

Special histology and embryology

Cardiovascular system,

Hematopoietic and immune protection system, endocrine system

71. In a red bone marrow specimen numerous capillaries are detected, through their wall mature blood elements enter blood circulation.

What is the type of these capillaries?

A. Lymphatic.

B. Fenestrated.

C. Somatic.

D. Visceral.

E. Sinusoidal.

72. Tunica intima of a vessel has been impregnated with argentic salt. As a result the cells with rugged, twisting edges have been detected. Name these cells.

A. Stellate cells.

B. Endotheliocytes.

C. Myocytes. D. Fibroblasts. E. Adipocytes.

73. There are some tunics in the wall of blood vessels and heart. What tunic of the heart corresponds to a blood vessels wall according to its histogenesis and tissue structure?

A. Myocardium.

B. Endocardium.

C. Pericardium. D. Epicardium.

E. Epicardium and myocardium.

74. In a spleen specimen a blood vessel is detected. Its wall consists of basic membrane with endothelium, tunica media is absent, adventitia is grown together with connective tissue interlayers of spleen. What vessel is it?

A. Arteriole.

B. Vein of muscular type with poor development of muscular elements.

C. Artery of muscular type. D. Vein of unmuscular type. E. Artery of elastic type.

75. Experimentally into the organism of a laboratory animal thymosin antibodies have been introduced. Differentiation of what cells will be affected first of all?

A. T-lymphocytes.

B. Monocytes.

C. B-lymphocytes.

D. Macrophages.

E. Plasma cells.

76. In a histological specimen an organ parenchyma is represented by lymphoid tissue which forms lymph nodules. These nodules are diffusely arranged and have a central artery. What organ has such structure?

A. Thymus.

B. Tonsil.

C. Lymph node.

D. Spleen.

E. Red bone marrow.

77. A patient with 7 years' history of hypothyroidism has thyroid hormone deficiency detected. What cells of adeno-hypophysis are changed?
- A. Corticotropocytes.
 - B. Gonadotropocytes.
 - C. Thyrotropocytes.
 - D. Somatotropocytes.
 - E. Lactotropocytes.
78. The removal of what endocrine gland causes pubertas precox of experimental animals?
- A. Thyroid gland.
 - B. Pituitary gland.
 - C. Adrenal gland. D.Epiphysis.
 - E. Parathyroid gland.
79. In a histological specimen of adrenal glands cortical substance one can see small polygonal cells forming round clusters and containing a small quantity of lipidic inclusions. What part of adrenal glands is represented in the specimen?
- A. Zona glomerulosa.
 - B. Intermediate zone.
 - C. Zona fasciculata. D.Zona reticularis.
 - E. Medullary substance.
80. In a histological specimen of adrenal glands one can see large cells of cubic form located in the form of cords and containing a lot of lipidic inclusions. What part of adrenal glands is represented in the specimen?
- A. Medullary substance.
 - B. Zona glomerulosa.
 - C. Intermediate zone. D.Zona reticularis. E. Zona fasciculata.
81. An electronic micrograph of the myocardium shows cells of dendritic form containing a few organelles, but with a well-developed granular endoplasmic reticulum and secretory granules. Name these cells.
- A. Transitional atypical cells.
 - B. Ventricular cardiac cells.
 - C. Pacemaker cells.
 - D. Secretory cardiac cells.
 - E. Cells of His' fibers.
82. In a histological specimen of a blood vessel dyed with orcein there have been detected from 40 to 60 elastic fenestrated membranes in the tunica media. Name this blood vessel.
- A. Artery of mixed type.
 - B. Artery of muscular type.
 - C. Artery of elastic type. D.Vein of muscular type. E. Vein of unmuscular type.
83. Large quantity of exudate has been detected in the pericardial cavity of a patient with exudative pericarditis. Functional activity disorder of what cells caused this?
- A. Fibroblasts.
 - B. Mesotheliocytes.

- C. Contractile cardiac cells.
 - D. Conductive cardiac cells.
 - E. Endotheliocytes.
84. In a histological specimen one can see a blood vessel with a wall formed of endothelium, basic membrane, and loose connective tissue. What vessel is it?
- A. Vein of muscular type.
 - B. Artery.
 - C. Vein of unmuscular type.
 - D. Hemocapillar.
 - E. Lymphocapillar.
85. An organ of cardiovascular system is built of cells connected with the help of intercalated disks. What organ is this?
- A. Vein of muscular type.
 - B. Heart.
 - C. Artery of mixed type.
 - D. Artery of muscular type.
 - E. Aorta.
86. Arterioles are playing an important role in supplying functional units of organs with blood. Which arteriole structures perform this function?
- A. External elastic membrane.
 - B. Myocytes.
 - C. Internal elastic membrane.
 - D. Special cells of connective tissue.
 - E. Endotheliocytes.
87. In a histological specimen one can see an organ of cardiovascular system. One of its membranes is formed of anastomosing fibers. They are formed of cells connected with the help of intercalated disks. What organ is it?
- A. Artery of elastic type.
 - B. Vein of muscular type.
 - C. Artery of muscular type.
 - D. Heart.
 - E. Arteriole.
88. A capillary is characterized by fenestrated epithelium and porous basic membrane. What is the type of this capillary?
- A. Visceral.
 - B. Somatic.
 - C. Sinusoidal.
 - D. Lymphatic.
 - E. Lacunar.
89. A histological specimen shows a transverse section of an organ, whose basis is formed of mucous connective tissue, two arteries, and a vein. What organ is it?
- A. Yolk sac.
 - B. Allantois.
 - C. Umbilical cord.
- been detected from 40 to 60 elastic fenestrated membranes in the tunica media.
Name this blood vessel.

- A. Artery of mixed type.
 - B. Artery of muscular type.
 - C. Artery of elastic type. D. Vein of muscular type. E. Vein of unmuscular type.
83. Large quantity of exudate has been detected in the pericardial cavity of a patient with exudative pericarditis. Functional activity disorder of what cells caused this?
- A. Fibroblasts.
 - B. Mesotheliocytes.
 - C. Contractile cardiac cells.
 - D. Conductive cardiac cells.
 - E. Endotheliocytes.
84. In a histological specimen one can see a blood vessel with a wall formed of endothelium, basic membrane, and loose connective tissue. What vessel is it?
- A. Vein of muscular type.
 - B. Artery.
 - C. Vein of unmuscular type.
 - D. Hemocapillar.
 - E. Lymphocapillar.
85. An organ of cardiovascular system is built of cells connected with the help of intercalated disks. What organ is this?
- A. Vein of muscular type.
 - B. Heart.
 - C. Artery of mixed type.
 - D. Artery of muscular type.
 - E. Aorta.
86. Arterioles are playing an important role in supplying functional units of organs with blood. Which arteriole structures perform this function?
- A. External elastic membrane.
 - B. Myocytes.
 - C. Internal elastic membrane.
 - D. Special cells of connective tissue. E. Endotheliocytes.
87. In a histological specimen one can see an organ of cardiovascular system. One of its membranes is formed of anastomosing fibers. They are formed of cells connected with the help of intercalated disks. What organ is it?
- A. Artery of elastic type.
 - B. Vein of muscular type.
 - C. Artery of muscular type.
 - D. Heart.
 - E. Arteriole.
88. A capillary is characterized by fenestrated epithelium and porous basic membrane. What is the type of this capillary?
- A. Visceral.
 - B. Somatic.
 - C. Sinusoidal.
 - D. Lymphatic.

