



APPROVE

Head of the Department of Pathological Physiology

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(signature)

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LIST OF EXAMINATION QUESTIONS BY DISCIPLINE "PATHOPHYSIOLOGY"

Speciality 31.05.01 "General Medicine" For international student

Mastered competencies	Question number
UK-1	No. 1-114
OPK-5	No. 1-114

Questions

Section 1. General nosology.

1. Subject, tasks and methods of pathophysiology. The value of animal experimentation.
2. Health, indicators. The concept of the norm.
3. Illness. main features of the disease. Predisease.
4. Forms. Stages and outcomes of the disease.
5. Pathological reaction, pathological process, pathological condition. Typical pathological processes.
6. General etiology. The role of causes and conditions in the development of diseases.
7. Pathogenesis. The concept of pathogenetic factors and the main pathogenetic factor.
8. Interaction of local and general phenomena in pathogenesis. Causal relationships and "vicious circles" in pathogenesis.
9. The concept of sanogenesis. Basic mechanisms of recovery.
10. The concept of terminal states. General patterns of extinction and restoration of vital functions. Post-resuscitation illness.
11. Accelerations, overloads. Action on the body.
12. The effect of high temperatures (general overheating, burns, burn disease).
13. The effect of low temperatures (general hypothermia, colds).
14. Influence of changed atmospheric pressure (hypobarium, hyperbarium, decompression sickness).
15. Action of infrared and ultraviolet rays. The damaging effect of laser radiation.
16. Damaging effect of ionizing radiation. Etiology and pathogenesis of radiation sickness.
17. The damaging effect of electricity.
18. Damage effect of chemical factors.
19. The role of social and mental factors in the occurrence and elimination of diseases.
20. Medical genetics: tasks and methods.
21. The concept of hereditary pathology. Types of hereditary diseases and developmental anomalies. Etiology of hereditary diseases.

22. The concept of congenital pathology. Causes of congenital diseases and developmental anomalies. teratogenic factors.
23. The concept of monogenic diseases. General pathogenesis.
24. Types of inheritance of monogenic diseases. Examples.
25. Chromosomal diseases. General characteristics. The main syndromes caused by a change in the number of chromosomes.
26. Diseases with hereditary predisposition. place in human pathology. Variants of hereditary predisposition. hereditary stability.
27. Diagnosis, principles of treatment and prevention of hereditary diseases.
28. Reactivity and resistance of the organism. Types, significance in pathology.

Section 2. Typical pathological processes.

29. Arterial hyperemia. Types, etiology and pathogenesis. Meaning.
30. Venous hyperemia. Etiology, pathogenesis, consequences.
31. Ischemia. Kinds. Etiology, pathogenesis, outcomes.
32. Staz. Types, mechanisms of development, consequences.
33. Inflammation. Concept, reasons. External signs, their mechanisms.
34. Alteration. Kinds. Structural and metabolic manifestations. Physical and chemical changes in the focus of inflammation.
35. Circulatory disorders in the focus of inflammation. Phases, mechanisms. Meaning.
36. Mediators of inflammation. Cellular and plasma mediators.
37. Exudation and emigration of leukocytes into inflamed tissue. Proliferation. Mechanisms. Meaning.
38. Influence of the focus of inflammation on the body: acute phase response, systemic inflammatory response. The biological essence of inflammation.
39. Fever. Etiology and pathogenesis. Changes in thermoregulation by stages.
40. Changes in metabolism, functions of organs and systems during fever. The biological essence of fever.
41. The concept of a tumor. Biological features of tumor growth.
42. Etiology and pathogenesis of malignant tumors.
43. Stages of tumor growth. The concept of tumor progression. Mechanisms.
44. The relationship between the tumor and the body.
45. Fasting. Kinds. Causes. Stages. Disorders of metabolism and functions of organs and systems by stages.
46. Blood proteins, their main functions. Violations of the protein composition of blood plasma: types, causes, significance.
47. Violations of protein metabolism (protein synthesis and breakdown, amino acid metabolism, urea formation).
48. Disorders of digestion, absorption and interstitial metabolism of carbohydrates. Hyperglycemia. Hypoglycemia: causes, mechanisms, clinical manifestations.
49. Diabetes mellitus. Forms. Etiology and pathogenesis of individual forms of diabetes mellitus.
50. Metabolic disorders in diabetes mellitus: laboratory and clinical manifestations. Complications of diabetes mellitus: diabetic and hypoglycemic coma, angiopathy.
51. Lipid metabolism disorders: primary and secondary hyperlipoproteinemias, types and mechanisms.
52. Obesity. Forms, mechanisms of development.
53. Atherosclerosis. Etiology and pathogenesis. Morphogenesis of atherosclerosis.
54. Violations of mineral metabolism: sodium, potassium, calcium, phosphorus. Violation of the metabolism of microelements.

- 55. Violations of water metabolism: dehydration and hyperhydration. Types, causes, mechanisms.
- 56. Edema. Kinds. Pathogenesis of certain types of edema.
- 57. Disorders of vitamin metabolism: hypovitaminosis, hypervitaminosis.
- 58. Hypoxia. Kinds. Causes and gas composition of blood in certain types of hypoxic conditions. General pathogenesis of hypoxia.
- 59. Violations of the basic functions of the body during hypoxia. Compensatory (sanogenetic) mechanisms.
- 60. Shock. Etiology and pathogenesis of traumatic shock.

