

**1.** A patient with hypochromic anemia has splitting hair and loss of hair, increased nail brittling and taste alteration. What is the mechanism of the development of these symptoms?

- A.** Deficiency of iron-containing enzymes
- B.** Deficiency of vitamin B<sub>12</sub>
- C.** Decreased production of parathyrin
- D.** Deficiency of vitamin A
- E.** Decreased production of thyroid hormones

**2.** A 27-year-old woman has dropped penicillin containing eye drops. In a few minutes there appeared feeling of itching, burning of the skin, lips and eyelids edema, whistling cough, decrease of BP. What immunoglobulins take part in the development of this allergic reaction?

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

**3.** A person felt thirsty after staying under the conditions of hot weather for a long time. Signals of what receptors caused it first of all?

- A.** Osmoreceptors of hypothalamus
- B.** Sodium receptors of hypothalamus
- C.** Osmoreceptors of liver
- D.** Glucoreceptors of hypothalamus
- E.** Baroreceptors of aortic arch

**4.** Slime, blood and protozoa 30-200 microns long have been revealed in a man's feces. The body is covered with cilia and has correct oval form with a little bit narrowed anterior and wide round shaped posterior end. At the anterior end a mouth is visible. In cytoplasm there are two nuclei and two short vacuoles. What are the described features typical for?

- A.** Balantidium
- B.** Lamblia
- C.** Dysenteric amoeba
- D.** Trichomonas
- E.** Intestinal amoeba

**5.** A child has got galactosemia. Concentration of glucose in blood has not considerably changed. Deficiency of what enzyme caused this illness?

- A.** Galactose-1-phosphate uridylyltransferase
- B.** Amylo-1,6-glucosidase
- C.** Phosphoglucomutase
- D.** Galactokinase
- E.** Hexokinase

**6.** Synthesis of phospholipids is disturbed as a result fatty infiltration of liver. Indicate which of the following substances can enhance the process of methylation during phospholipids synthesis?

- A.** Methionine
- B.** Ascorbic acid
- C.** Glucose
- D.** Glycerin
- E.** Citrate

**7.** An individual is characterized by rounded face, broad forehead, a mongolian type of eyelid fold, flattened nasal bridge, permanently open mouth, projecting lower lip, protruding tongue, short neck, flat hands, and stubby fingers. What diagnosis can be put to the patient?

- A.** Down's syndrome
- B.** Klinefelter's syndrome
- C.** Alkaptonuria
- D.** Supermales
- E.** Turner's syndrome

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

- A.** Delayed type hypersensitivity
- B.** Cytotoxic
- C.** Immunocomplex
- D.** Anaphylactic
- E.** Stimulating

**9.** A patient suffering from thrombophlebitis of the deep crural veins suddenly died. Autopsy has shown freely lying red friable masses with dim crimped surface in the trunk and bifurcation of the pulmonary artery. What pathologic process was revealed by morbid anatomist?

- A.** Tromboembolism
- B.** Thrombosis
- C.** Tissue embolism
- D.** Embolism with foreign body
- E.** Fat embolism

**10.** Decreased blood supply to the organs

causes hypoxia that activates fibroblasts function. Volume of what elements is increased in this case?

- A. Inter cellular substance
- B. Vessels of microcircular stream
- C. Nerve elements
- D. Parenchymatous elements of an organ
- E. Lymphatic vessels

11. RNA-polymerase B(II) is blocked due to amanitine poisoning (poison of death-cup). It disturbs:

- A. Synthesis of m-RNA
- B. Synthesis of t-RNA
- C. Reverse transcription
- D. Primers synthesis
- E. Maturation of m-RNA

12. Secretion of what gastrointestinal hormones will be primarily decreased as a result of iduodenum removal?

- A. Cholecystokinin and secretin
- B. Gastrin
- C. Histamine
- D. Gastrin and histamine
- E. Neurotensin

13. It is planned to use the territory of an old cattle burial ground (which is not used for more than 50 years) for building houses. But ground analysis revealed presence of the pathogen of a very dangerous illness. Which of the indicated microorganisms is likely to remain in the ground for such a long time?

- A. *Bacillus anthracis*
- B. *Francisella tularensis*
- C. *Brucella abortus*
- D. *Yersinia pestis*
- E. *Mycobacterium bovis*

14. From the nasopharynx of a 5-year-old child it was excreted a microorganism which is identical to *Corynebacterium diphtheriae* dose according to morphological and biochemical signs. But this microorganism does not produce exotoxin. As a result of what process can this microorganism become toxigenic?

- A. Phage conversion
- B. Cultivation in the telluric environment
- C. Passing through the organism of the sensitive animals
- D. Growing with antitoxic serum
- E. Chromosome mutation

15. A patient with encephalopathy

was admitted to the neurological in-patient department. There was revealed a correlation between increasing of encephalopathy and substances absorbed by the bloodstream from the intestines. What substances that are formed in the intestines can cause endotoxemia?

- A. Indole
- B. Butyrate
- C. Acetacetate
- D. Biotin
- E. Ornithine

16. A 50-year-old man has felt vague abdominal discomfort within past 4 months. Physical examination revealed no lymphadenopathy, and no abdominal masses or organomegaly at palpation. Bowel sounds are heard. An abdominal CT scan shows a 20 cm retroperitoneal soft tissue mass obscuring the left psoas muscle. A stool specimen tested for occult blood is negative. Which of the following neoplasms is this man most likely to have?

- A. Lipoma
- B. Melanoma
- C. Hamartoma
- D. Adenocarcinoma
- E. Lymphoma

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

- A. Regeneration
- B. Dystrophy
- C. Inflammation
- D. Hyperemia
- E. Metaplasia

18. During the fetal period of the development in the vascular system of the fetus a large arterial (Botallo's) duct is functioning which converts into *lig. arteriosum* after birth. What anatomical formations does this duct connect?

- A. Pulmonary trunk and aorta
- B. Right and left auricles
- C. Aorta and inferior vena cava
- D. Pulmonary trunk and superior vena cava
- E. Aorta and superior vena cava

19. A 22-year-old patient was admitted to the hospital with complaints of heavy nasal breathing. During the examination

of her nasal cavity the doctors found thickened mucous membrane, a lot of mucus and nodular infiltrates without erosions in the nose. The nasal rhinoscleroma was diagnosed. The biopsy was taken. What typical morphological changes may be found?

- A. Granulomas with Mikulicz's cells
- B. Granulomas with Virchow's cells
- C. Granulomas with Langhan's cells
- D. Granulomas with foreign body cells
- E. Interstitial inflammation

20. Intake of oral contraceptives containing sex hormones inhibits secretion of the hypophysis hormones. Secretion of which of the indicated hormones is inhibited while taking oral contraceptives with sex hormones?

- A. Follicle-stimulating
- B. Vasopressin
- C. Thyrotropic
- D. Somatotropic
- E. Oxytocin

21. A 60-year-old patient was admitted to the surgical department because of infection caused by blue pus bacillus (*Pseudomonas aeruginosa*) which is sensitive to penicillin antibiotics. Indicate which of the given penicillins has marked activity to the *Pseudomonas aeruginosa*?

- A. Carbenicillin disodium
- B. Benzylpenicillin
- C. Phenoxymethylpenicillin
- D. Oxacillin
- E. Methicillin

22. A 45-year-old woman suffers from seasonal allergic rhinitis caused by the ambrosia blossoming. What medicine from the stabilizer of the adipose cells group can be used for prevention of this disease?

