOHA system.
70. Explain Synchronous ALOHA system.
71. Describe code division multiple access.
72. Give direct spread spectrum procedure for binary transmission and binary SRP.
73. Explain packet transmission of data in Aloha system.
74. Graphically present the period of vulnerability of the Aloha system
75. What is the radio engineering complex of the space station.
76. Give options for organizing relations between subscribers.
77. Explain the communication organization scheme in the Odyssey system.
78. Explain the types of repeater complexes.
79. Explain the main advantage of transparent repeaters.
80. Explain the advantages of packet switched repeaters.
81. Explain relays that process information in non-real time.
82. What is the antenna complex of space stations?
83. Describe the functional scheme of the multi-barrel spacecraft transponder.
84. What is the characteristic feature of a typical frequency plan of a multi-tube repeater.
85. Give a functional diagram of a repeater with a multi-beam antenna.
86. What are the main characteristics of antennas?
87. Describe mirror antennas.
88. What is the essence of orientation diagram?
89. Describe antennas with two mirrors.
90. Give the classification of directions for using satellite communication.
91. What is VSAT technology?
92. Describe the different topologies of VSAT networks.
93. How is multiple accesses organized in VSAT satellite networks?
94. Describe the multiservice DVB-RCS platform for VSAT networks.
95. Give the block diagram of the DVB-RCS platform.
96. Give the functional scheme of the central earth station.
97. What is the direct channel subsystem of the central earth station?

98. What are the main functions of an IP/DVB encapsulator/multiplexer?
99. What is QoS Server responsible for?
100. What is a data channel control server?