1. A patient visited a dentist with complaints of redness and edema of his mouth mucous membrane in a month after dental prosthesis. The patient was diagnosed with allergic stomatitis. What type of allergic reaction by Gell and Cumbs underlies this disease?

a. Stimulating
b. Delayed type hypersensitivity
c. Immunocomplex
d. Cytotoxic
e. Anaphylactic

2. An electronic microphotograph shows a macrophagic cell with erythrocytes at different stages of differentiation located along its processes. This is the cell of the following organ:

a. Red bone marrow
b. Spleen
c. Lymph node
d. Tonsil
e. Thymus

3. Decreased blood supply to the organs causes hypoxia that activates fibroblasts function. Volume of what elements is increased in this case?

a. Nerve elements
b. Vessels of microcircular stream
c. Intercellular substance
d. Parenchymatous elements of the organ
e. Lymphatic vessels

4. A patient has undergone an amputation of lower extremity. Some time later painful nodules appeared in a stump. Amputatious neuromas were found out at the microscopic examination. To what pathological processes do those formations relate?

a. Inflammation
b. Dystrophy
c. Regeneration
d. Hyperemia
e. Metaplasia

5. A 22-year-old patient was admitted to the hospital with complaints of heavy nasal breathing. During the examination of her nasal cavity the doctors found thickened mucous membrane, a lot of mucus and nodular infiltrates without erosions in the nose.The nasal rhinoscleroma was diagnosed. The biopsy was taken. What typical morphological changes may be found?

a. Granulomas with Langhan
b. Granulomas with Virchow
c. Granulomas with Mikulicz
d. Granulomas with foreign body cells
e. Interstitial inflammation

6. Lung of premature infant is presented on electronic photomicrography of biopsy material. Collapse of the alveolar wall caused by the deficiency of surfactant was revealed. Disfunction of what cells of the alveolar wall caused it?

a. Fibroblasts
b. Alveocytes type II
c. Alveolar macrophages
d. Alveocytes type I
e. Secretory cells

7. During histological examination of the stomach it was found out that glands contain very small amount of pariental cells or they are totally absent. Mucose membrane of what part of the stomach was studied?

a. Cardiak part
b. Fundus of stomach

c. Pyloric part
d. Body of stomach
e. -

8. Live vaccine is injected into the human body. Increasing activity of what cells of connective tissue can be expected?
a. Adipocytes and adventitious cells
b. Fibroblasts and labrocytes
c. Macrophages and fibroblasts
d. Pigmentocytes and pericytes
e. Plasmocytes and lymphocytes

9. In the blood of a 26-year-old man it was revealed 18% of erythrocytes of the spherical, ball-shaped, flat and thorn-like shape. Other eritrocytes were in the form of the concavo-concave disks. How is such phenomenon called?
a. Physiological anisocytosis
b. Pathological poikilocytosis
c. Physiological poikilocytosis
d. Pathological anisocytosis
e. Erytrocytosis

10. When the pH level of the stomach lumen decreases to less than 3, the antrum of the stomach releases peptide that acts in paracrine fashion to inhibit gastrin release. This peptide is:
a. Gastrin-releasing peptide (GRP)
b. Acetylcholine
c. GIF
d. Somatostatin
e. Vasoactive intestinal peptide (VIP)

11. A 50-year-old male farm worker has been brought to the emergency room. He was found confused in the orchard and since then has remained unconscious. His heart rate is 45 and his blood pressure is 80/40 mm Hg. He is sweating and salivating profusely. Which of the following should be prescribed?
a. Atropine
b. Proserine
c. Pentamine
d. Physostigmine
e. Norepinephrine

12. A 13-year-old girl with history of asthma complained of cough, dyspnea and wheezing. Her symptoms became so severe that her parents brought her to the emergency room. Physical examination revealed diaphoresis, dyspnea, tachycardia and tachypnea. Her respiratory rate was 42/min, pulse rate was 110 beats per minute, and blood pressure was 130/70 mm Hg. Choose from the following list the most appropriate drug to reverse the bronchoconstriction rapidly:
a. Methylprednidsolone
b. Ipratropium
c. Cromolyn
d. Beclomethasone
e. Salbutamol

13. A doctor administered Allopurinol to a 26-year-old young man with the symptoms of gout. What pharmacological action of Allopurinol ensures therapeutical effect?
a. By increasing uric acid excretion
b. By general anti-inflammatory effect
c. By general analgetic effect
d. By inhibiting uric acid synthesis
e. By inhibiting leucocyte migration into the joint

14. The pulmonalis embolism has suddenly developed in a 40 year-old patient with opened fracture of the hip. Choose the possible kind of embolism

a. Thrombus-embolus
b. Tissue
c. Foreign body
d. Fat
e. Air

15. Hypertrychosis of auricles is caused by a gene that is localized in Y-chromosome. Father has this feature. What is the probability to give birth to a boy with such anomaly?

a. 75%
b. 100%
c. 25%
d. 0%
e. 35%

16. On autopsy a 35-year-old man the focus of carnification 5 cm in diametre enclosed in a thin capsule was revealed in the second segment of the right lung . The focus consists of a tough dry friable tissue with a dim surface. For what disease are these morphological changes typical?

a. Tuberculoma
b. Chondroma
c. Postinflammatory pneumosclerosis
d. Tumorous form of silicosis
e. Lung cancer

17. In the microspecimen of red bone marrow there were revealed multiple capillares through the walls of which mature blood cells penetrated. What type of capillares is it?

a. Sinusoidal
b. Somatical
c. Lymphatic
d. Visceral
e. Fenestrational

18. M-r S presents all signs of the hepatic coma: loss of consciousness, absence of reflexes, cramps, convulsion, disorder of heart activity, recurrent (periodical) respiration. What are cerebrotoxical substances which accumulate in blood under hepar insufficiency?