E. Lacunar.

89. A histological specimen shows a transverse section of an organ, whose basis is formed of mucous connective tissue, two arteries, and a vein. What organ is it?

A. Yolk sac.

B. Allantois.

C. Umbilical cord.

D. Amnion.

E. Placenta.

90. A newborn child has an undeveloped thymus. What type of hemato-poiesis is damaged?

A. Granulocytopoiesis.

B. Monocytopoiesis.

C. Erythropoiesis.

D. Lymphopoiesis.

E. Megakaryocytopoiesis.

91. It is known that plasma cells produce specific antibodies to this antigen. After antigen introduction the quantity of plasma cells is increasing. What cells differentiate into plasma cells?

A. B-lymphocytes.

B. T-lymphocytes.

C. Neutrophils. D. Eosinophils. E. Basophils.

92. In a heart specimen there are detected cells of squared shape, 80-120 micrometers in size, with a central nucleus and well-developed myofibrils connected with the help of intercalated disks. What function is connected with these cells?

A. Regenerative.

B. Nerve impulses conduction.

C. Endocrine.

D. Protective.

E. Heart contraction.

93. A histologic specimen of medulla substance of a hematopoietic organ lobule has a lighter stain and contains epithelial bodies. What organ has these morphologic characteristics?

4 6-494

A. Lymph node.

B. Thymus.

C. Spleen.

D. Liver.

E. Kidney.

94. In the red bone marrow during postembryonal hemopoiesis in the cells of a diferon cytoplasmic basophilia gradually decreases, oxyphilia increases, nucleus is pushed out. What type of hemopoiesis has these morphologic changes?

A. Erythropoiesis.

B. Lymphopoiesis.

C. Neutrophilopoiesis.

- D. Eosinophilopoiesis.
 - E. Basophilopoiesis.
95. In a histological specimen a hematopoietic organ consisting of varying in shape lobules is being researched. Each lobule has cortical and medullary substance. Which organ has these morphologic characteristics?
- A. Lymph node.
 - B. Thymus.
 - C. Spleen.
 - D. Tonsils.
 - E. Vermiform appendix.
96. Vessels walls have rather significant differences in the structure of the tunica media. What causes specific peculiarities of this tunica structure in different vessels?
- A. High concentration of catecho-lamines in blood.
 - B. Influence of endocrine system organs.
 - C. Central nervous system regulation.
 - D. Inductive influence of autonomic ganglions.
 - E. Hemodynamic conditions.
97. Large arteries stretch during systole and return to the start state during diastole to provide bloodstream stability. Which structural components of vessel wall explain this?
- A. Elastic fibres.
 - B. Muscle fibres.
 - C. Reticular fibres.
 - D. Collagen fibres.
 - E. Numerous fibroblasts.
98. Tunica intima of a blood vessel is lined with epithelium from within. What epithelium is this?
- A. Pseudostratified epithelium.
 - B. Mesothelium.
 - C. Epidermis.
 - D. Transitional epithelium.
 - E. Endothelium.
99. Responding to the same antigen on recurring exposure specific antibodies are produced by lymphatic system cells. With the function of what cells is this phenomenon connected?
- A. B-memory cells.
 - B. T-killers.
 - C. T-suppressors.
 - D. Macrophages.
 - E. Dendritic cells.
100. Experimentally blood B-lym-phocytes were labeled. Foreign protein was subcutaneously introduced to an animal. Which connective tissue cells will contain the label?
- A. Macrophages.
 - B. T-lymphocytes.
 - C. Plasma cells.
 - D. Mast cells.
 - E. Fibroblasts.
101. In the blood of a 16-year-old girl, who suffers from autoimmune in-

inflammation of the thyroid gland, numerous plasma cells have been detected. What cells proliferate and differentiate into plasma cells?

- A. Mast cells.
- B. T-helpers.
- C. B-lymphocytes.
- D. T-killers.
- E. T-suppressors.

102. A 25-year-old woman in a month after delivery appealed to a doctor with complaint of milk quantity decline. The lack of which hormone causes such condition?

- A. Glucagon.
- B. Adrenocorticotropin.
- C. Somatostatin.
- D. Insulin.
- E. Prolactin.

103. Aldosterone is known to regulate sodium content in organism. Which cells of adrenal glands secrete this hormone?

- A. Cells of zona fasciculata.
- B. Epinephrocytes.
- C. Cells of zona reticularis.
- D. Cells of zona glomerulosa.
- E. Norepinephrocytes.

104. Abnormalities of the development of the ventricle myocardium of a newborn child were diagnosed. The disturbance of which embryonic anlage development causes such pathology?

- A. Mesenchyme.
- B. Parietal splanchnopleure.
- C. Endoderm.
- D. Ectoderm.
- E. Myoepicardial plate.

105. In a microscopic specimen is a bean-shaped organ which has cortical and medullar substance. Cortical substance is represented by separate spherical nodules 0.5-1 mm in diameter, medullar substance - by medullary cords. What organ is this?

- A. Thymus.
- B. Kidney.
- C. Lymph node.
- D. Adrenal gland.
- E. Spleen.

106. In the specimen of a lymph node histological section the enlargement of its paracortical zone is observed. The proliferation of which lymph node cells causes this process?

- A. Macrophages.
- B. Waterside macrophages.
- C. Plasma cells.

D. T-lymphocytes.

E. Reticulocytes.

107. In a microscopic specimen spherical structures of lymphocytes are detected. In the middle of the structures there is a central artery. Name this organ.

A. Spleen.

B. Kidney.

C. Thymus.

D. Bone marrow. E. Lymph node.

108. A 40-year-old man is observed by an endocrinologist: he has a functional insufficiency of the adrenal cortex, which is declared by the decrease of aldosterone quantity in blood. The function of what cortex cells is disturbed?

A. Cells of the zona glomerulosa.

B. Cells of the zona fasciculata.

C. Cells of the zona reticularis.

D. Cells of the zona glomerulosa.

E. Cells of the X-zone.

109. Histological examination of a 35-year-old man's red bone marrow punctate has shown a considerable decrease of megakaryocytes quantity. What changes of peripheral blood accompany this?

A. Leukocytosis.

B. Thrombocytopenia.

C. Thrombocytosis.

D. Granulocytopenia.

E. Leukopenia.

110. A student has to study two smear specimens. In one of them all visual field is covered by erythrocytes. In the other one there are blood elements of different maturity. What smears are these?

