

1. Dysfunction of the islets of Langerhans causes a decrease in the production of certain substances.

Name these substances:

- a. Kallikrein and angiotensin
- b. Insulin and adrenaline
- c. Parathyroid hormone and cortisone
- d. Thyroxine and calcitonin

e. Glucagon and insulin

2. During removal of a carious tooth, the dental surgeon noticed a soft elastic gray-pink nodule 1.3 cm in diameter in the region of the dental root. Microscopically, the nodule consists of granulation tissue with lymphocytes, plasma cells, mast cells, macrophages, xanthome cells, and fibroblasts.

Make the diagnosis:

- a. Cystic granuloma
- b. Eosinophilic granuloma
- c. Epithelial granuloma
- d. Simple granuloma**
- e. Granulating periodontitis

3. Examination of a patient shows base metabolism increased by 50%. This change is caused by increased secretion of the following hormone:

- a. Thyroxine**
- b. Parathormone
- c. Insulin
- d. Prolactin
- e. Growth hormone

4. What hormone stimulates the inclusion of calcium into the osteoblasts of dental bone tissues?

- a. Parathyroid hormone
- b. Calcitonin**
- c. Thyroxine
- d. Insulin
- e. Cortisol

5. Alkaline phosphatase is an important enzyme contained in saliva. It belongs to the following class of enzymes:

- a. Oxidoreductases
- b. Ligases
- c. Transferases
- d. Lyases
- e. Hydrolases**

6. Analgin (metamizole) effectively relieves pulpitis-induced pain not only after its resorptive administration, but after topical administration as well. What action of this drug results in anesthetic effect in the latter case?

- a. Inhibition of P substance release
- b. Cyclooxygenase-2 inhibition**
- c. Local anesthetic effect of Analgin (Metamizole)
- d. Inhibition of algogenic kinin formation
- e. Counter-attracting action

7. Due to an accident on board a nuclear submarine, a soldier received a radiation dose of 5 Gy. He complains of headache, nausea, and vertigo. What changes in leukocyte number can be observed in this soldier after the irradiation?

- a. Eosinophilia
- b. Agranulocytosis
- c. Leukopenia
- d. Lymphocytosis
- e. Neutrophilic leukocytosis**

8. During a dental manipulation, the patient developed an angina pectoris attack. What group of drugs needs to be prescribed for the emergency aid in this case?

- a. Antiarrhythmic drugs
- b. Cardiotonics
- c. Antianginal drugs**
- d. Antihypertensive drugs
- e. Respiratory stimulants

9. Erythrocyte needs energy in the form of ATP for its vital functions. What process supplies erythrocytes with necessary amount of ATP?

- a. beta-oxidation of fatty acids
- b. Aerobic oxidation of glucose
- c. Pentose phosphate pathway
- d. Anaerobic glycolysis**
- e. Tricarboxylic acid cycle

10. A sick child has gingivitis caused by anaerobic infection. The child needs to be prescribed an antimicrobial drug that belongs to the following class:

- a. Sulfonamides
- b. Polymyxins
- c. Nitroimidazoles**
- d. Nitrofurans
- e. Aminoglycosides

11. Due to severe pain syndrome a patient has been prescribed a narcotic analgesic. Specify the prescribed drug:

- a. Dimexid
- b. Analgin (Metamizole)
- c. Indometacin
- d. Nimesulid
- e. Morphine**

12. Ultrasound of a 1.5-year-old child showed a non-union of the foramen ovale. Where in the heart is this anatomic structure located?

- a. Interatrial septum**
- b. Left ventricular wall
- c. -
- d. Right ventricular wall
- e. Interventricular septum

13. A 24-year-old man died of acute cardiopulmonary failure. During the last two days he complained of a cough with a small amount of <<rusty>> sputum, chest pain on the right that intensified sharply during breathing, and a fever of 39°C. Autopsy of the body revealed red, dense, and airless lower pulmonary lobes; the pleura is covered in fibrin threads and membranes. The deceased was diagnosed with bilateral pleuropneumonia of the lower pulmonary lobes. What stage of pneumonia was most likely in this man?

- a. Resolution
- b. Gray hepatization
- c. Red hepatization**
- d. -
- e. Congestion

14. In an experiment, a test animal had a part of its brain destroyed, which caused the animal to change from a homeothermic to a poikilothermic state. What part of the brain was destroyed in this case?

- a. Mesencephalon
- b. Pituitary
- c. Hypothalamus**

- d. Pineal gland
- e. Medulla oblongata

15. Electric current has affected skeletal muscle fiber resulting in depolarization of the membrane. Depolarization develops due to the following ions penetrating the membrane:

- a. Ca^{2+}
- b. Cl^-
- c. K^+
- d. Na^+**
- e. HCO_3^{-}

16. The levels of Ca^{2+} ions in the blood decreased as a result of a special diet, which will in turn cause increased secretion of a certain hormone. Name this hormone.

- a. Somatotropin
- b. Thyrocalcitonin
- c. Parathormone**
- d. Vasopressin
- e. Thyroxine

17. After a mechanical injury a tourniquet was applied to the patient's arm to stop the bleeding. Below the tourniquet the arm became pale and numb. This condition is caused by:

- a. Angiospastic ischemia
- b. Thrombosis
- c. Venous congestion
- d. Compression ischemia**
- e. Obstruction ischemia

18. Erythrocytes of a person with fourth blood group (genotype IAIB) contain both antigen A controlled by allele IA and antigen B that is the product of allele IB expression. What type of gene interaction is demonstrated by this phenomenon?

- a. Polymer
- b. Codominance**
- c. Semidominance
- d. Epistasis
- e. Complementarity

19. The process of aging in humans is associated with decreased synthesis and secretion of pancreatic juice and its lower trypsin content. It results in disturbed breakdown of:

- a. Lipids
- b. Phospholipids
- c. Nucleic acids
- d. Polysaccharides
- e. Proteins**

20. A patient with glossitis presents with disappearance of lingual papillae, reddening and burning pain in the tongue. Blood test: erythrocytes - $2.2 \cdot 10^{12}/\text{l}$, hemoglobin - 103 g/l, color index - 1.4. What type of anemia is it?

- a. B₁₂ folate-deficiency**
- b. Iron deficiency
- c. alpha-thalassemia
- d. Iron refractory
- e. beta-thalassemia

21. A child was born with numerous maldevelopments: cleft lip and palate, microphthalmia, syndactyly, heart and kidney diseases. The child died at the age of one month. The child's karyotype was 47, 13+. What type of mutation caused this condition?

- a. Trisomy**
- b. Translocation
- c. Inversion

- d. Duplication
- e. Polyploidy

22. During a neck surgery, the patient's sternothyroid muscle was damaged by the surgeon. What function will be impaired because of the damage to this muscle?

- a. Bending the neck forwards
- b. Lowering of the larynx**
- c. Neck extension
- d. Raising of the hyoid bone
- e. Raising of the larynx

23. In the body of a female Anopheles mosquito, the malaria Plasmodium reproduces via copulation (a type of sexual process). What type of host is this insect for malaria Plasmodium?