- A. Ketotifen
- B. Diazoline
- C. Phencarol
- D. Tavegil
- E. Dimedrol

23. A young man felt acute pain in the back during active drawing up on the horizontal bar. Objectively: pain while moving upper extremity, reduced pronation and adduction functions. Sprain of what muscle can be observed here?

- A. *M. latissimus dorsi*
- B. *M. levator scapulae*
- C. *M. rhomboideus major*
- D. *M. trapezius*
- E. *M. subscapularis*

24. A 52-year-old patient has the following diagnosis: systemic amebiasis with involvement of intestines, liver, lungs. What drug should be prescribed?

- A. Metronidasol
- B. Quiniofona
- C. Tetracycline
- D. Quingamine
- E. Enteroseptol

25. A 38-year-old man who poisoned himself with mercury dichloride was taken to the admission room in grave condition. What antidote should be immediately introduced?

- A. Unithiol
- B. Dipiroxim
- C. Atropine
- D. Nalorphine
- E. Isonitrosine

26. Children often have heavy nasal breathing resulting from excessive development of lymphoid tissue of pharyngeal mucous membrane. What tonsils growth may cause this effect?

- A. *Tonsilla pharyngea*
- B. *Tonsilla palatina*
- C. *Tonsilla lingualis*
- D. *Tonsilla tubaria*
- E. All above mentioned tonsils

27. The alternate usage of dichlotiazide, etacrin acid and lasex did not influence diuretically upon the patient with marked peripheral edemata. The aldosterone rate in the blood is increased. Indicate which medicine should be prescribed:

- A. Spironolacton
- B. Mannit
- C. Clopamid
- D. Urea
- E. Amilorid

28. A 46-year-old man complains of difficulties with nasal breathing. Mikulicz's cells, accumulation of epithelioid cells, plasmocytes, lymphocytes, hyaline balls were discovered in the biopsy material of the thickened nasal mucosa. What is the most likely diagnosis?

- A. Scleroma
- B. Virus rhinitis
- C. Allergic rhinitis
- D. Rhinovirus infection
- E. Meningococcal nasopharyngitis

**29.** A 56-year-old patient complaining of thirst and frequent urination was diagnosed with diabete mellitus. Butamin was prescribed. How does the medicine act?

- A. It stimulates  $\beta$ -cells of Langergans' islets
- B. It helps to absorb the glucose by the cells of the organism tissues
- C. It relieves transport of glucose through the cells' membranes
- D. It inhibits  $\alpha$ -cells of Langergans' islets
- E. It inhibits absorption of glucose in the intestines

**30.** A man who was bitten by the unknown dog applied to the surgeon. Wide ragged woundes were localized on the face. What curative-prophylactic aid should be given to prevent rabies?

- A. Start immunisation with rabies vaccine
- B. Prescribe combined antibiotic therapy
- C. Immediate injection of DPT(Diphtheria, Pertusis, Tetanus) vaccine
- D. Hospitalize the patient and keep under the doctor's supervision
- E. Immediately inject normal gamma globulin

**31.** A patient with clinical signs of immunodeficiency has no changes of the number and functional activity of T- and B- lymphocytes. Defect with disfunction of antigen-presentation to the immunocompetent cells was found during examinatio on the molecule level. Defect of what cells is the most probable?

- A. Macrophages, monocytes
- B. T-lymphocytes, B-lymphocytes
- C. NK-cells
- D. Fibroblasts, T-lymphocytes, B-lymphocytes
- E. 0-lymphocytes

**32.** A 38-year-old woman was admitted to the admission-diagnostic department with uterine bleeding. What are the most likely changes of blood?

- A. Reduction of haematocrite rate
- B. Increase of haematocrite rate
- C. Leukopenia
- D. Leucocytosis
- E. Polycythemia

**33.** A 60-year-old patient has reduced perception of high-frequency sounds. What structures' disorder of auditory analyzer caused these changes?

- A. Main membrane of cochlea near the oval window
- B. Main membrane of cochlea near heli-cotrema
- C. Eustachian tube
- D. Muscles of middle ear
- E. Tympanic membrane

**34.** The effect of electric current on the excitable cell caused depolarization of its membrane. Movement of what ions through the membrane caused depolarisation?

- A.  $Na^+$
- B.  $HCO_3^-$
- C.  $Ca^{2+}$
- D.  $Cl^-$
- E.  $K^+$

**35.** Live vaccine was injected into the human body. Increasing activity of what connective tissue cells can be expected?

- A. Plasmocytes and lymphocytes
- B. Macrophages and fibroblasts
- C. Pigmentocytes and pericytes
- D. Adipocytes and adventitious cells
- E. Fibroblasts and labrocytes

**36.** When a patient with traumatic impairment of the brain was examined, it was discovered that he had stopped to distinguish displacement of an object on the skin. What part of the brain was damaged?

- A. Posterior central gurus
- B. Occipital zone of the cortex
- C. Parietal zone of the cortex
- D. Frontal central gurus
- E. Frontal zone

**37.** In the blood of a 26-year-old man 18% of erythrocytes of the spherical, ball-shaped, flat and spinous shape have been revealed. Other eritrocytes were in form of the concavo-concave disks. How is this phenomenon called?

- A. Physiological poikilocytosis
- B. Pathological poikilocytosis
- C. Physiological anisocytosis
- D. Pathological anisocytosis
- E. Erythrocytosis

38. A 10-year-old girl often experiences acute respiratory infections with multiple punctate haemorrhages in the places of clothes friction. Hypovitaminosis of what vitamin has the girl?

- A. C
- B. B<sub>6</sub>
- C. B<sub>1</sub>
- D. A
- E. B<sub>2</sub>

39. Different functional groups can be presented in the structure of L-amino acid's radicals. Identify the group that is able to form ester bond:

- A.  $-OH$
- B.  $-SH$
- C.  $-CONH_2$
- D.  $-CH_3$
- E.  $-NH_2$

40. Moving of the daughter chromatids to the poles of the cell is observed in the mitotically dividing cell. At what stage of the mitotic cycle is this cell?

- A. Anaphase
- B. Metaphase
- C. Telophase
- D. Prophase
- E. Interphase

41. During examination of a patient, there was found a neoplasm in the white substance of cerebral hemispheres with localization in the knee and frontal part of posterior crus of internal capsule. Fibres of what conductive tract of the brain will be disrupted?

- A. *Tr. pyramidalis*
- B. *Tr. frontothalamicus*
- C. *Tr. thalamocorticalis*
- D. *Tr. frontopontinus*
- E. *Tr. parietooccipitopontinus*

42. A patient with diabetes mellitus has been delivered in hospital in the state of unconsciousness. Arterial pressure is low. The patient has acidosis. Point substances, which accumulation in the blood results in these manifestations:

- A. Ketone bodies
- B. Amino acids
- C. Monosaccharides
- D. High fatty acids
- E. Cholesterol esters

43. A person has steady HR not exceeding 40 bpm. What is the pacemaker of this person's heart rhythm?

- A. Atrioventricular node
- B. Sinoatrial node
- C. His' bundle
- D. Branches of His' bundle
- E. Purkinje's fibers

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

- A. By inhibiting uric acid synthesis
- B. By increasing uric acid excretion
- C. By inhibiting leucocyte migration into the joint
- D. By general anti-inflammatory effect
- E. By general analgetic effect

45. A patient who came to the doctor because of his infertility was administered to make tests for toxoplasmosis and chronic gonorrhoea. Which reaction should be performed to reveal latent toxoplasmosis and chronic gonorrhoea of the patient?