A. Frog blood and human blood.

B. Blood and lymph.

C. Blood and a smear of human red bone marrow.

D. Blood and a smear of yellow bone marrow.

E. A smear of yellow and red bone marrow.

D. Endocrine cells.

E. Cells of Purkinje's fibers.

111. A student has two histological specimens; both contain organs with lymph nodules. In the first specimen follicles contain eccentrically located arteries, in the second one there are follicles without arteries. What organs are these?

A. The first - red bone marrow, the second - spleen.

B. The first - spleen, the second - lymph node.

C. The first - thymus, the second - spleen.

D. The first - liver, the second - lymph node.

E. The first - liver, the second - spleen.

112. A specimen of human red bone marrow contains giant cells clusters in close contact with sinusoidal capillaries. Name the blood elements, which differentiate from these cells.

- A. Erythrocytes.
- B. Thrombocytes.
- C. Leukocytes.
- D. Monocytes.
- E. Lymphocytes.

113. In a heart wall histological specimen between endocardium and myocardium large cells with light cytoplasm and eccentrically located nucleus are detected. What cells of heart have these morphological features?

- A. Lipocytes.
- B. Pacemaker cells.
- C. Contractile cardiac cells.

I.M.Sechenov called arterioles "the taps" of the cardiovascular system. What structural elements provide this function of arterioles?

- A. Collagen fibers.
- B. Longitudinal myocytes.
- C. Elastic fibres.
- D. Longitudinal muscle fibers.
- E. Circular myocytes.

115. In case of unfavorable factors influence on the organism reorganization of thymus takes place. This reorganization is accompanied by mass destruction of thymocytes, their migration into peripheral organs, and proliferation of epithelioreticulocytes. How is this phenomenon called?

- A. Hypotrophy of thymus.
- B. Age involution of thymus.
- C. Accidental involution of thymus.
- D. Dystrophy of thymus.
- E. Atrophy of thymus.

116. A plasma cell produces specific antibodies to a certain antigen. Due to what blood cells does the quantity of plasma cells increase during immune response?

- A. T-lymphocytes.
- B. B-lymphocytes.
- C. Monocytes. D.Basophils. E. Eosinophils.

117. The quantity of epithelioreticulocytes and Hassall corpuscles in thymus lobules increases in case of infection diseases or intoxications. The area of medullary substance extends. How are these changes called?

- A. Accidental involution.
- B. Age involution.
- C. Status thymicolymphaticus.
- D. T-immunodeficiency.
- E. B-immunodeficiency.

118. Acromegaly of a patient in an endocrinological department is diagnosed. The

hyperfunction of what hypophysis cells caused this disease?

- A. Thyrotropocytes.
- B. Gonadotropocytes.
- C. Chromophobocytes.
- D. Lactotropocytes.
- E. Somatotropocytes.

119. The punctate of hematopoietic organ parenchyma has been taken with the purpose of diagnostics. As a result, megakaryocytes have been found. What hematopoietic organ is this?

- A. Red bone marrow.
- B. Spleen.
- C. Thymus.
- D. Lymph node.
- E. Tonsil.

120. A 40-year-old patient had myo-cardial infarction. Due to what morphological components has heart wall regeneration taken place?

- A. Intracellular regeneration of contractile cardiac cells.
- B. Proliferation of connective tissue cells.
- C. Proliferation of contractile cardiac cells.
- D. Proliferation of conducting cardiac cells.
- E. Proliferation of contractile and conducting cardiac cells.

121. In a histological specimen of a vessel internal and external elastic membranes are well-expressed; numerous myocytes are found in the tunica media. What vessel is this?

- A. Artery of elastic type.
- B. Artery of mixed type.
- C. Vein with strong development of muscles.
- D. Artery of muscular type.
- E. Extraorganic lymphatic vessel.

122. In the course of an experiment a vital coloring agent was introduced into a lymph node afferent vessel of an animal. In what cells of the lymph node will it be possible to detect it?

- A. Typical and waterside macro-phages.
- B. Reticular endotheliocytes.
- C. B-lymphocytes.
- D. Plasma cells.
- E. T-lymphocytes.

123. Developing blood cells of red bone marrow are located in the form of islets. Some of the islets are linked with macrophages. What blood elements are developing in these islets?

- A. Basophile granulocytes.
- B. Unmature T- and B-lymphocytes.
- C. Monocytes.
- D. Thrombocytes.
- E. Erythrocytes.

124. A 42-year-old patient has spasms after the resection of the thyroid gland. Relief has come after the introduction of calcium preparations. Function infringing of what endocrine glands has caused this condition?
- A. Adrenal glands.
 - B. Parathyroid glands.
 - C. Ovaries.
 - D. Hypophysis.
 - E. Epiphysis.
125. A 40-year-old woman has weak birth activity caused by the weakness of myometrium contractile ability. What hormonal preparation is it necessary to introduce to help her?
- A. Prednisolone.
 - B. Hydrocortisone.
 - C. Dexamethasone.
 - D. Aldosterone.
 - E. Oxytocin.
126. In the histological section of a lymph node of an experimental animal in medullary cords after antigen stimulation a plenty of cells of such morphology have been detected: intensively basophilic cytoplasm, eccentrically located nucleus with chromatin, which is located as wheel spokes with a light site of cytoplasm near it. What cells are these?
- A. Macrophages.
 - B. Plasma cells.
 - C. Fibroblasts.
 - D. Adipocytes.
 - E. Mast cells.
127. In a histological specimen the vessels, which begin blindly, are detected. These vessels have a form of flattened endothelial tubes. They do not contain basic membrane and pericytes. Endothelium of these vessels is fixed by fixative fibers to collagen fibers of connecting tissue. What vessels are these?
- A. Hemocapillaries.
 - B. Lymphocapillaries.
 - C. Arterioles.
 - D. Venules.
 - E. Arteriovenous anastomosis.
128. There are round structures of different size in the histological specimen of an endocrine gland. These structures' wall is formed of one layer of epithelial cells on basic membrane, inside they contain homogeneous non-cellular mass. What gland is this?
- A. Posterior lobe of pituitary gland.
 - B. Adrenal gland, cortical substance.
 - C. Parathyroid gland.
 - D. Anterior lobe of pituitary gland.
 - E. Thyroid gland.