a. Autoantibody
b. IL-1
c. Ammonia
d. Necrosogenic substances
e. Ketonic body

19. Autopsy of a man who died from chronic cardiacvascular collapse revealed "tiger heart". A yellowish-white banding can be seen sidewards of endocardium; myocardium is dull, dark-yellow. What process caused this pathology?

a. Amyloidosis
b. Fatty parenchymatous degeneration
c. Hyaline degeneration
d. Carbohydrate degeneration
e. Fatty vascular-stromal degeneration

20. The low specific gravity of the secondary urine (1002) was found out in the sick person. What is the most distant part of nephron where concentration of secondary urine takes place?

a. In ascending part of loop of Henle
b. In distal tubule of nephron
c. In the nephron
d. In proximal tubule of nephron
e. In the collecting duct

21. Blood sampling for bulk analysis is recommended to be performed on an empty stomack and in the morning. What changes in blood composition can occur if to perform blood sampling after food intake?

a. Increased plasma proteins
b. Increased contents of erythrocytes
c. Increased contents of leukocytes
d. Reduced contents of thrombocytes
e. Reduced contents of erythrocytes

22. In the ovary specimen colored with hematoxylin-eosin, follicle is determined where cubic-shaped follicle epithelium cells are placed in 1-2 layers, and scarlet covering is seen around ovocyte. Name this follicle:

a. Atretic
b. Primary
c. Secondary
d. Primordial
e. Mature

23. Most participants of Magellan expedition to America died from avitominosis. This disease declared itself by general weakness, subcutaneous hemmorhages, falling of teeth, gingival hemmorhages. What is the name of this avitiminosis?

a. Polyneuritis (beriberi)
b. Biermers anemia
c. Pellagra
d. Rachitis
e. Scurvy

24. A histological specimen presents a receptor zone of a sensoepithelial sense organ. Cells of this zone are placed upon the basal membrane and include the following types: external and internal receptor cells, external and internal phalangeal cell, stem cells, external limiting cells and external supporting cell. The described receptor zone belongs to the following sense organ:

a. Gustatory organ
b. Visual organ
c. Acoustic organ
d. Equilibrium organ
e. Olfactory organ

25. A patient died 3 days after the operation because of perforated colon with manifestations of diffuse purulent peritonitis. The autopsy revealed: colon mucos membrane was thickened and covered with a fibrin film, isolated ulcers penetrated at different depth. The histology result: mucous membrane necrosis, leukocytes infiltration with hemorrhages focuses. What disease complication caused the patients death?

a. Crohns disease
b. Amebiasis
c. Typhoid
d. Nonspecific ulcerative colitis
e. Dysentery

26. A patient was admitted to the hospital with an asphyxia attack provoked by a spasm of smooth muscles of the respiratory tracts. This attack was mainly caused by alterations in the following parts of the airways:

a. Terminal bronchioles
b. Respiratory part
c. Median bronchi
d. Large bronchi
e. Small bronchi

27. The increased intraocular tension is observed in the patient with glaucoma.Secretion of aqueous

humor by the ciliar body is normal. Injury of what structure of the eyeball wall caused the disorder of flow-out from the anterior chamber?

a. Ciliary muscle
b. Back epithelium of cornea
c. Ciliar body
d. Choroid
e. Venous sinus

28. Examination of a 43 y.o. patient revealed that his stomach has difficulties with digestion of protein food. Gastric juice analysis revealed low acidity. Function of which gastric cells is disturbed in this case?

a. Parietal exocrinocytes
b. Mucous cells (mucocytes)
c. Cervical mucocytes
d. Endocrinous cells
e. Main exocrinocytes

29. A patient has been given high doses of hydrocortisone for a long time. This caused atrophy of one of the adrenal cortex zones. Which zone is it?

a. Glomerular
b. Glomerular and reticular
c. -
d. Fascial
e. Reticular

30. Low level of albumins and fibrinogen was detected in the patients blood. Decreased activity of what organelle of the liver hepatocytes can cause it?

a. Agranular endoplasmatic reticulum
b. Golgi complex
c. Lysosomes
d. Granular endoplasmatic reticulum
e. Mitochondrions

31. In a histological specimen parenchyma of an organ is represented by lymphoid tissue that forms lymph nodes; the latter are arranged in a diffuse manner and enclose a central artery. What anatomic formation has such morphological structure?

a. Tonsil
b. Thymus
c. Red bone marrow
d. Spleen
e. Lymph node

32. A histological specimen of a kidney shows a part of the distal tubule going between the afferent and efferent arteriole. The cells building the tubule wall have dense nuclei; basal membrane is absent. Such structural formation is called:

a. Mesangial cells
b. Juxtaglomerular cells
c. Macula densa
d. Juxtavascular cells
e. -

33. Patient with injured muscles of the lower extremities was admitted to the traumatological department. Due to what cells is reparative regeneration of the muscle fibers and restoration of the muscle function possible?

a. Satellite-cells
b. Myofibroblasts
c. Myoepithelial cells
d. Fibroblasts

e. Myoblasts

34. An ovary specimen stained by hematoxylin-eosin presents a follicle, where cells of follicular epithelium are placed in 1-2 layers and have cubic form, there is a bright-red membrane around the ovocyte. What follicle is it?

a. Primary
b. Secondary
c. Atretic
d. Mature
e. Primordial

35. In course of an experiment a big number of stem cells of red bone marrow was in some way destructed. Regeneration of which cell populations in the loose connective tissue will be inhibited?

a. Of pigment cells
b. Of fibroblasts
c. Of macrophags
d. Of lipocytes
e. Of pericytes

