1. A child has been hospitalized with the diagnosis of staphylococcal sepsis. What nutrient medium should be used for inoculation of the patient's blood to isolate the pathogen?

a. Meat-peptone agar

b. Sugar-peptone broth

c. Buchin nutrient medium

d. Bile-salt agar

e. Ploskirev nutrient medium

2. After introdiction of adrenaline the patient's blood glucose level increased. It is caused by intensified:

a. Glycogen synthesis

b. Glycogenolysis in the liver

c. Glycolysis in the liver

d. Glycogenolysis in the muscles

e. Glycolysis in the skeletal muscles

3. A man came to the virology laboratory of an infectious diseases hospital. He needs to be examined for HIV infection. What methods of laboratory diagnostics for HIV infection and AIDS are currently used in Ukraine?

a. Serological

b. Biological

c. Bacteriological

d. Allergological

e. Virological

4. A patient loses his equilibrium, when in an upright position with his eyes closed. What brain structures are the most likely to be damaged in this patient?

a. Limbic system

b. Precentral gyrus of the cerebral cortex

c. Basal ganglia

d. Thalamus

e. Cerebellum

5. Longitudinal tooth section shoes a tissue that makes up the tooth basis and consists of collagen fibers, mineralized matrix, and tubules that hold dentinal fibers. This tissue develops from:

a. Internal cells of enamel organ

b. Dental saccule

c. External cells of enamel organ

d. Intermediate cells of enamel organ

e. Peripheral part of dental papilla

6. An inoculation of pus, obtained from a furuncle, revealed spheric microorganisms arranged in ''grape clusters''. What microbes were detected?

a. Tetracocci

b. Streptococci

c. Diplococci

d. Micrococci

e. Staphylococci

7. The presence of an allosteric center is a structural feature of regulatory enzymes. What is its role?

a. Promotes the coenzyme dissociation

b. Binds the regulatory effector

c. Binds the substrate

d. Binds the coenzyme

e. Changes the structure of the substrate

8. In an experiment on a dog, the role of adrenal glands in the thermoregulation processes was studied. What adrenal hormone constricts the blood vessels, reducing the heat emission?

a. Corticosterone

b. Androgens
c. Cortisone
d. Adrenaline
e. Estrogens

9. 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. Glutamic acid
b. Arachidonic acid
c. Malonic acid
d. Acetic acid
e. Homogentisic acid

10. A 59-year-old man has signs of parenchymal jaundice and portal hypertension. Histology of the puncture biopsy material, obtained from the patient's liver, shows the following: disturbed lobar and trabecular structure, signs of fatty degeneration in a portion of hepatocytes, formation of porto-portal connective tissue septa with pseudolobules and periportal lympho-macrophageal infiltrations. Make the diagnosis:
a. Alcoholic hepatitis
b. Hepatic cirrhosis
c. Viral hepatitis
d. Chronic hepatosis
e. Toxic dystrophy

11. A diver that submerged to the depth of 75 meters detected signs of CNS functional disturbance: excitation, lapse of concentration, euphoria leading to professional errors. What substance has toxic effect on the neurons, thus leading to the development of these signs?
a. Ammonia
b. Nitrogen
c. Oxygen
d. Lactate
e. Carbon dioxide

12. A 60-year-old man with heart failure developed hypoxia. What type of hypoxia is primary in this case?
a. Circulatory hypoxia
b. Tissue hypoxia
c. Respiratory hypoxia
d. Hemic hypoxia
e. Hypoxic hypoxia

13. Broad-spectrum antibiotics can cause various complications, including intestinal candidiasis. What drug is used for treatment of this complication?
a. Amphotericin B
b. Gramicidin
c. Undecyne
d. Nystatin
e. Griseofulvin

14. To treat osteomyelitis, a patient was prescribed an antibiotic that easily penetrates into bone tissue. Name this drug:
a. Polymyxin B
b. Cefazolin
c. Streptomycin sulfate
d. Amphotericin B
e. Lincomycin hydrochloride

15. During a surgery on the oral diaphragm, a surgeon needs to locate an area that is called a

''submandibular triangle''. What muscle bounds this area?

a. M. hyoglossus

b. M. digastricus

c. M. geniohyoideus

d. -

e. M. stylohyoideus

16. A 2-year-old child with a history of URTI, who died with signs of cardiopulmonary failure, has hyperemic right lung. In segments 2, 6, and 10 on the surface and on section there are irregular-shaped yellow airless foci, with their size varying from several millimeters to 1 cm. Microscopy shows that in these portions of pulmonary tissue the alveoli, bronchioles, and small bronchi contain exudate with predominance of neutrophils. What is the most likely diagnosis?

a. Focal pneumonia

b. Interstitial pneumonia

c. Pulmonary abscess

d. Croupous pneumonia

e. Acute bronchitis

17. In human population some people throughout their life develop not two but three dentitions. It is the manifestation of the following law:

a. Independent assortment

b. Embryonic induction

c. Homologous series of genetic variation

d. Hardy-Weinberg principle

e. Biogenetic law (recapitulation theory)

18. A 10-day-old child has undergone a surgery to repair cleft upper lip (''hare-lip''). Cleft upper lip has resulted from the following in this case:

a. Nonclosure of the second pharyngeal arch

b. Nonclosure of palatine tori of maxillary processes of the first pharyngeal arch

c. Nonclosure of maxillary and mandibular processes of the first pharyngeal arch

d. Nonclosure of frontal and maxillary processes of the first pharyngeal arch

e. Nonclosure of the third pharyngeal arch

19. A patient who died of chronic kidney disease has dull pericardial layers with thin fiber-like gray deposits. What pathologic process is observed in the pericardium?

a. Serous inflammation

b. Fibrinous inflammation

c. Suppurative inflammation

d. Proliferative inflammation

e. Catarrhal inflammation

20. The patient's caries was complicated by pulpitis accompanied by unbearable pain. What is the main cause of such pain in cases of pulp inflammation?

a. Proliferation

b. Ischemia

c. Leukocyte emigration

d. Primary alteration

e. Exudation

21. Examination shows that tooth 47 touches a deep defect in the patient's buccal mucosa. The margins of the defect are dense and clear, the floor of the defect is gray. Microscopy of the biopsy material obtained from the wall of the defect detected a purulent exudate on the floor of the defect. Under the exudate there is an area of necrotized tissue with underlying granulation tissue that transforms into mature fibrous tissue. What pathology has developed in the patient's cheek?

a. Acute ulcer

b. Cancer

c. Acute erosion

d. Chronic ulcer
e. Chronic erosion

22. 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. 110-120/min.
b. 90-110/min.
c. 60-80/min.
d. 40-60/min.
e. 150-160/min.