*•

129. In a specimen a dense network of capillaries located between two arterioles (rete mirabile) can be clearly seen. In what organ is it possible to find this network?
- A. Retina.
 - B. Liver.
 - C. Adrenal gland.
 - D. Spleen.
 - E. Kidney.
130. A 30-year-old patient has hyper-function of thyroid gland. What form do the thyrocytes of follicles have?
- A. Polygonal.
 - B. Columnar.
 - C. Squamous.
 - D. Spindle-shaped.
 - E. Cuboidal.
131. A child has a congenital immunodeficiency. Cellular immunity is damaged, which results in frequent viral infections. What organ disorder is it most probably caused by?
- A. Thymus.
 - B. Red bone marrow.
 - C. Lymph nodes.
 - D. Spleen.
 - E. Palatine tonsil.
132. In a specimen of human red bone marrow smear among the cells of myeloid line and adipocytes there are stellate cells with oxyphilic cytoplasm, which contact with the help of their processes. What cells are these?
- A. Dendritic cells.
 - B. Fibroblasts.
 - C. Macrophages. D. Reticular cells. E. Osteocytes.
133. In lymph node biopsy material in medullary cords the focus of increased plasmocytogenesis is detected. Antigen-dependent stimulation of what cells caused the formation of this center?
- A. B-lymphocytes.
 - B. T-lymphocytes.
 - C. Macrophages.
 - D. Dendritic cells.
 - E. Interdigitative cells.
134. In a histological specimen of endocrine gland epithelial cords containing chromophilic (acidophilic and basophilic) and chromophobic cells are detected. What organ is presented in the preparation?
- A. Epiphysis.
 - B. Adrenal gland.
 - C. Neurohypophysis. D. Thyroid gland. E. Adenohypophysis.
135. In a palatine tonsil histological specimen crypts are detected. Their epithelium is infiltrated by leukocytes. What epithelium is a part of this structure?

- A. Stratified cuboidal.
- B. Simple columnar.
- C. Stratified squamous non-keratinized.
- D. Stratified squamous keratinized.
- E. Pseudostratified ciliated.

136. In a heart specimen there are detected cells located in light cords with a small amount of myofibrils, inclusions of glycogen, and eccentrically located nucleus. What cells are these?

- A. Purkinje's fibers.
- B. Conducting pacemakers.
- C. Conducting transitive.
- D. Endocrine.
- E. Contractile.

137. An experimental animal excretes a lot of urine (polyuria) and has severe thirst (polydipsia). Urine does not contain sugar. With the function infringement of what cells is it connected?

- A. Follicular endocrine cells of thyroid gland.
- B. Neurosecretory cells of hypothalamus.
- C. Parathyrocytes.
- D. Endocrine cells of glomerular zone of adrenal gland.
- E. Endocrine cells of medullary substance of adrenal gland.

Digestive system, skin, respiratory system, and urogenital system

138. A patient has appealed to an otolaryngologist with complaints of dryness in the nose which caused unpleasant sensations. Examination of nasal cavity mucosa has shown function infringements of mucous glands located in it. In what layer of nasal cavity mucosa are these glands located?

- A. Submucous layer.
- B. Epithelial plate.
- C. Muscle plate.
- D. Proper mucous plate. E. Fibrocartilaginous plate.

139. Normally, during a laboratory examination of urine blood elements are not detected in it. What nephron structure interferes with their getting into primary urine?

- A. Basement membrane of glomerular capillaries.
- B. Juxtavascular cells.
- C. Mesangial cells.
- D. Epithelium of the external leaf of glomerular capsule.
- E. Epithelium of Henle's loop.

140. Work in the mines is known to be connected with the inhalation of a significant amount of coal dust. In what pulmonary cells is it possible to detect coal dust?

- A. In the pericytes of capillaries.
- B. In respiratory epithelial cells.
- C. In secretory epithelial cells. D. In endotheliocytes of capillaries. E. In alveolar macrophages.

141. Laboratory examination has shown subacid reaction of urine. What kidney cells provide this reaction of urine?

A. Cells of the dense macula of juxtaglomerular complex.

B. Juxtaglomerular cells of cortical nephrons.

C. Juxtaglomerular cells of cortical nephrons.

D. Secretory cells of collecting tubules.

E. Interstitial cells of stroma.

142. In a kidney specimen nephrons are detected on the border of cortical and medullary substance with identical diameter of afferent and efferent arterioles. What function will be damaged in case of their affection?

A. Synthesis of renin.

B. Shunting of blood accompanied by intensive blood circulation.

C. Synthesis of prostaglandins. D. Synthesis of erythropoietin.

E. Activity of sodium (Na⁺) receptor.

143. In an electronic micrograph of a nephron part there are detected cells of cubic form, the apical surface of which contains brush border, and the basal - basal banding with mitochondria between invaginations of cytolemma. Name the department of nephron.

A. Distal tubule.

B. Collecting tubule.

C. Proximal tubule. D. Thin tubule.

E. Capsule of the glomerule.

144. In an electronic micrograph of skin epidermis among the cells of cubic form dendritic cells are detected. In their cytoplasm Golgi apparatus is well-developed, there are a lot of ribosomes and melanosomes. Name these cells.

A. Melanocytes.

B. Keratinocytes.

C. Cells of Langerhans. D. Merkel's cells.

E. Mast cells.

145. A salivary gland histological specimen is being examined. In the specimen protein, mixed and mucous terminal departments are detected. What organ is being examined?

A. Salivary gland of cheek.

B. Parotid salivary gland.

C. Submandibular salivary gland. D. Lip salivary gland.

E. Sublingual salivary gland.

146. In lungs alveoli there are special cells, which carry out gas exchange and form the barrier between air and blood. Name these cells.

A. Alveolar macrophages.

B. Clara's cells.

C. Type I alveolocytes. D. Type II alveolocytes.

E. Microvillous epithelial cells.

147. Kidney endocrine complex cells are located under endothelium in the wall of afferent and efferent arterioles; in the cytoplasm these cells contain granules of renin, which assists the rise of blood pressure. What cells are these?

- A. Mesangial cells.
- B. Hurmagtig's cells.
- C. Dense macula cells.
- D. Juxteglomerular cells.
- E. Interstitial cells.

148. In urine analysis epithelial cells of the thin tubule of nephron are detected. With what epithelium is the wall of this nephron tubule covered?

- A. Columnar ciliated.
- B. Cuboidal.
- C. Cuboidal ciliated.
- D. Columnar.
- E. Simple squamous.

149. Examination of skin biopsy material has shown vessels in the structure of derma, which contain a thick layer of smooth muscular cells in the tunica media. Name these vessels.

- A. Arterioles.
- B. Capillaries.
- C. Arteries of muscular type.
- D. Venules.
- E. Arteriovenous anastomoses.

150. In a kidney histological specimen there has been presented a site of a distal tubule of nephron located between afferent and efferent arterioles. In the cells, which form the tubule wall, nuclei are thickened, basic membrane is absent. Name this structural formation.

- A. Hurmagtig's cells.
- B. Dense macula cells.
- C. Mesangial cells. D. Juxtavascular cells. E. Juxteglomerular cells.

151. A 30-year-old woman against the background of sex hormones deficiency has an increased quantity of follicle-stimulating hormone. What cells synthesize this hormone?

- A. Thyrotropocytes.
- B. Gonadotropocytes.
- C. Corticotropocytes.
- D. Somatotropocytes.
- E. Lactotropocytes.

152. In a specimen an ovocyte at the moment of its fertilization by spermatozoon can be seen. What is the main result of fertilization?

- A. Formation of zygote.
- B. Determining the child's sex.
- C. Meiosis completion with ovocyte.
- D. Penetration of ovolemma by spermatozoon.
- E. Cortical reaction.

153. The process of germ implantation consists of two stages: adhesion and invasion. Morphologic manifestation of blastocyst adhesion process is:

- A. Destruction of endometrium epithelium.