Section 3. Typical violations of the functions of organs and systems.

- 61. Violations of acid-base balance. Kinds. Causes and mechanisms of development of acidosis and alkalosis. Indicators.
- 62. Allergic reactions of the 1st type (anaphylactic and atopic). Examples. Etiology and mechanisms of damage.
- 63. Allergic reactions of the 2nd type (cytotoxic). Examples. Etiology and mechanisms of damage.
- 64. Allergic reactions of the 3rd type (immunocomplex). Examples. Etiology and mechanisms of damage.
- 65. Allergic reactions of the 4th type (cell-mediated). Examples. Etiology and mechanisms of damage.
- 66. Autoimmune diseases. Kinds. Mechanisms for the abolition of immunological tolerance. Mechanisms of autoimmune damage.
- 67. Immunodeficiency states.
- 68. The concept of anemia. Anemia classification. Quantitative and qualitative indicators of anemia.
- 69. Posthemorrhagic anemia. Etiology, pathogenesis, blood picture.
- 70. Iron deficiency anemia. Etiology, pathogenesis, blood picture.
- 71. B12(folic)-deficiency anemia. Etiology, pathogenesis, blood picture.
- 72. Hypoplastic anemias. Etiology, pathogenesis, blood picture.
- 73. Hemolytic anemia. Kinds. Etiology, pathogenesis, blood picture.
- 74. Erythrocytosis. Kinds. Development mechanisms. Blood picture.
- 75. Leukocytosis. Types, characteristics.
- 76. Leukopenia. Types, characteristics.
- 77. Leukemias. Kinds. Etiology and pathogenesis. Blood picture in certain types of leukemia.
- 78. Leukemoid reactions. Kinds. Similarities and differences between leukemia and leukemoid reactions.
- 79. The main mechanisms of slowing down and accelerating blood coagulation.
- 80. Insufficiency of systemic circulation. Forms. The main manifestations of chronic circulatory failure (hemodynamic and clinical).
- 81. Overload form of heart failure. Cardiac mechanisms of adaptation to overloads (urgent and long-term).
- 82. Mechanisms of wear (decompensation) of hypertrophied myocardium. Extracardiac mechanisms of myocardial overload compensation.
- 83. Myocardial form of heart failure. Causes. Mechanisms of coronarogenic (ischemic) and stress damage to the myocardium.
- 84. Hypovolemic circulatory failure. Causes. Mechanisms of development of circulatory failure in acute blood loss. compensatory mechanisms.

85. Violations of the functions of the conduction system of the heart. Arrhythmias, blockades, extrasystoles.
86. Primary arterial hypertension. Etiology and pathogenesis.
87. Secondary (symptomatic) arterial hypertension. hypotonic states.
88. Lack of external respiration. Forms. Basic indicators.
89. Shortness of breath. Types, mechanisms. The pathogenesis of the main types of respiratory disorders (hyperpnea, polypnea, stenotic breathing, breathing in bronchial asthma).
90. Periodic breathing. Kinds. Causes. Mechanism. Asphyxia.
91. Insufficiency of digestion. Causes. main manifestations. Digestive disorders in the oral cavity.
92. Digestive disorders in the stomach. Consequences of removal of the stomach.
93. Etiology and pathogenesis of peptic ulcer.
94. Violations of cavity and membrane digestion in the intestine.
95. Liver failure (hepatocellular form). Etiology, pathogenesis, main laboratory and clinical manifestations. Hepatic encephalopathy.
96. Liver failure (cholestatic form). Etiology, pathogenesis, main laboratory and clinical manifestations.
97. Jaundice. Kinds. Disturbances in the metabolism of bile pigments in various types of jaundice.
98. General etiology and pathogenesis of renal dysfunction. Mechanisms of impaired glomerular filtration and tubular reabsorption.
99. Quantitative violations of diuresis. Mechanisms. Changes in the composition of urine, mechanisms.
100. Etiology, pathogenesis, mechanisms of the main manifestations of acute diffuse glomerulonephritis.
101. Renal failure. Kinds. Etiology and pathogenesis. Uremia.
102. General etiology and general pathogenesis of endocrine disorders: dysregulation, glandular and post-glandular mechanisms.
103. Hyperfunction of the adenohipophysis.
104. Hypofunction of the adenohipophysis.
105. Violations of the function of the neurohypophysis.
106. Hyperfunction of the cortex and medulla of the adrenal glands.
107. Hypofunction of the adrenal cortex (Addison's disease).
108. Dysfunction of the thyroid gland.
109. Violation of the function of the parathyroid glands.
110. General pathophysiology of the nerve cell. Violation of excitation processes and synapse function.
111. Violations of sensitivity. Types, causes.
112. Movement disorders (paresis, paralysis, hyperkinesis). Types, mechanisms of development.
113. Pain. Types, mechanisms, significance for the organism.
114. Analysis of hemograms.