

QUESTIONS

according to the course, Electromagnetic compatibility of wireless communication systems

1. Types of interference?
2. The main sources of industrial interference?
3. Sources of continuous interference?
4. Sources of pulse interference?
5. Interference from the power transmission line?
6. Interference from electric motors?
7. Interference from power supplies?
8. What is harmonic emission?
9. How is receiver sensitivity determined?
10. How is the bandwidth of a radio-electronic device defined?
11. Polarization types?
12. The properties of antenna in wireless communication systems.
13. List the main causes of signal attenuation in the radio frequency band.
14. What are the main aspect of the general problem of electromagnetic compatibility?
15. What factors are studied in the electromagnetic environment EME?
16. Electromagnetic compatibility includes which parameters?
17. What is out-of-band emission?
18. How do out-of-band emissions affect the performance and compatibility of radio communication systems?
19. How can engineers mitigate electromagnetic interference (EMI) in densely packed electronic environments?
20. How is an electromagnetic environment defined?
21. Polarization types.
22. Definition of feeder in communication systems?
23. The main properties of radio receivers?
24. What is single-signal selectivity?
25. What kind of interference is called continuous fluctuation interference?
26. What is receptor susceptibility?
27. What is a complex solution radio engineering system?
28. What measures are used to ensure Electromagnetic compatibility?
29. Cross-system Electromagnetic compatibility?
30. The distribution of the radio frequency range?
31. When was the first international agreement on the distribution of radio channels adopted?
32. When was the "Radio Regulations" first released?
33. What is the "national level" of radio frequency band allocation?
34. Give definitions of "frequency coordinates"?
35. How is electromagnetic compatibility analyzed within the hardware?

36. Give definitions of "time coordinates"?
37. What is Fundamental Attenuation?
38. Give definitions of "spatial coordinates"?
39. What kind of interference is called broadband pulse interference?
40. Interference from power supplies?
41. How is the bandwidth of a radio-electronic device defined?
42. What is quarter-wavelength ($\lambda/4$) stub?
43. What criteria are used to select an analysis method for EMC?
44. What kind of interference is considered industrial?
45. What is Harmonic Suppression?
46. What effects are called electromagnetic interference?
47. What is natural interference?
48. What interference is called artificial headphones?
49. What is the difference between intentional and unintentional effects?
50. Specify the method of action of unintentional effects?
51. How does interference affect electronic systems?
52. Name the factors that affect electronic systems EMC?
53. What are the main and unwanted achievements?
54. What is called intermodulation radio emission?
55. When introducing permissible levels of industrial interference from equipment?
56. When introducing the main EMC indicators?
57. What are the aspects of the general problem of EMC?
58. What is the name of the property of a radio receiver to respond to electromagnetic effects?
59. What is the interference level?
60. What measures are used to ensure EMC?
61. Explain what decisions are taken to ensure EMC?
62. What is intersystem EMC?
63. What is intrasystem EMC?
64. What is intra-site EMC?
65. How are music radio frequencies provided?
66. List the groups of commercial enterprises at different levels?
67. What services are related to radio services?
68. How are design and technological tools manufactured?
69. How can the sizes of regions be measured?
70. What are the methods of ensuring EMC?
71. How to ensure EMC based on spatial effects?
72. How to ensure EMC based on time factors?
73. What are the methods of time blanking and synchronization?
74. Create a structural diagram of the adapted time form.
75. What type of interference most often has a limited frequency spectrum?
76. What is the name of the property of receptors that retains the effect of interference after exposure to electromagnetic energy?
77. How are unwanted emissions related to intermodulation emissions?

78. What is the cause of parasitic emissions at low frequencies?
79. What is the cause of parasitic emissions at high frequencies?
80. What is the cause of parasitic emissions at microwave frequencies?
81. How to create a level of out-of-band emissions where the frequency band is determined?
82. What is the purpose of the control frequency band?
83. Let us present methods for ensuring electromagnetic compatibility.
84. Provide a method for placing radio electronic components according to a given electromagnetic circuit.
85. Write down the algorithm for setting up nodes taking into account their EMC.
86. How to select the power of radio transmitters in a group of radio electronic components.
87. How to ensure EMC based on the use of frequency factors
88. How electromagnetic effects are created in wireless sensor networks
89. General structure of building wireless sensor networks.
90. The concept of wireless sensor networks
91. Sensor network architecture
92. Who regulates the use of frequencies in WSN?
93. What are IoT systems and devices and their features.
94. Intra-system EMC of WSN
95. Operating frequencies of IoT systems and devices
96. Acceleration and simplification of EMC testing of power modules and radio frequency modules of IoT.
97. Diagnostics of EMC problems and localization of EMF sources in IoT technology
98. Design of IoT technologies taking into account the fulfillment of EMC requirements.
99. List the problems of research and electromagnetic compatibility of cellular communication systems.
100. General directions for ensuring EMC in 5G, 6G networks.