- B. Attachment of blastocyst to endometrium.
- C. Destruction of endometrium connecting tissue.
- D. Destruction of endometrium vessels.
- E. Formation of lacunas.

154. An anlage of an organ performing endocrine function is formed of a trophoblast during embryogenesis. What organ is this?

- A. Villous chorion (fetal part of placenta).
- B. Amnion.
- C. Yolk sac. D.Allantois.
- E. Umbilical cord.

155. A human embryo is comprised of two blastomeres. Name its location under the condition of normal genesis.

- A. Ovary.
- B. Cavity of uterus.
- C. Abdominal cavity.
- D. Endometrium.
- E. Uterine tube.

156. Some microorganisms being the reason of infectious diseases can pass through the placental barrier. What structures does it consist of?

- A. All the components of tertiary villi.
- B. Chorion and amnion.
- C. All the components of secondary villi.
- D.Allantois, yolk sac.
- E. Basal lamina of endometrium with decidual cells.

157. By some reasons at the age of 5 months a processes of destruction of Hertvig epithelial sheath around a tooth were infringed. What tissue won't develop because of this?

- A. Enamel.
- B. Dental papilla.
- C. Dental saccule. D.Pulp.
- E. Cement.

158. By some reasons the activity of cells in the peripheral part of pulp is temporarily blocked. What tissue of the tooth is under the threat of physiological regeneration deficiency?

- A. Dentin.
- B. Enamel.
- C. Pulp.
- D. Cellular cement.
- E. Acellular cement.

159. In the first histological tooth specimen acellular cement is detected, in the second - cellular. What part of tooth is the second preparation made of?

- A. Upper part of the tooth under the gum.
- B. Dental cervix.
- C. Root apex.

- D. Crown of tooth.
 E. Border between crown and root.
160. A student was wrong when he said that enamel is descended from mesenchyme cells. What is the correct answer?
 A. Cells of Hertvig epithelial sheath.
 B. Cells of stellate reticulum of enamel organ.
 C. Cells of epithelial cervix of enamel organ.
 D. Epithelial cells of the internal layer of enamel organ.
 E. Epithelial cells of the external layer of enamel organ.
161. A family couple complains of being infertile. Examination revealed that the man's spermatogenic epithelium of testicle has been affected, that led to the absence of spermatozoa in seminal fluid, and consequently to barrenness. What part of testicle has been damaged?
 A. Straight seminiferous tubules.
 B. Convoluted seminiferous tubules.
 C. Rete testis.
 D. Duct of epididymis.
 E. Efferent duct of testicle.
162. During embryogenesis the formation of the anterior part of primary gut was disturbed. What is the possible localization of development anomalies?
 A. Pancreas.
 B. Stomach.
 C. Liver.
 D. Organs of oral cavity.
 E. Jejunum.
163. Disorder in the secretory activity of odontoblasts took place during mantle dentin formation in a milk tooth. Formation of what fibers will be changed?
 A. Elastic.
 B. Reticular.
 C. Radial Korf collagen fibers.
 D. Tangential Ebner collagen fibers. E. Nerve.
164. In a histological specimen of the lower jaw forming dentin is detected. Collagen fibers synthesized by odontoblasts are thin and perpendicular to dentinal tubules. What fibers are being formed in dentin?
 A. Radial.
 B. Tangential.
 C. Parallel. D. Sharpey. E. Perforated.
165. There are disordered areas of dentin tubules and collagen fibrils in prepulpal dentin of a decalcified tooth of an adult patient. Name this kind of dentin.
 A. Secondary.
 B. Primary.
 C. Tertiary. D. Sclerosed. E. Dead tracts.
166. In a histological specimen there is a section of a jaw of a 2-month-old human embryo with a damaged enamel epithelial organ. What histological part of the tooth will not develop?

- A. Dentin.
- B. Pulp.
- C. Cement.
- D. Periodontium.
- E. Enamel.

167. A fetus' umbilical cord is compressed, but blood circulation between the mother and child is preserved. What structures provided this primarily?

- A. Mucous connective tissue.
- B. Residue of allantois.
- C. Arteries sheath.
- D. Veins sheath.
- E. Residue of yolk pedicel.

168. During embryogenesis superficial mesenchymal cells of dental papilla were damaged. To the failure of what dental structure formation can this lead?

- A. Dentin.
- B. Enamel.
- C. Cement.
- D. Periodontium.
- E. Enamel cuticle.

169. Internal cells of dental sac were damaged during dental morphogenesis. The formation of what structures will be damaged?

- A. Pulp.
- B. Enamel.
- C. Dentin.
- D. Cement.
- E. Periodontium.

170. Examination of a patient has shown deficient pulp development. What embryonic source has been affected?

- A. Ectoderm.
- B. Mesenchyme.
- C. Endoderm.
- D. Epithelium of oral cavity.
- E. Dorsal mesoderm.

171. In a histological specimen of the lower jaw sagittal section of a 3.5-month-old human embryo an epithelial enamel organ surrounded by compactly placed mesenchymal cells is observed. How is this mesenchymal formation called?

- A. Pulp of enamel organ.
- B. Dental papilla.
- C. External enamel cells.
- D. Internal enamel cells.
- E. Dental sac.

172. During oral cavity embryogenesis dental enamel development was damaged. What source of dental development was affected?

- A. Mesoderm.
- B. Mesenchyme.

C. Epithelium of oral cavity.

D. Dental saccule.

E. Dental papilla.

173. Dentin having been formed, a process of inversion begins in cells - the movement of nucleus and organelles. What cells are involved in this process?

A. Enameloblasts.

B. Odontoblasts.

C. Preodontoblasts. D. Cementoblasts. E. Cementocytes.

174. Undeveloped periodontium was detected during microscopic examination of biopsy material. To what source of dental development does this infringement belong?

A. Dental papilla.

B. Dental saccule.

C. Dental plate.

D. Preenameloblasts.

E. Enameloblasts.

175. There are 3 zones in a histological specimen of an oral cavity organ: adipose, mucous, fibrous. What organ is this?

A. Cheek.

B. Gum.

C. Soft palate. D. Lip.

E. Hard palate.

176. In a histological specimen an organ of oral cavity is observed. It consists of 3 parts - dermal, intermediate, and mucous, the base being formed of striated muscle tissue. What organ is it?

A. Hard palate.

B. Gum.

C. Lip.

D. Soft palate. E. Cheek.

177. In a histological specimen of an oral cavity organ it can be seen that the anterior surface is lined with stratified squamous non-keratinized epithelium, the posterior surface - with pseudostratified ciliary epithelium. What organ is it?

A. Soft palate.

B. Gum.

C. Hard palate. D. Lip.

E. Cheek.

178. A sick child has white scurf on the tongue. What papillae have caused this?

A. Fungiform papilla.

B. Circumvallate papilla.

C. Foliate papilla.

D. Filiform papilla.

E. Leaflike papilla.

179. During the act of swallowing milk runs through an infant's nose, the child chokes, breathes heavily. During examination a surgeon detected a congenital defect - cleft palate. What development anomalies lead to this pathology?