23. Oral cavity examination reveals gingival retraction with exposed roots and cervices of the lower incisors. X-ray shows osteoporotic foci in the alveolar bone; smooth resorption of the bone tissue is prevalent. Microscopy of gingival tissues shows sclerosis and hyalinosis of the microvasculature, accompanied by luminal obliteration; the capillary network is reduced; connective tissue undergoes dystrophic changes. What pathological process was detected?
a. Parodontosis
b. Parodontitis
c. Periostitis
d. Periodontitis
e. Osteomyelitis

24. A man was immunized with a recombinant vaccine against hepatitis B) What serological marker was detected in the patient's blood serum?
a. HBs antigen
b. Anti-HBs IgG
c. HBe antigen
d. Anti-HBc IgM
e. Viral DNA

25. Miners' work at the coal-face often leads to development of anthracosis. What type of respiratory failure arises along with this disease?
a. Thoracic
b. Restrictive
c. Dysregulatory
d. Diaphragmatic
e. Obstructive

26. Tyrosine is used as a substrate in thyroxine synthesis. What chemical element takes part in this process?
a. Iron
b. Zinc
c. Copper
d. Iodine
e. Calcium

27. A certain embryonic organ is being studied. In this organ the first blood corpuscles that make up blood as a tissue are being formed. Name this organ:
a. Red bone marrow
b. Yolk sac
c. Thymus
d. Spleen
e. Liver

28. Autopsy of a patient, who died of heart failure, shows yellow spots and streaks in the the aortic and coronary intima, as well as gray-yellow plaque, protruding from the intima surface. The plaque is focally ulcerated and presents with hemorrhages, thrombi, and calcified foci. Such vascular alterations are characteristic of:
a. Atherosclerosis

b. Periarteritis nodosa
c. Syphilitic mesaortitis
d. -
e. Essential hypertension

29. On tooth section in the area of the root apex there is a tissue consisting of cells with processes surrounded by mineralized intercellular substance. Name this tissue:
a. Periodontium
b. Reticulofibrous bone tissue
c. Mantle dentin
d. Cellular cement
e. Enamel

30. A man after a traffic accident was brought in a severe condition to the intensive care unit. The patient's condition can be described as a severe pathologic process accompanied by exhaustion of vital functions that brings the body to the brink of death due to critical decrease of capillary circulation in the affected organs. Name the patient's condition:
a. Collapse
b. Preagony
c. Coma
d. Shock
e. Agony

31. A 38-year-old patient complains of a constant joint pain. Laboratory studies detect increased levels of proline and oxyproline in the patient's urine, which indicates problems with the metabolism of the following compound:
a. Collagen
b. Chondroitin sulfate
c. Hyaluronic acid
d. Heparin
e. Elastin

32. Gastroscopy of a patient revealed the lack of mucus in the coating of the mucous membrane. This can be caused by the dysfunction of the following cells of the gastric wall:
a. Parietal cells of gastric glands
b. Cervical cells
c. Main exocrinocytes
d. Cells of prismatic glandular epithelium
e. Endocrinocytes

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

34. A 36-year-old man was hospitalized into the infectious diseases hospital with profuse diarrhea, signs of exicosis, and low body temperature. He died of uremia. Autopsy revealed a colorless liquid resembling rice water in the lumen of the small intestine; mucosa is edematous. Microscopy of the small intestine shows plethoric vessels, focal hemorrhages, enterocyte desquamation, hypersecretion of goblet cells, and lympholeukocytic infiltration of mucosal stroma. Make the diagnosis:
a. Cholera
b. Crohn disease
c. Salmonellosis
d. Dysentery

e. Typhoid fever

35. A 25-year-old patient has been hospitalized with complaints of headache, purulent discharge from the nasal cavity, and difficulty breathing through the nose. X-ray revealed inflammation in the region of the right maxillary sinus. Into which nasal meatus will the pathological fluid be discharged in this case?

a. Right middle nasal meatus

b. Right common nasal meatus

c. Right superior nasal meatus

d. Right supreme nasal meatus

e. Right inferior nasal meatus

36. A patient was delivered into a hospital with the provisional diagnosis of botulism. What serological reaction should be used for detection of botulinum toxin in the material being analyzed?

a. Complement fixation reaction

b. Neutralization reaction

c. Immunofluorescence reaction

d. Agglutination reaction

e. Precipitation reaction

37. Differentiation of B-lymphocytes into plasma cells leads to synthesis of immunoglobulins that ensure specific immune response of the body. Differentiation of B-lymphocytes takes place in the following organ of immune system:

a. Thymus

b. Red bone marrow

c. Liver

d. Tonsils

e. Thyroid gland

38. Disturbed endoderm differentiation was detected in an embryo material. This process can lead to developmental changes in the following organs:

a. Aorta

b. Stomach

c. Salivary glands

d. Kidneys

e. Heart

39. Blood stains were found on the clothes of a person accused of murder. What reaction can prove that it is human blood?

a. Immunofluorescence assay

b. Agglutination test

c. Neutralization reaction

d. Precipitation reaction

e. Complement fixation test

40. The course of complete starvation consists of three stages. What is characteristic of the third (terminal) stage of starvation?

a. Increased formation of ketone bodies in the liver

b. Development of non-gaseous acidosis

c. Intensified protein catabolism in muscles and gluconeogenesis in the liver

d. Increased breakdown of proteins in vital organs

e. Activation of lipolysis in adipose tissue

41. A 12-year-old girl has an ulcer 5 mm in diameter at the bottom of her oral cavity. The ulcer is surrounded with a bright red tissue that pales when pressed. An ulcer biopsy was performed. Microscopy revealed a tumor composed of numerous blood-filled cavities. The cavities are lined with a single layer of endothelial cells. Between them there is stroma, made up of loose connective tissue. What type of tumor can be characterized by such clinical and laboratory findings?

a. Giant cell tumor of bone

b. Rhabdomyosarcoma with secondary changes
c. Non-keratinizing squamous cell carcinoma
d. Ulcerated melanoblastoma
e. Ulcerated cavernous hemangioma

42. Cells of basal layer of epidermis were damaged due to exposure to radiation. What function of epidermis will be impaired or inhibited first?
a. Barrier
b. Absorption
c. Regenerative
d. Protective
e. Dielectric

43. Examination of a patient revealed increased pyruvate levels in the blood and a decrease in transketolase activity of erythrocytes. What vitamin is deficient in this case, as indicated by these biochemical parameters?
a. Tocopherol
b. Thiamine
c. Biotin
d. Folic acid
e. Retinol

44. 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. Hyperplasia
b. Metaplasia
c. Atrophy
d. Sclerosis
e. Hypertrophy