- A. (R)CFT- Reiter's complement fixation test
- B. IFA - Immunofluorescence assay
- C. Immunoblot analysis
- D. RDHA - Reverse direct hemagglutination assay
- E. RIHA - Reverse indirect hemagglutination assay

46. Under some diseases it is observed aldosteronism accompanied by hypertension and edema due to sodium retention in the organism. What organ of the internal secretion is affected under aldosteronism?

- A. Adrenal glands
- B. Testicle
- C. Ovaries
- D. Pancreas
- E. Hypophysis

47. A patient had been taking glucocorticoids for a long time. When the preparation was withdrawn he developed the symptoms of disease aggravation,

decreased blood pressure and weakness. What is the reason of this condition?

- A. Appearance of adrenal insufficiency
- B. Hyperproduction of ACTH
- C. Sensibilization
- D. Habituation
- E. Cumulation

48. A patient has tissue ischemia below the knee joint accompanied with intermittent claudication. What artery occlusion should be suspected?

- A. Popliteal artery
- B. Peroneal artery
- C. Posterior tibial artery
- D. Anterior tibial artery
- E. Proximal part of femoral artery

49. An experiment proved that UV-radiated cells of patients with xeroderma pigmentosum restore the native DNA structure slower than cells of healthy individuals as a result of reparation enzyme defection. What enzyme helps this process?

- A. Endonuclease
- B. RNA ligase
- C. Primase
- D. DNA polymerase III
- E. DNA gyrase

50. A patient, who suffers from congenital erythropoietic porphyria, has skin photosensitivity. The accumulation of what compound in the skin cells can cause it?

- A. Uroporphyrinogen 1
- B. Protoporphyrin
- C. Uroporphyrinogen 2
- D. Coproporphyrinogen 3
- E. Heme

51. A sick man with high temperature and a lot of tiny wounds on the body has been admitted to the hospital. Lice have been found in the folds of his clothing. What disease can be suspected?

- A. Epidemic typhus
- B. Tularemia
- C. Scabies
- D. Malaria
- E. Plague

52. A patient with suspicion on epidemic typhus was admitted to the hospital. Some arachnids and insects have been found in his flat. Which of them may be a carrier of the pathogen of epidemic typhus?

- A. Lice
- B. Spiders
- C. Bed-bugs
- D. Cockroaches
- E. Houseflies

53. A businessman came to India from South America. On examination the physician found that the patient was suffering from sleeping-sickness. What was the way of invasion?

- A. As a result of bug's bites
- B. As a result of mosquito's bites
- C. With contaminated fruits and vegetables
- D. Through dirty hands
- E. After contact with sick dogs

54. Patients with bile ducts obstruction suffer from inhibition of blood coagulation, bleedings as a result of low level of vitamin assimilation. What vitamin is in deficiency?

- A. K
- B. A
- C. D
- D. E
- E. Carotene

55. Blood analysis of a patient showed signs of HIV infection (human immunodeficiency virus). Which cells does HIV-virus primarily affect?

- A. Cells that contain receptor T4 (T-helpers)
- B. Cells that contain receptor IgM (B-lymphocytes)
- C. Specialized nervous cells (neurons)
- D. Mast cells
- E. Proliferating cells (stem hematoplastic cells)

56. The preventive radioprotector was given to a worker of a nuclear power station. What mechanism from the below mentioned is considered to be the main mechanism of radioprotection?

- A. Inhibition of free radicals formation
- B. Prevention of tissue's hypoxia
- C. Activation of oxidation reactions
- D. Increasing of tissue blood supply
- E. Increasing of respiration

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

- A. Fat
- B. Thrombus-embolus
- C. Air
- D. Tissue
- E. Foreign body

**58.** A patient's blood was analyzed and the decreased erythrocyte's sedimentation rate (ESR) was discovered. What disease from the listed below is accompanied with decreased ESR?

- A. Polycythemia
- B. Hepatitis
- C. Splenomegaly
- D. Vitamin B deficiency
- E. Myocardial infarction

**59.** A 46-year-old patient has complained of headache, fatigue, thirst, pains in the spine and joints for the last 2 years. Clinically observed disproportional enlargement of hands, feet, nose, superciliary arches. He notes that he needed to buy bigger shoes three times. What is the main reason of such disproportional enlargement of different parts of the body?

- A. Cartilaginous tissue proliferation under growth hormone influence
- B. Increased sensitivity of the tissues to growth hormone
- C. Joints dystrophy development
- D. Increased sensitivity of the tissues to insulin
- E. Joints chronic inflammation development

**60.** A mother of a newborn complains of her baby's constant belching with undigested milk. Which developmental anomaly is it an evidence of?

- A. Esophageal atresia
- B. Labium leporium
- C. Faux lupinum
- D. Anal atresia
- E. Esophageal fistula

**61.** During the endoscopy the inflammation of a major papilla of the duodenum and the disturbances of bile secretion were found. In which part of duodenum were the problems found?

- A. Descendent part
- B. Ascendant part
- C. Bulb
- D. Upper horizontal part
- E. Lower horizontal part

**62.** An 18-year-old patient came to the

out-patient department with the complaints of bleeding trauma in the vestibule of his nose. On examination: the mechanical injury of the mucous layer of the vestibule without continuation into nasal cavity proper. What is the boundary between the vestibule and nasal cavity proper?

- A. Nasal limen
- B. Nasal roller
- C. Nasal septa
- D. Choanes
- E. Nostrils

**63.** A 50-year-old patient was injured on the occipital region of the head. The closed skull trauma was diagnosed. She was taken to the hospital. The medical examination: deregulation of walking and balance, trembling of arms. What part of brain was injured?

- A. The cerebellum
- B. The medulla oblongata
- C. The mind-brain
- D. The inter-brain
- E. The spinal cord

**64.** A patient with complaints of dryness in the mouth, photophobia and vision impairment was admitted to the reception-room. Skin is hyperemic, dry, pupils are dilated, tachycardia. Poisoning with belladonna alkaloids was diagnosed on further examination. What medicine should be prescribed?

- A. Prozerin
- B. Diazepam
- C. Pilocarpine
- D. Armine
- E. Dipiroxim

**65.** Autopsy revealed that right lung is enlarged, solid, there are fibrin layers on the pleura. Lung tissue is light grey color on incision with muddy liqued exudates. What lung disease are these symptoms typical for?

- A. Croupous pneumonia
- B. Bronchopneumonia
- C. Interstitial pneumonia
- D. Pulmonary gangrene
- E. Fibrosing alveolitis

**66.** During the operation on the hip joint of a 5-year-old child her ligament was damaged which caused bleeding. What ligament was damaged?

- A. The head of the thigh
- B. Perpendicular of the acetabule
- C. Iliofemoral
- D. Pubofemoral
- E. Ischiofemoral

**67.** On autopsy it was revealed: pia mater of the upper parts of cerebral hemisphere is plethoric, of yellowish-green color, soaked with purulent and fibrose exudate, looks like a cap. What disease is it typical for?