- a. Additional
- b. Reservoir
- c. Intermediate
- d. Optional
- e. Definitive**

24. After a cold the patient developed impaired perception of pain and thermal stimuli in the front 2/3 of the tongue. What nerve was damaged in this case?

- a. Hypoglossal
- b. Trigeminal**
- c. Chorda tympani
- d. Phrenic
- e. Vagus

25. A patient with a hemorrhage into the anterior hypothalamus developed polyuria. What hormone is in this case insufficient, leading to the decreased water reabsorption in the renal tubules?

- a. Adrenaline
- b. Oxytocin
- c. Aldosterone
- d. Calcitonin
- e. Vasopressin**

26. Phenylketonuria has autosomal recessive pattern of inheritance. What parental genotypes result in the risk of phenylketonuria in their children?

- a. AA x AA
- b. Aa x Aa**
- c. AA x aa
- d. AA x Aa
- e. aa x aa

27. It is necessary to decrease pumping ability of the patient's heart. What membrane cytoreceptors must be blocked to achieve this effect?

- a. Nicotinic acetylcholine receptors
- b. beta-adrenergic receptors**
- c. Muscarinic acetylcholine receptors
- d. alpha- and beta-adrenergic receptors
- e. alpha-adrenergic receptors

28. Laboratory analysis confirmed the patient's diagnosis of gout. What analysis was conducted to make this diagnosis?

- a. Measuring urine creatinine levels
- b. Measuring urine ammonia levels
- c. Measuring urea levels in the blood and urine
- d. Measuring uric acid levels in the blood and urine**
- e. Measuring residual nitrogen in the blood

29. Examination of histological specimen of oral mucosa reveals non-keratinized stratified squamous epithelium with lymphocyte infiltrations. What structure of oral cavity is the most likely to be represented by this mucosa specimen?

- a. Tonsil
- b. Gums
- c. Hard palate
- d. Lip
- e. Cheek

30. Urinalysis shows glucosuria in a patient with diabetes mellitus. What is the renal threshold for glucose?

- a. 1.0 mmol/L
- b. 15.5 mmol/L
- c. 5.55 mmol/L
- d. 20.0 mmol/L
- e. 8.88 mmol/L

31. A 5-year-old child has suffered a helminthic invasion, which resulted in sensitization of the body. What parameters of the leukogram can confirm this process?

- a. Decreased basophil count
- b. Increased neutrophil count
- c. Increased eosinophil count
- d. Increased basophil count
- e. Decreased eosinophil count

32. Because of chondrodysplasia (cartilage maldevelopment), fibrocartilage was damaged. Where can pathologic changes be observed in this case?

- a. Intervertebral disks
- b. Trachea
- c. Larynx
- d. Auricle
- e. Bronchi

33. To examine the fundus of the eye, a mydriatic was instilled into the patient's conjunctival sac. This mydriatic does not interfere with the process of eye accommodation. Name this drug.

- a. Mesaton (Phenylephrine)
- b. Atropine
- c. Homatropine
- d. Tropicamide
- e. Platiphylline

34. A man came to a dentist with complaints of pain during chewing and moving the jaw forward.

What masticatory muscles are inflamed in this case?

- a. M.m. pterigoidei mediales
- b. M.m. buccalis
- c. M.m. temporales
- d. M.m. pterigoidei laterales
- e. -

35. A 12-year-old child complains of difficulty breathing through the nose. Examination revealed that this condition had been caused by persistent hypertrophy of the lymphoid tissue. What tonsil is likely to be enlarged in this case, as indicated by these pathological changes?

- a. Lingual tonsil
- b. Palatine tonsil
- c. Pharyngeal tonsil
- d. Right tubal tonsil
- e. Left tubal tonsil

36. A child presents with delayed mental development, delayed growth and formation of the teeth,

late development of ossification foci, and low basal metabolic rate. What endocrine gland is functionally insufficient, causing this condition?

- a. Neurohypophysis
- b. Pancreas
- c. Gonads
- d. Adrenal glands
- e. Thyroid gland**

37. Mother of a 2-year-old child with delayed physical and mental development has made an appointment with the genetic consultation. What method allows the doctor to rule out chromosomal abnormalities?

- a. Genealogical
- b. Biochemical
- c. Population statistics
- d. Cytological
- e. Cytogenetic**

38. After an insulin injection, a patient with diabetes mellitus developed unconsciousness and convulsions. What result will be shown by the biochemical test for blood sugar in this case?

- a. 8.0 mmol/L
- b. 10.0 mmol/L
- c. 5.5 mmol/L
- d. 1.5 mmol/L**
- e. 3.3 mmol/L

39. During preventive examination a man presents with enlarged thyroid gland, exophthalmia, body temperature of 37.3°C , tachycardia, and trembling fingers. What pathology of the thyroid gland did the patient develop?

- a. Thyroid adenoma
- b. Myxedema
- c. Endemic goiter
- d. Sporadic cretinism
- e. Graves' disease**

40. A patient suffers from disturbed blood supply of superior lateral surface of the cerebral hemispheres. What blood vessel is damaged?

- a. Posterior communicating artery
- b. Posterior cerebral artery
- c. Medial cerebral artery**
- d. Anterior cerebral artery
- e. Anterior communicating artery

41. Degenerative changes resulted in formation of mineralized foci in the tongue pulp. Some of these foci contain canaliculi. Name these formations:

- a. Fibrous bodies
- b. Denticles**
- c. Ossification patches
- d. Cement
- e. Bone tissue

42. What property is not characteristic of low molecular weight heparins, such as enoxaparin, fraxiparine (nadroparin calcium), etc.?

- a. Antiplatelet and anticoagulant activity
- b. Injected subcutaneously 1-2 times a day
- c. No inhibitory effect on thrombin**
- d. Bioavailability is higher than that of heparin
- e. An increase in the inhibitory effect of antithrombin III on factor Xa

43. In an adult person, mitosis is not observed in certain cells throughout life and the quantity of DNA

in them remains constant. What are these cells called?

- a. Endothelial cells
- b. Hematopoietic cells
- c. Epidermal cells
- d. Neurons**
- e. Smooth muscle cell

44. A hospitalized person needs catheterization of the subclavian vein. In what topographical anatomical region must the puncture be performed for this purpose?

- a. Trigonum caroticum
- b. Trigonum omotracheale
- c. Spatium antescalenum**
- d. Incisura jugularis
- e. Spatium interscalenum

45. A 23-year-old man with a cerebrocranial trauma was hospitalized in a severe condition. His respiration has a characteristically labored spasmodic inspiration that does not stop and only rarely is interrupted by an expiration. What type of respiration is it characteristic of?