45. Glucose synthesis from non-carbohydrate components is an important biochemical process. Gluconeogenesis from amino acids occurs most actively if a diet is rich in proteins. Which amino acid of those listed below is the most glucogenic?
a. Isoleucine
b. Leucine
c. Lysine
d. Valine
e. Alanine

46. To terminate hypertensive crisis the patient was administered solution of magnesium sulfate. What route of drug administration should be chosen?
a. Oral
b. Duodenal
c. Intra-arterial
d. Intravenous
e. Rectal

47. An experiment was conducted to measure the threshold of tactile receptors stimulation with various stimuli. What stimulus will have the lowest threshold?
a. Heat stimulus
b. Cold stimulus
c. Chemical stimulus
d. Mechanical stimulus
e. Photic stimulus

48. Autopsy of a 2-year-old child, who died of meningitis, shows absence of thymus and T-dependent areas in the peripheral lymphoid tissue. What immunodeficiency syndrome can be characterized by these changes?
a. Humoral immunodeficiency syndrome

b. Secondary immunodeficiency syndrome
c. Cellular immunodeficiency syndrome
d. Deficiency syndrome of monocytic phagocytes
e. Combined immunodeficiency syndrome

49. To treat ischemic heart disease, a patient was prescribed a beta-adrenergic blocking agent. After a time he developed a cough and bronchospasm. What drug can cause these side effects?
a. Metoprolol
b. Talinolol
c. Atenolol
d. Phenihidine (Nifedipine)
e. Anaprilin (Propranolol)

50. A 35-year-old woman is diagnosed with faucial diphtheria. The patient died with signs of acute heart failure. On autopsy: heart cavities are enlarged in the diameter, heart muscle is dull, flaccid, striped on section, with yellowish areas under the endocardium. What type of degeneration was detected in cardiac hystiocytes?
a. Hyaline droplet
b. Ballooning
c. Fatty
d. Carbohydrate
e. Hydropic

51. A man uses dentures. The dentist has noticed mucosal lesions with a white coating in his oral cavity. Microscopy of the coating detected large oval Gram-positive cells. What microorganisms have caused stomatitis in the patient?
a. Oral spirochetes
b. Yeast-like fungi of Candida genus
c. Streptococci
d. Oral trichomonas
e. Actinomycetes

52. What hormone stimulates the inclusion of calcium into the osteoblasts of dental bone tissues?
a. Thyroxine
b. Calcitonin
c. Insulin
d. Cortisol
e. Parathyroid hormone

53. A 5-year-old child was diagnosed with Duchenne muscular dystrophy. The parents are healthy. The child's maternal uncle and the son of the child's maternal aunt have myopathy too. What is the type of inheritance of this disease?
a. Autosomal dominant
b. Y-linked
c. X-linked recessive
d. X-linked dominant
e. Autosomal recessive

54. A patient is undergoing a surgery for a trauma of the temporomandibular joint. An incision revealed a structure that improves the congruence of joint surfaces. Name this structure:
a. Fold
b. Ligament
c. Disc
d. Lip
e. Meniscus

55. A patient came to a dentist complaining of fever and characteristic small vesicles on the buccal, palatal, and lingual mucosa. The dentist suspects herpetic stomatitis. What additional test is necessary to confirm the diagnosis?

a. Inoculation of chick chorioallantoic membrane or brain tissue of white mice
b. Precipitation reaction
c. Inoculation on Rappaport medium
d. Inoculation on medium 199 with addition of bovine serum
e. Inoculation on Eagle medium

56. Examination of a child detected a patent foramen ovale. Where is this foramen located?
a. In the region of the mitral valve
b. Between the right atrium and right ventricle
c. Between the left and right ventricles
d. Between the left atrium and left ventricle
e. Between the left and right atria

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

58. A 2-month-old child has been diagnosed with cri-du-chat syndrome. This disease is caused by deletion of the short arm of autosome 5. What is the total number of chromosomes in this child?
a. 45
b. 23
c. 44
d. 47
e. 46

59. A certain hereditary syndrome affects teeth, hair, and bones. Each generation has affected individuals. The syndrome occurs equally frequent in men and women. What type of inheritance is it?
a. X-linked recessive
b. Autosomal dominant
c. X-linked dominant
d. Autosomal recessive
e. Y-linked

60. Ammonia is a toxic substance that is neutralized mainly in hepatic cells in the course of a certain cycle. What cycle is it?
a. Glycolysis
b. Ornithine cycle
c. Citric acid cycle
d. Glycogenolysis
e. Knoop-Linen cycle

61. A patient has aspermia. What organ is dysfunctional in this case?
a. Prostate
b. Seminal vesicles
c. Epididymis
d. Testicle
e. Bulbourethral (Cowper's) glands

62. After a collision of two cars, one of the drivers presents with a deformity in the middle third of the left shin. The driver feels extreme pain that exacerbates on attempts to move it. The ends of a broken bone protrude from the open wound, the bone is triangular on section, movements cause the bleeding to intensify. What bone was damaged?
a. Tibia
b. Patella
c. Femur

d. Fibula
e. Talus

63. A patient undergoes a surgery for a knee joint injury. The surgical incision reveals formations that improve the congruence of articular surfaces. What are these formations called?
a. Labia
b. Discs
c. Menisci
d. Ligaments
e. Folds

64. Some unicellular organisms, i.e. amoebae, feed via phagocytosis. What cells of the human body use this method not as a means of feeding, but as a defensive mechanism against foreign bodies (microorganisms, dust, etc.)?
a. Leucocytes
b. Erythrocytes
c. Epithelial cells
d. Platelets
e. Myocytes

65. A person in the state of nervous tension develops transverse wrinkles on the forehead. What muscle contracts to produce this result?
a. M. corrugator supercilii
b. M. auricularis anterior
c. M. procerus
d. M. temporoparietalis
e. M. occipitofrontalis

66. Various substances can be used as anticoagulants. Among them there is a certain naturally derived polysaccharide. Name this polysaccharide:
a. Dextran
b. Dermatan sulfate
c. Heparin
d. Chondroitin sulfate
e. Hyaluronic acid

67. What drug is a beta-lactam antibiotic?
a. Erythromycin
b. Ofloxacin
c. Biseptol (Co-trimoxazole)
d. Benzylpenicillin
e. Tetracycline

68. A patient is diagnosed with parathyroid tumor. He presents with generalized fibrous osteodystrophy and periodical renal colic attacks. US detects small nephroliths in the kidneys. What is the most likely cause of nephrolithiasis in this case?
a. Hyperuricemia
b. Hypocalcemia
c. Hypercholesterolemia
d. Hypercalcemia
e. Hyperphosphatemia