36. Histological examination of a 40 y.o. mans thymus revealed decreased share of parenchymatous gland elements, increased share of adipose and loose connective tissue, its enrichment with thymus bodies. The organs mass was unchanged. What phenomenon is it?

a. Hypotrophy
b. Accidental involution
c. Age involution
d. Dystrophy
e. Atrophy

37. A histological specimen shows a blood vessel. Its inner coat is composed by endothelium, subendothelium and internal elastic membrane. The middle coat is enriched with smooth myocytes. Such morphological characteristics are typical for the following vessel:

a. Muscular-type artery
b. Capillary
c. Muscular-type vein
d. Non-muscular vein
e. Elastic-type artery

38. In course of indirect histogenesis of tubular bone tissue a plate is formed between epiphyseal and diaphyseal ossification centres that provides further lengthwise growth of bones. What structure is it?

a. Osseous cuff
b. Osteon
c. Layer of interior general plates
d. Metaphyseal plate
e. Osseous plate

39. A 2-year-old child has got intestinal dysbacteriosis, which results in hemorrhagic syndrome. What is the most likely cause of hemorrhage of the child?

a. Vitamin K insufficiency
b. PP hypovitaminosis
c. Hypocalcemia
d. Fibrinogen deficiency
e. Activation of tissue thromboplastin

40. Histological specimen presents a vessel the wall of which consists of endothelium, basal membrane and loose connective tissue. What type of vessel is it?

a. Artery
b. Hemocapillary
c. Lymphocapillary

d. Vein of non-muscular type
e. Vein of muscular type

41. A patient died from acute cardiac insufficiency. The histological examination of his heart revealed the necrotized section in myocardium of the left ventricle, which was separated from undamaged tissue by the zone of hyperimic vessels, small hemorrhages and leukocytic infiltration. What is the most likely diagnosis?
a. Myocardial infarction
b. Focal exudate myocarditis
c. Productive myocarditis
d. Diffuse exudate myocarditis
e. Myocardial ischemic dystrophy

42. Vitamin A deficit results in the impairment of twilight vision. Name the cells that have the above-mentioned photoreceptor function:
a. Bipolar neurons
b. Ganglion neurocytes
c. Horizontal neurocytes
d. Cone receptor cells
e. Rod receptor cell

43. Kidneys of a man under examination show increased resorbtion of calcium ions and decreased resorbtion of phosphate ions. What hormone causes this phenomenon?
a. Hormonal form D3
b. Thyrocalcitonin
c. Parathormone
d. Aldosterone
e. Vasopressin

44. During pubescence the cells of male sexual glands begin to produce male sex hormon testosterone that calls forth secondary sexual characters. What cells of male sexual glands produce this hormone?
a. Sertolis cells
b. Sustentocytes
c. Leidig cells
d. Supporting cells
e. Spermatozoa

45. Sections of haemopoetic and immunogenetic organs present in the specimens. Organ has lymph tissue forming different structures (lymph nodes,lobules, bars). In what organ does antigen-independent proliferation and differentiation take place?
a. Hemolymph nodes
b. Tonsil
c. Lymphatic nodes
d. Spleen
e. Thymus

46. A patient with thrombophlebitis of lower extremities had got chest pains, blood spitting, growing respiratory failure that caused his death. Autopsy revealed multiple pulmonary infarctions. What is the most probable reason of their development?
a. Pulmonary artery embolism
b. Bronchial artery thrombosis
c. Pulmonary venous thrombosis
d. Bronchial artery embolism
e. Pulmonary artery thrombosis

47. A patient complains of dryness of head skin, itching, fragility and loss of hair. After examination he was diagnosed with seborrhea. Disturbed activity of which cells caused this condition?

a. Cells of sebaceous glands
b. Epithelial cells
c. Melanocytes
d. Adipocytes
e. Cells of sudoriferous glands

48. A sensitive neural ganglion consists of roundish neurocytes with one extension that divides into axon and dendrite at some distance from the perikaryon. What are these cells called?
a. Unipolar
b. Multipolar
c. Apolar
d. Pseudounipolar
e. Bipolar

49. An embryo displays disturbed process of dorsal mesoderm segmentation and somite formation. What part of skin will have developmental abnormalities?
a. Hair
b. Epidermis
c. Sudoriferous glands
d. Derma
e. Sebaceous glands

50. A scheme presents an exocrinous gland that has unbranched excretory duct with a terminal part in form of a saccule openining into the duct. How is this gland called according to the morphological classification of exocrinous glands?
a. Compound unbranched alveolar
b. Compound unbranched alveolar tubular
c. Compound branched alveolar
d. Simple branched tubular
e. Simple unbranched alveolar

51. Roentgenological examination of skull base bones revealed enlargement of sellar cavity, thinning of anterior clinoid processes, destruction of different parts, destruction of different parts of sella turcica. Such bone destruction might be caused by a tumour of the following wndocrinous gland:
a. Thymus gland
b. Epiphysis
c. Hypophysis
d. Adrenal glands
e. Thyroid gland

52. Electronic microphotography of pulmonary alveoles wall presents a big cell. Its cytoplasm has a lot of mitochondria, developed Golgi apparatus, osmiophil lamellated corpuscles. What is the main function of this cell?
a. It is a component of blood-air barrier
b. It purifies the air
c. It absorbs microorganisms
d. It produces surfactant
e. It warms the air

53. A pathological process in bronchi resulted in epithelium desquamation. What cells will regenerate bronchial epithelium?
a. Basal
b. Ciliate
c. Goblet
d. Endocrinal
e. Intercalary

54. A viral infection has damaged cells that form walls of bile capillaries. This stimulated conditions

for inflow of bile into the blood of sinusoidal capillaries. What cells are damaged?

