«Утверждаю»
и.о. ректора, и.о. проректора по учебной деятельности
профессор _____ А.Б. Ходжаян
«28» февраля 2021 г.

«Согласовано»
декан факультета иностранных студентов
доцент _____ С.В. Знаменская

Перечень экзаменационных вопросов для студентов 3 курса факультета иностранных студентов по учебной дисциплине «Патофизиология, клиническая патофизиология».

1. Pathological physiology as a science and as a medical discipline. The main problem (the problem). Pathological Physiology as a science and as a medical discipline. Explain its importance in the overall system of training doctors. The relationship of pathological physiology with normal physiology, biochemistry, pathological anatomy and clinical disciplines.
2. Pathophysiological experiment, its nature and characteristics. Types modeling diseases and pathological processes.
3. The concept of "general nosology." Topics studied in this section.
4. Definitions of "health" and "disease" from the standpoint of modern science. Criteria.
5. The concept of "disease ", "pathological process ", "pathological condition ". Examples.
6. The main periods of diseases. Their characteristics. Outcomes of disease mechanisms, types, characteristics.
7. Clinical and biological death, signs, mechanisms of their development. How to restore vital functions (resuscitation) during the period of clinical death.
8. Definitions of "general etiology ", "cause", "condition". The role of the causes and conditions of the disease.
9. Monocausalism, conditionalism and constitutionalism. The modern conception of etiology.
10. Damaging pathogenic factors, their classification and role in the origin of disease.
11. Damage in the body due to the action of mechanical factors on it, species.
12. Causes, conditions and mechanisms of traumatic shock in stages. Principles of therapy.
13. Physical environmental factors. The role of low ambient temperature in the occurrence and development of colds. Examples.
14. Definition of "hypothermia". Causes, conditions and mechanisms of hypothermia (in stages).
15. Use of hypothermia in practical medicine. Application of hypothermia during surgery on the heart and brain, organ transplantation.
16. Overheating, definition, causes, conditions and mechanisms overheating. Called human disease emergence and development which affects high ambient temperatures. Explain why the high temperature may be a factor contributing to the development of intestinal infections.
17. Causes of heat stroke, the mechanisms of its development impact.
18. Sunstroke, definition, causes and mechanisms of its development.
19. Burn disease, causes, mechanisms. Periods of burn disease, their characteristics, consequences.
20. Action on the body of low atmospheric pressure. Mountain sickness, mechanisms of protective and adaptive reactions and phenomena of damage in mountain sickness.
21. Effect on the body of high atmospheric pressure. Damage in the body in cases of poisoning by oxygen and nitrogen at atmospheric pressure increase. Causes and mechanisms of decompression sickness.
22. The damaging effect on the body of the electric current. Electrotrauma, causes, conditions and mechanisms for its development. Imaginary death. Characteristics of concepts, principles of resuscitation.
23. The radiant energy types. Radiation sickness: causes, mechanisms of development, form.
24. Bone marrow form of acute radiation sickness, periods of its development, to characterize the blood picture with each of them.
25. Infrared and ultraviolet radiation: mechanisms of their damaging effect, the consequences for the organism.
26. The damaging effect of chemical factors. Characteristic examples.
27. Biological factors, types, role in disease occurrence.
28. Factors acting on the human body in space flight, to explain the mechanisms overload kinetoses and weightlessness.
29. The role of social factors in the genesis of human diseases.
30. The definition of "general pathogenesis," "cause-effects relationship", "initial link in the pathogenesis", "main link", "vicious circles", "local and general", "specific and non-specific". Explain examples.
31. Defining "sanogenesis" his role in the pathogenesis and outcome of disease.
32. Cell damage. Definition, causes damage to the cell, the principles of classification.
33. Specific mechanisms of cell damage, characteristic, examples.
34. Nonspecific mechanisms of cell damage, examples.
35. Metabolic, functional and morphological damage to the cells. Consequences.
36. Types of cell death. Mechanisms of apoptosis and necrosis.
37. Major intra-and extracellular - protective- adaptive reactions when damaged.