69. To model a stomach ulcer, atophan (cinchophen) had been administered into the gastric arteries of a test animal, which caused their sclerosing. What mechanism of gastric mucosa damage is leading in this experiment?
a. Neurodystrophic
b. Hypoxic
c. Neurohumoral
d. Disregulatory

e. Mechanical

70. 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. Globulins

b. Purine bases

c. Fatty acids

d. Triglycerides

e. Albumins

71. A sick child has signs of achondroplasia (dwarfism). It is known that this disease is monogenic and the gene that causes the development of this anomaly is dominant. The natural brother of this child has normal development. Genotypically, the healthy child is:

a. AaBb

b. AABB

c. AA

d. aa

e. Aa

72. Combined therapy of chronic heart failure with digitoxin and furosemide resulted in acute muscle weakness in the patient. What electrolyte imbalance can be detected in the patient's blood?

a. Hypocalcemia

b. Hyperkalemia

c. -

d. Hypercalcemia

e. Hypokalemia

73. Histology of an extracted tooth detects a lower number and reduced size of odontoblasts and pulpocytes with sclerosis of the connective tissue base of the pulp. What diagnosis is likely in this case?

a. Pulp atrophy

b. Pulp dystrophy

c. Pulp hyalinosis

d. Acute pulpitis

e. Pulp necrosis

74. After a nose trauna, a boxer developed an impaired sense of smell. What cells can cause a loss of smell, when damaged?

a. Supporting epithelial cells

b. Ciliary epithelial cells

c. Basement epithelial cells

d. Microvillous epithelial cells

e. Neurosensory epithelial cells

75. What process becomes disturbed, if salivary pH drops below 6.5?

a. Supply of hard dental tissues with mineral substances

b. Dentin formation

c. Intensity of metabolic processes in the pulp

d. -

e. Dental blood supply

76. A patient with severe poisoning caused by an unknown substance was brought into an admission room. The patient is in a state of acute cardiac insufficiency. What cardiac glycosides must be given to the patient as an emergency aid?

a. Anaprilin (Propranolol)

b. Salbutamol

c. Cordiamin (Nikethamide)

d. Naphthyzin (Naphazoline)

e. Corglycon (Convallatoxin)

77. A patient underwent a glucose tolerance test that confirmed the absence of diabetes mellitus in this person. When, after a sugar load, a healthy person will have the highest glucose levels?

a. 120 minutes
b. 150 minutes
c. 90 minutes
d. 30-60 minutes
e. 10-20 minutes

78. Spore-containing bacilli were detected in a patient with tetanus. What staining technique was used to detect them?

a. Ziehl-Neelsen stain
b. Ozheshko stain
c. Burri-Gins stain
d. Gram stain
e. Morozov stain

79. After a total gastric resection the patient developed severe B12-deficient anemia with disturbed hematopoiesis. Changed erythrocytes appeared in the patient's blood. One of the signs of this anemia is the presence of the following in blood:

a. Megalocytes
b. Microcytes
c. Anulocytes
d. Elliptocytes
e. Normocytes

80. A patient suffers from angina pectoris. What antianginal drug is this patient \textbfCONTRAINDICATED if he is allergic to iodine?

a. Nitrosorbide (Isosorbide dinitrate)
b. Amiodarone
c. Nitroglycerine
d. Verapamil
e. Drotaverine

81. A patient was diagnosed with a malignant tumor of the pineal gland. The tumor penetrates into one of the subarachnoid cisterns in the brain. To remove the tumor, a surgery must be performed in the area of the following cistern:

a. Cisterna interpeduncularis
b. Cisterna pericallosa
c. Cisterna ambiens
d. Cisterna chiasmatis
e. Cisterna quadrigeminalis

82. Examination of the oral cavity of a patient with AIDS detected deposits of gray-white caseous inflammatory films on the oral mucosa. The films consist of microorganisms mixed with fibrinopurulent exudate. What pathological process has developed in the oral cavity of this patient?

a. Oral candidiasis
b. Leukoplakia
c. Squamous cell carcinoma
d. Ulcer
e. Gingivitis

83. Oral examination revealed dark yellow and brown spots and stripes on the labial and lingual surfaces of the patent's teeth; more than the half of the dental surface is affected; enamel and dentin are destroyed. What diagnosis is the most likely?

a. Dental calculus
b. Fluorosis
c. Metastatic calcification
d. Dystrophic calcification

e. Cuneiform defect

84. 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. BCG vaccine
b. Diphtheria and tetanus toxoids
c. Antitetanic serum
d. DPT vaccine
e. Antibiotics

85. Auscultation reveals that in the patient's II intercostal space along the parasternal line on the right the II heart sound is better heard than the I heart sound. What valve produces this sound when closing?
a. Bicuspid and tricuspid valves
b. Tricuspid valve
c. Semilunar aortic valve
d. Semilunar pulmonary valve
e. Bicuspid valve

86. A patient with wrist wound started to develop an edema. At what stage of local circulatory disturbance does it usually occur?
a. Stasis
b. Prestasis
c. Arterial hyperemia
d. Arteriolar spasm
e. Venous hyperemia

87. To stimulate the labor activity of a woman, the doctor prescribed her prostaglandin E_2. What acid is used to synthesize this compound?
a. Glutamic
b. Palmitic
c. Stearic
d. Phosphatidic
e. Arachidonic

88. A 20-year-old pregnant woman has a round reddish formation with ulceration on its surface on the vestibular surface of the gums in her incisor region. Microscopy detects in this formation a similarity to a capillary hemangioma. What diagnosis is likely in this case?
a. Fibrous epulis
b. Giant cell epulis
c. Angiomatous epulis
d. Papilloma
e. Fibroma

89. It is dangerous to eat plants and mushrooms harvested along the motorways due to high risk of lead poisoning. What is the main source of lead contamination in the environment?
a. Chemical fertilizers
b. Herbicides
c. Exhaust gases
d. Sewage
e. Acid rains

90. A patient with essential hypertension has increased blood vasopressin levels. This hormone has an effect on the functioning of the following organ:
a. Kidneys
b. Lungs
c. Heart
d. Liver
e. Adrenal glands

91. In the course of experiment it is necessary to detect muscle excitation. For this purpose the following measurement should be made:

a. Mechanomyogram
b. Contraction strength
c. Contraction duration
d. Electromyogram
e. Ion concentration

92. Examination of the oral cavity revealed dark yellow and brown spots on the labial and lingual surfaces of the teeth. The spots cover more than half of the dental surface. Dentin and enamel are destroyed. What is the most likely diagnosis?

a. Fluorosis
b. Cuneiform defects
c. Deep caries
d. Caries of enamel
e. Dental erosion

93. Examination of a patient detects neck thickening, exophthalmos, fever, and a pulse of 110/min. What hormone levels must be measured in the patient's blood?