a. Hepatocytes
b. Ito cells
c. Endotheliocytes
d. Pit-cells
e. Kupffers cells

55. A histological specimen of spleen shows a vessel with a wall consisting of endothelium and subendothelial layer, median membrane is absent, exterior membrane inosculates with the layers of spleen connective tissue. What vessel is it?

a. Artery of muscular type
b. Vein of muscular type
c. Vein of non-muscular type
d. Arteriole
e. Capillary

56. In course of a conditional experiment the development of mesenchyma cells was completely inhibited. Development of the following muscular tissue will be disturbed:

a. Cardiac muscular tissue
b. Skeletal muscular tissue
c. Neural muscular tissue
d. Epidermal muscular tissue
e. Smooth muscular tissue

57. A patient ill with chronic gastritis went for endogastric pH-metry that allowed to reveal decreased acidity of gastric juice. It is indicative of diminished function of the following cells:

a. Chief exocrinocytes
b. Cervical cells
c. Accessory cells
d. Parietal exocrinocytes
e. Endocrinocytes

58. Ultramicroscopical examination of "dark" hepatocyte population in the cell cytoplasm detected a developed granular endoplasmic reticulum. What function has this organella in these cells?

a. Carbohydrate synthesis
b. Bile production
c. Calcium ion depositing
d. Synthesis of blood plasma proteins
e. Deintoxicative function

59. An endocrinal gland with parenchyma consisting of epithelium and neural tissue is under morphological examination. Epithelial trabecules have two types of cells: chromophilic and chromophobic. Identify this organ:

a. Parathyroid gland
b. Hypophysis
c. Hypothalamus
d. Adrenal glands
e. Thyroid gland

60. A histological specimen presents an artery. One of the membranes of its wall has flat cells lying on the basal membrane. What type of cells is it?

a. Smooth myocytes
b. Mesothelium
c. Endothelium
d. Fibroblasts
e. Macrophages

61. One of sections of central nervous system has layerwise arrangement of neurocytes. Among them

there are cells of the following forms: stellate, fusiform, horizontal, pyramidal. What section of central nervous system is this structure typical for?

a. Spinal cord
b. Medulla oblongata
c. Hypothalamus
d. Cortex of cerebrum
e. Cerebellum

62. Study of fingerprints (dactylography) is used by criminalists for personal identification as well as for diagnostics of genetic abnormalities, particularly Dawns disease. What layer of skin determines individuality of fingerprints?

a. Reticular
b. Horny
c. Dermopapillary
d. Clear (stratum lucidum epidermidis)
e. Basal

63. A microspecimen of the submandibular salivary gland shows some basket-shaped cells concentrated around the acines and excretory ducts. These cells surround bases of the serous cells and are called myoepitheliocytes. These cells relate to the following tissue:

a. Muscular tissue
b. Neural tissue
c. Loose fibrous connective tissue
d. Special connective tissue
e. Epithelial tissue

64. An infectious disease caused contractive activity of muscles that contract and dilate eye pupil (paralytic state). What functional eye system was damaged?

a. Photosensory
b. Lacrimal apparatus
c. Dioptric
d. Ancillary
e. Accomodative

65. A patient visited a dentist with complaints of redness and edema of his mouth mucous membrane in a month after dental prosthesis. The patient was diagnosed with allergic stomatitis. What type of allergic reaction by Gell and Cumbs underlies this disease?

a. Anaphylactic
b. Stimulating
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b. Metaplasia
c. Dystrophy
d. Inflammation
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b. 75%
c. 0%
d. 25%
e. 100%

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c. Lymphatic
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Sidewards of endocardium a yellowish-white banding can be seen; myocardium is dull, dark-yellow. What process caused this pathology?

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b. Reduced contents of erythrocytes
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d. Increased plasma proteins
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a. Small bronchi
b. Large bronchi
c. Respiratory part
d. Terminal bronchioles
e. Median bronchi

87. A patient has been given high doses of hydrocortisone for a long time. This caused atrophy of one of the adrenal cortex zones. Which zone is it?

a. Fascial
b. Reticular
c. -

d. Glomerular and reticular
e. Glomerular

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b. Golgi complex
c. Lysosomes
d. Granular endoplasmatic net
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c. Mesangial cells
d. Juxtaglomerular cells
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b. Fibroblasts
c. Myoepithelial cells
d. Satellite-cells
e. Myofibroblasts

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b. Of pigment cells
c. Of pericytes
d. Of lipocytes
e. Of fibroblasts

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a. Dystrophy
b. Atrophy
c. Accidental involution
d. Hypotrophy
e. Age involution

94. A histological specimen shows a blood vessel. Its inner coat is composed by endothelium, subendothelium and internal elastic membrane. The middle coat is enriched with smooth myocytes. Such morphological characteristics are typical for the following vessel:

a. Non-muscular vein
b. Muscular-type vein
c. Elastic-type artery
d. Capillary
e. Muscular-type artery

95. In course of indirect histogenesis of tubular bone tissue a plate is formed between epiphyseal and diaphyseal ossification centres that provides further lengthwise growth of bones. What structure is it?
a. Layer of interior general plates
b. Metaphyseal plate
c. Osseous plate
d. Osseous cuff
e. Osteon

96. A 2-year-old child has got intestinal dysbacteriosis, which results in hemorrhagic syndrome. What is the most likely cause of hemorrhage of the child?
a. Activation of tissue thromboplastin
b. Fibrinogen deficiency
c. Hypocalcemia
d. Vitamin K insufficiency
e. PP hypovitaminosis

97. Histological specimen presents a vessel the wall of which consists of endothelium, basal membrane and loose connective tissue. What type of vessel is it?
a. Vein of non-muscular type
b. Vein of muscular type
c. Lymphocapillary
d. Hemocapillary
e. Artery