- A. Meningococcal meningitis
- B. Tuberculous meningitis
- C. Grippal meningitis
- D. Meningitis connected with anthrax
- E. Meningitis connected with typhus

**68.** A 55-year-old patient with continuing ventricular arrhythmias was admitted to the hospital. The patient is taking timolol drops for glaucoma, daily insulin injections for diabetes mellitus, and an ACE inhibitor for hypertension. You have decided to use phenytoin instead of procainamide. What is the reason?

- A. The anticholinergic effect of procainamide would aggravate glaucoma
- B. The local anesthetic effect of procainamide would potentiate diabetes
- C. The hypertensive effects of procainamide would aggravate the hypertension
- D. The local anesthetic effect of procainamide would aggravate the hypertension
- E. The cholinergic effects of procainamide would aggravate the diabetes

**69.** A 35-year-old man under the treatment for pulmonary tuberculosis has acute pain onset of right big toe, swelling, and low-grade fever. The gouty arthritis was diagnosed and high serum uric acid level was found. Which of the following antituberculous drugs are known for causing high uric acid levels?

- A. Pyrazinamide
- B. Cycloserine
- C. Thiacetazone
- D. Rifampicin
- E. Aminosalicilic acid

**70.** A person was selling "homemade pork" sausages at the market. State sanitary inspector suspected falcification of the sausages. What serological immune reaction can identify food substance?

- A. Precipitation test
- B. Indirect hemagglutination test
- C. Agglutination test
- D. Immunofluorescence test
- E. Complement-fixation test

**71.** A patient with rheumatoid arthritis who had been treated with indometacin has got signs of gastropathy. What activity of the drug can this complication be connected with?

- A. Anticyclooxygenase
- B. Antiserotonin
- C. Antihistamine
- D. Antikinine
- E. Locally irritating

**72.** A 25-year-old woman with red and itchy eczematoid dermatitis visits your office. She had a dental procedure one day earlier with administration of a local anesthetic. There were no other findings, although she indicated that she had a history of allergic reactions. Which of the following drugs is most likely involved?

- A. Procaine
- B. Cocaine
- C. Lidocaine
- D. Bupivacaine
- E. Etidocaine

**73.** In course of metabolic process active forms of oxygen including superoxide anion radical are formed in the human body. By means of what enzyme is this anion inactivated?

- A. Superoxide dismutase
- B. Catalase
- C. Peroxidase
- D. Glutathioneperoxidase
- E. Glutathionereductase

**74.** A patient has elbow joint trauma with avulsion of medial epicondyle of humerus. What nerve can be damaged in this trauma?

- A. Ulnar
- B. Radial
- C. Musculocutaneous nerve
- D. Cardiac cutaneous nerve
- E. Medial cutaneous nerve of forearm

**75.** A student is writing a thorough summary of a lecture. Quality of summarizing has considerably worsened when his neighbours started talking. What kind of inhibition in the cerebral cortex caused this effect?



- A. External
- B. Protective
- C. Fading
- D. Differentiated
- E. Delayed

**76.** While enrolling a child to school Mantu's test was made to define whether revaccination was needed. The test result is negative. What does this test result mean?

- A. Absence of cell immunity to the tuberculosis
- B. Presence of cell immunity to the tuberculosis
- C. Absence of antibodies for tubercle bacillus
- D. Absence of antitoxic immunity to the tuberculosis
- E. Presence of antibodies for tubercle bacillus

**77.** The donor who didn't donate the blood for a long time was investigated with IFA method. Anti-HBs antibodies were revealed. What does positive result of IFA in this case mean?

- A. Previous hepatitis B
- B. Acute hepatitis B
- C. Acute hepatitis C
- D. Chronic hepatitis B
- E. Chronic hepatitis C

**78.** Testosterone and its analogs increase the mass of skeletal muscles that allows to use them for treatment of dystrophy. Due to interaction of the hormone with what cell substrate is this action caused?

- A. Nuclear receptors
- B. Membrane receptors
- C. Ribosomes
- D. Chromatin
- E. Proteins-activators of transcription

**79.** Inhibition of  $\alpha$ -motoneuron of the extensor muscles was noticed after stimulation of  $\alpha$ -motoneuron of the flexor muscles during the experiment on the spinal cord. What type of inhibition is this process based upon?

- A. Reciprocal
- B. Presynaptic
- C. Depolarizational
- D. Recurrent
- E. Lateral

**80.** A patient who has been strictly keeping to a certain diet for 10 days went through examination of respiratory coefficient.

It was determined that it was equal 1. What have the patient been keeping to?

- A. With domination of carbohydrates
- B. With domination of proteins and fat
- C. With domination of fat and carbohydrates
- D. Mixed
- E. With domination of proteins and carbohydrates

**81.** Buffer capacity of a worker's blood was decreased due to exhausting muscular work. By coming of what acid substance in the blood can this state be explained?

- A. Lactate
- B. Pyruvate
- C. 1,3-bisphosphoglycerate
- D.  $\alpha$ -ketoglutarate
- E. 3-phosphoglycerate

**82.** Examination of initial molecular structure revealed substitution of the glutamic acid by valine. What inherited pathology is it typical for?

- A. Sickle-cell anemia
- B. Thalassemia
- C. Minkowsky-Shauffard disease
- D. Favism
- E. Hemoglobinosis

**83.** Inflammation is characterised by increased permeability of vessels of microcirculation stream, increase of their hydrodynamic blood pressure. Increasing of the osmotic concentration and dispersity of protein structures is present in the intercellular fluid. What kind of edema will appear in this case?

- A. Mixed
- B. Hydrodynamic
- C. Colloid-osmotic
- D. Lymphogenic
- E. Membranogenic

**84.** Increased fragility of vessels, enamel and dentine destruction resulting from scurvy are caused by disorder of collagen maturation. What stage of procollagen modification is disturbed under this avitaminosis?

- A. Hydroxylation of proline
- B. Formation of polypeptide chains
- C. Glycosylation of hydroxylysine residues
- D. Removal of C-ended peptide from procollagen
- E. Detaching of N-ended peptide

**85.** Scraps of the mycelium of a fungus,

spores, air bubbles and fat drops were discovered on microscopy of the patient's hair excluded from the infected areas. What fungus disease is characterised by this microscopic picture?

- A. Favus
- B. Microspory
- C. Trichophytosis
- D. Epidermophytosis
- E. Sporotrichosis

86. On autopsy of the 58-year-old man it was revealed: mitral valve is deformed, thickened, not totally closed. Microscopically: foci of collagen fibers are eosinophilic, have positive fibrin reaction. The most likely it is:

- A. Fibrinoid swelling
- B. Fibrinoid inflammation
- C. Muroid swelling
- D. Hyalinosis
- E. Amyloidosis

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

- A. 100%
- B. 0%
- C. 25%
- D. 35%
- E. 75%

88. A 54-year-old man was admitted to the hospital with complaints of pain in the right subcostal region, vomiting with blood. Objectively: enlarged liver, varicose veins in the stomach and esophagus. Dysfunction of what vessel is likely to have taken place?

- A. *Vena porta*
- B. *Aorta abdominalis*
- C. *Vena hepatica*
- D. *Vena cava superior*
- E. *Vena cava inferior*

89. A 37-year-old man was admitted to the surgical department with the symptoms of acute pancreatitis: vomiting, diarrhea, bradycardia, hypotension, weakness, dehydration of the organism. What medicine should be used first of all?