- a. Gasping respiration
- b. Biot respiration
- c. Cheyne-Stokes respiration
- d. Kussmaul respiration
- e. Apneustic respiration**

46. A patient had an angina pectoris attack during a visit to the dentist. What drug must be used in this case?

- a. Verapamil
- b. Nitrosorbide (Isosorbide dinitrate)
- c. No-Spa (Drotaverine)
- d. Propranolol
- e. Nitroglycerin**

47. A patient has chronic multiple bronchiectasis complicated with severe nephropathy with massive edematous syndrome. Laboratory tests detect marked proteinuria, cylindruria, significant decrease of the serum protein levels, hyperlipidemia, hypokalemia, and other abnormalities. Name the primary and the most significant pathogenetic link of edema development in this patient:

- a. Blocked lymphatic efflux
- b. Increase of hydrostatic blood pressure
- c. Decrease of oncotic blood pressure**
- d. Increase of extracellular fluid pressure
- e. Increased microvascular permeability

48. After the water supply system had been put into operation in a new residential area, the medical officers of sanitary and epidemiological station measured total microbial number in the water. Name the maximum permissible value of this indicator for potable water:

- a. 400
- b. 1000
- c. 10
- d. 100**
- e. 500

49. After a traffic accident a man presents with severe blood loss, consciousness disturbance, low blood pressure, as well as compensatory activation of the renin-angiotensin system, which results in:

- a. Increased blood coagulation
- b. Hyperproduction of vasopressin
- c. Intensification of erythropoiesis
- d. Intensification of heart contractions
- e. Hyperproduction of aldosterone**

50. During chest X-ray, a patient was diagnosed with a diaphragmatic hernia, located in the posterior mediastinum. At what weak point of the diaphragm was this hernia formed?

- a. Medial and lateral arcuate ligaments
- b. Sternocostal triangle
- c. Opening of the inferior vena cava
- d. Lumbocostal triangle**
- e. Central tendon of the diaphragm

51. A boy has blood group I ($I^A I^B$), while his sister has blood group IV ($I^A I^B$). What blood groups do their parents have?

- a. II ($I^A I^B$) and III ($I^A I^B$)**
- b. I ($I^A I^B$) and III ($I^A I^B$)
- c. II ($I^A I^A$) and III ($I^A I^B$)
- d. III ($I^A I^B$) and IV ($I^A I^B$)
- e. I ($I^A I^B$) and IV ($I^A I^B$)

52. A woman with a deep wound on her leg was brought into the trauma department. She received the injury three days ago. What drug must be used to prevent tetanus in this case?

- a. Antibiotics
- b. DPT vaccine
- c. Diphtheria and tetanus toxoids
- d. Antitetanic serum**
- e. BCG vaccine

53. Blood serum of the patient has milky appearance. Biochemical analysis revealed high content of triacylglycerols and chylomicrons. This condition is caused by hereditary defect of the following enzyme:

- a. Lipoprotein lipase**
- b. Phosphodiesterase
- c. Phospholipase
- d. Adipose tissue hormone-sensitive lipase
- e. Pancreatic lipase

54. The cessation of postpartum hemorrhage is associated with the effect of oxytocin on the uterine wall. What uterine membrane responds to this substance?

- a. Parametrium
- b. Perimetrium
- c. Myometrium**
- d. Endometrium
- e. Submucosa

55. Lately, the laboratory diagnostics of hepatitis B includes detecting the presence of viral DNA in the patient's blood. What reaction is used to determine it?

- a. Indirect hemagglutination reaction
- b. Polymerase chain reaction**
- c. Complement fixation reaction
- d. Enzyme-linked immunosorbent assay
- e. Hemagglutination inhibition reaction

56. Iron is released in the process of hemoglobin catabolism. Then, as a part of a special transport protein, it arrives into the bone marrow and is used again for hemoglobin synthesis. Name this transport protein:

- a. Ceruloplasmin
- b. Haptoglobin
- c. Transferrin**
- d. Albumin
- e. Transcobalamin

57. A 30-year-old patient hospitalized with diagnosis of acute glomerulonephritis presents with

proteinuria. What disturbance has caused this phenomenon?

- a. Increased permeability of glomerular membrane
- b. Increased hydrostatic pressure on the capillary walls
- c. Delayed excretion of nitrogen metabolism products
- d. Decreased oncotic blood pressure
- e. Decreased number of functional nephrons

58. A patient has received a trauma to the calvaria. What sinuses are likely to be damaged?

- a. Inferior sagittal sinus
- b. Sigmoid sinus
- c. Superior petrosal sinus
- d. Superior sagittal sinus
- e. Inferior petrosal sinus

59. A patient was diagnosed with xeroderma pigmentosum that manifested in skin keratinization, eye damage, and dilation of capillaries. In this disease, prolonged exposure to UV radiation results in skin tumors. What exogenous factor will significantly aggravate the condition of a patient with this diagnosis?

- a. Ultrasound
- b. Overexposure to cold
- c. Light
- d. High temperature
- e. High humidity

60. The patient's blood pressure was measured by auscultation of the vascular sounds. What is the name of the researcher who proposed this method of blood pressure measuring?

- a. Riva-Rocci
- b. Ludwig
- c. Korotkov
- d. Siechenov
- e. Goltz

61. The pediatrician examines a one-year-old child. The child has 4 teeth in the oral cavity. How many milk teeth should the child have at this age?

- a. 10
- b. 8
- c. 12
- d. 14
- e. 20

62. A 25-year-old man has lost all sensitivity due to damage of his peripheral nerves. Name this disorder:

- a. Ataxia
- b. -
- c. Hypoesthesia
- d. Anesthesia
- e. Hyperesthesia

63. A 25-year-old young man complains of general weakness, rapid fatigability, irritability, reduced working ability, and bleeding gums. What vitamin deficiency is the most likely cause of this condition?

- a. Riboflavin
- b. Folic acid
- c. Ascorbic acid
- d. Thiamine
- e. Retinol

64. Cells of basal layer of epidermis were damaged due to exposure to radiation. What function of epidermis will be impaired or inhibited first?

- a. Dielectric

- b. Protective
- c. Regenerative

- d. Barrier
- e. Absorption

65. An older person presents with changes in the force of cardiac contractions and in the physical properties of the vasculature, which is clearly visible in the graphic recording of the pulse waves over the carotid artery. What examination method was used?

- a. Rheography
- b. Phlebography
- c. Sphygmography

- d. Plethysmography
- e. Myography

66. A 65-year-old man came to the general physician. He complains of dyspnea during even slight physical exertion, cyanotic skin, and leg edemas. Prescribe him a cardiac glycoside for treatment of chronic heart failure:

- a. Panangin (potassium aspartate and magnesium aspartate)
- b. Methyluracil
- c. Digoxin

- d. Heparin
- e. Metoprolol

67. In an experiment, the common bile duct of a test animal was diverted outwards. What digestive processes become disturbed as a result?

- a. Water absorption
- b. Hydrolysis and absorption of proteins
- c. Hydrolysis and absorption of fats

- d. Hydrolysis and absorption of carbohydrates
- e. Hydrolysis and absorption of fats, proteins, and carbohydrates

68. A histological specimen shows cells that form isogenous groups. There are glycoproteins, proteoglycans, and collagen fibers in the intercellular substance. What tissue is it?

