

QUESTION FORM

for the Practical Exam - Pathophysiology

1. Catching narcotizing and restraining a frog.
2. Preparing preparations of tongue, mesentery and webbing of a frog.
3. Measuring and recording of blood pressure.
4. Recording of breathing.
5. Recording of electrocardiogram.
6. Venous hyperemia of the frog tongue.
7. Neuromioparalytic hyperemia of a rabbit ear with xylene.
8. Thrombus formation in the vessels of a frog mesenterium.
9. Compressive ischemia of a frog tongue.
10. Ischemia of a rabbit ear.
11. Dynamics of vascular changes in inflammation, occurred under the influence of AgNO₃.
12. Phagocytosis of chicken erythrocytes.
13. Anaphylactic shock in guinea pig.
14. Capilarotoksic edema in the lungs of a rat.
15. Experimental hyperkalaemia.
16. Acute metabolic acidosis.
17. Acute metabolic alkalosis.
18. Analysis of ABB (clinical cases).
19. Electrotrauma of a cat.
20. Electrocutation of a rat.
21. Experimental hyperthermia.
22. Experimental hypothermia of a guinea pig.
23. Experimental model of hypoxic hypoxia in a chamber or a glass diving bell.
24. Hypoxic hypoxia, occurring in breathing in a confined space.
25. CO poisoning.
26. Respiratory system - clinical case (pathophysiological interpretation).
27. Acute increasing of the intraalveolaric pressure.
28. Stenosis of the trachea and mechanical asphyxia.
29. Experimental hydrothorax.
30. Clinical case - respiratory system.
31. Stenosis of the pulmonary artery.
32. Stenosis of the Aorta.
33. Experimental model of hydropericardium.
34. Myocardial infarction after ligature of the left coronary artery. ~ -
35. Clinical case - hypertension.
36. Experimental model of hypertension.
37. Experimental model of hypotension following acute blood loss.
38. Identification of leukocytosis and leikopenia on blood smears.
39. Experimental model of diabetic glycosuria and polyuria.
40. Experimental model of painful reflex anuria.
41. Clinical case - digestive system.
42. Effect of intravenous imported pancreatic enzymes on the body.
43. Experimental modl of flatulence.
44. Clinical case - endocrine system.
45. Violation of the reflex arc. Blocking the receptors.
46. Influence of bile on the speed of motor reflex.
47. Influence of bile on the rhythm of the frog's heart.

QUESTION FORM

for the Theoretical Examination - Pathophysiology

1. Concepts of health and disease. Pathological reaction, pathological process, pathological state. Contemporary picture of the disease.
2. Periods of disease. Terminal conditions and basic principles for resuscitation.
3. General etiology - essence and views. Modern concepts of etiology.
4. General pathogenesis. Role of etiological factors in the pathogenesis.
5. General pathological mechanisms of origin and development of the disease.
6. Pathophysiology of cell-tissue damage. Cellular dystrophy and necrosis. Apoptosis. Role of free radicals in the pathogenesis of diseases.
7. Pathological effect of mechanical factors. Traumatic shock - pathogenesis.
8. Pathological effect of high and low temperatures on the body.
9. Pathological effect of electric current and ionizing radiation on the body.
10. Pathological effect of changed air pressure, acceleration, acoustic waves and space flight factors on the body.
11. Pathological effect of chemical and biological factors on the body.
12. Reactivity and resistance of organism - nature, types and their importance for pathology. Factors and pathological mechanisms of resistance and responsiveness.
13. Alterations of immune response.
14. Allergy - definition, nature, etiology and classification.
15. Humoral type of allergy.
16. Cell-mediated type of allergy.
17. Mechanisms of autoimmune diseases.
18. Immunodeficiency and immunodepressive diseases.
19. Disturbances of digestion and resorption of proteins in the gastrointestinal tract. Disturbances of intermediate protein metabolism. Changes in serum proteins.
20. Disturbances in final stages of protein metabolism. Hyperazotaemia and hyperammonemia.
21. Disturbances of purine nucleotides metabolism. Gout.
22. Impaired digestion and resorption of carbohydrates.
23. Hyperglycemia and hypoglycemia - mechanisms, types.
24. Impaired digestion and resorption of fats in the gastrointestinal tract. Hyperlipidemia - mechanisms and types.
25. Disorders of fats metabolism in adipose tissue - increased ketogenesis. Fat dystrophy of the liver.
26. Obesity - types, pathogenesis.
27. Disturbances in lipoprotein metabolism. Atherosclerosis - modern concepts of pathogenesis.
28. Disorders of water and mineral metabolism - positive and negative water-mineral balance.
29. General pathogenesis of edema.
30. Disturbances of sodium, chlorine and potassium metabolism.
31. Disturbances in calcium and phosphorus metabolism.
32. Disturbances in trace elements metabolism.
33. Disturbances in vitamins metabolism.
34. Disorders of acid-base balance (ABB). Classification.
35. Metabolic acidosis and alkalosis - mechanisms, compensation, performance.
36. Respiratory acidosis and alkalosis - mechanisms, compensation, performance.
37. Fasting - types, periods and consequences.
38. Arterial hyperemia - etiology and pathogenesis, types, importance.
39. Venous hyperemia - etiology and pathogenesis, consequences. Types of stasis.
40. Ischemia - etiology, pathogenesis, consequences.
41. Infarction - types and pathogenesis.

