**Questions for Immunology final exam, test SIMU, 2024-2025**

**Microbiology**

1. Which of the following are tissue (barrier) factors of innate immunity (non-specific resistance):
2. Indicate the humoral factors that ensure innate immunity:
3. The complement: system can be activated by the following way:
4. The structural elements of an Ig molecule are:
5. What are the advantages of the indirect haemagglutination reaction compared to the agglutination reaction:
6. What are the biological effects of IgE:
7. What are the biological effects of IgG:
8. What are the biological effects of IgM:
9. What are the properties of the haptenes:
10. What class of Ig manifests antimicrobial activity on the mucous membranes:
11. What class of immunoglobulins is present in the blood of the newborn:
12. What part of the IgE structure is responsible for fixation on mast cells and basophils:
13. What type of immunoglobulins is a pentamer:
14. Which are the serological reactions in which a chromogen is used:
15. Which is the function of fraction C3b of complement system:
16. Which is the membrane attack complex:
17. Which is the surface molecule by which the macrophage recognises a foreign agent:
18. Which of the following Ig class prevails quantitatively in the blood serum:
19. Which of the following are correct statements about an antibody(Ig):
20. Which of the following are correct statements about the epitopes of an antigen:
21. Which of the following are particularities of a superantigen:
22. Which of the following are particularities of IgM:
23. Which of the following are properties of a complete antigen:
24. Which of the following are properties of an incomplete antigen:
25. Which of the following are properties of complement system:
26. Which of the following are specific characteristics of a complete antigen:
27. Which of the following are specific characteristics of a n incomplete antigen:
28. Which of the following are specific characters of acquired immunity:
29. Which of the following are specific characters of the IgA immunoglobulin class:
30. Which of the following are specific characters of the IgG immunoglobulin class:
31. Which of the following are specific characters of the IgM immunoglobulin class:
32. Which of the following are the cellular factors of innate immunity (of non-specific resistance):
33. Which of the following are the factors of natural (innate) immunity:
34. Which of the following are the humoral factors of innate immunity (of non-specific resistance):
35. Which of the following class of Ig crosses the placental barrier:
36. Which of the following fraction of the complement system exhibits a chemotactic effect for leukocytes:
37. Which of the following Ig class is found in the lowest blood serum concentration:
38. Which of the following Ig class predominates in the acute infection:
39. Which of the following is specific character for IgE:
40. Which of the following is structural elements specific for an Ig monomer:
41. Which of the following is the biological role of complement fractions C3a and C5a:
42. Which of the following markers are used in the enzyme-linked immunosorbent assay(ELISA):
43. Which of the following property of antibodies is NOT dependent on the structure of the Fc fragment:
44. Which of the following reaction is used to detect soluble antigens:
45. Which of the following serological reactions are used to detect soluble antigens:
46. Which of the following statement is correct about a conformational epitope:
47. Which of the following statement is correct about epitope:
48. Which of the following statements are correct about precipitation assay(reaction):
49. Which of the following supports are used as passive carriers of molecular antigens:
50. Which statement is correct about the Fab fragment:

**Pathophysiology**

1. By what mechanisms does lymphocyte CD8 fight HIV infection?
2. Characterize a hapten:
3. Characterize anaphylatoxin C5a?
4. Characterize anaphylatoxin C5a?
5. Characterize CD4 T lymphocytes:
6. Characterize CD8 T lymphocytes:
7. Characterize IgG:
8. Characterize IL-1 (interleukin 1):
9. Characterize MHC I molecules:
10. Characterize MHC II molecules:
11. Characterize natural killer (NK) cells:
12. Characterize secondary humoral immune response:
13. Characterize Th1 lymphocytes:
14. Characterize Th2 lymphocytes:
15. Characterize the antigen receptor present on mature B lymphocytes (BCR):
16. Characterize the D factor involved in the alternative pathway of complement activation?
17. Characterize the D factor involved in the alternative pathway of complement activation?
18. Characterize the D factor involved in the alternative pathway of complement activation?
19. Characterize the HLA-I-B27 gene:
20. Characterize the invariant chain (LI):
21. Characterize the primary humoral immune response:
22. Characterize the process of identifying the antigen expressed by MHC-II
23. Characterize the process of identifying the antigen expressed by MHC-II
24. Characterize the process of translocating the MHC-antigen complex to the membrane surface
25. Characterize the processing of endogenous antigens:
26. Characterize the properties of B lymphocytes:
27. Characterize the properties of T lymphocytes:
28. Characterize the properties of the HLA-B27 molecule:
29. How many Ag-Ab complexes can the complement component C1 bind in classical activation?
30. How many C3 convertase molecules can maximally derive from C1 component in the classical complement activation pathway?
31. Indicate the activator of macrophages in the phagocytosis of facultatively-intracellular bacteria:
32. Indicate the cause of angioneurotic edema in the complement system deficiency?
33. Indicate the cells on the surface of which MHC class II molecules may be present:
34. Indicate the extrahepatic sources of C1q?
35. What are characteristic functions of C1q?
36. What are specific manifestations of isolated Ig A deficiency?
37. What are the characteristics of cellular immunity:
38. What are the characteristics of humoral immunity:
39. What are the consequences of B lymphocyte activation by a T-dependent antigen:
40. What are the consequences of B lymphocyte activation by a T-independent antigen:
41. What are the effects of IgE:
42. What are the effects of IgG:
43. What are the effects of IgM:
44. What are the effects of the C3a and C5a components of the complement:
45. What are the effects of the C3b component of the complement:
46. What are the factors involved in promoting the effect of Th2 lymphocytes?
47. What are the mechanisms of central immune tolerance loss of B lymphocytes in autoimmune diseases?
48. What are the mechanisms of central immune tolerance loss of T lymphocytes in autoimmune diseases?
49. What are the mechanisms of central immune tolerance loss of T lymphocytes in autoimmune diseases?
50. What are the mechanisms of immune suppression carried out by CD3 regulatory lymphocytes:
51. What are the mechanisms of immune suppression carried out by CD3 regulatory lymphocytes:
52. What are the mechanisms of immune suppression carried out by CD3 regulatory lymphocytes:
53. What are the mechanisms of peripheral immune tolerance loss of B lymphocytes in autoimmune diseases?
54. What are the mechanisms of peripheral immune tolerance loss of T lymphocytes in autoimmune diseases?
55. What are the mechanisms of T lymphocyte activation?
56. What are the peripheral organs of the immune system:
57. What are the protective systems of own cells in case of uncontrolled complement activation through alternative pathway?
58. What are the roles of IL-12 in achieving the immune response?
59. What binds the antigen epitope?
60. What can be exoantigens?
61. What do HLA class III genes express?
62. What factors are expressed by naïve T-lymphocytes that facilitate their activation by APC?
63. What factors expressed by APC that facilitate activation of naïve T-lymphocytes?
64. What is characteristic of endoantigen processing?
65. What is low expression of the C1 receptor (CD35) to C3b?
66. What is pathogenetic link of MHC II deficiency?
67. What is the antigenic composition of MHC molecules?
68. What is the breakdown of T-cell anergy in autoimmune diseases?
69. What is the CD pattern of the T-lymphocyte precursor that entering into the thymus?
70. What is the characteristic of IgD:
71. What is the consequence of mutation of the AIRE gene (the gene that controls the expression of the autoimmune regulatory protein)?
72. What is the role of autoimmune regulatory protein in LT training in the thymus?
73. What is the role of C 1 inhibitor in the process of complement activation?
74. What is the role of C3a and C5a in the immune response?
75. What is the role of CD 59 expressed on different cells in complement activation?
76. What is the role of IL-4 in the immune response?
77. What is the role of MCP (membrane cofactor protein) in complement activation?
78. What is the role of negative selection of T-lymphocytes in the thymus?
79. What is the role of properdin in complement activation?
80. What is the structure of alternately activated C3 convertase?
81. What is the structure of classically activated C3 convertase?
82. What is the structure of classically activated C5 convertase?
83. Where does the MHC class I molecule associate with the epitope peptide?
84. Which antigen-presenting cells can activate naive T lymphocytes?
85. Which cells are activated by MHC I:
86. Which cells are involved in the humoral immune response:
87. Which cells can present antigens to B lymphocytes?
88. Which cells express receptors for C3b (CD21, CD35)?
89. Which cells recognize MHC class I and II molecules?
90. Which cytokines facilitate the activation of naive T cells by macrophages?
91. Which cytokines facilitate the activation of naive T lymphocytes by dendritic cells?
92. Which cytokines stimulate the expression of defensins in the skin?
93. Which factors directly contribute to graft rejection?
94. Which factors expressed by naive T lymphocytes facilitate their activation by antigen-presenting cells?
95. Which Ig prevails quantitatively in blood serum:
96. Which immunoglobulins are able to activate complement through the classical pathway?
97. Which of the C1 ingredients are serine proteases?
98. Which one convertase 3 is formed in the result of the alternative pathway of complement activation?
99. Which one convertase 5 is formed in the classical pathway of complement activation?
100. Which one segment of the HLA gene controls the expression of complement components?