38. Definition of "reactivity", its types, respectively classification A.D. Ado.
39. Factors individual reactivity, examples.
40. Quantitative and qualitative criteria of individual reactivity.
41. Explain the mechanisms of individual reactivity. Modern ideas.
42. Modern understanding of the mechanisms of physiological and pathological reactivity (Pavlov, Selye, Anokhin, Meyerson and others).
43. The role of hereditary factors, constitution, age, sex, history of human life in the individual reactivity.
44. Types of carbohydrate metabolism disorders. Causes, mechanisms of hypoglycemic states, manifestations, consequences. Hypoglycemic coma, principles derive from the coma.
45. Types of carbohydrate metabolism disorders. Causes, mechanisms of hyperglycemic conditions, manifestations, consequences. Hyperglycemic coma, principles derive from the coma.
46. Definition of "Diabetes mellitus" (DM). His types, causes, mechanisms of development of type 1 and type 2.
47. Mechanisms of fat and protein metabolism in diabetes.
48. The main complications of diabetes. Diabetic coma, views, features. Principles derive from the coma. Late complications of diabetes.
49. Types of disturbance of water-salt metabolism (dyshidria). Hypohydration: types, causes, mechanisms of development, the consequences for the organism.
50. Types of disturbance of water-salt metabolism (dyshidria). Hyperhydration: types, causes, mechanisms of development, the consequences for the organism.
51. Definition of "edema". Classification of edema, causes, general mechanisms of edema, the consequences for the organism.
52. Causes, mechanisms of development, the consequences for the organism cardiac edema.
53. Causes, mechanisms of development, the consequences for the organism renal edema.
54. Causes, mechanisms of development, mechanical effects on the body edema.
55. Definition of "arterial hyperemia". Causes and conditions, types of hyperemia, mechanism development.
56. Macro-and microscopic signs of arterial hyperemia, the mechanisms of their development. Arterial hyperemia value for the human body.
57. Definition of "venous congestion". Causes and conditions conducive to its development. Types of venous congestion on the mechanism of development. Macro-and microscopic signs of venous congestion. Significance of venous congestion.
58. Definition of "ischemia". Causes, conditions conducive to its occurrence. Mechanisms of development, macro-and microscopic signs of ischemia.
59. Definition of "thrombosis". Causes and conditions conducive to the emergence and development of thrombosis, thrombotic mechanisms. Possible outcomes of thrombosis and its consequences.
60. Definition "embolism". Principles of classification embolism. Consequences embolism.
61. Definition of "inflammation" as a typical pathological process. Causes and conditions conducive to the development of inflammation. Stage of the pathogenesis of inflammation.
62. The definition of "alteration", the mechanisms of primary and secondary alteration. Importance alterations to the source of inflammation.
63. Inflammatory mediators, their types and role in inflammation.
64. Sequence and mechanisms of vascular reactions at the place of inflammation.
65. Definition of "exudation" mechanisms of its development and biological significance in inflammation.
66. Definition of "emigration", stages of emigration of leukocytes, mechanisms and implications for inflammation.
67. The concept of "phagocytosis" stage, mechanisms of development, importance.
68. Definition of "proliferation" mechanisms and importance.
69. Local and general clinical signs of acute inflammation, the mechanisms of their development, the importance for practical medicine. The biological significance of acute inflammation.
70. The definition of "chronic inflammation", its types, causes, conditions, mechanisms of development of primary and secondary chronic inflammation. The biological significance of chronic inflammation Differences acute inflammation of primary chronic inflammation.
71. The definition of "acute phase response ", manifestations (symptoms), mediators and acute phase response proteins. The biological significance.
72. Definition of "fever", etiology, mechanisms of development of fever in stages. The biological significance of fever for the body. Differences fever and overheating.
73. Definition of "neoplastic process." Causes and conditions for the development of tumors. Carcinogens, their types, characteristics.
74. The pathogenesis of cancer. Definitions of "proto-oncogenes", "oncogenes" and their role in tumor development process.
75. Mechanisms of carcinogenesis in stages.
76. Types of tumors, their characteristics. Manifestations of cellular atypia of tumor cells.
77. Defining "antineoplastic resistance", its types, mechanisms and effects on tumor growth.
78. The definition of "extreme conditions", types, mechanisms of development.
79. The definition of "shock." Types. Etiology, pathogenesis (in stages) of traumatic shock, its effects on the body.
80. The definition of "collapse", types, causes, mechanisms of development, the consequences for the organism. Difference the collapse of shock.
81. Definition of "coma", types, causes, mechanisms of development stage. Consequences for the organism.
82. The definition of "allergy". Causes of allergies. Classification of allergens on the origin and character. Differences in allergic and immune responses.