- A. Contrycal
- B. No-spa
- C. Platyphylline
- D. Etaperazine
- E. Ephedrine

90. A person has reduced diuresis, hypernatremia, hypokalemia. Hypersecretion of what hormone can cause such changes?

- A. Aldosterone
- B. Vasopressin
- C. Auricular sodiumuretic factor
- D. Adrenalin
- E. Parathormone

91. Microspecimen of red bone marrow contains multiple capillares through the walls of which mature blood cells penetrate into the bloodstream. What type of capillares are these?

- A. Sinusoidal
- B. Fenestrational
- C. Somatic
- D. Visceral
- E. Lymphatic

92. A 57-year-old patient was admitted to the gastroenterological department with suspicion of Zollinger-Ellison syndrome because of rapid increase of gastrin level in the blood serum. What is the most probable disorder of the secretory function of stomach?

- A. Hyperacidic hypersecretion
- B. Hyperacidic hyposecretion
- C. Achylia
- D. Hypoacidic hyposecretion
- E. Hypoacidic hypersecretion

93. For a long time a 49-year-old woman had suffered from glomerulonephritis which caused death. The autopsy revealed that the size of her kidneys was 7 x 3 x 2,5 cm, weight 65,0 g, they were dense and small-grained. Microscopically: fibrinogenous inflammation of serous and mucous membranes, dystrophic changes of parenchymatous organs, brain edema. What complication can cause such changes of serous membranes and inner organs?

- A. Uraemia
- B. Anemia
- C. Sepsis
- D. DIC-syndrome
- E. Thrombopenia

94. Upper neck node of sympathetic trunk was removed from the rabbit on experiment. Reddening and increased temperature of the skin of head is observed. What disorder of peripheral circulation of the blood has developed?

- A.** Neuroparalytic arterial hyperemia
- B.** Neurotonic arterial hyperemia
- C.** Metabolic arterial hyperemia
- D.** Venous hyperemia
- E.** Stasis

**95.** A tissue sample of benign tumor was studied under the electron microscope. A lot of small (15-20 nm) spherical bodies, consisting of 2 unequal subunits were detected. These are:

- A.** Ribosomes
- B.** Golgi complex
- C.** Smooth endoplasmic reticulum
- D.** Microtubules
- E.** Mitochondria

**96.** A woman who was infected with toxoplasmosis during the pregnancy has born a child with multiple congenital defects. This is a result of:

- A.** Teratogenesis
- B.** Cancerogenesis
- C.** Biological mutogenesis
- D.** Chemical mutogenesis
- E.** Recombination

**97.** A considerable increase of activity of MB-forms of CPK (creatinephosphokinase) and LDH-1 was revealed on the examination of patient's blood. What is the most likely pathology?

- A.** Miocardial infarction
- B.** Hepatitis
- C.** Rheumatism
- D.** Pancreatitis
- E.** Cholecystitis

**98.** An isolated muscle of a frog is rhythmically irritated with electric impulses. Every next impulse is in a period of relaxation from the previous contraction. What contraction of the muscle occurs?

- A.** Waved tetanus
- B.** Single
- C.** Asynchronous
- D.** Continuous (smooth) tetanus
- E.** Tonic

**99.** A 16-year-old boy was performed an appendectomy. He has been hospitalized for right lower quadrant abdominal pain within 18 hours. The surgical specimen is edematous and erythematous. Infiltration by what of the following cells is the most typical for the process occurring here?

- A.** Neutrophils
- B.** Eosinophils
- C.** Basophils
- D.** Lymphocytes
- E.** Monocytes

**100.** ATP synthesis is totally blocked in a cell. How will the value of membrane rest potential change?

- A.** It will disappear
- B.** It will be slightly increased
- C.** It will be considerably increased
- D.** First it will increase, then decrease
- E.** First it will decrease, then increase

**101.** A patient who was previously ill with mastectomy as a result of breast cancer was prescribed radiation therapy. What vitamin preparation has marked radioprotective action caused by antioxidant activity?

- A.** Tocopherol acetate
- B.** Ergocalciferol
- C.** Thiamine chloride
- D.** Riboflavin
- E.** Folic acid

**102.** A patient with tissue trauma was taken a blood sample for the determination of blood clotting parameters. Specify the right sequence of extrinsic pathway activation:

- A.** III - VIIa - Xa
- B.** III - IV - Xa
- C.** IV - VIII: TF - Xa
- D.** IV - VIIa - Xa
- E.** III - VIII: TF - Xa

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

- A.** Fatty parenchymatous degeneration
- B.** Carbohydrate degeneration
- C.** Hyaline degeneration
- D.** Fatty vascular-stromal degeneration
- E.** Amyloidosis

**104.** Parents with an ill child consulted an infectionist. They had been working in one of Asian countries for a long time. The child has sallow skin, loss of appetite, laxity, enlarged liver, spleen, peripheral lymph nodes. What protozoal illness can be suspected?

- A. Visceral leishmaniasis
- B. Balantidiasis
- C. Amebiasis
- D. Toxoplasmosis
- E. Lambliasis

**105.** Healthy parents have got a fair-haired, blue-eyed girl. Irritability, anxiety, sleep and feeding disturbance developed in the first months of the infant's life. Neurological examination revealed developmental lag. What method of genetic investigation should be used for the exact diagnosis?

- A. Biochemical
- B. Cytological
- C. Gemellary
- D. Genealogical
- E. Population-statistical

**106.** The process of heart transplantation determined the viability of myocardial cells. The determination of what myocardium parameter is the most important?

- A. Rest potential of cardiomyocytes
- B. Heart temperature
- C. Concentration of oxygen in heart vessels
- D. Concentration of calcium-ions in myofibrils
- E. Concentration of Ca-ions in heart vessels

**107.** The calcium canals of cardiomyocytes have been blocked on an isolated rabbit's heart. What changes in the heart's activity can result from it?

- A. Decreased rate and force of heart beat
- B. Decreased heart beat rate
- C. Decreased force of the contraction
- D. Heart stops in systole
- E. Heart stops in diastole

**108.** Microscopic examination of the enlarged neck gland of a 14-year-old girl revealed destruction of the tissue structure of the node, absence of the lymph follicles, sclerotic areas and necrosis foci, cell constitution of the node is polymorphous, lymphocytes, eosinophiles, big atypical cells with multilobular nuclei (Beresovsky-Sternberg cells) and mononuclear cells of the large size are present. What is the most likely diagnosis?

- A. Lymphogranulomatosis
- B. Acute lympholeucosis
- C. Chronic lympholeucosis
- D. Berkitt's lymphoma
- E. Fungoid mycosis

**109.** As a result of the damage of one of the Atomic Power Plant reactors the run-out of radioelements took place. People in the high-radiation area were radiated with approximately 250-300 r. They were immediately hospitalized. What changes in the blood count would be typical for the victims?

- A. Lymphopenia
- B. Leukopenia
- C. Anemia
- D. Thrombopenia
- E. Neutropenia

**110.** Dystrophic alterations of heart are accompanied with dilation of heart cavities, decreased force of heart contractions, increased blood volume that remains during systole in the heart cavity, vein overfill. What heart condition is it typical for?

- A. Myogenic dilatation
- B. Tonogenic dilatation
- C. Emergency stage of hyperfunction and hypertrophy
- D. Cardiosclerosis
- E. Cardiac tamponade

**111.** Nowadays about 50 minor bases have been found in the t-RNA structure besides the main four nitrogenous bases. Choose the minor nitrogenous base:

- A. Dihydrouracil
- B. Uracil
- C. Cysteine
- D. Adenine
- E. Cytosine

**112.** A 60-year-old patient fell ill with obturative jaundice as a result of malignant tumour of the big papillary of the duodenal. Lumen of what anatomical structure is compressed by tumour?

- A. Hepatopancreatic ampulla
- B. Cystic duct
- C. Common hepatic duct
- D. Right hepatic duct
- E. Left hepatic duct

**113.** Thyrotoxicosis leads to increased production of thyroidal hormones  $T_3$  and  $T_4$ , weight loss, tachycardia, psychic excitement and so on. How do thyroidal hormones effect energy metabolism in the

mitochondrion of cells?

- A. Disconnect oxidation and oxidative phosphorylation
- B. Activate substrate phosphorylation
- C. Stop substrate phosphorylation
- D. Stop respiratory chain
- E. Activate oxidative phosphorylation

**114.** While shifting the gaze to the closely situated object the refracting power of eye's optical mediums will increase by 10 diopters. It results from changing of such eye structure:

- A. Lens
- B. Cornea
- C. Vitreous body
- D. Liquid of the anterior chamber of eye
- E. Muscle that dilatates pupil

**115.** Necrosis focus appeared in the area of hyperemia and skin edema in few hours after burn. What mechanism strengthens destructive effect in the inflammation area?

- A. Secondary alteration
- B. Primary alteration
- C. Emigration of lymphocytes
- D. Diapedesis of erythrocytes
- E. Proliferation of fibroblasts

**116.** Analeptical remedy of reflective type from the H-cholinomimetics group was given to the patient for restoration of breathing after poisoning with carbon monoxide. What medicine was prescribed to the patient?

- A. Lobeline hydrochloride
- B. Atropine sulphate
- C. Adrenalin hydrochloride
- D. Mesaton
- E. Pentamin

**117.** A patient operated on complicated appendicitis has the following changes of blood count: erythrocytes -  $4,0 \cdot 10^{12}/l$ , Hb - 120 g/l, color index - 0,9, leukocytes -  $18 \cdot 10^9/l$ , basophils - 0, eosinophils - 0, myelocytes - 0, juvenile - 0, stab neutrophils - 20, segmentonuclear neutrophils - 53, lymphocytes - 21, monocytes - 5. How is such nuclear shift of leukocytic formula called?

- A. Degenerative left shift
- B. Right shift
- C. Regenerative left shift
- D. Hyperregenerative
- E. Regeneratively-degenerative

**118.** A patient has got a spasm of smooth muscles of bronchi. Activators of what membrane cytoceptors are physiologically reasoned to stop an attack?

- A.  $\beta$ -adrenoreceptors
- B.  $\alpha$ -adrenoreceptors
- C.  $\alpha$ - and  $\beta$ -adrenoreceptors
- D. H-cholinoreceptors
- E. M-cholinoreceptors

**119.** Intrapleural pressure of an individual is being measured. In what phase did he hold his breath if the pressure is - 25 cm  $H_2O$ ?

- A. Forced inspiration
- B. Quiet expiration
- C. Quiet inspiration
- D. Forced expiration
- E. -

**120.** Blood sampling for the haematology is recommended to carry out on an empty stomach and in the morning. What changes in blood formula are possible if blood sampling was carried out after food intake?

- A. Increase of leukocyte number
- B. Increase of erythrocyte number
- C. Increase of plasm proteins
- D. Decrease of thrombocyte number
- E. Decrease of erythrocyte number

**121.** Glomerular filtration rate (GFR) increased by 20% as a result of prolonged starvation of an individual. The most evident cause of filtration changes under this conditions is:

- A. Decrease of oncotic pressure of blood plasma
- B. Increase of systemic blood pressure
- C. Increase of penetration of the renal filter
- D. Increase of filtration coefficient
- E. Increase of renal plasma stream

**122.** The ovary specimen colored with hematoxylin-eosin contains a follicle, in which cubic-shaped follicle epithelium cells are placed in 1-2 layers, and scarlet membrane is seen around the ovocyte. Name this follicle:

- A. Primary
- B. Primordial
- C. Secondary
- D. Mature
- E. Atretic

**123.** A 42-year-old man suffering from

gout has increased level of urinary acid in blood. Allopurinol was prescribed to decrease the level of urinary acid. Competitive inhibitor of what enzyme is allopurinol?

- A. Xanthine oxidase
- B. Adenosine deaminase
- C. Adenine phosphoribosyltransferase
- D. Hypoxanthine phosphoribosyltransferase
- E. Guanine deaminase

**124.** A child has inhaled a button. Where is it likely to be?

- A. In the right main bronchus
- B. In the left main bronchus
- C. In the trachea
- D. In the larynx
- E. In the esophagus

**125.** A patient with serious damage of muscular tissue was admitted to the traumatological department. What biochemical urine index will be increased in this case?

- A. Creatinine
- B. Common lipids
- C. Glucose
- D. Mineral salts
- E. Uric acid

**126.** Donor skin transplantation was performed to a patient with extensive burns. On the 8-th day the graft became swollen and changed colour; on the 11-th day graft rejection started. What cells take part in this process?

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

**127.** As a result of craniocerebral trauma a patient reveals the following symptoms: intention tremor, dysmetria, adiadochokinesis, dysarthria. What structure of the brain is injured?

- A. Cerebellum
- B. Striatum
- C. Motor cortex
- D. Pale sphere
- E. Black substance

**128.** A patient with infectious mononucleosis had been taking glucocorticoids for two weeks. He was brought into remission, but he fell ill

with acute attack of chronic tonsillitis. What action of glucocorticoids caused this complication?

- A. Immunosuppressive
- B. Anti-inflammatory
- C. Antishock
- D. Antiallergic
- E. Antitoxic

**129.** Autopsy of a 12-year-old girl revealed: multiple cutaneous hemorrhages (mostly into the skin of buttocks, lower extremities), serous and mucous membrane hemorrhages, cerebral hemorrhages. Adrenal glands show focal necrosis and massive hemorrhages; kidneys show necrotic nephrosis, suppurative arthritis, iridocyclitis, vasculitis. What is the most probable diagnosis?

- A. Meningococemia
- B. Epidemic typhus
- C. Periarteritis nodosa
- D. Systemic lupus erythematosus
- E. Radiation sickness

**130.** A 68-year-old woman can't move her upper and lower right extremities due to the stroke. Muscle tone of these extremities and their reflexes are increased. There are pathological reflexes. What form of paralysis is it?

- A. Hemiplegia
- B. Paraplegia
- C. Tetraplegia
- D. Monoplegia
- E. Dissociation

**131.** Most participants of Magellan expedition to America died from avitaminosis. This disease declared itself by general weakness, subcutaneous hemorrhages, falling of teeth, gingival hemorrhages. What is the name of this avitaminosis?

- A. Scurvy
- B. Pellagra
- C. Rachitis
- D. Polyneuritis (beriberi)
- E. Biermer's anemia

**132.** A large-scale reaction with paraptussis and pertussis diagnosticums was made in order to make serological diagnostics of the whooping cough. At the bottom of the test-tubes with diagnosticum of Bordetella paraptussis a granular sediment formed. What antibodies did this reaction reveal?

- A. Agglutinins
- B. Precipitins
- C. Opsonins
- D. Bacteriolysins
- E. Antitoxins

**133.** Part of the DNA chain turned 180 degree as a result of gamma radiation. What type of mutation took place in the DNA chain?

- A. Inversion
- B. Deletion
- C. Doubling
- D. Translocation
- E. Replication

**134.** While having the dinner the child choked and aspirated the food. Meavy cough has started, skin and mucose are cyanotic, pulse is rapid, respiration is infrequent, expiration is prolonged. What disorder of the external respiration has the child?

- A. Stage of expiratory dyspnea on asphyxia
- B. Stage of inspiratory dyspnea on asphyxia
- C. Stenotic respiration
- D. Alternating respiration
- E. Biot's respiration

**135.** A pregnant woman had been having toxicosis with severe repeated vomiting for 24 hours. In the end of the day there appeared tetanic convulsions and fluid loss. What shift of acid-base state caused these changes?

- A. Excretory alkalosis
- B. Gaseous alkalosis
- C. Gaseous acidosis
- D. Metabolic acidosis
- E. Excretory acidosis

**136.** After a trauma a 44-year-old patient had a rupture of left palm muscle tendons and of the superficial blood vessels. After operation and removal of the most part of the necrotically changed muscle tissue the bloodstream was normalized. What vessels have helped to restore the bloodstream?

- A. *Arcus palmaris profundus*
- B. *Arcus palmaris superficialis*
- C. *Aa. digitales palmares communes*
- D. *Aa. metacarpeae palmares*
- E. *Aa. perforantes*

**137.** An 18-year-old patient has enlarged inguinal lymphnodes, they are painless,

thickened on palpation. In the area of genital mucous membrane there is a small-sized ulcer with thickened edges and "laquer" bottom of greyish colour. What is the most probable diagnosis?

- A. Syphilis
- B. Tuberculosis
- C. Lepra
- D. Trophic ulcer
- E. Gonorrhea

**138.** A 45-year-old man applied to the trauma station because of domestic shoulder trauma. Objectively: extension, reduction and pronation functions of the shoulder are absent. What muscle was injured?

- A. Teres major muscle
- B. Subscapular muscle
- C. Teres minor muscle
- D. Infraspinous muscle
- E. Supraspinous muscle

**139.** Diagnostic scraping was performed to the woman with dysfunctional uterine bleeding. Multiple convoluted glands, ganglially dilated lumens of some glands were revealed histologically in the scrape. Name the type of general pathological process in endometry:

- A. Hyperplasia glandulocystica
- B. Atrophy
- C. Metaplasia
- D. Displasia
- E. Hypertrophic excrescence

**140.** Tuberculine was introduced intracutaneously to the child for tuberculin test. Marked hyperemia, tissue infiltration developed on the place of injection in 24 hours. What mechanism caused these modifications?

- A. Cell cytotoxicity
- B. Reagin type cytotoxicity
- C. Antibody cytotoxicity
- D. Granuloma formation
- E. Immunocomplex cytotoxicity

**141.** An intraoperational biopsy of mammal gland has revealed the signs of atypical tissue presented by disorder of parenchyma stroma proportion with domination of the last, gland structures of different size and shape, lined with single-layered proliferative epithelium. What is the most probable diagnosis?

- A.** Fibroadenoma
- B.** Papilloma
- C.** Noninfiltrative cancer
- D.** Infiltrative cancer
- E.** Mastitis

**142.** A 34-year-old patient was diagnosed with chronic glomerulonephritis 3 years ago. Edemata have developed within the last 6 months. What caused the edemata?

- A.** Proteinuria
- B.** Hyperproduction of vasopressin
- C.** Liver dysfunction of protein formation
- D.** Hyperosmolarity of plasma
- E.** Hyperaldosteronism

**143.** An old woman was hospitalized with acute pain, edema in the right hip joint; the movements in the joint are limited. Which bone or part of it was broken?

- A.** The neck of the thigh
- B.** The body of the thigh bone
- C.** Condyle of the thigh
- D.** Pubic bone
- E.** Ischial bone

**144.** Concentration of pyruvate is increased in the patient's blood, the most of which is excreted with urine. What avitaminosis has the patient?

- A.** Avitaminosis B<sub>1</sub>
- B.** Avitaminosis E
- C.** Avitaminosis B<sub>3</sub>
- D.** Avitaminosis B<sub>6</sub>
- E.** Avitaminosis B<sub>2</sub>

**145.** A patient with suspected diphtheria went through bacterioscopic examination. Examination of throat swab revealed rod-shaped bacteria with volutin granules. What etiotropic preparation should be chosen in this case?

- A.** Antidiphtheric antitoxic serum
- B.** Bacteriophage
- C.** Diphtheria antitoxin
- D.** Eubiotic
- E.** Interferon

**146.** A patient with diabetes mellitus experienced loss of consciousness and convulsions after injection of insulin. What is the result of biochemical blood analysis for concentration of the sugar?

- A.** 1,5 mmol/L
- B.** 8,0 mmol/L
- C.** 10,0 mmol/L
- D.** 3,3 mmol/L
- E.** 5,5 mmol/L

**147.** A patient working at a chemical plant was admitted to the toxicological department with mercury poisoning. What medicine should be used?

- A.** Unithiol
- B.** Isonitrozin
- C.** Naloxone
- D.** Activated carbon
- E.** Enterosorbent

**148.** A 63-year-old woman shows symptoms of rheumatoid arthritis. The increase of what blood indices could be the most significant for proving the diagnosis?

- A.** Additive glycosaminoglycans
- B.** Lipoproteids
- C.** Acid phosphatase
- D.** General cholesterol
- E.** R-glycosidase

**149.** An autopsy revealed large (1-2 cm) brownish-red, easy crumbling formations covering ulcerative defects on the external surface of the aortic valve. What is the most likely diagnosis?

- A.** Polypous-ulcerative endocarditis
- B.** Recurrent warty endocarditis
- C.** Acute verrucous endocarditis
- D.** Fibroplastic endocarditis
- E.** Diffusive endocarditis

**150.** A 7-year-old girl has signs of anemia. Laboratory examination revealed pyruvate kinase deficiency in erythrocytes. What process disturbance plays the main role in anemia development?

- A.** Anaerobic glycolysis
- B.** Oxidative phosphorylation
- C.** Tissue respiration
- D.** Peroxide decomposition
- E.** Aminoacids desamination

**151.** A 5-year-old child who often falls ill with respiratory diseases has eczematous appearances after consumption of some food products, tendency to prolonged course of inflammatory processes. What kind of diathesis can be suspected in this case?

- A.** Exudative-catharral
- B.** Hemorrhagic
- C.** Arthritism
- D.** Lymphohypoplastic
- E.** Asthenic

**152.** Low level of albumins and fibri-



nogen was detected in the patient's blood. Decreased activity of what organelle of the liver hepatocytes can most probably cause it?

- A. Granular endoplasmatic reticulum
- B. Agranular endoplasmatic reticulum
- C. Mitochondrions
- D. Golgi complex
- E. Lysosomes

**153.** A duodenal content smear of a patient with indigestion contains protozoa 10-18 mcm large. They have piriform bodies, 4 pairs of filaments, two symmetrically located nuclei in the broadened part of body. What kind of the lowest organisms is it?