- a. Mucous tissue
- b. Cartilaginous tissue

- c. White adipose tissue
- d. Bone tissue
- e. Brown adipose tissue

69. Lysozyme is a hydrolyzing enzyme that provides protective function of saliva. Its antibacterial properties are based on its ability to break the structural integrity of a bacterial cell wall by inducing hydrolysis of the following:

- a. Glycosidic bonds of mucopolysaccharides
- b. Ester bonds of lipids
- c. Cell wall antigens and endotoxins
- d. Glycosidic bonds of nitrogen bases and pentoses
- e. Peptide bonds of proteins

70. Examination of the oral cavity detects enamel damage in the form of isolated and multiple erosions of various shapes and varying in color from yellow-brown to black. The teeth are fragile, some of them are destroyed. What disease corresponds with such pathological changes?

- a. Deep caries
- b. Median caries
- c. Dental erosions
- d. Enamel atrophy

- e. Fluorosis

71. A man has a malignant lingual tumor. The surgeon ligates his A) Lingualis in the area of the Pirogov triangle. In this case, special attention should be paid to the:

- a. N. hypoglossus**
- b. N. lingualis
- c. Ansa cervicalis
- d. N. sublingualis
- e. N. glossopharyngeus

72. A patient with peptic ulcer disease of the stomach is prescribed a drug that blocks histamine H₂ receptors. Select this drug from the list:

- a. Atropine sulfate
- b. Bisacodyl
- c. Famotidine**
- d. Dithylin (Suxamethonium)
- e. Omeprazole

73. A patient diagnosed with gout has a significant increase in the levels of uric acid in the blood. Uric acid is the end product of the metabolism of:

- a. Purine bases**
- b. Fatty acids
- c. Globulins
- d. Triglycerides
- e. Albumins

74. A 40-year-old woman after installation of artificial crowns on her upper incisors eventually developed a brownish gingival enlargement on the vestibular surface. The enlargement covers the crowns and is 15 mm in diameter. Open biopsy results: under the stratified squamous epithelium of the gums there is a neoplasm consisting of connective tissue with numerous sinusoid vessels, oval mononuclear cells that form osteoid substance, and multinucleated giant cells that destroy the maxillary alveolar ridge. Make the diagnosis:

- a. Gingival fibromatosis
- b. Eosinophilic granuloma
- c. Fibromatous epulis
- d. Angiomatous epulis
- e. Giant-cell epulis**

75. A scar made up of connective tissue has formed at the site of a healed wound. What substance is the main component of this type of connective tissue?

- a. Keratan sulfate
- b. Chondroitin sulfate
- c. Collagen**
- d. Elastin
- e. Hyaluronic acid

76. On examination a woman was diagnosed with a retropharyngeal abscess. What cervical space should be accessed by the surgeon lancing this abscess?

- a. Retrovisceral space**
- b. Suprasternal space
- c. Previsceral space
- d. Prescalene space
- e. Interscalene space

77. The patient is in the state of cardiogenic shock, he needs to be given a non-glycoside cardiotonic drug. What will be the drug of choice in this case?

- a. Ethimizol
- b. Amrinone
- c. Cordiamin (Nikethamide)
- d. Dobutamine**
- e. Caffeine

78. A person complains that lifting the lower jaw is problematic because of an incised wound in the

area of the gonial angle. What muscle is likely to be damaged in this case?

- a. M. pterigoideus lateralis
- b. M. masseter**
- c. M. orbicularis oris
- d. M. temporalis
- e. M. pterigoideus medialis

79. Examination of a hematopoietic organ reveals lobules formed by a lymphoid tissue with stroma that consists of epithelioreticular cells. What organ is being studied?

- a. Red bone marrow
- b. Thymus**
- c. Lymph node
- d. Spleen
- e. Palatine tonsil

80. Mother of a newborn has made an appointment with a neonatologist. The neonatologist determined that the child has brain maldevelopments. What has likely been damaged in the process of embryonic development?

- a. Mesoderm
- b. Ectoderm**
- c. Mesenchyme
- d. Endoderm
- e. -

81. A patient presents with disturbed blood supply to the medial surface of the right cerebral hemisphere. What artery is damaged in this case?

- a. A. communicans posterior
- b. A. cerebri anterior**
- c. A. cerebri posterior
- d. A. cerebri media
- e. A. chorioidea

82. During a visit to the dentist, the patient developed bronchospasm. What medicine must be used in this case?

- a. Salbutamol**
- b. Anaprilin (Propranolol)
- c. Naphthyzin (Naphazoline)
- d. Atenolol
- e. Analgin (Metamizole)

83. Patients with ischemic heart disease are prescribed small doses of aspirin that inhibits the synthesis of platelet aggregation activator thromboxane A2. What substance is thromboxane A2 made of?

- a. Acetic acid
- b. Malonic acid
- c. Homogentisic acid
- d. Glutamic acid
- e. Arachidonic acid**

84. In Western Europe nearly half of all congenital malformations occur in the children conceived in the period, when pesticides were used extensively in the region. Those congenital conditions result from the following influence:

- a. Mechanical
- b. Malignization
- c. Mutagenic
- d. Carcinogenic
- e. Teratogenic**

85. A patient is diagnosed with pneumonia of mycoplasmal etiology. What antibiotics, based on their

mechanism of action, \textbf{SHOULD NOT} be used in the course of the treatment?

- a. Antibiotics that disturb the permeability of cytoplasmic membrane
- b. Antibiotics that disturb the protein synthesis
- c. Antibiotics that inhibit the synthesis of cell wall components**
- d. Antibiotics that disturb oxidative phosphorylation processes
- e. Antibiotics that disturb the synthesis of nucleic acids

86. During experiment, the myotome was destroyed in the rabbit fetus. This manipulation will result in malformation of the following structure:

- a. Dermal connective tissue
- b. Smooth muscles
- c. Axial skeleton
- d. Serous membranes
- e. Skeletal muscles**

87. A woman presents with edemas. In her urine there is a large amount of protein excreted. What nephron segment is functionally disturbed in this case?

- a. Ascending limb of loop of Henle
- b. Descending limb of loop of Henle
- c. Distal convoluted tubule
- d. Proximal convoluted tubule

e. Renal corpuscle

88. An autopsy of a person with malaria shows markedly icteric skin, sclerae, and mucosal tunics. The spleen is enlarged and colored slate-gray. Such color of the spleen is caused by the presence of:

- a. Hemosiderin
- b. Hemomelanin (hemozoin)**
- c. Hematoporphyrin
- d. Melanin
- e. Lipofuscin

89. In an experiment, ribosomes were destroyed in polychromatophilic erythroblasts of human red bone marrow. In this case, the synthesis of a certain specific protein will be disturbed. Name this protein.

- a. Fibrinogen
- b. Elastin
- c. Globin**
- d. Collagen
- e. Laminin

90. A woman is diagnosed with Turner's syndrome (karyotype 45, X0). How many autosomal pairs would her somatic cells contain?