98. A patient died from acute cardiac insufficiency. The histological examination of his heart revealed the necrotized section in myocardium of the left ventricle, which was separated from undamaged tissue by the zone of hyperimic vessels, small hemorrhages and leukocytic infiltration. What is the most likely diagnosis?
a. Myocardial ischemic dystrophy
b. Diffuse exudate myocarditis
c. Productive myocarditis
d. Myocardial infarction
e. Focal exudate myocarditis

99. Vitamin A deficit results in the impairment of twilight vision. Name the cells that have the above-mentioned photoreceptor function:
a. Horizontal neurocytes
b. Bipolar neurons
c. Ganglion neurocytes
d. Rod receptor cell
e. Cone receptor cells

100. Kidneys of a man under examination show increased resorbtion of calcium ions and decreased resorbtion of phosphate ions. What hormone causes this phenomenon?
a. Thyrocalcitonin
b. Aldosterone
c. Vasopressin
d. Parathormone
e. Hormonal form D3

101. During pubescence the cells of male sexual glands begin to produce male sex hormon testosterone that calls forth secondary sexual characters. What cells of male sexual glands produce

this hormone?

a. Leidig cells
b. Sertolis cells
c. Spermatozoa
d. Supporting cells
e. Sustentocytes

102. The specimens present sections of haemopoetic and immunogenetic organs. Organ has lymph tissue forming different structures (lymph nodes,lobules, bars). In what organ does antigen-independent proliferation and differantiation take place?

a. Hemolymph nodes
b. Tonsil
c. Lymphatic nodes
d. Spleen
e. Thymus

103. A patient with thrombophlebitis of lower extremities had got chest pains, blood spitting, growing respiratory failure that caused his death. Autopsy revealed multiple pulmonary infarctions. What is the most probable reason of their development?

a. Bronchial artery thrombosis
b. Pulmonary artery thrombosis
c. Pulmonary artery embolism
d. Bronchial artery embolism
e. Pulmonary venous thrombosis

104. A patient complains of dryness of head skin, itching, fragility and loss of hair. After examination he was diagnosed with seborrhea. Disturbed activity of which cells caused this condition?

a. Cells of sudoriferous glands
b. Adipocytes
c. Melanocytes
d. Cells of sebaceous glands
e. Epithelial cells

105. A sensitive neural ganglion consists of roundish neurocytes with one extension that divides into axon and dendrite at some distance from the perikaryon. What are these cells called?

a. Bipolar
b. Unipolar
c. Pseudounipolar
d. Multipolar
e. Apolar

106. An embryo displays disturbed process of dorsal mesoderm segmentation and somite formation. What part of skin will have developmental abnormalities?

a. Derma
b. Sebaceous glands
c. Sudoriferous glands
d. Epidermis
e. Hair

107. An electron microphotography of a fragment of proper gastric gland shows a big irregular round-shaped cell. There are a lot of intracellular tubules and mitochondria in the cytoplasm. Specify this cell:

a. Mucous cell
b. Endocrine cell
c. Principal cell
d. Undifferentiated cell
e. Parietal cell

108. A scheme presents an exocrinous gland that has unbranched excretory duct with a terminal part in form of a saccule openining into the duct. How is this gland called according to the morphological classification of exocrinous glands?

a. Simple unbranched alveolar
b. Simple branched tubular
c. Compound unbranched alveolar tubular
d. Compound unbranched alveolar
e. Compound branched alveolar

109. Roentgenological examination of skull base bones revealed enlargement of sellar cavity, thinning of anterior clinoid processes, destruction of different parts, destruction of different parts of sella turcica. Such bone destruction might be caused by a tumour of the following wndocrinous gland:

a. Adrenal glands
b. Thyroid gland
c. Epiphysis
d. Thymus gland
e. Hypophysis

110. Electronic microphotography of pulmonary alveoles wall presents a big cell. Its cytoplasm has a lot of mitochondria, developed Golgi apparatus, osmiophil lamellated corpuscles. What is the main function of this cell?

a. It purifies the air
b. It absorbs microorganisms
c. It is a component of blood-air barrier
d. It warms the air
e. It produces surfactant

111. A pathological process in bronchi resulted in epithelium desquamation. What cells will regenerate bronchial epithelium?

a. Endocrinal
b. Goblet
c. Intercalary
d. Ciliate
e. Basal

112. A viral infection has damaged cells that form walls of bile capillaries. This stimulated conditions for inflow of bile into the blood of sinusoidal capillaries. What cells are damaged?

a. Ito cells
b. Kupffers cells
c. Hepatocytes
d. Pit-cells
e. Endotheliocytes

113. A histological specimen of spleen shows a vessel with a wall consisting of endothelium and subendothelial layer, median membrane is absent, exterior membrane inosculates with the layers of spleen connective tissue. What vessel is it?

a. Vein of non-muscular type
b. Artery of muscular type
c. Capillary
d. Arteriole
e. Vein of muscular type

114. In course of a conditional experiment the development of mesenchyma cells was completely inhibited. Development of the following muscular tissue will be disturbed:

a. Skeletal muscular tissue
b. Smooth muscular tissue
c. Epidermal muscular tissue
d. Neural muscular tissue

e. Cardiac muscular tissue

115. A patient ill with chronic gastritis went for endogastric pH-metry that allowed to reveal decreased acidity of gastric juice. It is indicative of diminished function of the following cells:

a. Cervical cells
b. Accessory cells
c. Chief exocrinocytes
d. Endocrinocytes
e. Parietal exocrinocytes

116. An endocrinal gland with parenchyma consisting of epithelium and neural tissue is under morphological examination. Epithelial trabecules have two types of cells: chromophilic and chromophobic. Identify this organ:

a. Hypothalamus
b. Adrenal glands
c. Hypophysis
d. Thyroid gland
e. Parathyroid gland