- A. Nonunion of palatine processes.
 - B. Disorder of union of middle nasal process with maxillary one.
 - C. Nonunion of mandible processes.
 - D. Nonunion of lateral tongue tubercles.
 - E. Disorder of development of frontal process.
180. Experimentally the external layer of a dental sacculle was destroyed in an embryo's dental germ. Name the structure that will not develop in future.
- A. Dentin.
 - B. Enamel.
 - C. Periodontium.
 - D. Cement.
 - E. Pulp.
181. A 42-year-old patient suffers from parodontosis. Round calcified formations of 2-3 mm in diameter are found in the crown part of pulp. What structures are these?
- A. Intertubular dentin.
 - B. Interglobular cavities.
 - C. Sclerosed dentin. D. Dead dentin.
 - E. Denticles.
182. A child complains of toothache. A dentist diagnosed carious damage of enamel. Quantity of what mineral substances decreases in the site of carious damage?
- A. Sodium, calcium, potassium.
 - B. Phosphorus, fluorine, calcium.
 - C. Potassium, phosphorus, fluorine. D. Magnesium, fluorine, calcium.
 - E. Phosphorus, magnesium, potassium.
183. Anlage of metanephros occurs during the second month of embryogenesis. What are the sources of its formation?
- A. Segment peduncles.
 - B. Segment peduncles, nephrogenic tissue.
 - C. Nephrogenic tissue. D. Mesonephrogenic duct.
 - E. Mesonephrogenic duct diverticulum, methanephrogenic tissue.
184. Clinical examination of a 35-year-old female with renal disease has detected in the urine blood cells, fibrinogen, probably because of renal filter failure. Of what structures is this filter formed?
- A. Trilaminar basic membrane.
 - B. Endothelium of glomerular capillaries, trilaminar basic membrane, podocytes.
 - C. Endothelium of capillaries, basic membrane.
 - D. Podocytes, basic membrane. E. Endothelium, podocytes.
185. Electron microscopy of a kidney has detected tubules lined with cuboidal epithelium. There are light and dark cells in the epithelium. Light cells have few organelles, cytoplasm forms folds. These cells provide reabsorption of water from primary urine into blood. Dark cells resemble parietal cells of stomach by structure and function. What tubules are presented?
- A. Connecting tubules.

- B. Proximal tubules.
- C. Distal tubules.
- D. Ascending tubules of Henle's loop.
- E. Descending tubules of Henle's loop.

186. In a histological specimen there is presented a transverse section of the wall of a hollow organ, whose mucous membrane is covered with stratified squamous non-keratinized epithelium. What organ is this?

- A. Esophagus.
- B. Duodenum.
- C. Colon.
- D. Uterus.
- E. Vermiform appendix.

187. A patient has malignant anemia developing after gastrectomy. The absence of the cells of what gastric glands causes this pathology?

- A. Neck mucous cells.
- B. Principal cells.
- C. Parietal cells.
- D. Endocrinocytes.
- E. Goblet cells.

188. In a histologic specimen in the submucosal base of small intestine terminal parts of serous glands are located. What part of the intestine is presented in the specimen?

- A. Jejunum.
- B. Colon.
- C. Duodenum. D.Ileum.
- E. Appendix.

189. In a histological specimen of a small intestine wall at the bottom of crypts there have been found clustered cells. In the apical part of the cells there are large acidophilic secretory granules; cytoplasm is basophilic-colored. What cells are these?

- A. Goblet.
- B. Columnar without bordering.
- C. Endocrine. D.Panett.
- E. Columnar with bordering.

190. In a histological specimen an organ parenchyma is presented by lobules of hexahedral prism form consisting of anastomosing plates with sinusoidal capillaries. The capillaries are lying between the plates and are radially converging to the central vein. What anatomic organ has such morphological structure?

- A. Spleen.
- B. Pancreas.
- C. Thymus.
- D. Liver.
- E. Lymph node.

191. In an electronic micrograph some structures have the form of opened vesicles, the internal surface of which is lined with simple epithelium. It contains

respiratory and secretory cells. What structures are these?

- A. Alveoli.
- B. Bronchioles.
- C. Acini.
- D. Alveolar duct.
- E. Terminal bronchioles.

192. In the epithelium of airways there are cells with a cupola-shaped apical pole, on the surface of which microvilli are located. In the cell a well-developed synthetic device is detected, in the apical pole - secretory granules. What cell is this?

- A. Endocrine.
- B. Goblet.
- C. Clara's.
- D. Without bordering.
- E. Cambial.

193. Premature infants have a respiratory distress syndrome developed. The insufficiency of what airhematic barrier component underlies this pathology?

- A. Basement membrane of endothelium.
- B. Endothelium of capillaries.
- C. Surfactant.
- D. Basement membrane of alveolo-cytes.
- E. Alveolocytes.

194. Terminal secretory parts of apo-crine sudoriferous glands contain myo-epithelial cells. What is the function of these cells?

- A. Protective.
- B. Secretory.
- C. Contractive.
- D. Regenerative.
- E. Supportive.

195. As a result of a mechanical injury of scrotum a patient has disorders of the network of testis epithelial lining. What epithelium is damaged?

- A. Ciliated.
- B. Simple cuboidal.
- C. Simple columnar.
- D. Double layer.
- E. Transitional.

196. Clusters of spherical cells with large basophile nuclei and thin rim of cytoplasm are detected in a specimen of small intestine in lamina propria of mucous membrane. Majority of the clusters have a light central part containing fewer cells than the peripheral one. To what morphological structure do such clusters belong?

- A. Lymphatic vessels.
- B. Nerve nodule.
- C. Adipose cells.
- D. Blood vessels.

E. Lymph nodule.

197. A child of the first year of life has disorders of mother's milk suction. With activity disorder of what gastric proper glands cells is it connected?

A. Endocrine cells.

B. Parietal exocrine cells.

C. Neck mucous cells.

D. Additional mucous cells.

E. Principal exocrine cells.

198. In an electronic microgram of duodenal epithelium a cell with electro-dense granules on the basal pole is clearly seen. What cell is this?

A. Undifferentiated.

B. Columnar with microvilli.

C. Endocrine cells.

D. Goblet cell.

E. Parietal exocrine cells.

199. Hyperemia and increased mucous formation in the nasal cavity of a patient with acute rhinitis are detected. The activity of what cells of mucous membrane epithelium is increased?

A. Microvillous.

B. Ciliated.

C. Goblet.

D. Basal.

E. Endocrine.

200. Surfactant alveolar complex is known to be an important component of the airhematic barrier. This complex prevents alveoli from coalescence during expiration. What alveolar cells synthesize phospholipins that are used to form the complex?

A. Border epithelial cells.

B. Respiratory cells.

C. Alveolocytes of type II.

D. Alveolar macrophages.

E. Endothelium of capillaries.

201. Atretic bodies and developed yellow body are detected in an ovary specimen next to follicles of different order. To what phase of ovarian-menstrual cycle does such condition correspond?