a. Cortisol
b. Sex hormones
c. Insulin
d. Thyroxine
e. Catecholamines

94. A 50-year-old patient suddenly developed headache, dizziness, and nausea. Blood pressure --- 220/110 mm Hg. After intravenous administration of a 0.1% hygronium solution, the patient's condition improved. What is the mechanism of action of this drug?

a. Angiotensin-converting enzyme blockade
b. Blockade of Ca^++ channels
c. Activation of alpha_2-adrenoceptors
d. Blockade of beta_1-adrenoceptors
e. Blockade of nicotinic acetylcholine ganglion receptors

95. 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. 12
b. 10
c. 8
d. 14
e. 20

96. A 45-year-old man with a history of left-sided croupous pneumonia died of multiple traumas received as the result of a car accident. On autopsy in the lower lobe of his left lung its posterolateral wall is attached to the chest wall with fibrous adhesions. The lobe is diminished, dense, fleshy on section, grayish-pink in color; its pieces sink, when placed in water. Histological analysis reveals diffuse excessive growth of fibrous connective tissue in these areas. Name this complication of croupous pneumonia:

a. Atelectasis
b. Abscess
c. Gangrene
d. Carneous degeneration
e. Emphysema

97. The molecules of mature mRNA in a cell are the carriers of genetic information about the sequence, in which certain amino acids must attach to each other. What is coded within the mRNA molecules?

a. Secondary structure of carbohydrates

b. Primary structure of polynucleotides
c. Primary structure of lipids
d. Primary structure of a protein
e. Primary structure of carbohydrates

98. Dopamine precursor - dioxyphenylalanine (DOPA) - is used in treatment of Parkinson's disease. This active substance is produced from the following amino acid:
a. Histidine
b. Tryptophan
c. Cysteine
d. Alanine
e. Tyrosine

99. During teeth examination on the lateral surface of the first upper molar there was detected a cone-shaped carious cavity with base oriented towards the tooth surface and apex - towards the tooth center. Softened dentin is visible at the floor of the carious cavity. Make the diagnosis:
a. Cement caries
b. Tooth erosion
c. -
d. Dentin caries
e. Enamel caries

100. Fluorination is one of the main methods for improvement of enamel resistance. The mechanism of fluorine anti-caries action is based on:
a. Hydroxyapatite synthesis
b. Tooth demineralization
c. Chlorapatite synthesis
d. -
e. Fluorapatite synthesis

101. Microscopy of an extracted tooth detected destruction of enamel and dentinoenamel junction; dentinal tubules are wide and filled with microbial masses. Odontoblastic processes are dystrophic and necrotic. There are foci of dentin demineralization. What is the most likely diagnosis?
a. Superficial caries
b. Median caries
c. Cemental caries
d. Fluorosis
e. Deep caries

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

103. A patient suffers from disturbed ocular accommodation. What muscle is damaged?
a. Musculus rectus superior
b. Musculus dilatator pupillae
c. Musculus sphincter pupillae
d. Musculus ciliaris
e. Musculus rectus inferior

104. Microphotogram made with electron microscope shows alveolar cells that compose blood-air barrier. Name this cells:
a. Clara cells (club cells)
b. Alveolar respiratory epithelial cells
c. Alveolar secretory epithelial cells

d. Alveolar macrophages
e. Villous epithelial cells

105. A 30-year-old woman complains of intense thirst and dryness of the mouth that developed after a severe emotional shock. Laboratory analysis revealed increase of the patient's blood sugar level up to 10 mmol/L. What endocrine gland is affected in the patient?
a. Gonads
b. Adrenal glands
c. Pancreas
d. Thyroid gland
e. Pineal gland

106. A patient died in the intensive care unit of multiple organ dysfunction syndrome. The patient had a history of surgery for acute purulent periostitis. Histology of necrobiopsy materials detects hyperplasia of tonsillar lymphoid tissue, diffuse neutrophil infiltration of the necrotically changed alveolar process of the jaw, regional purulent lymphadenitis, phlegmon of the soft tissues of the neck, bilateral polysegmental purulent pneumonia, splenomegaly, and irreversible changes in cardiomyocytes and epithelium of renal tubules. Postmortem bacteriology detected Staphylococcus aureus in the blood of the deceased. What type of sepsis is likely in the deceased patient?
a. Surgical
b. Cryptogenic
c. Therapeutic
d. Odontogenic
e. Tonsilogenic

107. A patient with Cushing syndrome presents with persistent hyperglycemia and glucosuria. This patient is likely to have increased production and secretion of the following hormone:
a. Thyroxine
b. Adrenaline
c. Cortisol
d. Aldosterone
e. Glucagon

108. A patient with high blood coagulability was for a long time treated with salicylates. What metabolic process risks being disturbed as a result?
a. Microsomal oxidation
b. Oxidative phosphorylation
c. Tissue respiration
d. Prostaglandin synthesis
e. Coupling between tissue respiration and oxidative phosphorylation

109. What condition can develop as a result of infusing large volumes of isotonic solutions?
a. Polycythemic hypovolemia
b. Oligocythemic hypervolemia
c. Oligocythemic hypovolemia
d. Polycythemic hypervolemia
e. Simple hypervolemia

110. After a cerebrocranial trauma during wich the cerebellar region was damaged, the patient's movements became temporally and spatially discoordinated. What pathology developed in the patient?
a. -
b. Paresis
c. Astasia
d. Abasia
e. Ataxia

111. After a prolonged isoniazid treatment, the patient developed polyneuritis, paresthesia, memory disorders, and convulsions. What is the likely mechanism of the described isoniazid side-effects?

a. Inhibition of protein synthesis
b. Para-aminobenzoic acid antagonism
c. Inhibition of RNA synthesis
d. Disruption of cell membrane synthesis
e. Inhibition of pyridoxal phosphate formation

112. A patient was diagnosed with a monogenic hereditary disease. Name this disease:
a. Hemophilia
b. Hypertension
c. Peptic ulcer disease of the stomach
d. Hymenolepiasis
e. Poliomyelitis

113. After a ride in a car, with a side window open, the driver developed facial asymmetry because of one-sided paralysis of mimic muscles. The left eye cannot be fully closed. What cranial nerve is damaged?
a. N. vagus
b. N. olfactorius
c. N. accessorius
d. N. facialis
e. N. hypoglossus

114. A man complains of varicose veins on his left leg. Venous nodes are located on the posterior surface of the shin and on the posterior and anterior surfaces of the thigh. What superficial leg veins are damaged in this patient?
a. Small saphenous vein, deep femoral vein
b. Posterior tibial vein, great saphenous vein
c. Femoral vein, great saphenous vein, small saphenous vein
d. Great saphenous vein, small saphenous vein
e. Popliteal vein, superficial saphenous vein

115. A certain enzyme transports functional groups from one substrate to another. What is the class of this enzyme?
a. Oxidoreductase
b. Hydrolase
c. Isomerase
d. Transferase
e. Ligase