**Pulmonology, immunology and allergology**

1. Allogeneic transplant means:
2. Anti-IgE medication is:
3. Atopy is defined by:
4. Bruton's Agamaglobulinemia:
5. Bruton's agammaglobulinemia may associate the following:
6. Cells that express high-affinity receptors for IgE are:
7. De novo mediators are:
8. Does not suggest an immunodeficiency:
9. Graft rejection can be:
10. Hereditary angioedema is:
11. Hereditary angioedema:
12. HIV window period means:
13. Hyperacute rejection is characterized by:
14. Immediate hypersensitivity reaction typically involves:
15. In transplant immunity
16. Leukotriene modifiers are:
17. Major diagnostic criteria for immunodeficiencies are:
18. Malignant transformation of cells is due to:
19. Mechanisms of tumor escape from immune reactions are:
20. Rheumatoid arthritis is associated with:
21. Select the arguments for the antitumor activity of the immune system
22. Select the correct stamen regarding the situations when a transplant can be performed:
23. Select the correct statement about the antigraft immune reaction:
24. Select the correct statement regarding selective IgA deficiency:
25. Select the correct statement regarding the immunological surveillance of malignant tumor cells:
26. Select the correct statements about the tumor markers:
27. Select the correct statements about tumor Ag:
28. Select the correct statements regarding indirect allorecognition mechanism:
29. Select the correct statements:
30. Select the correct statements:
31. Select the correct statements:
32. Select the corrects statement about the CA 19-9 antigen:
33. Select the statements that are a cause of primary immunodeficiency:
34. Select the test used in the diagnosis of some allergic diseases:
35. The diagnosis of AIDS is based on:
36. The following statement is correct about acute rejection:
37. The following statements about common variable immunodeficiency are true:
38. The following statements are true about humoral genetic deficiency:
39. The investigations used to diagnose an allergy are:
40. The main pathogenetic mechanism of an allergic reaction is represented by:
41. The most common manifestations in AIDS are:
42. The selected are not causes of hyperacute rejection:
43. Type IV hypersensitivity:
44. What cell lineage decreases in HIV infection?
45. What is the clinical defining element for immunodeficiency?
46. Which autoimmune diseases are associated with type III hypersensitivity reaction?
47. Which autoimmune diseases have organ specificity?
48. Which mechanisms do contribute to the pathogenesis of autoimmunity:
49. Which of the following autoimmune diseases is due to molecular mimicry:
50. Which statements are true about autoimmune diseases: