



**STATE NON-PROFIT ENTERPRISE
«TESTING BOARD FOR PROFESSIONAL COMPETENCE ASSESSMENT OF
HIGHER EDUCATION TRAINEES IN MEDICINE AND PHARMACY AT THE
MINISTRY OF HEALTH OF UKRAINE»**

Student ID							

Surname							

Variant 33

**TEST ITEMS
FOR THE UNIFIED STATE QUALIFICATION EXAM
STAGE 1**

**INTEGRATED TEST EXAM
KROK 1**

**specialty
«STOMATOLOGY»**

1. Excretion of a certain marker amino acid with urine reflects the rate of catabolism of collagen structures of connective tissue. What marker amino acid must be measured in biological substrates to assess the collagen metabolism?

- A. Histidine
- B. Oxyproline
- C. Methionine
- D. Phenylalanine
- E. Threonine

2. A histological section of a human embryo demonstrates a vesicle connected to the gut tube. This vesicle is a provisional organ. Primary germ cells and primary erythrocytes (megaloblasts) are located in its wall. What provisional organ is observed in this case?

- A. Amnion
- B. Umbilical cord
- C. Placenta
- D. Yolk sac
- E. Allantois

3. A 49-year-old man, who had been a heavy drinker for a long time, has been hospitalized with complaints of fatigability, pain in the right hypochondrium, loss of appetite, and itching. Examination detected the following: reduced levels of total blood protein, hypoalbuminemia, increased levels of alkaline phosphatase, an enlarged liver, and generalized edema. What is the cause of the edema development in this patient?

- A. Increased permeability of the capillary wall
- B. Reduced oncotic blood pressure
- C. Disturbed lymphatic efflux
- D. Disturbed neuroregulation of the water exchange
- E. Increased hydrostatic blood pressure

4. A patient with syphilis, while undergoing treatment with bismuth-based drugs, developed gray spots on the oral mucosa and symptoms of nephropathy. What drug is used as an antidote in cases of poisoning caused by bismuth-based drugs?

- A. Methylene blue
- B. Bemegride
- C. Unithiol
- D. Naloxone
- E. Nalorphine

5. A doctor has diagnosed the patient with damage to the hypoglossal nucleus. What part of the brain is affected by the pathological process in this case?

- A. Cerebellum
- B. Mesencephalon
- C. Pons
- D. Medulla oblongata
- E. Diencephalon

6. A doctor diagnosed a patient with meningococcal nasopharyngitis. What method of laboratory diagnostics would be a rational choice for confirmation of the diagnosis?

- A. Bacteriology
- B. Microscopy
- C. Allergy testing
- D. Biological method
- E. Serology

7. A dentist administers anesthesia in the area of the upper second molar. What nerves does the doctor anesthetize?

- A. *Rr. alveolares inferiores anteriores*
- B. *Rr. alveolares inferiores posteriores*
- C. *Rr. alveolares superiores posteriores*
- D. *Rr. alveolares superiores medii*
- E. *Rr. alveolares superiores anteriores*

8. What non-collagenous proteins belong to the organic part of periodontal bone tissue?

- A. Osteocalcin, osteonectin, osteopontin
- B. Enamelin, amelogenin
- C. Fibrinogen, prothrombin
- D. Albumins, globulins
- E. Collagen, elastin

9. What hormone increases sodium reabsorption?

- A. Aldosterone
- B. Natriuretic hormone
- C. Antidiuretic hormone
- D. Parathormone
- E. Adrenaline

10. A patient has been diagnosed with cheilosis, angular stomatitis, glossitis. What pathological condition is observed in the patient?

- A. Hypovitaminosis C
- B. Hypovitaminosis B₂
- C. Hypovitaminosis A
- D. Antioxidant deficiency
- E. Infectious stomatitis

11. When modelling inflammation of a lower limb in a test animal, the animal's body temperature and levels of antibodies and leukocytes in the blood increased. What substances have caused the development of this general response?

in the body in the course of the inflammation process?

- A. Somatomedins
- B. Mineralocorticoids
- C. Leukotrienes
- D. Glucocorticoids
- E. Interleukins

12. A 30-year-old woman has a distinct tumor-like formation in the area of her right lower premolars. This formation causes jaw deformity and is associated with destruction of a large part of the bone. On section, the tumor is red with whitish spots and cysts. Microscopy shows that the parenchyma of the tumor contains small mononuclear cells (osteoblasts) with giant multinucleated cells (osteoclasts) located among them. In some places, small bone trabeculae are visible. What is the most likely diagnosis in this case?

- A. Osteoma
- B. Osteosarcoma
- C. Ameloblastoma
- D. Osteoid osteoma
- E. Giant-cell tumor of bone

13. A patient, who for a long time had been suffering from fibrocavitary tuberculosis accompanied by general emaciation, died of cardiopulmonary failure. Histology of the autopsy material detected accumulation of yellow-brown pigment in the liver, myocardium, and skeletal muscles, indicating disturbed metabolism of a certain pigment in the patient. Name this pigment.

- A. Hemozoin
- B. Melanin
- C. Porphyrin
- D. Lipofuscin
- E. Hemosiderin

14. A 7-year-old boy developed pain and edema in the throat and a low-grade fever observed for two weeks. Examination revealed hepatosplenomegaly and enlarged lymph nodes. A virus of the *Herpesviridae* family that causes proliferation of B-lymphocytes was isolated from the patient's oropharynx. What virus has most likely caused the disease in this case?

- A. HIV
- B. Coxsackievirus A
- C. Measles virus
- D. Herpes simplex virus type 2
- E. Epstein-Barr virus

15. What adrenal hormone is synthesized with the participation of tyrosine?

- A. Aldosterone
- B. Glucagon
- C. Adrenaline
- D. Cortisol
- E. Thyroxine

16. A boy presents with abnormalities in the facial part of the skull. He has maxillary hypoplasia, a high-arched palate, and incorrect development of teeth. Using the cytogenetic method, the karyotype of 47, XY, 21+ was determined. What pathological syndrome is observed in the patient?

- A. Turner syndrome
- B. Edwards syndrome
- C. Down syndrome
- D. Klinefelter syndrome
- E. Patau syndrome

17. During absolute starvation, the process of oxidation of organic compounds is the only source of water in the body. What substance under these conditions becomes the main source of endogenous water?

- A. Proteins
- B. Fats
- C. Glycoproteins
- D. Carbohydrates
- E. Lipoproteins

18. An infectious agent was isolated from a patient with pneumonia of unknown etiology. This agent cannot reproduce on nutrient media and does not have a formed nucleus, but contains two types of nucleic acids (DNA and RNA). In this case, to which group of microorganisms does the causative agent of the disease belong?

- A. Chlamydia
- B. Mycoplasmas
- C. Viruses
- D. Prions
- E. Protozoa

19. A 40-year-old woman came to a dental surgeon with complaints of a neoplasm on the skin of her face. The neoplasm has been rapidly increasing in size over the course of the last 5 months. Objectively, the neoplasm is 0.7 cm in diameter, without clear boundaries, with uneven edges, surface, and pigmentation. Microscopy after the surgery detected the following: in the epidermis, the papillary dermis contains large cells with the nuclei of varying shape, a moderate number of mitoses, including the pathological ones, pronounced nucleoli, and a varying amount of brown pigment in the cytoplasm (negative Perls' reaction). What is the

most likely diagnosis in this case?

- A. Seborrheic keratosis
- B. Fibrous histiocytoma
- C. Melanocytic nevus
- D. Actinic lentigo
- E. Melanoma

20. A drug that activates the potassium permeability of cardiomyocyte membranes was administered into the blood of a test animal. What parameter of cardiac activity can be expected to decrease as a result?

- A. Amplitude of the QRS complex waves
- B. R wave amplitude
- C. P wave amplitude
- D. Duration of heart sounds
- E. Duration of the plateau phase of cardiomyocyte action potential

21. A 38-year-old man with a history of hepatitis, who continues to drink alcohol, developed signs of liver cirrhosis with ascites and leg edema. What changes in his blood composition became decisive in the development of edema?

- A. Hypoglobulinemia
- B. Hypokalemia
- C. Hypoalbuminemia
- D. Hypoglycemia
- E. Hypocholesterolemia

22. In a patient with chronic hepatitis, tooth extraction was complicated by prolonged bleeding. What is the cause of the hemorrhagic syndrome in this case?

- A. Intensified fibrinolysis
- B. Decreased thrombin formation
- C. Increased fibrinogen synthesis
- D. Decreased fibrin formation
- E. Increased thromboplastin formation

23. For the diagnostics of generalized herpetic infection, blood serum was studied to detect specific antibodies of a certain class. What class of antibodies indicates the acute stage of a viral infection?

- A. IgG
- B. IgD
- C. IgE
- D. IgM
- E. IgA

24. In an experiment, despiralization of the DNA molecule was disrupted in an animal cell. What processes will stop occurring in this cell?

- A. Translation
- B. Processing
- C. Repair
- D. Transcription
- E. Termination

25. A 49-year-old man presents with facial edema, significant proteinuria, hypoproteinemia, dysproteinemia, and hyperlipidemia. What pathology developed in this patient?

- A. Pyelonephritis
- B. Urolithiasis
- C. Nephrotic syndrome
- D. Cystitis
- E. Prostatitis

26. During prolonged starvation, glucocorticoid secretion increases. In the liver, glucocorticoids increase the synthesis of gluconeogenesis enzymes. What is the terminal enzyme of this process?

- A. Glucose-1-phosphatase
- B. Fructose-2,6-bisphosphatase
- C. Fructose-6-phosphatase
- D. Glucose-6-phosphatase
- E. Fructose-1,6-bisphosphatase

27. A patient has undergone appendectomy. During the postoperative period, the patient was receiving an antibiotic. After a short while, the patient developed complaints of hearing impairment. What group of antibiotics has characteristic side effects that manifest as hearing impairment and damage to the vestibular apparatus?

- A. Penicillins
- B. Macrolides
- C. Polymyxins
- D. Aminoglycosides
- E. Tetracyclines

28. Electron microscopy of a specimen revealed a round vesicle formed by a biological membrane and filled with enzymes (matrix). A dense core can be detected in the center of the matrix. Name this organelle.

- A. Peroxisome
- B. Centrosome
- C. Ribosome
- D. Proteasome
- E. Microtubule

29. A man was hospitalized after a bee sting with signs of anaphylactic shock. What medicine must be administered to this patient?

- A. Adrenaline hydrochloride
- B. Morphine hydrochloride
- C. Clotrimazole
- D. Atracurium besylate
- E. Ibuprofen

30. A patient with acute myocarditis developed clinical signs of cardiogenic shock. What pathogenetic mechanism is leading in the development of shock?

- A. Decreased diastolic blood inflow to the heart
- B. Decreased vascular tone
- C. Increased vascular tone
- D. Blood deposition in the veins
- E. Impaired pumping function of the heart

31. The process of tissue respiration is accompanied by the oxidation of organic compounds and the synthesis of macroergic molecules. In what organelles does this process take place?

- A. Ribosomes
- B. Peroxisomes
- C. Lysosomes
- D. Mitochondria
- E. Golgi complex

32. A 53-year-old man, a long time smoker, presents with a white patch 5x3 cm in size that looks like a plaque with blurry boundaries on the lateral surface of the tongue. Histology of the biopsy material obtained from the affected area allowed diagnosing significant keratinization and thickening of the mucosal epithelium and acanthosis. Under the epithelium, in the connective tissue, there is a mild infiltration consisting of lymphocytes, macrophages, and plasma cells. What type of damage to the oral mucosa is observed in this case?

- A. Leukoplakia
- B. Carcinoma in situ
- C. Erythroplakia
- D. Hyperkeratosis
- E. Keratinizing squamous cell carcinoma

33. Biogenic amines form under the effect of decarboxylase enzymes. What biogenic amine triggers the multistage regulation mechanism of *HCl* secretion in the stomach?

- A. Dopamine
- B. Glutamine
- C. Serotonin
- D. Histamine
- E. GABA

34. A woman complains of itching and

burning in the area of her external genitalia and purulent foamy discharge from them. Study of the discharge detected unicellular pear-shaped organisms with 4 flagella, an undulating membrane, and a spike at the end of the body. What pathogen was detected in this case?

- A. *Trichomonas hominis*
- B. *Toxoplasma gondii*
- C. *Entamoeba gingivalis*
- D. *Lambliia intestinalis*
- E. *Trichomonas vaginalis*

35. A first-year school student received a facial injury in the gym, resulting in bleeding from the lower lip. In this case, damage will be observed in the branches of which artery.

- A. *A. facialis*
- B. *A. maxillaris*
- C. *A. infraorbitalis*
- D. *A. linguialis*
- E. *A. alveolaris superior*

36. A patient complains of constant thirst and fatigability. The patient's 24-hour diuresis is 3-4 liters. Glucose levels in the blood are within the normal range. What hormone is deficient in this case, causing these changes in the body?

- A. Natriuretic hormone
- B. Vasopressin
- C. Insulin
- D. Glucagon
- E. Aldosterone

37. What glycosaminoglycan is the most typical in bone tissue and plays a leading role in the formation of cartilage and bone tissue?

- A. Chondroitin sulfate
- B. Keratan sulfate
- C. Heparin
- D. Dermatan sulfate
- E. Hyaluronic acid

38. What main changes in the peripheral blood are characteristic of the second stage of acute radiation sickness?

- A. Leukocytosis
- B. Monocytosis
- C. Lymphocytosis
- D. Erythrocytosis
- E. Lymphopenia

39. A patient has been hospitalized with complaints of headache, muscle pain during movement, pain during swallowing, chewing, and eye rotation, weakness,

increased body temperature, edema of the eyelids and face. According to the patient's history, he was eating pork, bought from a private seller. What type of helminthiasis is most likely in this patient?

- A. Ascariasis
- B. Trichinellosis
- C. Enterobiasis
- D. Trichuriasis
- E. Ancylostomiasis

40. Tooth section demonstrates a structure with alternating light and dark stripes, located perpendicular to its surface, and thin parallel lines of growth. What dental tissue is it?

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

41. Examination of a patient with a traumatic brain injury revealed a loss of tactile sensitivity. What part of the cerebral cortex is damaged in this case?

- A. Parietal lobe of the cerebral cortex
- B. Precentral gyrus
- C. Occipital lobe of the cerebral cortex
- D. Frontal lobe of the cerebral cortex
- E. Postcentral gyrus

42. A 25-year-old patient suddenly developed a bronchospasm at the dental office. The doctor administered salbutamol in the form of an inhalation. What is the mechanism of action of this drug?

- A. Stimulation of β_2 -adrenoceptors
- B. Blockade of phosphodiesterase
- C. Stimulation of β_1 -adrenoceptors
- D. Blockade of H_1 -histamine receptors
- E. Blockade of muscarinic acetylcholine receptors

43. Which one of the listed drugs is a monoamine reuptake inhibitor?

- A. Amitriptyline
- B. Droperidol
- C. Furosemide
- D. Amiodarone
- E. Diazepam

44. A patient diagnosed with systemic lupus erythematosus has kidney damage with nephrotic syndrome. What is the cause of this condition?

- A. Autoimmune damage to nephron glomeruli
- B. Mechanical damage to the urinary tract
- C. Hyperproteinemia
- D. Ischemic kidney damage
- E. Glomerulosclerosis

45. Aging epithelial cells normally die off. What organelles maintain the process of their digestion and excretion of the remains?

- A. Centrosome
- B. Ribosomes
- C. Lysosomes
- D. Golgi complex
- E. Mitochondria

46. In a patient with essential hypertension, a doctor observes the inability to pronounce words clearly due to a hemorrhage in the area of the left inferior frontal gyrus. In this case, the hemorrhage has occurred in the basin of which cerebral artery?

- A. *A. cerebri anterior*
- B. *A. cerebri media*
- C. *A. communicans posterior*
- D. *A. ophthalmica*
- E. *A. cerebri posterior*

47. In an experiment, blood flow rate (mL/min) was measured in various organs and tissues. What organ has the highest blood flow rate per 100 g of its mass?

- A. Skin
- B. Stomach
- C. Skeletal muscles
- D. Thyroid gland
- E. Smooth muscles

48. 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. Definitive
- C. Intermediate
- D. Reservoir
- E. Optional

49. A patient came to a doctor complaining of infertility. Barr bodies were detected in the nuclei of the most cells of the patient's buccal mucosa. In this case, the patient's infertility is most likely associated with which disorder?

- A. Down syndrome
- B. Tetrasomy X
- C. Trisomy X
- D. Klinefelter syndrome
- E. Polysomy Y

50. During a visit to a doctor, examination of the patient's larynx detected incomplete closure of the vocal folds during phonation, with the vocal folds becoming oval-shaped in the process. What laryngeal muscle is dysfunctional in the patient?

- A. *M. cricoarytenoideus lateralis*
- B. *M. arytenoideus transversus*
- C. *M. vocalis*
- D. *M. cricoarytenoideus posterior*
- E. *M. thyroarytenoideus*

51. Due to severe course of hepatitis B, a patient was referred for tests to identify a possible companion agent that complicates the course of the main disease. Specify this agent.

- A. Hepatitis G virus
- B. Hepatitis E virus
- C. Hepatitis delta virus
- D. HBs antigen
- E. Hepatitis C virus

52. A patient with a mitral valve defect has developed cough with rusty-colored sputum. What pigment causes this color of sputum?

- A. Hemoglobin
- B. Iron(II) sulfide
- C. Melanin
- D. Hemosiderin
- E. Hemomelanin

53. Autopsy of the body of a 46-year-old woman with chronic heart failure revealed enlarged left ventricular chamber with thinned walls. Revision of the mitral valve area detected significant narrowing of the left atrioventricular orifice due to cicatricial changes at the level of the *annulus fibrosus cordis*. What heart defect is most likely observed in this case?

- A. Mitral valve prolapse
- B. Mitral valve stenosis
- C. Myogenic dilatation of the left ventricle
- D. Mitral valve insufficiency
- E. Coarctation of the ascending aorta

54. A patient with acute leukemia was prescribed an anti-tumor agent with an antimetabolite effect — a folic acid antagonist. What drug was prescribed in this case?

- A. Mercaptopurine
- B. Methotrexate
- C. Fluorouracil
- D. Synoestrol (Hexestrol)
- E. Myelosan (Busulfan)

55. A certain drug with potent natriuretic effect is usually prescribed for dehydration therapy of cerebral and pulmonary edemas. What drug is it?

- A. Mannitol
- B. Spironolactone
- C. Etacrynic acid
- D. Furosemide
- E. Theophylline

56. A 45-year-old patient, who was prescribed complex therapy by a dentist due to recurrent aphthous stomatitis, developed an imbalance of the oral cavity microbiota with an increased amount of yeast fungi. What drug should be prescribed to this patient?

- A. Nifuroxazide
- B. Gentamicin
- C. Fluconazole
- D. Rifampicin
- E. Acyclovir

57. The parents complain of deformation of their child's face (a 5-year-old girl) caused by bilateral enlargement of her gonial angles observed during the last 6 months. Biopsy of mandibular bone tissue detects its replacement with fibrous connective tissue that contains a large number of vessels. Primitive bone trabeculae are present. What medical condition is it?

- A. Cementoma
- B. Fibrous osteodysplasia
- C. Osteosarcoma
- D. Eosinophilic granuloma
- E. Cherubism

58. A patient has bile duct inflammation. Mobile, pear-shaped, binucleate protozoa with a supporting rod (axostyle) were detected in the portions of bile. What disease is indicated by their presence?

- A. Intestinal balantidiasis
- B. Trichomoniasis
- C. Intestinal amebiasis
- D. Leishmaniasis
- E. Giardiasis

59. A 17-year-old boy complains of sleep disturbances, weight loss, and palpitations. After examination, he was diagnosed with thyroid hyperplasia, II degree. What

hormone level imbalance would be most characteristic of this disease?

- A. Increased somatotropin levels
- B. Reduced triiodothyroxine levels
- C. Increased thyroxine levels
- D. Reduced thyroxine levels
- E. Reduced somatotropin levels

60. Autopsy of the body of a person, who died of secondary bacterial pneumonia, revealed pale yellow muscles with numerous calcinosis foci. Microscopy revealed dystrophic changes in the muscles, absence of striations, and reduced glycogen levels. Edema and inflammation are observed in the stroma. The cellular infiltrate is represented by lymphocytes, macrophages, and plasma cells. Sclerotic changes were detected in the heart, lungs, and liver. What is the most likely diagnosis in this case?

- A. Dermatomyositis (Wagner-Hepp-Unverricht disease)
- B. Zenker's degeneration of muscles in typhoid fever
- C. Myopathy
- D. Myositis
- E. Systemic scleroderma

61. A patient with peptic ulcer disease of the stomach was prescribed a drug that blocks histamine H₂ receptors. What drug is it?

- A. Omeprazole
- B. Atropine sulfate
- C. Bisacodyl
- D. Dithylin (Suxamethonium)
- E. Famotidine

62. A patient came to a doctor with complaints of suppuration in the soft tissues of the orbit. Through what anatomical formation can the purulent process spread into the middle cranial fossa?

- A. Superior orbital fissure
- B. Posterior ethmoidal foramen
- C. Anterior ethmoidal foramen
- D. Zygomatico-orbital foramen
- E. Inferior orbital fissure

63. A patient presents with restricted downward and lateral movements of the eyeball. What cranial nerve is damaged in this case?

- A. *N. infraorbitalis*
- B. *N. abducens*
- C. *N. oculomotorius*
- D. *N. trochlearis*
- E. *N. ophthalmicus*

64. After an injury, the patient presents with the loss of skin sensitivity on the posterior surfaces of the shoulder and forearm. In this case, damage will be observed in the branches of which nerve?

- A. *N. radialis*
- B. *N. ulnaris*
- C. *N. medianus*
- D. *N. axillaris*
- E. *N. musculocutaneus*

65. A patient has a mitral valve disorder. Where will the pathological noise be heard during auscultation?

- A. Area of the xiphoid process
- B. Third intercostal space to the right of the sternum
- C. Second intercostal space to the left of the sternum
- D. Apex of the heart
- E. Second intercostal space to the right of the sternum

66. A patient has sinus tachycardia. To restore the rhythm, the doctor prescribed potassium supplements and recommended eating foods rich in potassium. What is the mechanism of action of potassium in the heart?

- A. Reduces the pacemaking activity of the sinus node
- B. Activates the parasympathetic division of the autonomic nervous system
- C. Activates the sympathetic division of the autonomic nervous system
- D. Inhibits the sympathetic division of the autonomic nervous system
- E. Increases the pacemaking activity of the sinus node

67. A 68-year-old woman with pulmonary tuberculosis has been prescribed an antibiotic that can cause red coloring of urine and tear fluid. What drug is it?

- A. Ethionamide
- B. Rifampicin
- C. Tetracycline
- D. Co-amoxiclav
- E. Ethambutol

68. A patient suffering from bronchial asthma was diagnosed with ciliary arrhythmia. What antiarrhythmic drug is contraindicated in this case?

- A. Novocainamide (Procainamide)
- B. Anaprilin (Propranolol)
- C. Nifedipine
- D. Verapamil
- E. Ajmaline

69. A 22-year-old woman came to a gynecologist with complaints of irregular menstrual cycles, hemorrhagic discharge from the vagina, and pain in the lower abdomen. After a complex of laboratory and instrumental studies, the woman underwent uterine curettage. Histology of the obtained material detected acutely enlarged, cystically changed, edematous chorionic villi with proliferation of trophoblast cells and fragments of decidual tissue. What pathological process is observed in the patient?

- A. Endometrial carcinoma
- B. Endometrial polyp
- C. Chorioepithelioma
- D. Hydatidiform mole
- E. Endometrial hyperplasia

70. Bacterioscopy of a swab from the patient's urethra detected gonorrhea. Since fluoroquinolones are the drugs of choice for the treatment of gonorrhea, this patient must be prescribed:

- A. Ciprofloxacin
- B. Urosulfan (Sulfacarbamide)
- C. Furazolidone
- D. Cefazolin
- E. Fluorouracil

71. Cyanide poisoning causes disturbed activity in a certain enzyme. Name this enzyme.

- A. Cytochrome oxidase
- B. Peroxidase
- C. NADPH dehydrogenase
- D. Catalase
- E. ATP synthase

72. The following changes were observed in the ECG of a 30-year-old man: an area of abnormal contraction with missing P wave, deformed QRS complex, and negative T wave inverse to the QRS complex. What type of arrhythmia is observed in this case?

- A. Atrioventricular extrasystole
- B. Ventricular extrasystole
- C. Atrial extrasystole
- D. Paroxysmal tachycardia
- E. Sinus arrhythmia

73. A child with Von Gierke di-

sease has hepatomegaly, seizures, and hypoglycemia, observed especially often on an empty stomach or during stress. What enzyme has a genetic defect in patients with Von Gierke disease?

- A. Glycogen phosphorylase
- B. Amylo-1,6-glycosidase
- C. Glucose 6-phosphatase
- D. Phosphoglucomutase
- E. α -1,4-glycosidase

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

- A. No respiration, thready pulse
- B. Kussmaul respiration, no cardiac activity
- C. No respiration, no cardiac activity
- D. Apneustic respiration, no cardiac activity
- E. Rapid respiration, weak heart sounds

75. A 50-year-old patient has been diagnosed with gout. In this case, disturbed metabolism of certain substances will be observed. Name these substances.

- A. Purines
- B. Amino acids
- C. Carbohydrates
- D. Pyrimidine
- E. Fats

76. What organelles in muscle tissue take part in the intensive aerobic process of energy accumulation in the form of macroergic bonds of ATP?

- A. Mitochondria
- B. Smooth endoplasmic reticulum
- C. Lysosomes
- D. Centrosome
- E. Granular endoplasmic reticulum

77. A doctor prescribed a drug that inhibits the proton pump function (H^+/K^+ -ATPase) to a patient with peptic ulcer disease of the stomach. What drug has such mechanism of action?

- A. Pirenzepine
- B. Famotidine
- C. De-nol (bismuth subcitrate)
- D. Omeprazole
- E. Pancreatin

78. A 7-year-old boy, who lived for 5 years in one of the African countries, has developed mandibular enlargement. Trepine biopsy detects the following in the biopsy material: diffuse infiltration with medium-sized lymphoid cells that have

round or oval nuclei and numerous mitotic figures, among which there are large light-colored macrophages that contain apoptotic bodies. Sternal puncture and peripheral blood tests detect no significant changes. What is the most likely diagnosis in this case?

- A. Solitary plasmacytoma
- B. Chronic lymphocytic leukemia
- C. Burkitt lymphoma
- D. Acute osteomyelitis
- E. Diffuse large B-cell lymphoma

79. A patient complains of headache and difficulty breathing. X-ray allowed diagnosing the patient with frontitis (inflammation of the frontal sinus). Into what nasal meatus will purulent discharge spread in this case?

- A. Superior nasal meatus
- B. Middle nasal meatus
- C. Above the superior nasal concha
- D. Inferior nasal meatus
- E. Common nasal meatus

80. An 84-year-old patient suffers from parkinsonism. One of the pathogenetic elements of this disease is the deficiency of a certain mediator in some of the brain structures. What mediator is it?

- A. Noradrenaline
- B. Histamine
- C. Acetylcholine
- D. Dopamine
- E. Adrenaline

81. Examination of a patient detects skin calcification, Raynaud syndrome, esophageal motility disorder, sclerodactyly, and telangiectasia. These changes are called CREST syndrome. What disease can be characterized by the described changes?

- A. Systemic scleroderma
- B. Gouty arthritis
- C. Dermatomyositis
- D. Rheumatoid arthritis
- E. Systemic lupus erythematosus

82. What type of respiratory ventilatory insufficiency is characteristic of patients with pneumothorax?

- A. Mixed
- B. Obstructive
- C. Disregulatory
- D. Pathological
- E. Restrictive

83. Local anesthetic lidocaine is widely

used in dental practice. Lidocaine has an analgesic effect because it:

- A. Blocks voltage-gated calcium channels
- B. Activates voltage-gated potassium channels
- C. Blocks voltage-gated potassium channels
- D. Blocks ligand-gated sodium channels
- E. Blocks voltage-gated sodium channels

84. To study the blood flow, a doctor has placed a sensor in the area of sulcus bicipitalis medialis. What vessel does the doctor examine in this case?

- A. *A. brachialis*
- B. *A. radialis*
- C. *A. ulnaris*
- D. *A. axillaris*
- E. *A. profunda brahii*

85. 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. Hematopoietic
- B. Neurons
- C. Epidermis
- D. Muscle (smooth)
- E. Endothelium

86. A 42-year-old man fell ill one week after he had been preparing a fox pelt. The disease manifested as nervous excitement, hydrophobia, and convulsions. Autopsy of the man's body detected encephalitis with damage to the brain stem, walls of the third ventricle, and hippocampus. Signs of encephalitis included accumulation of lymphocytes and microglial cells around dead neurons and blood vessels. Eosinophilic inclusions (Babesh-Negri bodies) were found in the hippocampal neurons. What disease was diagnosed in the deceased man?

- A. Brucellosis
- B. Rabies
- C. Plague
- D. Tularemia
- E. Anthrax

87. A doctor describes a specimen that demonstrates the wall of a tubular organ that is a component of the gastrointestinal tract. The doctor noted the presence of lymph node clusters in the lamina propria of the mucosa and in the submucosal base, above which the crypts are almost absent. What part of the gastrointestinal tract has such structural features?

- A. Stomach
- B. Large intestine
- C. Vermiform process
- D. Ileum
- E. Jejunum

88. A patient was informed that serological testing for AIDS would consist of two stages. What reaction is used to test the blood serum for the presence of antibodies to the virus at the first stage of the diagnostics?

- A. Indirect hemagglutination assay
- B. Radioimmunoassay
- C. Immunofluorescence
- D. Immunoblotting
- E. Enzyme-linked immunosorbent assay

89. Microscopy of the patient's vaginal discharge detected Gram-negative bean-shaped diplococci. What is the provisional diagnosis in this case?

- A. Gonorrhea
- B. Chlamydiosis
- C. Mycoplasmosis
- D. Syphilis
- E. Toxoplasmosis

90. A patient presents with impaired pain and thermal sensitivity of the tongue. What papillae are affected in this case?

- A. Fungiform, filiform
- B. Cone-shaped, circumvallate
- C. Circumvallate, filiform
- D. Foliate, fungiform
- E. Filiform, cone-shaped

91. Several cases of tonsillitis are observed among the students at a boarding school. Microscopy of the smears prepared from the material obtained via a tonsil swab revealed thin yellow rod-shaped microorganisms with dark blue granules at their ends, arranged in the form of the Roman numeral five. The microorganisms were detected using the Neisser stain. What disease can be caused by the detected pathogen?

- A. Scarlet fever
- B. Infectious mononucleosis
- C. Diphtheria
- D. Tonsillitis
- E. Listeriosis

92. What effect will decreased levels of Ca^{2+} in blood plasma have on the duration of coagulation hemostasis?

- A. The duration of hemostasis will remain unchanged
- B. The duration of hemostasis will increase
- C. —
- D. Ca^{2+} ions have no effect on the duration of hemostasis
- E. The duration of hemostasis will decrease

93. A patient has been diagnosed with megaloblastic anemia. This disease can be caused by the insufficient amount of a certain compound in the body. Name this compound.

- A. Cholecalciferol
- B. Magnesium
- C. Glycine
- D. Copper
- E. Cyanocobalamin

94. A histological section of an unknown organ has been prepared. The resulting microslide demonstrates its cortical and medullary substances. The medullary substance is represented by ribbon-like strands of B-lymphocytes. What organ is it?

- A. Kidney
- B. Cerebellum
- C. Thymus
- D. Cerebral cortex
- E. Lymph node

95. After an injury, the patient cannot abduct his shoulder. What muscle is likely to be dysfunctional in this case, causing this medical condition?

- A. *Musculus deltoideus*
- B. *Musculus subscapularis*
- C. *Musculus infraspinatus*
- D. *Musculus levator scapulae*
- E. *Musculus teres major*

96. What receptors trigger the protective reflex of sneezing, when stimulated?

- A. Proprioceptors
- B. Pulmonary stretch receptors
- C. Irritant receptors
- D. Nociceptors
- E. J-receptors

97. Exposure to physical and chemical mutagens can cause DNA damage. Name the ability of cells to correct the damage in DNA molecules.

- A. Translation
- B. Regeneration
- C. Repair
- D. Transcription
- E. Replication

98. After a head injury, the patient developed paralysis of the mimic muscles on the right. Examination detected damage to the facial nerve in the area after its exit from the facial canal. What anatomical structure is located at the end of the facial nerve canal?

- A. Internal acoustic pore
- B. External acoustic pore
- C. Mastoid canaliculus
- D. Stylomastoid foramen
- E. Jugular foramen

99. Microscopy reveals a parenchymal organ with epithelial strands that form zona glomerulosa, zona fasciculata, and zona reticularis. The central part of the organ is represented by clusters of chromaffin cells. What organ is it?

- A. Pituitary gland
- B. Thyroid gland
- C. Pineal gland
- D. Adrenal gland
- E. Liver

100. In an experiment, one of the populations of blood cells was selectively stimulated. As a result, the permeability of blood vessels increased significantly, causing edema of the perivascular tissue and slowing down the blood coagulation process. What blood cells were stimulated in the experiment?

- A. Erythrocytes
- B. Lymphocytes
- C. Platelets
- D. Basophils
- E. Eosinophils

101. A patient with chronic enteritis developed anemia. Blood tests revealed hypochromia of erythrocytes, microangiocytosis, and poikilocytosis. What type of anemia is observed in the patient?

- A. Sideroblastic anemia
- B. Hemolytic anemia
- C. Aplastic anemia
- D. B_{12} deficiency anemia
- E. Iron deficiency anemia

102. An injured person has a fracture of the zygomatic arch. The lower jaw is shifted forwards and the patient complains of inability to move it backwards. What muscle is dysfunctional in this case?

- A. *M. pterigoideus lateralis*
- B. *M. pterigoideus medialis*
- C. *M. zygomaticus minor*
- D. *M. temporalis*
- E. *M. zygomaticus major*

103. A child developed hemolytic jaundice. In this case, an increase in a certain blood value would be the most significant and decisive in making the diagnosis. What blood value is it?

- A. Direct bilirubin
- B. Stercobilinogen
- C. Mesobilinogen
- D. Indirect bilirubin
- E. Urobilinogen

104. In an experiment, a dog was trained to develop a conditioned reflex in response to a flash of light. For this reflex to occur, a certain part of the cerebral cortex must be intact. What part of the cerebral cortex is it?

- A. Temporal lobe
- B. Postcentral gyrus
- C. Occipital lobe
- D. Precentral gyrus
- E. Frontal lobe

105. At the dental office, a patient was diagnosed with caries. What is the main cause of this pathology?

- A. *Streptococcus mutans*
- B. Masticatory load
- C. Gastric disease
- D. Avitaminosis
- E. Malnutrition

106. What mucolytic expectorant has an antioxidant, pneumoprotective, cardioprotective, and detoxifying effect and is used in cases of paracetamol poisoning?

- A. Ambroxol
- B. Bromhexine
- C. Glaucine
- D. Acetylcysteine
- E. Codeine

107. A large cell with mildly basophilic cytoplasm and a bean-shaped nucleus was detected in the smear of peripheral blood. The cell is the largest among those in sight. What type of cell is it?

- A. Monocyte
- B. Small lymphocyte
- C. Medium sized lymphocyte
- D. Macrophage
- E. Plasma cell