42. Thrombosis - etiology, pathogenesis, consequences.
43. Embolism - types, mechanisms of development.
44. Hypoxia - definition, nature, types and medical features.
45. Adaptations to hypoxia.
46. Characteristics of main types of hypoxia, depending on the pathogenesis - hypoxic, hemic, circulatory, hypoutilitational and mixed.
47. Metabolic changes in hypoxia. Finctional disorders in the organisms.
48. Inflammation - etiology, signs and biological significance.
49. Pathogenesis of acute inflammation - alteration, mediators, vascular changes in inflammation.
50. Cellular response in inflammation. Proliferative processes.
51. Fever - etiology and pathogenesis. Mechanism of action of pyrogens.
52. Stages of fever. Types of temperature curves.
53. Metabolism in fever. Changes in the functional status of system.
54. Neoplasms - general features and types. Etiology.
55. Nature and stages of carcinogenesis.
56. Characteristics of tumor growth. Relationship between tumor and organism.
57. Changes in blood volume and plasma – erythrocytes proportion. Blood loss and blood transfusion. Reactions and complications.
58. Anaemia – general characteristics, pathophysiological classification.
59. Posthemoragical anaemia - pathogenesis.
60. Anaemia of defective hematopoiesis and impaired maturation of the erythrocyte predecessors.
61. Hemolytic anaemia - etiology and pathogenesis.
62. Poliglobulia (erythrocytosis) - etiology and pathogenesis.
63. Leukocytosis and leukopenia - main pathological mechanisms, types.
64. Leukemia - Classification, etiology and pathogenesis. Leukemoid reactions.
65. Bleeding disorders - general mechanisms.
66. Coagulopathias - forms and pathogenesis.
67. Quantitative and qualitative changes in platelets.
68. Vasopathias - etiology and pathogenesis.
69. Thromboembolic diathesis.
70. Heart failure - types and compensatory mechanisms.
71. Cardiac conduction and rhythm disorders - electrophysiological mechanisms.
72. Etiology, pathogenesis and hemodynamics in valvular lesions.
73. Etiology and pathogenesis of myocardial diseases.
74. Etiology and pathogenesis of coronary heart disease.
75. Angina - types, pathogenesis.
76. Myocardial infarction - pathogenesis, complications.
77. Etiology and pathogenesis of disorders of pericardium.
78. Etiology and pathogenesis of essential (primary) hypertension.
79. Symptomatic (secondary) hypertension.
80. Acute circulatory failure (shock). Chronic hypotension.
81. Types of shock - features in the pathogenesis.
82. General mechanisms breaking lung function. Obstructive airway disorders, restrictive and mixed disorders of breathing.
83. Mechanisms responsible for impaired gas exchange. Changes in ventilation – perfusion proportions, impaired diffusion in the alveolar-capillary membrane. Alveolar hypoventilation syndrome.
84. Respiratory failure - definition, nature, types and pathogenesis. Acute respiratory failure. Pulmonary edema.
85. Functional manifestations of pulmonary dysfunction.
86. Disorders of digestion in mouth and esophagus.
87. Motility and secretory disorders of stomach and intestines.
88. Etiology and pathogenesis of gastritis and peptic ulcer disease.

89. Etiology and pathogenesis of disorders of exocrine pancreas.
90. Intestinal obstruction - causes, types, consequences. Gastrointestinal auto-intoxication.
91. General etiology and pathogenesis of liver diseases.
92. Etiology and pathogenesis of hepatitis and hepatal cirrhosis.
93. Pathogenesis of portal hypertension and ascites.
94. Functional liver failure. Hepatic encephalopathy - modern concepts in pathogenesis.
95. Jaundice - types and pathogenetic mechanisms.
96. Etiology and pathogenesis of disorders of glomerular function.
97. Etiology and pathogenesis of tubulointerstitial disorders. Functional manifestations of tubular dysfunction.
98. Diuretic disorders. Urinary syndrome.
99. Violations of the diluent and concentration ability of kidneys.
100. Pathogenesis of renal hypertension, edema and anemia.
101. Etiology and pathogenesis of acute renal failure.
102. Etiology and pathogenesis of chronic renal failure.
103. General aspects of altered endocrine function.
104. Role of endocrine system in pathogenesis of somatic diseases.
105. Pituitary and growth disorders.
106. Thyroid disorders.
107. Disorders of adrenal cortical function.
108. Disorders of endocrine function of pancreas. Diabetes mellitus - etiology and pathogenesis.
109. General etiology and pathogenesis of disorders of neural function.
110. Disorders of somatosensory function. Pain - modern concepts of pathogenesis.
111. Disorders of motor function.
112. Cerebrovascular disease - etiology and pathogenesis.
113. Pathogenesis of Parkinson's disease, Alzheimer's disease and Epilepsy.

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