A. Regenerative.

B. Menstrual.

C. Postmenstrual.

D. Premenstrual.

E. Follicle growth.

202. Normal implantation of a human embryo is possible only in case of appropriate changes of endometrium. What cells of endometrium increase quantitatively in this case?

A. Decidual cells.

B. Fibroblasts.

C. Neurons.

D. Macrophages.

E. Myocytes.

203. Leached erythrocytes have been detected in a patient's urine analysis. What is the localization of the pathological process predetermining such changes?

A. Gathering tubules.

B. Proximal part of nephron.

C. Filtration barrier.

D. Distal part of nephron.

E. Thin part of nephron.

204. In a woman's blood a large quantity of estrogens has been found. What cells synthesize the basic quantity of estrogens?

A. Ovocytes.

B. Interstitial and follicular cells of secondary follicles.

C. Follicular cells of primary follicles.

D. Follicular cells of the primordial follicles.

E. Follicular cells and ovocytes.

205. A patient with an open fracture of a forefinger has appealed to a traumatology center. First medical aid is given. Which of the injured tissues regenerates the most quickly?

A. Nerve.

B. Connective.

C. Striated muscular. D. Bone.

E. Epidermis.

206. A 12-year-old patient has white spots without a pigment on skin. Spots have appeared after the age of 10, constantly increase in size. The absence of what cells of skin led to such formations appearance?

A. Plasma cell.

B. Adipocytes.

C. Fibrocytes.

D. Melanocytes.

E. Mast cell.

207. Intragastric pH-metry of a patient with chronic gastritis was performed. The procedure detected the reduction of gastric juice acidity. What cells function is lowered?

A. Endocrine cells.

B. Principal exocrine cells.

C. Parietal exocrine cells. D. Neck mucous cells.

E. Additional cells.

208. Insufficient quantity of spermatozoa is detected during a seminal fluid analysis of a 25-year-old patient. What cells of male sex glands, dividing, provide a sufficient quantity of spermatozoa for fertilization?

A. Sertoli cells.

B. Sustentocytes.

C. Sustentacular cells.

- D. Spermatogones.
 - E. Leidig cells.
209. The process of epithelium corni-fication is detected during the morphological analysis of the mucous coat of esophagus biopsy material. What epithelium covers the mucous coat of esophagus?
- A. Stratified squamous keratinized.
 - B. Simple squamous.
 - C. Simple pseudostratified ciliary.
 - D. Simple columnar.
 - E. Stratified squamous non-kerati-nized.
210. Anovular menstrual cycle of a female patient is detected. What process from the listed below does not take place?
- A. Rupture of follicle and outlet of ovocyte into abdominal cavity.
 - B. Reconstruction of follicle after ovocyte's death.
 - C. Reproduction of granular layer cells.
 - D. Accumulation of lutein in follicu-lar cells.
 - E. Decrease of mature follicle volume.
211. "To be born with a silver spoon in one's mouth" corresponds to Russian "to be born in a shirt". What "shirt" is meant?
- A. Serous.
 - B. Yolk.
 - C. Amniotic. D.Chorionic.
 - E. Trophoblastic.
212. In medicolegal practice identification of personality is periodically necessary. The method of dactyloscopy is used for this purpose. Structure peculiarities of what layer define the individual skin pattern?
- A. Reticular derma layer.
 - B. Papillary derma layer.
 - C. Epidermis.
 - D. Epidermis and derma.
 - E. Epidermis, derma, andhypoderm.
213. Significant infringement of the regeneration process of the small intestine mucous membrane epithelial layer of a cancer patient is detected by means of morphological research after ray therapeutics. What epithelial layer cells are damaged?
- A. Endocrine cells.
 - B. Columnar epithelial cells with microvilli.
 - C. Goblet exocrine cells.
 - D.Columnar non-border epithelial cells.
 - E. Exocrine cells with acidophilic granularity.
214. After the ray therapeutics of the stomach cancer a 48-year-old patient has malignant anemia developed caused by the damage of the cells producing an-tianemic factor. What gastric glands cells are damaged?

- A. Neck mucous cells.
 - B. Principal exocrine cells.
 - C. Parietal exocrine cells.
 - D. Endocrine cells.
 - E. Additional mucous cells.
215. An infectiologist has detected an acute enterocolitis syndrome with infringement of the processes of breakdown and absorption of nutritive materials of a patient. Due to the damage of what intestinal epithelium cells is such disorder observed?
- A. Goblet cells.
 - B. Non-microvilli epitheliocytes.
 - C. Columnar epitheliocytes with microvilli.
 - D. Cells with an acidophile granule.
 - E. Endocrynocytes.
216. Anemia of a 50-year-old patient with chronic nephritis has developed. What is the main reason for this?
- A. Reduction of erythropoietin production.
 - B. Absence of the gland.
 - C. Absence of vitamin Bp.
 - D. Disorder of porphyrin synthesis.
 - E. Immunologic damage of immature cells of erythropoiesis.
217. Sugar is detected in the urine of a 30-year-old patient, its amount in blood being normal. What structure functional mechanisms of the kidney are violated?
- A. Filtration process.
 - B. Reabsorption process in the proximal part of nephron.
 - C. Reabsorption process in the distal part of nephron.
 - D. Reabsorption process in the thin tubule.
 - E. Reabsorption process in the distal part as a result of vasopressin secretion insufficiency.
218. Low estrogens concentration and high concentration of progesterone are detected in the blood test of a nonpreg-nant 26-year-old woman. At what ovarian-menstrual cycle phase was the test done?
- A. Postmenstrual (proliferative).
 - B. Menstrual.
 - C. Premenstrual (secretory).
 - D. Phase of desquamation.
 - E. Phase of endometrium proliferation.
219. Examination of a 43-year-old patient has shown that protein products are digested badly in the stomach. Gastric juice analysis has shown low activity. The function of what cells of stomach is damaged in this case?
- A. Principal (chief) exocrine cells.
 - B. Parietal exocrine cells.
 - C. Mucous cells. D.Endocrine cells. E. Neck mucous cells.
220. A child has abraded skin of the palm when falling down. What epithelium was damaged?