116. A patient presents with high content of vasopressin (antidiuretic hormone) in the blood. What changes in the patient's diuresis will occur?
a. Natriuria
b. Oliguria
c. Anuria
d. Glycosuria
e. Polyuria

117. What receptors respond to the gas composition of the blood that enters the brain?
a. Aortic receptors
b. Nociceptors
c. Carotid sinus receptors
d. Mechanoreceptors
e. Bulbar receptors

118. 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. Hyaluronic acid
b. Chondroitin sulfate
c. Keratan sulfate

d. Collagen
e. Elastin

119. A 59-year-old man has a nervous system disorder (chorea) that manifests as involuntary rapid movements and grimacing. This nervous system disorder occurs because of damage to a certain brain structure. What structure is damaged in this case, causing this disorder?
a. Claustrum
b. Corpus striatum
c. Thalamus
d. Amygdala
e. Darkschewitsch nuclei

120. A patient presents with dysfunction of the cerebral cortex accompanied by epileptic seizures. He has been administered a biogenic amine synthetized from glutamate and responsible for central inhibition. What substance is it?
a. Dopamine
b. Histamine
c. Serotonin
d. Acetylcholine
e. \gamma-aminobutyric acid

121. A patient with malignant tumor was prescribed a narcotic analgesic to relieve the unbearable pain. What is the mechanism of analgesic action of such drugs?
a. Inhibition of histamine receptors
b. Activation of opiate receptors
c. Inhibition of cholinergic receptors
d. Activation of D2 dopamine receptors
e. Inhibition of serotonin receptors

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

123. A woman gave birth to a child with toxoplasmosis. The woman thinks that she contracted toxoplasma from her friend, who recently gave birth to a child with the same disease. A human \textbfCANNOT be infected with toxoplasma through the following route:
a. Eating unwashed vegetables
b. Drinking water, contaminated with oocytes
c. Eating undercooked meat of an infected domesticated animal
d. Contact with a sick person
e. Contact with a cat

124. A 72-year-old man with hepatocirrhosis developed hepatic coma. Its development is caused by the substances, that are being neutralized in the liver, entering into general circulation through portacaval shunts (portal hypertension syndrome) and necrosis of hepatic cells. What type of hepatic coma is characterized by these presentations?
a. Hepatocellular
b. Ketoacidotic
c. Parenchymatous
d. Mixed
e. Shunt

125. In the microslide of a human embryo obtained from a spontaneous miscarriage, an embryonic shield is visible and has two cellular layers: endoderm and ectoderm. This embryo was at the

following developmental stage:

a. Gastrulation
b. Histogenesis
c. Neurulation
d. Progenesis
e. Organogenesis

126. Microscopy of a sputum sample obtained from a patient who has been suffering from pneumonia for a week detected helminth larvae. Eosinophilia is observed in the patient's blood. What diagnosis can be suspected in this case?

a. Fasciolasis
b. Echinococcosis
c. Ascariasis
d. Taeniasis
e. Paragonimiasis

127. A patient with trigeminal neuralgia was given parenterally a non-narcotic analgesic with rapid onset and short action. This analgesic is manufactured in tablets and ampoules. What drug was the patient administered?

a. Piroxicam
b. Indometacin
c. Ibuprofen
d. Mefenamic acid
e. Analgin (Metamizole)

128. The patient, who for a long time has been keeping to an unbalanced low-protein diet, developed fatty liver infiltration. Name the substance, absence of which in the diet can lead to this condition:

a. Alanine
b. Methionine
c. Arachidonic acid
d. Biotin
e. Cholesterol

129. During ultrasound a patient with atherosclerosis was diagnosed with bilateral stenosis of the renal arteries. Specify the bioactive substance that is the key pathogenetic link in the development of arterial hypertension in this case:

a. Thyroxin
b. Vasopressin
c. Adrenaline
d. Renin
e. Cortisol

130. Examination of a tooth shows that there is a large cavity in its crown. The floor of the cavity consists of thin layer of softened dentin that separates the cavity from the pulp. What is the most likely diagnosis?

a. Superficial caries
b. Pulpitis
c. Median caries
d. Periodontitis
e. Deep caries

131. A certain antibiotic has low toxicity, relatively rarely causes side effects, and is a reserve antibiotic from the group of macrolides. Its mechanism of action consists of protein synthesis inhibition in bacterial ribosomes by inhibiting the peptide translocase enzyme. What antibiotic is it?

a. Levomycetin (Chloramphenicol)
b. Ampicillin
c. Tetracycline
d. Sisomicin

e. Azithromycin

132. The patient's salivary porphyrin concentration allowed diagnosisng him with porphyria. This disease leads to disturbed synthesis of the following compound:

a. Uric acid

b. Heme

c. Creatine

d. Phospholipids

e. Glycogen

133. What drug belongs to the pharmacotherapeutic group of angiotensin-converting enzyme inhibitors?

a. Enalapril

b. Verapamil

c. Anaprilin (Propranolol)

d. Pentamin (Azamethonium bromide)

e. Reserpine

134. A patient came to the doctor with complaints of general weakness and sleep disturbances. Objectively the patient's skin is yellow. In blood there is increased concentration of direct bilirubin and bile acids. Acholic stool is observed. What condition can be characterized by these changes?

a. Mechanical jaundice

b. Chronic cholecystitis

c. Parenchymatous jaundice

d. Hemolytic jaundice

e. Familial nonhemolytic (Gilbert's) syndrome

135. In an experiment, thymus was removed from the newborn mice. After its removal, the blood of these mice exhibited low lymphocyte count, no production of antibodies, and no rejection of foreign tissues. In the work of which system of the body thymus plays an important role?

a. Endocrine

b. Immune

c. Reproductive

d. Nervous

e. Circulatory

136. A student, who unexpectedly met his girlfriend, developed an increase in systemic arterial pressure. This pressure change was caused by the intensified realization of the following reflexes:

a. Unconditional parasympathetic

b. Conditional sympathetic

c. Conditional parasympathetic

d. Unconditional sympathetic

e. Conditional sympathetic and parasympathetic

137. Mother with a 12-year-old child came to the gastroenterologist. She complains of loss of appetite and meteorism in her child. Endoscopically the child was diagnosed with biliary dyskinesia, in the duodenal contents there were pear-shaped protozoa with two nuclei and multiple flagella. What disease is the most likely in this child?