117. A histological specimen presents an artery. One of the membranes of its wall has flat cells lying on the basal membrane. What type of cells is it?

a. Fibroblasts
b. Macrophages
c. Mesothelium
d. Smooth myocytes
e. Endothelium

118. One of sections of central nervous system has layerwise arrangement of neurocytes. Among them there are cells of the following forms: stellate, fusiform, horizontal, pyramidal. What section of central nervous system is this structure typical for?

a. Cerebellum
b. Spinal cord
c. Cortex of cerebrum
d. Medulla oblongata
e. Hypothalamus

119. Study of fingerprints (dactylography) is used by criminalists for personal identification as well as for diagnostics of genetic abnormalities, particularly Dawns disease. What layer of skin determines individuality of fingerprints?

a. Clear (stratum lucidum epidermidis)
b. Basal
c. Horny
d. Reticular
e. Dermopapillary

120. A microspecimen of the submandibular salivary gland shows some basket-shaped cells concentrated around the acines and excretory ducts. These cells surround bases of the serous cells and are called myoepitheliocytes. These cells relate to the following tissue:

a. Loose fibrous connective tissue
b. Muscular tissue
c. Neural tissue
d. Epithelial tissue
e. Special connective tissue

121. An infectious disease caused contractive activity of muscles that contract and dilate eye pupil (paralytic state). What functional eye system was damaged?

a. Accomodative
b. Ancillary

c. Lacrimal apparatus
d. Photosensory
e. Dioptric

122. A patient visited a dentist with complaints of redness and edema of his mouth mucous membrane in a month after dental prosthesis. The patient was diagnosed with allergic stomatitis. What type of allergic reaction by Gell and Cumbs underlies this disease?
a. Cytotoxic
b. Anaphylactic
c. Stimulating
d. Delayed type hypersensitivity
e. Immunocomplex

123. An electronic microphotograph shows a macrophagic cell with erythrocytes at different stages of differentiation located along its processes. This is the cell of the following organ:
a. Spleen
b. Thymus
c. Red bone marrow
d. Tonsil
e. Lymph node

124. A patient has undergone an amputation of lower extremity. Some time later painful nodules appeared in a stump. Amputatious neuromas were found out at the microscopic examination. To what pathological processes do those formations relate?
a. Dystrophy
b. Hyperemia
c. Metaplasia
d. Regeneration
e. Inflammation

125. A 22-year-old patient was admitted to the hospital with complaints of heavy nasal breathing. During the examination of her nasal cavity the doctors found thickened mucous membrane, a lot of mucus and nodular infiltrates without erosions in the nose.The nasal rhinoscleroma was diagnosed. The biopsy was taken. What typical morphological changes may be found?
a. Granulomas with Langhan’s cells
b. Granulomas with Virchow’s cells
c. Granulomas with Mikulicz’s cells
d. Granulomas with foreign body cells
e. Interstitial inflammation

126. In the blood of a 26-year-old man it was revealed 18% of erythrocytes of the spherical, ball-shaped, flat and thorn-like shape. Other eritrocytes were in the form of the concavo-concave disks. How is such phenomenon called?
a. Pathological anisocytosis
b. Erytrocytosis
c. Pathological poikilocytosis
d. Physiological anisocytosis
e. Physiological poikilocytosis

127. When the pH level of the stomach lumen decreases to less than 3, the antrum of the stomach releases peptide that acts in paracrine fashion to inhibit gastrin release. This peptide is:
a. Vasoactive intestinal peptide (VIP)
b. GIF
c. Gastrin-releasing peptide (GRP)
d. Acetylcholine
e. Somatostatin

128. A 13-year-old girl with history of asthma complained of cough, dyspnea and wheezing. Her

symptoms became so severe that her parents brought her to the emergency room. Physical examination revealed diaphoresis, dyspnea, tachycardia and tachypnea. Her respiratory rate was 42/min, pulse rate was 110 beats per minute, and blood pressure was 130/70 mm Hg. Choose from the following list the most appropriate drug to reverse the bronchoconstriction rapidly:

a. Salbutamol
b. Beclomethasone
c. Ipratropium
d. Methylprednidsolone
e. Cromolyn

129. A doctor administered Allopurinol to a 26-year-old young man with the symptoms of gout. What pharmacological action of Allopurinol ensures therapeutical effect?

a. By general analgetic effect
b. By inhibiting uric acid synthesis
c. By inhibiting leucocyte migration into the joint
d. By increasing uric acid excretion
e. By general anti-inflammatory effect

130. The pulmonalis embolism has suddenly developed in a 40 year-old patient with opened fracture of the hip. Choose the possible kind of embolism

a. Air
b. Thrombus-embolus
c. Fat
d. Tissue
e. Foreign body

131. Hypertrychosis of auricles is caused by a gene that is localized in Y-chromosome. Father has this feature. What is the probability to give birth to a boy with such anomaly?

a. 0%
b. 35%
c. 75%
d. 100%
e. 25%

132. On autopsy a 35-year-old man the focus of carnification 5 cm in diametre enclosed in a thin capsule was revealed in the second segment of the right lung . The focus consists of a tough dry friable tissue with a dim surface. For what disease are these morphological changes typical?

a. Lung cancer
b. Tumorous form of silicosis
c. Postinflammatory pneumosclerosis
d. Tuberculoma
e. Chondroma

133. During postembryonal haemopoiesis in the red bone marrow the cells of one of the cellular differons demonstrate a gradual decrease in cytoplasmic basophilia as well as an increase in oxyphilia, the nucleus is being forced out. Such morphological changes are typical for the following haemopoiesis type:

a. Eosinophil cytopoiesis
b. Basophil cytopoiesis
c. Lymphopoiesis
d. Neutrophil cytopoiesis
e. Erythropoiesis