- A. Transitional.
 - B. Stratified non-keratinized.
 - C. Simple low-columnar.
 - D. Stratified keratinized.
 - E. Simple squamous.
221. A child has inspired a button. This button was removed from the right primary bronchus with the help of a bronchoscope. What bronchial epithelium is the most likely to be damaged by the foreign body?
- A. Stratified non-keratinized.
 - B. Simple pseudostratified ciliated.
 - C. Simple low-columnar.
 - D. Transitional.
 - E. Simple squamous.
222. The rate of small intestine epithelium renovation of a patient is reduced. With the damage of what cells is it connected?
- A. Goblet.
 - B. Paneth's.
 - C. Columnar epithelial cells with microvilli.
 - D. Columnar non-border epithelial cells.
 - E. Endocrine cells.
223. A woman has got allergic dermatitis of hands after industrial contact with chromium compounds. What cells of skin were mainly damaged by the disease?
- A. Plasma cells.
 - B. Mast cells.
 - C. Macrophages. D. Neutrophils. E. Lymphocytes.
224. A 39-year-old patient's small intestine was investigated after the radiation therapy of liver tumor. It was detected that the ulcer of small intestine formed as a result of mitotic activity depression of the cells, which contribute to the tegumental epithelium of small intestine renewing. What cells are these?
- A. Endocrine.
 - B. Columnar epithelial.
 - C. Goblet exocrine.
 - D. Non-border enterocytes (undifferentiated columnar epithelial cells). E. Exocrine cells with acidophil granules.
225. A 45-year-old patient is hospitalized with the complaint of pain in the stomach. Gastroscopy has detected small ulcers in the area of gastric fundus. The function impairment of what cells of the mucous coat of stomach became a reason for the mucous coat damage?
- A. Cells of superficial epithelium with mucous secretion.
 - B. Parietal cells of stomach glands that secrete chlorides and ions of hydrogen.
 - C. Principal (chief) exocrine cells that secrete pepsinogen. D. Endocrine cells which secrete somatostatin.
 - E. Endocrine cells which secrete serotonin.
226. The reticular layer of skin is damaged after a trauma. This layer will recover with the help of a cell population. Name this cell population.

- A. Macrophagic.
 - B. Fibroblastic.
 - C. Lymphoblastic. D. Neuroblastic. E. Erythroblastic.
227. A bleeding after a delivery may be stopped by hormones action on uterus structures. One component of uterus wall takes part in this process more than others. Name this component.
- A. Endometrium.
 - B. Myometrium middle layer.
 - C. Myometrium internal layer. D. Myometrium superficial layer. E. Perimetrium.
228. Some layers are absent on a limited area of epidermis after a trauma. Only germinative layer is preserved. Name the cells, which will become the main source of its regeneration.
- A. Layer of basal cells.
 - B. Layer of spinosum cells.
 - C. Layer of granulosum cells.
 - D. Layer of spinous and granular cells of undisturbed area.
 - E. Clear layer cells of undisturbed area.
229. Experimentally the structures of tight contact between epithelial cells have been disturbed. What function of epithelium will be damaged?
- A. Secretory.
 - B. Suction.
 - C. Vitamin D producing.
 - D. Mechanical.
 - E. Excretory.
230. The bleeding stop following a delivery is connected with the action of oxytocin on the wall of uterus. What tunica of the organ reacts to this action?
- A. Perimetrium.
 - B. Endometrium.
 - C. Myometrium. D. Parametrium.
 - E. Submucous layer.
231. In skin biopsy material in epidermis cells with processes containing deep-brown granules in cytoplasm have been detected. What cells are these?
- A. Melanocytes.
 - B. Intraepidermal macrophages.
 - C. Keratinocytes. D. Merkel's cells. E. Lymphocytes.
232. The changes of nucleus and cytoplasm of spermatids are observed during one of the phases of spermatogene-sis. These changes predetermine the formation of mature sex cells. What gametogenesis phase is meant?
- A. Proliferation.
 - B. Maturation.
 - C. Growth.
 - D. Pseudouni polar and associative. E. Associative and motor.
246. A patient has taken high doses of streptomycin and consequently became deaf. The function of what cells of the inner ear was damaged in this case?
- A. Pillar.

B. Phalangeal.

C. Hair. D. Deiters'.

E. Connective tissue.

247. In a histological specimen an organ of nervous system is presented, which consists of grey and white substances. Grey substance is located on the periphery. Neurons form three layers in it: molecular, ganglionic, and granular. What organ is this?

A. Spinal cord.

B. Cerebellum.

C. Pons cerebelli.

D. Cerebral cortex.

E. Medulla oblongata.

248. In a histological specimen of an eyeball a convex structure is connected with the ciliary body by means of ciliary zonule fibres, and is covered with transparent capsule from above. Name this structure.

A. Sclera.

B. Vitreous body.

C. Ciliary body.

D. Cornea.

E. Lens.

249. Twilight vision disorder occurs as a result of vitamin A deficit. Name the cells, which perform this photoreceptor function.

A. Multipolar neurons.

B. Horizontal neurons.

C. Cones neurosensory cells. D. Rod neurosensory cells. E. Ganglionic nerve cells.

250. A child (5 years old) after a chemical burn of the lateral surface of tongue has ageusia in this site. It is connected with the destruction of gustatory sensory cells. What cellular structure takes part in stimulation perception?

A. Lateral surface.

B. Microvilli on the apical surface.

C. Microvilli on the basal surface. D. Nucleus.

E. Basement membrane.

251. A boxer has disturbance in smell after a trauma of the nose. The damage of what cells may cause the loss of smell?

A. Neurosensory.

B. Supporting epithelial cells.

C. Basal epithelial cells.

D. Ciliary epithelial cells.

E. Microvillous epithelial cells.

252. During examination an oculist has detected that the patient does not distinguish blue and green colors, but perceives other colors normally. It may be connected with the function damage of some structures of retina. Name these structures.

A. Amacrine neurons.

B. Rod neurons.

C. Multi polar neurons.

D. Cones neurons.

E. Horizontal neurons.

253. A 14-year-old patient has twilight vision impairment. What vitamin deficit takes place in the organism?

A. B12. B.B., C. B6. B.C. E. A.

254. Alcohol intoxication, as a rule, is accompanied by the coordination of movements disorder and imbalance caused by the damage of cerebellum structural elements. The function of what cells of cerebellum is affected first of all?

A. Basket.

B. Purkinje's.

C. Betz.

D. Stellate.

E. Granulosa.

255. A part of the central nervous system has layer-by-layer allocation of neurocytes, among which there are cells of such forms: stellate, fusiform, horizontal, pyramidal. What part of the CNS has this structure?

A. Cortex of large hemispheres.

B. Cerebellum.

C. Hypothalamus.

E. Medulla oblongata.

D. Spinal cord.

256. A traumatic injury of nerve fibers is accompanied by axons damage, lysis of myelin. What nerve structures take part in myelin reconstruction during regeneration?

A. Perineurium.

B. Ependimocytes.

C. Neurolemmocytes.

D. Endoneurium.

E. Astrocytes.

257. The ciliary body of a patient is damaged. The function of what eye apparatus suffers?

A. Light-sensitive.

B. Light-conductive.

C. Accommodation.

D. Protective.

E. Trophic.

258. In a histological specimen a structure of eyeball wall is detected; blood vessels are absent in this structure. What structure is characterized by this morphologic sign?

A. Ciliar body.

B. Cornea.

C. Choroid. D.Iris.

E. Retina.

259. In an electronic micrograph of a sense organ hair cells are seen, on their

apical part there are short microvilli -stereocilia and a polar-located kinocilium. Of what sensory organ are such cells typical?

- A. Organ of vestibular.
- B. Organ of vision.
- C. Olfactory organ.
- D. Organ of hearing.
- E. Organ of taste.