a. Balantidiasis

b. Trichomoniasis

c. Lambliasis

d. Toxoplasmosis

e. Amebiasis

138. Various types of muscle contractions occurring in the alimentary canal of a test animal were studied and their different functional purposes were determined. It was noted that only one type of motor activity occurred in the circular and longitudinal muscles. Name this motor activity:

a. Tonic contraction of sphincters

b. Nonpropulsive segmental activity

c. Mastication
d. Pendular movements of intestine
e. Peristalsis

139. Enzyme cofactors include various derivatives of water-soluble vitamins. Which one of them is a component of aminotransferases?
a. PP
b. B1
c. B6
d. B3
e. B2

140. What organelles in muscle tissue take part in the intensive aerobic process of energy accumulation in the form of macroergic bonds of ATP?
a. Granular endoplasmic reticulum
b. Centrosome
c. Smooth endoplasmic reticulum
d. Mitochondria
e. Lysosomes

141. Histologic specimen of renal cortex shows renal corpuscle and renal tubules. It is known that reabsorption of substances occurs in the renal tubules. What nephron tissue takes part in this process?
a. Mucous tissue
b. Cartilaginous tissue
c. Reticular tissue
d. Epithelial tissue
e. Connective tissue proper

142. A patient on the 2nd day after cardiac infarction presents with acute decrease of systolic blood pressure down to 60 mm Hg with tachycardia 140/min., dyspnea, loss of consciousness. What mechanism is essential in the pathogenesis of shock developed in this case?
a. Increased myocardial excitability caused by products of necrotic disintegration
b. Decreased circulating blood volume
c. Development of anaphylactic reaction to myocardial proteins
d. Development of paroxysmal tachycardia
e. Decreased cardiac output

143. In the wall of a blood vessel there is a large number of elastic fibers in all the layers. The middle layer contains elastic fenestrated membranes. Such characteristics of the vessel wall structure are caused by the following factors:
a. Low blood flow velocity
b. High blood pressure
c. High blood flow velocity
d. Low blood pressure
e. Osmotic pressure

144. 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. Purkinje cells
b. Dogiel cells
c. Golgi cells
d. Betz cells
e. Martinotti cells

145. A 3-year-old child was hospitalized with signs of stomatitis, gingivitis, and dermatitis on the bare areas of skin. Examination determined a hereditary disorder of neutral amino acid transport in the intestine. What vitamin is deficient in this patient, causing such signs?

a. Vitamin A
b. Cobalamin
c. Niacin
d. Biotin
e. Pantothenic acid

146. 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. Endoderm
d. -
e. Mesenchyme

147. Autopsy of the body of a deceased 64-year-old woman diagnosed with tuberculosis shows a dense and enlarged spleen with multiple small gray-white foci. Microscopy detects caseous necrosis in the center of the foci, surrounded by epithelioid cells, multinucleated giant cells, lymphocytes, etc. What spleen disorder did this woman develop?
a. Sago spleen
b. Porphyry spleen
c. Miliary tuberculosis of the spleen
d. Septic spleen
e. Lardaceous spleen

148. When examining a 1-month-old child, the doctor noted open posterior fontanelle. At what age does it close, if a child develops normally?
a. In the 4th month of life
b. In the 5th month of life
c. In the 2nd year of life
d. In the 6th month of life
e. In the 2nd-3rd month of life

149. A histology slide of the heading end of an embryo at 5 weeks of gestation shows pharyngeal arches. What develops from the first pair of these structures?
a. External auditory meatus
b. Thyroid cartilage
c. Maxillary processes
d. Mandibular and maxillary processes
e. Mandibular processes

150. Examination of the patient's oral cavity shows a contact between the cutting edges of the upper and lower incisors. This type of teeth placement is characteristic of:
a. Orthogenic occlusion
b. Biprognathic occlusion
c. Closed occlusion
d. Progenia
e. Orthognathia

151. A 30-year-old patient has been diagnosed with a tumor of the body of the mandible. The tumor appeared several months ago. Macroscopically, the tumor is represented by a dense whitish tissue that destroys the jaw bone. Microscopy of the removed tumor shows that its structure consists of a network of odontogenic epithelial strands with various types of branching. What type of tumor is it?
a. Follicular ameloblastoma
b. Acanthomatous ameloblastoma
c. Plexiform ameloblastoma
d. Granular cell ameloblastoma
e. Basal cell ameloblastoma

152. A tourist, who had been to one of the Far East countries, was hospitalized into the therapeutics unit with suspected pneumonia. Examination of his sputum and feces detected there lung fluke eggs. What food products are the most likely cause of lung fluke infestation?

a. Insufficiently thermally processed beef
b. Insufficiently thermally processed eggs
c. Insufficiently thermally processed freshwater crabs
d. Insufficiently thermally processed pork
e. Raw fruits and vegetables

153. A dentist used a solution of potassium permanganate as an antiseptic. This preparation has a bactericidal effect because of:

a. Atomic oxygen
b. Manganese oxide
c. Potassium
d. Potassium oxide
e. Potassium hydroxide

154. A centrifugate of urine sample obtained from a patient with suspected renal tuberculosis was used to make a slide mount for microscopy. What method should be used to stain the slide and detect the causative agent?

a. Ziehl-Neelsen stain
b. Gram stain
c. Loeffler stain
d. Aujeszky stain
e. Burri stain

155. A patient with essential hypertension presents with circadian fluctuations in total peripheral vascular resistance to blood flow. What vessels will be the most affected in this case?

a. Arteriolovenular anastomoses
b. Arterioles
c. Capillaries
d. Veins
e. Aorta

156. Bacteriological testing of the stools of a restaurant cook, who had no clinical manifestations of a disease, resulted in growth of small colonies with a metallic sheen on bismuth-sulfite agar. What microorganisms are most likely to form these colonies?

a. Salmonella
b. Escherichia
c. Shigella
d. Streptococci
e. Staphylococci

157. A patient has been hospitalized with high nitrogen levels in the blood. What effect does nitrogen have in the human body, if its levels are high?

a. Allergic
b. Chemical
c. Narcotic
d. Physical
e. Toxic

158. A 26-year-old woman presents with skin rashes and itching after eating citrus fruits. Prescribe her a drug that is an H1-histamine receptor antagonist:

a. Menadione (Vicasolum)
b. Analgin (Metamizole)
c. Paracetamol
d. Acetylsalicylic acid
e. Dimedrol (Diphenhydramine)

159. Examination of the oral cavity shows that gingival mucosa of the upper jaw is reddish, has signs of edema, and slightly bleeds, with the damage localized primarily at the interdental areas. What diagnosis is likely in this case?

a. Local parodontitis
b. Catarrhal gingivitis
c. Parodontosis
d. Hypertrophic gingivitis
e. Ulcerative gingivitis

160. A 1.5-year-old child with signs of nitrate poisoning was brought to the admission department with persistent cyanosis, dyspnea, and convulsions. What form of hemoglobin causes these signs?

a. Oxyhemoglobin
b. Methemoglobin
c. Carboxyhemoglobin
d. Reduced hemoglobin
e. Carbhemoglobin