83. Classification of allergic reactions to an allergen, the speed of their development, the mechanism of development. Methods for detection and study of allergic reactions.
84. Types of allergic reactions by type of tissue damage (Gell, Coombs), especially allergic reactions I and II types.
85. Types of allergic reactions (Gell, Coombs), especially allergic reactions III and IV types.
86. The concept of "immediate allergic reactions and delayed types." Causes, mechanisms of development in stages, outcomes, examples.
87. Definitions: "desensitization", "specific desensitization" and "nonspecific desensitization" examples, the value for the prophylaxis and treatment of allergic diseases.
88. Disturbance immunobiological surveillance, the types of "immunopathological states" their characteristics.
89. Primary immunodeficiencies, types, causes and mechanism of examples.
90. Secondary immunodeficiencies, types, causes and mechanisms of development, examples.
91. Definition of "hypoxia" and classification mechanism of development.
92. Causes, mechanisms of exo - and endogenous gene (respiratory) hypoxic hypoxia. Features blood gas changes.
93. Causes, mechanisms of development hemic, cardiac, tissue type hypoxia. Features blood gas changes.
94. Definition of hypoxia. Metabolic and functional disorders in the body during hypoxia. Mechanisms for emergency and long-term adaptation during hypoxia.
95. The definition of "respiratory failure" (RF). Types of RF defect location apparatus of external respiration.
96. Causes, mechanisms of development criteria obstructive and restrictive respiratory failure.
97. Causes, mechanisms of development, manifestations and criteria diffusion forms of respiratory failure.
98. Causes, mechanisms of development, manifestations and criteria perfusion and ventilation- perfusion forms of respiratory failure.
99. "Periodic breathing." Types, causes, mechanisms of development, the consequences for the organism.
100. "Terminal Breath". Types, causes, mechanisms of development, the consequences for the organism.
101. Causes disorders of filtration and reabsorbtsion ability of the kidneys. Methods for determination.
102. Uremia, definition, causes, development mechanisms, manifestations, consequences for the organism.
103. Defining "Nephropathy". Species, renal disorders in renal disease: changes in daily diuresis, urine specific gravity, changes in the composition of urine.
104. Defining "Nephropathy." Species extrarenal disorders in renal disease (nephropathy): change in blood volume, blood pressure, heart function.
105. Nephrotic syndrome, etiology, pathogenesis, clinical and laboratory manifestations.
106. Nephritic syndrome, etiology, pathogenesis. Clinical and laboratory manifestations.
107. The definition of "renal failure." Types, etiology and pathogenesis of acute and chronic renal failure.
108. The definition of "anemia." Classification of anemia on the color indicator type hematopoiesis by bone marrow function and pathogenesis (including ethnological factors).
109. Methods of study of anemia. Pathological forms of erythrocytes - the fundamental basis of diagnosis and study of anemia. Degenerative and regenerative forms of red blood.
110. Acute hemorrhagic anemia. Etiology, damage phenomena ("break") for acute hemorrhage. Compensation stage in acute blood loss and the approximate dates of their development in severe blood loss.
111. Compensation stage in acute blood loss, blood picture (degenerative, regenerative forms of red blood) in acute post-hemorrhagic anemia 9-11 days. Principles of therapy.
112. Etiology, pathogenesis, blood picture in chronic post-hemorrhagic anemia. Principles of therapy.
113. Acquired hemolytic anemia. Etiology, mechanism of development, clinical and laboratory characteristics of acquired hemolytic anemia (with intravascular hemolysis). Principles of therapy.
114. Hereditary hemolytic anemia. Types, causes, mechanisms of development, clinical and laboratory characteristics of hereditary hemolytic anemia (mainly extravascular hemolysis). Principles of therapy.
115. Folic acid deficiency anemia. Causes, mechanisms of development and initial views. Principles of therapy.
116. B12 -deficient anemia. Types, causes, mechanisms of development of the initial clinical and laboratory manifestations. Principles of therapy.
117. Aplastic anemia. Etiology, pathogenesis, clinical and laboratory characteristics, principles of therapy.
118. Defining "leukocytosis." The main types of leukocytosis on the etiology, mechanisms of development and morphological characteristics.
119. Neutrophilic leukocytosis. A disease in which occurs the absolute neutrophilic leukocytosis. "Nuclear shifts" of neutrophils, their types and value.
120. The main diseases and conditions of the human body in which absolute eosinophilia, basophilia, monocytosis and lymphocytosis occur.
121. The concept of "leukopenia " types of leukopenia, the basic mechanisms of their development times, for the body.
122. Defining "leukemia." Classification of leukemia on the basis of morphogenetic (affected by the form of the germ hematosis), the flow and the number of leukocytes in human peripheral blood.
123. Features of clinical and laboratory manifestations of acute and chronic leukemia.
124. Modern views on the etiology, pathogenesis and principles of treatment of leukemia.
125. The concept of "leukemoid reaction". Causes, mechanisms of development, differences leukemoid reaction myeloid chronic myelogenous leukemia.
126. Definition of "Heart Failure." Types, etiology, mechanisms of development, the main manifestations.
127. Overload form of heart failure. Types, causes, pathogenesis.
128. Primary myocardial form of heart failure. Types, causes, pathogenesis.