- a. 22**
- b. 44
- c. 24
- d. 45
- e. 23

91. A patient diagnosed with chronic renal failure developed anorexia, dyspepsia, heart rhythm disturbances, and skin itching. What is the main mechanism of development of these disorders?

- a. Changes in carbohydrate metabolism
- b. Water-electrolyte imbalance
- c. Accumulation of nitrogen metabolism products in the blood**
- d. Lipid metabolism disorders
- e. Renal acidosis

92. A patient has an open facial wound with overhanging edges. He presents with tissue necrosis accompanied by a gradual partial gangrenous process that almost reaches the bone tissue. Live larvae were detected in the wound during a thorough examination. The patient was diagnosed with

tissue myiasis, caused by larvae of a certain Diptera species. Name this species.

- a. *Wohlfahrtia magnifica*
- b. *Phlebotomus pappataci*
- c. *Stomoxys calcitrans*
- d. *Musca domestica*
- e. *Glossina palpalis*

93. During examination of a child's oral cavity a dentist noted the appearance of the first permanent molars on the child's lower jaw. How old is the child?

- a. 8-9
- b. 10-11
- c. **6-7**
- d. 12-13
- e. 4-5

94. A surgeon must amputate the damaged part of the patient's foot along the line of Lisfranc joint.

What ligament must be cut in this case?

- a. Talocalcaneal ligament
- b. Talonavicular ligament
- c. Calcaneonavicular ligament
- d. Bifurcated ligament
- e. **Medial interosseous tarsometatarsal ligament**

95. Due to trauma the patient's parathyroid glands have been removed, which resulted in inertness, thirst, sharp increase of neuromuscular excitability. Metabolism of the following substance is disturbed:

- a. Chlorine
- b. Zinc
- c. Molybdenum
- d. Manganese
- e. **Calcium**

96. Formation of a large amount of immunoglobulins with various antigen specificity from a small number of genes occurs due to:

- a. Replication
- b. Translocation
- c. **Recombination**
- d. Deletion
- e. Transcription

97. A patient with thrombophlebitis was prescribed an indirect anticoagulant syncoumar. Specify the time interval, after which the maximum anticoagulant effect should be expected.

- a. 12-24 hours
- b. 5-10 minutes
- c. 3-6 hours
- d. 6-12 hours
- e. **24-72 hours**

98. A 3-year-old child was given strawberries. Soon after that, rashes appeared on the child's skin. What changes will be detected in the child's leukogram in this case?

- a. Neutrophilic leukocytosis
- b. Monocytosis
- c. Lymphocytosis
- d. Lymphocytopenia
- e. **Eosinophilia**

99. After a family quarrel, a 70-year-old man was hospitalized with the diagnosis of ischemic heart disease, preinfarction state. What substance can cause a coronary angospasm in the patient?

- a. Nitrous oxide

- b. Adenosine
 - c. Prostacyclin
 - d. Potassium ions
- e. Thromboxane A2

100. When preparing a dental plaque smear and staining it according to the Gram method, a student during microscopy detected there various violet and pink microorganisms. What structural component of microorganisms causes different response to stains?

- a. Outer membrane
- b. Cytoplasm
- c. Internal periplasmic space
- d. Cytoplasmic membrane

e. Cell wall

101. Neutrophils were detected in the histoslides of connective tissue. What function do these cells perform when they migrate from the blood to the tissues?

- a. Support function
- b. Blood vessel dilation
- c. Regulation of contraction of smooth myocytes
- d. Trophic function

e. Phagocytosis of microorganisms

102. A dental patient was prescribed a psychosedative for his fear of pain. What drug would be the most effective in this case?

- a. Diazepam
- b. Lithium carbonate
- c. Aminazine
- d. Sodium bromide
- e. Valerian tincture

103. In the surgical department, dressing material was being sterilized in an autoclave. Because of nurse's oversight, the sterilization regimen was disturbed and temperature in the autoclave chamber reached only 100°C instead of required 120°C) What microorganisms could remain viable under such conditions?

- a. Bacilli and clostridia
- b. Corynebacteria and mycobacteria
- c. Salmonellae and klebsiellae
- d. Mold and yeast-like fungi
- e. Staphylococci and streptococci

104. Prolonged taking of large doses of aspirin (acetylsalicylic acid) leads to inhibition of prostaglandin synthesis because of decreased activity of the following enzyme:

- a. Peroxidase
 - b. Phosphodiesterase
 - c. 5-Lipoxygenase
- d. Cyclooxygenase
- e. Phospholipase A2

105. Blood test for diabetes mellitus shows lactic acid levels of 2.5 mmol/L. What complication is it?

- a. Hyperglycemic coma
- b. Lactacidemic coma
- c. Hyperketonemic coma
 - d. Hypoglycemic coma
 - e. Hyperosmolar coma

106. A patient with parodontosis was prescribed a fat-soluble vitamin that actively participates in redox processes in the organism. This antioxidant is a growth factor, has antixerophthalmic action, and contributes to maintenance of normal vision. In dental practice it is used to accelerate mucosal re-epithelialization during parodontosis. Name this substance:

- a. Tocopherol acetate
- b. Ergocalciferol
- c. Menadione (Vicasolum)
- d. Retinol acetate**
- e. Cyanocobalamin

107. A patient suffering from acute bronchitis with difficult expectoration was prescribed acetylcysteine. What drug action will provide curative effect?

- a. Reflex stimulation of bronchiolar peristalsis
- b. Mucoproteins depolymerization**
- c. Stimulation of the bronchial glands
- d. Alkalization of sputum
- e. Activation of bronchial ciliated epithelium

108. Specify the concentration of ethyl alcohol that has the most active antimicrobial action in a protein-containing medium:

- a. 70%**
- b. 96%
- c. 60%
- d. 15%
- e. 40%

109. What is the mechanism of ESR acceleration in pregnant women?

- a. Increased fibrinogen levels**
- b. Increased erythrocyte count
- c. Increased albumin levels
- d. Increased blood volume
- e. Intensified function of the bone marrow

110. A man came to a doctor with complaints of excessive thirst (polydipsia) and frequent urination with a large amount of urine (polyuria). The patient's history states that 4 weeks ago he was diagnosed with necrosis of the posterior lobe of the pituitary gland caused by a craniocerebral injury. What pathology is observed in the patient?

- a. Cushing disease
- b. Diabetes insipidus**
- c. Cushing syndrome
- d. Acromegaly
- e. Diabetes mellitus

111. During examination of the oral cavity, a dentist detected a carious cavity in the lower second premolar. The cavity is located on the crown surface that faces the first premolar. What surface of the dental crown is affected in this case?