161. A 65-year-old patient underwent surgical removal of a patch of mucosa on the lower surface of the tongue that had a large gray-white plaque with clear contours and a rough surface that could not be scraped off. The patient's history states that he is a heavy smoker. Microscopically, the following is observed: hyperplasia, hyperkeratosis, parakeratosis, acanthosis of the stratified epithelium, lymphoplasmacytic infiltration, and fibrosis of the mucosal lamina propria. What pathology of the tongue is it?

a. Chronic candidiasis
b. Leukoplakia
c. Lupus erythematosus
d. Lichen ruber planus
e. Keratoacanthoma

162. 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. Central tendon of the diaphragm
c. Sternocostal triangle
d. Lumbocostal triangle
e. Opening of the inferior vena cava

163. A deletion of the short arm of the 5th chromosome was detected in the somatic cells of an abortive human fetus. Specify the number of autosomes in the karyotype of this organism:

a. 45
b. 47
c. 46
d. 48
e. 44

164. A woman was diagnosed with purulent stomatitis. What complete blood count finding is characteristic of this disease?

a. Monocytosis
b. Lymphocytosis
c. Thrombocytosis
d. Anemia
e. Leukocytosis

165. An inoculation of intestinal microorganisms on the Endo medium results in the growth of colonies that can be either colored or colorless. This process is based on the fermentation of a certain carbohydrate. Name this carbohydrate:

a. Maltose
b. Glucose

c. Arabinose
d. Sucrose
e. Lactose

166. To terminate a bronchial asthma attack that developed in the patient during the tooth extraction, the patient was given salbutamol. This drug belongs to the following pharmacological group:
a. Beta-2-adrenergic agonists
b. Analeptics
c. Narcotic analgesics
d. Adaptogens
e. Muscarinic agonists

167. Autopsy of a man who died of ethylene glycol poisoning revealed that his kidneys are slightly enlarged, edematic; their capsule can be easily removed. Cortical substance is broad and light gray. Medullary substance is dark red. What pathology did this man develop?
a. Acute glomerulonephritis
b. Acute tubular-interstitial nephritis
c. Necrotic nephrosis
d. Acute pyelonephritis
e. Lipoid nephrosis

168. A patient complains that even small traumas lead to persistent hemorrhages. Laboratory analysis shows disturbed blood composition, namely a low count of the following blood corpuscles:
a. Erythrocytes
b. Neutrophils
c. Monocytes
d. Lymphocytes
e. Platelets

169. A patient with electrical injury to the neck area developed pathologic fixed sideways flexion of the head towards the injured area, while the face is fixed away from the injury. What neck muscle sustained scarring?
a. Digastric muscle
b. Omohyoid muscle
c. Sternocleidomastoid muscle
d. Anterior scalene muscle
e. Trapezius muscle

170. During analysis of a blood sample, the laboratory assistant additionally noted that this sample belongs to a female patient. Such conclusion can be made based on the stuctural characteristics of certain blood corpuscles. Name this type of corpuscles:
a. Neutrophils
b. Erythrocytes
c. Lymphocytes
d. Monocytes
e. Basocytes

171. A 50-year-old man came to a hospital with complaints of memory disorders, painful sensations along the nerve trunks, decreased mental ability, circulatory disorders and dyspepsia. Anamnesis states excessive alcohol consumption. What vitamin deficiency can result in such symptoms?
a. Calciferol
b. Niacin
c. Retinol
d. Thiamine
e. Riboflavin

172. Breakdown of cyclic adenosine monophosphate (cAMP) and cyclic guanosine monophosphate (cGMP) into simple, non-cyclic nucleoside monophosphates is catalyzed by the following enzyme:

a. Adenylate cyclase
b. Glucose 6-phosphatase
c. Glycogen phosphorylase
d. Protein kinase
e. Phosphodiesterase

173. 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. No respiration, no cardiac activity
d. Kussmaul respiration, no cardiac activity
e. Apneustic respiration, no cardiac activity

174. In some Ukrainian regions, local cases of malaria were detected. What insects take part in such outbreaks?
a. Gadflies of Tabanidae family
b. Flies of Simulium genus
c. Mosquitoes of Anofeles genus
d. Flies of Ceratopogonidae family
e. Mosquitoes of Phlebotomus genus

175. To facilitate teeth mineralization in the course of caries treatment, certain substances are used. These substances are the source from which minerals are supplied to the hard dental tissues. Name these substances:
a. Sodium chloride
b. Copper sulfate
c. Magnesium sulfate
d. Potassium sulfate
e. Calcium glycerophosphate

176. On autopsy of a 69-year-old woman, who for a long time had been suffering from hypertension, the pathologist determined that both of her kidneys are dense, markedly diminished, with fine-grained surface. These changes are indicative of:
a. Dysfunctional atrophy
b. Compression atrophy
c. Senile renal atrophy
d. Hypoplasia
e. Atrophy due to inadequate blood supply

177. A patient was diagnosed with ishemic heart disease and prescribed a calcium channel blocker agent. What drug is it?
a. Carvedilol
b. Thiotriazoline
c. Amlodipine
d. Nitroglycerin
e. Eldepryl (Selegiline)

178. In certain cells of an adult person, mitosis is not observed throughout the life and the quantitative content of DNA remains constant. Name these cells.
a. Neurons
b. Hematopoietic
c. Endothelium
d. Muscle (smooth)
e. Epidermis

179. During kidney microscopy, the pathologist noticed crescent-shaped epithelial formations in the outer layer of the Bowman's capsule in 80% of the glomeruli. He concluded that such clinical presentation corresponds with:

a. Rapidly progressive extracapillary proliferative glomerulonephritis
b. Fibroplastic glomerulonephritis
c. Intracapillary proliferative glomerulonephritis
d. Intracapillary exudative glomerulonephritis
e. Extracapillary exudative glomerulonephritis

180. An odontogenic cyst, connectd to the second premolar, was removed from the patient's maxillary alveolar process. Histologically, the cystic wall is lined with stratified squamous epithelium and a hard structure resembling a rudimentary tooth is located in the cystic cavity. Make the diagnosis:
a. Radicular cyst
b. Primordial cyst
c. Teratoma
d. Dermoid cyst
e. Follicular cyst

181. A 30-year-old patient has markedly positive Wassermann reaction (++++). What infectious disease can be diagnosed, using the Wassermann reaction?
a. Brucellosis
b. Syphilis
c. Poliomyelitis
d. Influenza
e. Tuberculosis

182. A patient was prescribed oral irrigation with hydrogen peroxide solution. It belongs to the following group of antiseptics:
a. Detergents
b. Alcohols
c. Oxidants
d. Nitrofurans
e. Dyes