129. Myocardial hypertrophy. Types, mechanisms of development. Features of myocardial hypertrophy in a healthy person and a patient with heart failure.
130. Features of the etiology, pathogenesis of acute and chronic heart failure.
131. Cardiac arrhythmia. Definition. Classification on the basis of the pathogenesis of arrhythmias.
132. The main types of disorders of automaticity of the heart. Causes and mechanisms of development of sinus bradycardia and sinus tachycardia. ECG signs, consequences for the organism.
133. The main types of disorders of excitability of the heart muscle. Causes and mechanisms of extrasystole. ECG signs, consequences for the organism.
134. The main types of conduction disturbances of the heart muscle. Causes and mechanisms of development, ECG, effects on the body.
135. Combined cardiac arrhythmias. Atrial fibrillation. Types, causes, mechanism of development, re-entry of the excitation wave (re-entri). ECG signs.
136. Hypertension definition, types. Primary hypertension. Modern views on the etiology and pathogenesis of hypertension. Consequences for the organism.
137. Secondary arterial hypertension. Etiology. Pathogenesis, consequences for the organism.
138. Hypotension. Species. Primary and secondary hypotension. "Hypotonic disease."
139. Disorders of secretory and motor functions of the stomach. Basic forms, consequences.
140. Disorders cavitary digestion. Causes, mechanisms and consequences of violating the flow of bile and pancreatic secretions in the intestines.
141. Disorders of membrane (membrane) digestion. Causes, mechanisms, consequences. The pathogenesis of celiac disease, lactose intolerance. Causes and effects of intestinal disbiosis.
142. Disorders of the excretory function of the intestine. Types, causes, mechanisms and consequences. Ileus. Forms pathogenesis. Scoretemia
143. Gastric ulcer and duodenal ulcer. Ulcerogenesis theory. The modern concept of the pathogenesis of peptic ulcer. Principles of pathogenetic therapy.
144. Consequences of removing the various parts of the gastrointestinal tract. Dumping syndrome.
145. Liver failure. Basic types, causes, characteristics and metabolic functional disorders in the body.
146. Hepatic coma. Etiology, pathogenesis, manifestations. Consequences for the organism.
147. Define "jaundice." Types of jaundice. Suprahepatic (hemolytic) jaundice. Causes, mechanisms of development, the basic features. Disorders of bodily functions.
148. Hepatic (parenchymal) jaundice. Causes, mechanisms of development. The main signs. Abnormalities in the body.
149. Obstructive (mechanical) jaundice. Causes, mechanisms of development. The main signs. Abnormalities in the body.
150. The role of the endocrine system in the mechanisms of disease - in the organization of adaptive responses and damage phenomena.
151. The definition of "stress", stage of development and manifestation mechanisms, the main morphological features of general stress. For the body.
152. Endocrinopathy. Etiology and pathogenesis of hyperfunctional states and hypofunction endocrine system. Role disorders feedback mechanisms in the development of endocrine disorders.
153. Causes, mechanisms of development, manifestations, consequences for the organism and hyperfunctional diseases of the adrenal cortex.
154. Causes, mechanisms of development, manifestations and consequences of hyperfunctional pituitary disease.
155. Causes, mechanisms of development, manifestations and consequences hyperfunctional thyroid diseases.
156. The role of the nervous system disease. Causes and characteristics of damage of the nervous system (the role of blood-brain barrier, trace reactions, the second signaling system).
157. Basic typical pathologic processes of the nervous system: nerve dystrophy, denervation syndromes. Etiology, pathogenesis, for the body.
158. Basic typical pathologic processes of the nervous system: deafferentatsion syndromes and deficit (failure) of inhibitory processes in the nervous system. Etiology, pathogenesis, for the body.
159. Causes, mechanisms of development for the body pain. The concept of "nociceptive " and " antinociceptive " system.
160. Pain. Nociceptive stimulation and mechanisms of perception. Nociceptors. Mediators of pain sensitivity. Theory of pain.
161. Pathogenesis of primary and secondary hyperalgesia.
162. Antinociceptive system and ways to activate it. Principles of treatment of pain syndromes.

Протокол заседания кафедры от «28» января 2021 г. № 9

Заведующий кафедрой
патологической физиологии,
д.м.н., профессор

Е.В. Щетинин