- a. Facies vestibularis
- b. Facies occlusalis
- c. Facies mesialis**
- d. Facies distalis
- e. Facies lingualis

112. What diuretic will produce no effect in a patient with Addison disease?

- a. Furosemide
- b. Ethacrynic acid
- c. Triamterene
- d. Hydrochlorothiazide
- e. Spironolactone**

113. A victim of a traffic accident has lost thoracic respiration but retains diaphragmal. The spinal cord is most likely to be damaged at:

- a. I-II sacral segments
- b. XI-XII cervical segments

c. I-II cervical segments

d. I-II lumbar segments

e. VI-VII cervical segments

114. An excessive bone tissue loss is often observed in older people, which indicates osteoporosis development. What bone tissue cells are activated, resulting in the development of this disease?

a. Osteocytes

b. Osteoblasts

c. Macrophages

d. Osteoclasts

e. Tissue basophils

115. Microscopy of an extracted tooth shows decreased count and size of odontoblasts and other cells of the dental pulp, with characteristically sclerotic connective tissue that makes up the pulp. What general pathology can be suspected in the dental pulp?

a. Reticular atrophy of the pulp

b. Hyalinosis

c. Amyloidosis

d. Pulpal hyperplasia

e. Fatty degeneration

116. What organelles carry out the process of digestion and excretion of the remains?

a. Lysosomes

b. Golgi complex

c. Centrosome

d. Ribosomes

e. Mitochondria

117. In diabetes mellitus, the levels of ketone bodies in the blood increase, causing metabolic acidosis. From what substance are ketone bodies synthesized?

a. Propionyl-CoA

b. Methylmalonyl-CoA

c. Acetyl-CoA

d. Succinyl-CoA

e. Malonyl-CoA

118. Fluorination is one of the main methods for improvement of enamel resistance. The mechanism of fluorine anti-caries action is based on:

a. -

b. Tooth demineralization

c. Chlorapatite synthesis

d. Hydroxyapatite synthesis

e. Fluorapatite synthesis

119. A certain enzyme transports functional groups from one substrate to another. What is the class of this enzyme?

a. Hydrolase

b. Transferase

c. Ligase

d. Oxidoreductase

e. Isomerase

120. A man with a cardiovascular pathology presents with overproduction of angiotensin II. What enzyme takes part in angiotensin II synthesis?

a. Kallikrein

b. Urokinase

c. Kininase

d. Angiotensin converting enzyme

e. Cyclooxygenase

121. A worker of a cattle farm is brought to the surgeon with fever up to 40°C, headache, weakness. Objective examination of his back revealed hyperemia and a dark red infiltration up to 5 cm in diameter with black bottom in its center, which was surrounded with pustules. What disease are these presentations typical of?

- a. Furuncle
- b. Plague
- c. Anthrax
- d. Abscess
- e. Tularemia

122. A 40-year-old patient has been diagnosed with herpetic stomatitis. What antiviral drug should be prescribed in this case?

- a. Phthalazol (Phthalylsulfathiazole)
- b. Oxacillin sodium
- c. Tinidazole
- d. Acyclovir
- e. Para-aminosalicylic acid

123. Autopsy of a 46-year-old man, who had untreated enteric infection and died of sepsis, revealed the following: perirectal phlegmon, multiple ulcers of the rectum and sigmoid colon, some of which are perforated; mucosa of these intestinal segments is thickened and covered with firmly attached grayish films. What is the most likely disease in this case?

- a. Cholera
- b. Amebiasis
- c. Typhoid fever
- d. Tuberculosis
- e. Dysentery

124. A 52-year-old man was diagnosed with systemic amebiasis that affects intestine, liver, and lungs. What drug should be administered in this case?

- a. Chingamin (Chloroquine)
- b. Enteroseptol
- c. Tetracycline
- d. Metronidazole
- e. Chiniofon

125. People with diseases of internal organs often assume forced positions (e.g. with lower limbs flexed and pressed to the abdomen) due to the following reflex response:

- a. Visceromotor
- b. Dermatovisceral
- c. Motor-visceral
- d. Viscero-visceral
- e. Viscerodermal

126. Histology of the internal organs of a deceased woman, who in life was diagnosed with systemic collagenosis, revealed widespread vascular damage in the form of mucoid and fibrinoid swelling, fibrinoid necrosis of arteriolar walls, and perivascular lymphoplasmacytic infiltrations. What type of inflammation can be characterized by these symptoms?

- a. Acute immune inflammation
- b. Interstitial diffuse inflammation
- c. Granulomatous inflammation
- d. Chronic immune inflammation
- e. -

127. The costal margin is an important topographic landmark of the human body. It is formed by the cartilage of the following vertebrae:

- a. Only 12
- b. From 7 to 10

- c. From 11 to 12
- d. From 1 to 7
- e. From 1 to 12

128. Due to sustained trauma the patient presents with unevenly dilated pupils (anisocoria). What muscle is blocked?

- a. Musculus rectus superior
- b. Musculus sphincter pupillae**
- c. Musculus ciliaris
- d. Musculus rectus lateralis
- e. Musculus rectus inferior

129. A patient complaining of polydipsia, polyphagia, and polyuria excretes glucose with urine. What disease can be suspected?

- a. Addison disease
- b. Acromegalia
- c. Diabetes insipidus
- d. Insulinoma
- e. Diabetes mellitus**

130. In tuboorbititis, tympanic membrane retraction occurs. The handle of one of the auditory ossicles, connected to the tympanic membrane, becomes more horizontal. In such cases, the doctor needs to determine the position of the following bone during the examination:

- a. Malleus**
- b. Squama os temporale
- c. Stapes
- d. Processus mastoideus
- e. Incus

131. A patient was diagnosed with a monogenic hereditary disease. Name this disease:

- a. Poliomyelitis
- b. Hymenolepiasis
- c. Hemophilia**
- d. Peptic ulcer disease of the stomach
- e. Hypertension

132. A man underwent a surgery for acute abdomen. His urine is brown, with indican levels over 93 mmol per 24 hours. What can be estimated based on urine indican levels?

- a. Oxidative deamination rate in aromatic amino acids
- b. Protein putrefaction rate in the intestine**
- c. Renal filtration ability
- d. Ammonia neutralization rate
- e. Decreased activity of ornithine cycle enzymes

133. A person died of potassium cyanide poisoning. The death of this person was caused by a compound formed by cyanide and a certain other substance. Name this substance.

- a. Riboflavin
- b. ATP
- c. tRNA
- d. DNA
- e. Cytochrome**

134. A surgeon accidentally damaged a nerve that innervates mylohyoid muscle. Name this nerve:

- a. N. trigeminus**
- b. N. hypoglossus
- c. N. accessorius
- d. N. glossopharyngeus
- e. N. facialis

135. According to the data collected by WHO researchers, every year there are approximately 250 million malaria cases occur in the world. This disease can be encountered predominantly in tropical and subtropical areas. The spread of this disease matches the natural habitat of the following genus of mosquitoes:

- a. Culex
- b. Mansonia
- c. Aedes
- d. Culiseta
- e. Anopheles

136. What hormone has a marked anti-inflammatory, antiallergic, and immunosuppressive effect?

- a. Somatotropin
- b. Adrenaline
- c. Thyroxine
- d. Aldosterone
- e. Hydrocortisone

137. Mother of a 4-year-old child complains that the child developed elevated body temperature, tenesmus, diarrhea, and abdominal pain attacks. The child attends a preschool facility. Laboratory analysis detected mucus and blood admixtures in the child's feces. Name the changes that occur in the gastrointestinal tract during dysentery:

- a. Gastritis
- b. Colitis
- c. Enteritis
- d. Enterocolitis
- e. Gastroenteritis

138. What internal organ plays the largest role in the humoral regulation of erythropoiesis?

- a. Pancreas
- b. Liver
- c. Lungs
- d. Gastrointestinal tract
- e. Kidneys

139. A patient died of a cardiopulmonary insufficiency. His heart is enlarged, the wall of his right ventricle is thickened on section, and the cavity is dilated. Characterize the pathological process:

- a. Atrophy
- b. Metaplasia
- c. Hypertrophy
- d. Sclerosis
- e. Hyperplasia

140. In the periodontal tissues, electron microscopy detects fibers, one end of which is embedded into the cementum of the dental root, while the other is embedded into the periosteum of the alveolar process. Name these fibers.