134. M-r S presents all signs of the hepatic coma: loss of consciousness, absence of reflexes, cramps, convulsion, disorder of heart activity, recurrent (periodical) respiration. What are cerebrotoxical substances which accumulate in blood under hepar insufficiency?

a. Necrosogenic substances
b. Ketonic body

c. IL-1
d. Autoantibody
e. Ammonia

135. Autopsy of a man who died from chronic cardiacvascular collapse revealed "tiger heart". Sidewards of endocardium a yellowish-white banding can be seen; myocardium is dull, dark-yellow. What process caused this pathology?
a. Hyaline degeneration
b. Carbohydrate degeneration
c. Fatty parenchymatous degeneration
d. Fatty vascular-stromal degeneration
e. Amyloidosis

136. The low specific gravity of the secondary urine (1002) was found out in the sick person. What is the most distant part of nephron where concentration of secondary urine takes place?
a. In ascending part of loop of Henle
b. In distal tubule of nephron
c. In the nephron’s glomerulus
d. In proximal tubule of nephron
e. In the collecting duck

137. Blood sampling for bulk analysis is recommended to be performed on an empty stomack and in the morning. What changes in blood composition can occur if to perform blood sampling after food intake?
a. Increased contents of leukocytes
b. Increased plasma proteins
c. Reduced contents of erythrocytes
d. Reduced contents of thrombocytes
e. Increased contents of erythrocytes

138. Most participants of Magellan expedition to America died from avitominosis. This disease declared itself by general weakness, subcutaneous hemmorhages, falling of teeth, gingival hemmorhages. What is the name of this avitiminosis?
a. Scurvy
b. Rachitis
c. Biermers anemia
d. Polyneuritis (beriberi)
e. Pellagra

139. A histological specimen presents a receptor zone of a sensoepithelial sense organ. Cells of this zone are placed upon the basal membrane and include the following types: external and internal receptor cells, external and internal phalangeal cell, stem cells, external limiting cells and external supporting cell. The described receptor zone belongs to the following sense organ:
a. Acoustic organ
b. Gustatory organ
c. Olfactory organ
d. Equilibrium organ
e. Visual organ

140. A patient died 3 days after the operation because of perforated colon with manifestations of diffuse purulent peritonitis. The autopsy revealed: colon mucose membrane was thickened and covered with a fibrin pellicle, isolated ulcers penetrated at different depth. The histology result: mucous membrane necrosis, leukocytes infiltration with hemorrhages focuses. What disease complication caused the patients death?
a. Nonspecific ulcerative colitis
b. Typhoid
c. Dysentery
d. Crohns disease

e. Amebiasis

141. A patient was admitted to the hospital with an asphyxia attack provoked by a spasm of smooth muscles of the respiratory tracts. This attack was mainly caused by alterations in the following parts of the airways:

a. Respiratory part
b. Small bronchi
c. Large bronchi
d. Median bronchi
e. Terminal bronchioles

142. Examination of a 43 y.o. patient revealed that his stomach has difficulties with digestion of protein food. Gastric juice analysis revealed low acidity. Function of which gastric cells is disturbed in this case?

a. Main exocrinocytes
b. Endocrinous cells
c. Cervical mucocytes
d. Parietal exocrinocytes
e. Mucous cells (mucocytes)

143. As a result of a trauma a patient has damaged anterior roots of spinal cord. What structures have been affected?

a. Axons of motoneurons and axons of neurons of lateral horns
b. Peripheral processes of sensitive spinal ganglions
c. Dendrites of neurons of spinal ganglions
d. Axons of neurons of lateral horns
e. Central processes of sensitive neurons of spinal ganglions

144. Patient with injured muscles of the lower extremities was admitted to the traumatological department. Due to what cells is reparative regeneration of the muscle fibers and restoration of the muscle function possible?

a. Myofibroblasts
b. Myoblasts
c. Satellite-cells
d. Fibroblasts
e. Myoepithelial cells

145. In course of an experiment a big number of stem cells of red bone marrow was in some way destructed. Regeneration of which cell populations in the loose connective tissue will be inhibited?

a. Of lipocytes
b. Of pericytes
c. Of fibroblasts
d. Of pigment cells
e. Of macrophags

146. Histological examination of a 40 y.o. mans thymus revealed decreased share of parenchymatous gland elements, increased share of adipose and loose connective tissue, its enrichment with thymus bodies. The organs mass was unchanged. What phenomenon is it?

a. Accidental involution
b. Dystrophy
c. Atrophy
d. Age involution
e. Hypotrophy

147. A histological specimen shows a blood vessel. Its inner coat is composed by endothelium, subendothelium and internal elastic membrane. The middle coat is enriched with smooth myocytes. Such morphological characteristics are typical for the following vessel:

a. Elastic-type artery

b. Non-muscular vein
c. Muscular-type vein
d. Muscular-type artery
e. Capillary

148. A patient died from acute cardiac insufficiency. The histological examination of his heart revealed the necrotized section in myocardium of the left ventricle, which was separated from undamaged tissue by the zone of hyperimic vessels, small hemorrhages and leukocytic infiltration. What is the most likely diagnosis?
a. Diffuse exudate myocarditis
b. Productive myocarditis
c. Myocardial ischemic dystrophy
d. Focal exudate myocarditis
e. Myocardial infarction

149. During pubescence the cells of male sexual glands begin to produce male sex hormon testosterone that calls forth secondary sexual characters. What cells of male sexual glands produce this hormone?
a. Supporting cells
b. Spermatozoa
c. Sustentocytes
d. Sertolis cells
e. Leidig cells

