федеральное государственное бюджетное образовательное учреждение высшего образования «Кемеровский государственный медицинский университет» Министерства здравоохранения Российской Федерации

УТВЕРЖДАЮ
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(подпись)
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LIST OF EXAM QUESTIONS IN THE DISCIPLINE "PATHOPHYSIOLOGY"

Specialty 31.05.01 "Medical science"

Acquired competencies	Question number
General professional competencies-5	№ 1-114

Questions

Section 1. General nosology.

1. Subject, tasks and methods of pathophysiology. Significance of an animal experiment.
2. Health, indicators. The concept of the norm.
3. Illness. Main features of the disease. Pre-illness.
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 disease.
11. Acceleration, overload. Effect on the body.
12. The effect of high temperatures (general overheating, burns, burn disease).
13. The effect of low temperatures (general hypothermia, cold).
14. Influence of altered atmospheric pressure (hypobaria, hyperbaria, caisson disease).
15. The effect of infrared and ultraviolet rays. Damaging effect of laser radiation.
16. Damaging effect of ionizing radiation. Etiology and pathogenesis of radiation sickness.
17. Damaging effect of electricity.
18. Damaging effect of chemical factors.
19. The role of social and mental factors in the occurrence and elimination of diseases.
20. Medical genetics: problems 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 changes in the number of chromosomes.
26. Diseases with a hereditary predisposition. Place in human pathology. Variants of hereditary predisposition. Hereditary resistance.
27. Diagnostics, principles of treatment and prevention of hereditary diseases.
28. Reactivity and resistance of the body. Types and 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, and outcomes.
32. Stasis. Types, mechanisms of development, consequences.
33. Inflammation. Concept and reasons. External signs and their mechanisms.
34. Alterations. Kinds. Structural andmetabolic manifestations. Physico-chemical changes in the focus of inflammation.
35. Circulatory disorders in the focus of inflammation. Phases and mechanisms. Meaning.
36. Inflammatory mediators. Cellular and plasma mediators.
37. Exudation and emigration of leukocytes to inflamed tissue. Proliferation. Mechanisms. Meaning.
38. Influence of the inflammatory focus on the body: acute phase response, systemic inflammatory response. Biological essence of inflammation.
39. Fever. Etiology and pathogenesis. Changes in thermoregulation by stages.
40. Changes in metabolism, functions of organs and systems in 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. Reasons. 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. Disorders of protein metabolism (protein synthesis and breakdown, amino acid metabolism, urea formation).
48. Disorders of digestion, absorption and inter-daily carbohydrate metabolism. Hyperglycemia. Hypoglycemia: causes, mechanisms, and clinical manifestations.
49. Diabetes mellitus. Forms. Etiology and pathogenesis of certain forms of diabetes mellitus.
50. Metabolic disorders in diabetes mellitus: laboratory and clinical manifestations. Complications of diabetes mellitus: diabetic and hypoglycemic comas, angiopathies.
51. Lipid metabolism disorders: primary and secondary hyperlipoproteidemia, types and mechanisms.
52. Obesity. Forms and mechanisms of development.
53. Atherosclerosis. Etiology and pathogenesis. Morphogenesis of atherosclerosis.
54. Disorders of mineral metabolism: sodium, potassium, calcium, phosphorus. Violation of the exchange of trace elements.
55. Disorders of water metabolism: dehydration and hyperhydration. Types, causes, and mechanisms.

56. Edema. Kinds. Pathogenesis of certain types of edema.

57. Vitamin metabolism disorders: 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 in hypoxia. Compensatory (sanogenetic) mechanisms.

60. Shock. Etiology and pathogenesis of traumatic shock.

Section 3. Typical functional disorders of organs and systems.

61. Disturbances of the acid-base balance. Kinds. Causes and mechanisms of acidosis and alkalosis development. 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 of withdrawal of immunological tolerance. Mechanisms of autoimmune damage.

67. Immunodeficiency states.

68. The concept of anemia. Classification of anemia. Quantitative and qualitative indicators of anemia.

69. Post-hemorrhagic anemia. Etiology, pathogenesis, blood picture.

70. Iron deficiency anemia. Etiology, pathogenesis, blood picture.

71. $_{B12}$(folic acid) - deficient anemia. Etiology, pathogenesis, blood picture.

72. Hypoplastic anemia. Etiology, pathogenesis, blood picture.

73. Hemolytic anemia. Kinds. Etiology, pathogenesis, blood picture.

74. Erythrocytosis. Kinds. Mechanisms of development. Blood pattern.

75. Leukocytosis. Types and characteristics.

76. Leukopenia. Types and characteristics.

77. Leukemias. Kinds. Etiology and pathogenesis. Blood picture for certain types of leukemias.

78. Leukemoid reactions. Kinds. Similarities and differences between leukemias and leukemoid reactions.

79. The main mechanisms of slowing down and accelerating blood clotting.

80. Insufficiency of systemic circulation. Forms. The main manifestations of chronic circulatory insufficiency (hemodynamic and clinical).

81. Overload form of heart failure. Cardiac mechanisms of adaptation to overload (urgent and long-term).

82. Mechanisms of wear (decompensation) of hypertrophied myocardium. Extracardial mechanisms of myocardial overload compensation.

83. Myocardial form of heart failure. Reasons. Mechanisms of coronary (ischemic) and stress-induced myocardial damage.

84. Hypovolemic circulatory insufficiency. Reasons. Mechanisms of development of circulatory insufficiency in acute blood loss. Compensatory mechanisms.

85. Disorders of the functions of the heart's conduction system. Arrhythmias, blockages, and extrasystoles.

86. Primary arterial hypertension. Etiology and pathogenesis.

87. Secondary (symptomatic) arterial hypertension. Hypotonic states.

88. Insufficiency of external respiration. Forms. Key indicators.

89. Shortness of breath. Types and mechanisms. Pathogenesis of the main types of respiratory disorders (hyperpnea, polypnea, stenotic respiration, breathing in bronchial asthma).

90. Periodic breathing. Kinds. Reasons. Mechanism. Asphyxia.

91. Digestive insufficiency. Reasons. Main manifestations. Digestive disorders in the oral cavity.

92. Digestive disorders in the stomach. Consequences of removing the stomach.

93. Etiology and pathogenesis of peptic ulcer disease.

94. Disorders of oral and membranous digestion in the intestine.

95. Liver failure (hepatic-cellular 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. Disorders of the exchange of bile pigments in various types of jaundice.

98. General etiology and pathogenesis of renal dysfunction. Mechanisms of glomerular filtration and tubular reabsorption disorders.

99. Quantitative disorders of diuresis. Mechanisms. Changes in the composition of urine, mechanisms.

100. Etiology, pathogenesis, mechanisms of the main manifestations of acute diffuse glomerulonephritis.

101. Kidney failure. Kinds. Etiology and pathogenesis. Uremia.

102. General etiology and general pathogenesis of endocrine disorders: regulatory disorders, glandular and post-glandular mechanisms.

103. Hyperfunction of the adenohypophysis.

104. Hypofunction of the adenohypophysis.

105. Disorders of the neurohypophysis function.

106. Hyperfunction of the adrenal cortex and medulla.

107. Hypofunction of the adrenal cortex (Addison's disease).

108. Thyroid gland dysfunction.

109. Parathyroid gland dysfunction.

110. General pathophysiology of the nerve cell. Violation of the processes of excitation and synapse function.

111. Sensitivity disorders. Types and causes.

112. Movement disorders (paresis, paralysis, hyperkinesis). Types and mechanisms of development.

113. Pain. Types, mechanisms, and significance for the body.

114. Analysis of hemograms.