- a. Korff fibers
- b. Argyrophilic fibers
- c. Sharpey fibers
- d. Purkinje fibers
- e. Ebner fibers

141. During microscopy of an embryo material, a yolk sac is visible in the microslide. What is the main function of this organ in the human body?

- a. Excretory
- b. Protective
- c. Amniotic fluid production
- d. Trophic
- e. Hemopoietic

142. Bacteria that enter the body are being phagocytized by macrophages. What is the role of macrophages in cooperation of immunocompetent cells during the first phase of immune response?

- a. Produce immunoglobulins
- b. Activate T killer cells
- c. Activate NK cells
- d. Ensure antigen processing and presentation to T killer cells
- e. Ensure antigen processing and presentation to T helper cells**

143. After the extraction of the second upper molar, the patient developed bleeding from the tooth socket. What vessel is damaged in this case, causing the bleeding?

- a. Aa. alveolares superiores posteriores**
- b. A) palatina descendens
- c. Aa. alveolares superiores anteriores
- d. A) infraorbitalis
- e. A) alveolaris inferior

144. What microflora predominates at the beginning of dental plaque formation on the tooth surface?

- a. Leptotrichia
- b. Streptococci, Veillonella**
- c. Obligate anaerobes
- d. Fusobacteria
- e. Bacteroids, Candida

145. During an appointment with the dentist, a patient developed a bronchial asthma attack. What does this patient need to be prescribed to terminate the bronchospasm?

- a. Methacin (Metocinum iodide)
- b. Benzohexonium (Hexamethonium bromide)
- c. Anaprilin (Propranolol)
- d. Droperidol
- e. Salbutamol**

146. When divers quickly rise from the depths to the surface, they risk developing decompression sickness that can result in death caused by gas embolism. What gas is produced in this case?

- a. NO₂
- b. O₂
- c. N₂**
- d. CO
- e. CO₂

147. To determine functional state of the patient's liver, the analysis of animal indican excreted with urine was conducted. This substance is produced in the process of detoxification of putrefaction products of a certain amino acid, which takes place in the large intestine. Name this amino acid:

- a. Glycine
- b. Tryptophan**
- c. Cysteine
- d. Valine
- e. Serine

148. Among organic substances of a cell there is a polymer composed of dozens, hundreds, and thousands of monomers. This molecule is capable of self-reproduction and can be an information carrier. X-ray structure analysis shows this molecule to consist of two complementary spiral threads. Name this compound:

- a. Carbohydrate
- b. DNA**
- c. RNA
- d. Hormone
- e. Cellulose

149. A patient with trauma has an epidural hematoma in the temporal region. What artery was

damaged?

- a. Posterior communicating artery
- b. Anterior meningeal artery
- c. Middle meningeal artery
- d. Medial cerebral artery
- e. Anterior cerebral artery

150. A Gram-negative mobile bacillus was obtained from a patient, provisionally diagnosed with typhoid fever. The obtained culture was inoculated onto semiliquid Hiss media for identification. What phenomenon signifies the microbial breakdown of carbohydrates into acid?

- a. Gas formation
- b. Liquefaction of the medium
- c. Nutrient medium becomes turbid
- d. Precipitation
- e. Indicator changes its color

151. Fetal malformations can be caused by such maternal diseases as rubella, syphilis, toxoplasmosis, cytomegaly, herpes, and chlamydiosis. These malformations belong to the following type of variability:

- a. Modification
- b. Mutational
- c. Epimutational
- d. Combinative
- e. Genomic imprinting

152. Premature excitation that occurs in the ventricular myocardium:

- a. Increases the automaticity of the sinoatrial node
- b. Reduces the speed of excitation conduction through working cardiomyocytes
- c. Increases the speed of excitation conduction through working cardiomyocytes
- d. Has no effect on the automaticity of the sinoatrial node
- e. Reduces the automaticity of the sinoatrial node

153. A man is waiting to be invited into the dentist's office. While waiting, he developed palpitations caused by nervousness. What heart rate is normal for a healthy adult?

- a. 150-160/min.
- b. 90-110/min.
- c. 110-120/min.
- d. 60-80/min.
- e. 40-60/min.

154. The terminal segments of apocrine sweat glands contain myoepithelial cells. What is the function of these cells?

- a. Protective function
- b. Secretory function
- c. Supporting function
- d. Regenerative function
- e. Contractile function

155. The investigation of the imprints obtained from the epidermal ridges on the fingers (dactyloscopy) is used by criminologists to identify people, as well as for diagnostics of a number of genetic anomalies, e.g., Down syndrome. What skin layer determines the uniqueness of the imprints?

- a. Translucent layer
- b. Basal layer
- c. Papillary layer
- d. Reticular layer
- e. Cornified layer

156. During a surgery, a patient with acute appendicitis developed a cardiac arrest. What signs are characteristic of clinical death?

- a. Rapid respiration, weak heart sounds
- b. No respiration, thready pulse
- c. Apneustic respiration, no cardiac activity
- d. Kussmaul respiration, no cardiac activity
- e. No respiration, no cardiac activity

157. A 63-year-old man was diagnosed with deep vein thrombophlebitis of the lower leg. What layer of these vessels is damaged in this case?

- a. Connective tissue layer
- b. Endothelial layer
- c. Subendothelial layer
- d. Layer of smooth muscle cells
- e. Layer of elastic fibers

158. A microslide shows a section of a bean-shaped organ with cortical and medullary substances. Its cortical substance contains separate spheric nodules 0.5-1 mm in diameter; its medullary substance consists of medullary cords. This histological section demonstrates the following organ:

- a. Kidney
- b. Adrenal gland
- c. Spleen
- d. Lymph node
- e. Thymus

159. After a craniocerebral injury, a 45-year-old woman was diagnosed with superior orbital fissure syndrome (Rochon-Duvigneaud syndrome). It is a complex of symptoms resulting from damage to certain pairs of cranial nerves that pass through the fissure of the same name. What pairs of nerves are affected in this case?