150. The specimens present sections of haemopoetic and immunogenetic organs. Organ has lymph tissue forming different structures (lymph nodes,lobules, bars). In what organ does antigen-independent proliferation and differantiation take place?
a. Thymus
b. Spleen
c. Tonsil
d. Hemolymph nodes
e. Lymphatic nodes

151. A patient with thrombophlebitis of lower extremities had got chest pains, blood spitting, growing respiratory failure that caused his death. Autopsy revealed multiple pulmonary infarctions. What is the most probable reason of their development?
a. Pulmonary venous thrombosis
b. Pulmonary artery embolism
c. Bronchial artery thrombosis
d. Pulmonary artery thrombosis
e. Bronchial artery embolism

152. A histological specimen of kidney shows a structure consisting of a glomerulus of fenestrated capillaries and a bilayer epithelial capsule. Specify this structure:
a. Proximal tubule
b. Henles loop
c. Receiving tube
d. Renal corpuscle
e. Distal tubule

153. An embryo displays disturbed process of dorsal mesoderm segmentation and somite formation. What part of skin will have developmental abnormalities?
a. Sebaceous glands
b. Hair
c. Derma
d. Epidermis
e. Sudoriferous glands

154. An electron microphotography of a fragment of proper gastric gland shows a big irregular round-shaped cell. There are a lot of intracellular tubules and mitochondria in the cytoplasm. Specify this cell:

a. Undifferentiated cell
b. Principal cell
c. Parietal cell
d. Mucous cell
e. Endocrine cell

155. A scheme presents an exocrinous gland that has unbranched excretory duct with a terminal part in form of a saccule openining into the duct. How is this gland called according to the morphological classification of exocrinous glands?

a. Simple branched tubular
b. Compound branched alveolar
c. Simple unbranched alveolar
d. Compound unbranched alveolar
e. Compound unbranched alveolar tubular

156. A viral infection has damaged cells that form walls of bile capillaries. This stimulated conditions for inflow of bile into the blood of sinusoidal capillaries. What cells are damaged?

a. Pit-cells
b. Endotheliocytes
c. Kupffers cells
d. Ito cells
e. Hepatocytes

157. A patient ill with chronic gastritis went for endogastric pH-metry that allowed to reveal decreased acidity of gastric juice. It is indicative of diminished function of the following cells:

a. Parietal exocrinocytes
b. Endocrinocytes
c. Accessory cells
d. Cervical cells
e. Chief exocrinocytes

158. Ultramicroscopical examination of "dark" hepatocyte population in the cell cytoplasm detected a developed granular endoplasmic reticulum. What function has this organella in these cells?

a. Calcium ion depositing
b. Synthesis of blood plasma proteins
c. Deintoxicative function
d. Carbohydrate synthesis
e. Bile production

159. An endocrinal gland with parenchyma consisting of epithelium and neural tissue is under morphological examination. Epithelial trabecules have two types of cells: chromophilic and chromophobic. Identify this organ:

a. Hypophysis
b. Hypothalamus
c. Parathyroid gland
d. Thyroid gland
e. Adrenal glands

160. A histological specimen presents an artery. One of the membranes of its wall has flat cells lying on the basal membrane. What type of cells is it?

a. Endothelium
b. Smooth myocytes
c. Macrophages
d. Fibroblasts
e. Mesothelium

161. Study of fingerprints (dactylography) is used by criminalists for personal identification as well as for diagnostics of genetic abnormalities, particularly Dawns disease. What layer of skin determines individuality of fingerprints?

a. Dermopapillary
b. Reticular
c. Basal
d. Clear (stratum lucidum epidermidis)
e. Horny

162. A microspecimen of the submandibular salivary gland shows some basket-shaped cells concentrated around the acines and excretory ducts. These cells surround bases of the serous cells and are called myoepitheliocytes. These cells relate to the following tissue:

a. Special connective tissue
b. Loose fibrous connective tissue
c. Epithelial tissue
d. Neural tissue
e. Muscular tissue

163. Histone protein synthesis is artificially blocked in a cell. What cell structure will be damaged as a result?

a. Cell membrane
b. Nuclear membrane
c. Nucleolus
d. Golgi apparatus
e. Nuclear chromatin

164. Some diseases of large intestine lead to the changes in the quantitative ratio between mucosal epithelial cells. What cell types are normally predominant in the cryptal epithelium of the large intestine?

a. Endocrine cells
b. Ciliated columnar epithelial cells
c. Goblet cells
d. Cells with acidophilic granules
e. Poorly differentiated cells

165. Examination of a surgically excised adrenal gland shows large cells that can be impregnated with a potassium dichromate solution. What hormone is being synthesized by these cells?

a. Adrenaline
b. Secretin
c. Cholecystokinin
d. Thyroxine
e. Aldosterone

166. An inflammation can be characterized by hemocapillary dilation in the affected area, decreased blood circulation, and increased vessel wall permeability. What cells play the key role in this process?

a. Macrophages
b. Tissue basophils
c. Plasma cells
d. Fibroblasts
e. Eosinophils

167. A histological specimen demonstrates a vessel with the wall that consists of endothelium, basement membrane, and loose connective tissue. This vessel belongs to the following type:

a. Artery
b. Hemocapillary
c. Lymph capillary
d. Non-muscular vein
e. Muscular vein

168. Parenchyma of an organ is composed of pseudounipolar neurons localized under the capsule of connective tissue. Central place belongs to nerve fibers. Name this organ:

a. Nerve trunk
b. Spinal cord
c. Sympathetic ganglion
d. Intramural ganglion
e. Spinal ganglion

169. A histological specimen shows significant amount of mucous connective tissue (Wharton’s jelly), vessels, as well as remnants of yolk sac stalk and allantois. Name this organ:

a. Ureter
b. Esophagus
c. Umbilical cord
d. Urethra
e. Vermiform appendix