- a. N. oculomotorius, n. trochlearis, n. abducens, r. ophthalmicus n. trigemini
- b. N. vagus, n. accessorius, n. hypoglossus
- c. N. olfactorius, n. opticus
- d. N. facialis, n. trochlearis, n. abducens
- e. N. vestibulocochlearis, n. glossopharyngeus

160. Examination detects a fracture of the lateral forearm bone in its middle third. What part of what forearm bone is injured in this case?

- a. Diaphysis of the radius
- b. Epiphysis of the radius
- c. Metaphysis of the ulna
- d. Diaphysis of the ulna
- e. Epiphysis of the ulna

161. A 3-year-old child presents with facial deformation that was gradually developing over the course of 6 months and manifests as symmetrical enlargement of both mandibular angles. Microscopy shows the space between the bone trabeculae to be filled with connective tissue that contains numerous blood vessels and smaller primitive bone trabeculae. What disease is the most likely in this case?

- a. Osteosarcoma
- b. Cherubism
- c. Eosinophilic granuloma
- d. Fibroma
- e. Giant-cell tumor of the bone

162. Macroscopic examination of lung tissue revealed areas of high airiness with small bubbles. Histological examination revealed thinning and rupture of alveolar septa accompanied by formation of large diversiform cavities. What disease was revealed in the lung?

- a. Multiple bronchiectasis
- b. Pulmonary emphysema
- c. Cavernous tuberculosis

- d. Chronic bronchitis
- e. Fibrosing alveolitis

163. A patient with syphilis developed pale spots on the skin of his neck. What disturbance of pigment metabolism is it?

- a. Melanoderma
- b. Porphyria
- c. Leukoderma
- d. Xeroderma
- e. Lentigo

164. Serological diagnostics of infectious diseases is based on specific interaction between antibodies and antigens. When an antigen is sedimented from a solution, using an immune serum and an electrolyte, this reaction is called:

- a. Hemadsorption reaction
- b. Complement binding reaction
- c. Precipitation reaction
- d. Neutralization reaction
- e. -

165. An acute blood loss has caused a decrease in the systemic blood pressure. This situation can be stabilized with the intensified secretion of a certain hormone. Name this hormone:

- a. Gastrin
- b. Glucagon
- c. Renin
- d. Testosterone
- e. Insulin

166. Fatigability of masticatory muscles can result in their abnormally slow relaxation, which impairs mechanical processing of food. Name this condition:

- a. Galvanization
- b. Galvanism
- c. Hypodynamia
- d. Tetanus
- e. Contracture

167. What nitrate drug would you recommend to a patient with ischemic heart disease for prevention of angina pectoris attacks?

- a. Nitroglycerine
- b. Isosorbide mononitrate
- c. Lisinopril
- d. Lovastatin
- e. Menthol

168. A microslide shows a blood vessel. Its tunica intima is represented by endothelium and subendothelium. Its tunica media is represented by bundles of smooth myocytes, interlayered with loose fibrous connective tissue. Its tunica externa is well-developed and formed by loose connective tissue with separate smooth myocytes. What vessel has such morphological characteristics?

- a. Mixed type artery
- b. Nonmuscular vein
- c. Elastic artery
- d. Muscular vein
- e. Muscular artery

169. A bacteriological laboratory conducts the analysis of potable water quality. Microbial number of the water sample is approximately 100. What microorganisms were accounted for in this case?

- a. Enteropathogenic bacteria and viruses
- b. Human and animal pathogenic bacteria
- c. Opportunistic pathogenic bacteria

- d. All bacteria that have grown on a nutrient medium
- e. Colibacilli

170. After entering the body, bacteria undergo phagocytosis by macrophages. What role do macrophages play in the cooperation of immunocompetent cells at the first stage of immune response formation?

- a. They activate T-killers
- b. They process antigens and present them to T-helpers
- c. They process antigens and present them to T-killers
- d. They activate NK-cells
- e. They produce immunoglobulins

171. A patient with chronic hypoacid gastritis has hypochromic anemia. Blood smear test revealed codocytes (target cells), microanisocytosis, and poikilocytosis. What type of anemia is observed in the patient?

- a. Acute posthemorrhagic anemia
- b. Pernicious anemia
- c. Thalassemia
- d. Iron deficiency anemia
- e. Sickle cell anemia

172. A man with mandibular sarcoma presents with metaplasia in his biopsy material. Describe this phenomenon:

- a. Cells lose their ability to differentiate
- b. Intensified mitosis of tumor cells
- c. Tumor cells revert to their normal condition
- d. Tumor progression
- e. Tumor tissue assumes the properties of other tissue

173. An 18-year-old man came to a doctor with complaints of a facial deformity. Examination detected a tumor-like formation on his lower jaw. Microscopy revealed that the thickened area of this formation consists of large homogeneous cells, such as histiocytes, and a large number of eosinophils. Horizontal resorption of the patient's interdental septa is observed. What tumor-like disease can be characterized by this histological presentation?

- a. Cherubism
- b. Giant cell epulis
- c. Eosinophilic granuloma
- d. Fibromatous epulis
- e. Fibrous dysplasia

174. A patient with dislocated jaw was given a short-acting muscle relaxant by a doctor. Name this drug:

- a. Procaine
- b. Papaverine hydrochloride
- c. Cytitonum (Cytisine)
- d. Pyridostigmine hydrobromide
- e. Dithylinum (Suxamethonium chloride)

175. During a sea trip, a man developed signs of motion sickness: pallor, sweating, dizziness, nausea, rapid breathing, and decreased blood pressure. What causes this condition in this case?

- a. Overstimulation of the visceroreceptors in the abdominal cavity
- b. Discoordination between the visual and motor systems
- c. Activation of the sympathetic part of the autonomic nervous system
- d. Overstimulation of the vestibular apparatus
- e. Activation of the parasympathetic part of the autonomic nervous system

176. Vitamin D₃ in the human body undergoes a number of biochemical transformations with formation of its most bioactive derivative - calcitriol. What hormone is needed to activate the enzymatic reactions of oxidative hydroxylation of this vitamin in the kidneys?

- a. Calcitonin
- b. Cortisol
- c. Thyroxine
- d. Aldosterone
- e. Parathyroid hormone

177. Microslide of a CNS organ impregnated with silver shows piriform cells. The cells are aligned in a row, 3-4 cellular processes branch off from the apices of the cells. These processes branch out further and form nearly two-dimensional layers. Name these cells:

- a. Dogiel cells
- b. Golgi cells
- c. Martinotti cells
- d. Betz cells
- e. Purkinje cells

178. The patient's ECG shows a shortened R-R interval. How will the cardiac activity change as the result?

- a. Force of cardiac contractions will decrease
- b. Frequency of cardiac contractions will increase
- c. Frequency of cardiac contractions will decrease
- d. Frequency and force of cardiac contractions will decrease
- e. Force of cardiac contractions will increase

179. A patient diagnosed with oral candidiasis was prescribed an antifungal drug. What drug was chosen for this patient?

- a. Biseptol (Co-trimoxazole)
- b. Levomycetin (Chloramphenicol)
- c. Ampicillin
- d. Fluconazole
- e. Erythromycin