- A. Lamblia
- B. Dysentery ameba
- C. Trichomonas
- D. Intestinal ameba
- E. Balantidium

**154.** A 44-year-old woman complains of common weakness, heart pain, considerable increase of body weight. Objectively: moon-like face, hirsutism, AP-165/100 mm Hg, height - 164 cm, weight - 103 kg; fat is mostly accumulated in the region of neck, upper shoulder girdle, stomach. What is the main pathogenetic mechanism of obesity?

- A. Increased production of glucocorticoids
- B. Decreased production of thyroidal hormones
- C. Increased production of insulin
- D. Decreased production of glucagon
- E. Increased production of mineralocorticoids

**155.** After a serious viral infection a 3-year-old child has repeated vomiting, loss of consciousness, convulsions. Examination revealed hyperammonemia. What may have caused changes of biochemical blood indices of this child?

- A. Disorder of ammonia neutralization in ornithine cycle
- B. Activated processes of aminoacids decarboxylation
- C. Disorder of biogenic amines neutralization
- D. Increased putrefaction of proteins in intestines
- E. Inhibited activity of transamination enzymes

**156.** Albinos can't stand sun impact - they don't acquire sun-tan but get sunburns. Dis-

turbed metabolism of what aminoacid underlies this phenomenon?

- A. Phenylalanine
- B. Methionine
- C. Tryptophan
- D. Glutamic acid
- E. Histidine

**157.** A 25-year-old patient complained of the decreased vision. Accommodation disorders, dilated pupil, lack of reaction for the light were revealed on examination. What muscle function is disturbed?

- A. Pupil narrowing muscle, ciliary
- B. Pupil dilating muscle, ciliary
- C. Inferior oblique muscle, ciliary
- D. Lateral rectus muscle, pupil narrowing
- E. Pupil narrowing and dilating muscles

**158.** A patient with continuous bronchopneumonia was admitted to the therapeutic department. Antibiotic therapy didn't give much effect. What medication for improvement of immune state should be added to the complex treatment of this patient?

- A. Timaline
- B. Analgin
- C. Sulfocamphocaine
- D. Benadryl
- E. Paracetamol

**159.** Patient with abscess of the cut wound applied to the traumatological department. In order to clean the wound from the pus doctor washed it with 3% hydrogen peroxide. Foam was absent. What caused the absence of the drug activity?

- A. Inherited insufficiency of catalase
- B. Low concentration  $H_2O_2$
- C. Inherited insufficiency of erythrocyte phosphatodehydrogenase
- D. Shallow wound
- E. Pus in the wound

**160.** Microspecimen of spinal cord contains a nucleus that should be analyzed. Its neurons form motor endings in the skeletal muscles. What nucleus of spinal cord is meant?

- A. Proper nucleus of the anterior horn
- B. Thoracic nucleus
- C. Intermediate lateral nucleus
- D. Proper nucleus of the posterior horn
- E. Proper nucleus of gray substance

**161.** Patient with injured muscles of

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

- A. Satellite-cells
- B. Myoblasts
- C. Myofibroblasts
- D. Fibroblasts
- E. Myoepithelial cells

**162.** A 50-year-old patient with typhoid fever was treated with Levomycetin, next day his condition became worse, temperature rose to 39,6°C. What caused the complication?

- A. The effect of endotoxin agent
- B. Allergic reaction
- C. Irresponsiveness of an agent to the levomycetin
- D. Secondary infection addition
- E. Reinfection

**163.** In the specimen of one of the parts of respiratory system a tubular organ was found. It has low epithelium, well developed muscular tunic, glands and cartilage are absent. Name this organ:

- A. Minor bronchs
- B. Trachea
- C. Larynx
- D. Major bronchs
- E. Median bronchs

**164.** A physician examined a patient and found inguinal hernia. Through what anatomic formation does it penetrate into the skin?

- A. *Hiatus saphenus*
- B. *Anulus femoralis*
- C. *Canalis adductorius*
- D. *Lacuna musculorum*
- E. *Anulus inguinalis superficialis*

**165.** A 40-year-old patient complains of intensive heartbeats, sweating, nausea, visual impairment, arm tremor, hypertension. From his anamnesis: 2 years ago he was diagnosed with pheochromocytoma. Hyperproduction of what hormones causes the given pathology?

- A. Catecholamines
- B. Aldosterone
- C. Glucocorticoids
- D. ACTH
- E. Thyroidal hormones

**166.** A 58-year-old patient with acute

cardiac insufficiency has decreased volume of daily urine - oliguria. What is the mechanism of this phenomenon?

- A. Decreased glomerular filtration
- B. Decreased number of functioning glomerules
- C. Drop of oncotic blood pressure
- D. Rise of hydrostatic blood pressure in capillars
- E. Reduced permeability of renal filter

**167.** A 60-year-old man felt asleep after cerebral hemorrhage for a long time. Damage of what structure caused this state?

- A. Reticular formation
- B. Hippocampus
- C. Nucleus of the cerebral nerves
- D. Cortex of the large hemispheres
- E. Black substance

**168.** Tuberculosis can be treated by means of combined chemotherapy that includes substances with different mechanisms of action. What antituberculous medication inhibits transcription of RNA into DNA in mycobacteria?

- A. Rifampicin
- B. Isoniazid
- C. Streptomycin
- D. Ethionamide
- E. Para-aminosalicylic acid

**169.** A patient experienced a sudden temperature rise up to 39°C. After 6 hours the temperature normalized. On the 2-nd day the attack recurred: in the period of paroxysm the temperature reached 41°C, apyrexial period began after 8 hours. What type of temperature profile is it?

- A. Intermittent
- B. Recurrent
- C. Hectic
- D. Septic
- E. Continued

**170.** Cerebral trauma caused increase of ammonia formation. What amino acid takes part in removal of ammonia from cerebral tissue?

- A. Glutamic
- B. Tyrosine
- C. Valine
- D. Tryptophan
- E. Lysine

**171.** Microscopic examination of the sputum of a patient with pneumonia

occasionally revealed some larvae. Eosinophiles were detected on blood examination. What helminthiasis can be diagnosed?

- A. Ascariasis
- B. Enterobiosis
- C. Trichocephaliasis
- D. Paragonimiasis
- E. Opisthorchosis

**172.** A 40-year-old woman was admitted to the infectious diseases department with high body temperature. Objectively: marked meningeal symptoms. A spinal cord puncture was made. What anatomic formation was punctured?

- A. *Spatium subarachnoideum*
- B. *Spatium subdurale*
- C. *Spatium epidurale*
- D. *Cavum trigeminale*
- E. *Cisterna cerebellomedullaris posterior*

**173.** The energy inputs of a healthy man have been measured. In what state was the patient if his energy inputs were less than the main exchange?

- A. Sleep
- B. Rest
- C. Easy work
- D. Nervous exertion
- E. Calmness

**174.** Examination of a newborn boy's genitals revealed a cleft of urethra that opens on the inferior surface of his penis. What developmental anomaly is meant?

- A. Hypospadia
- B. Hermaphroditism
- C. Epispadia
- D. Monorchism
- E. Cryptorchism

**175.** To prevent long-term effects of 4-day malaria a 42-year-old patient was prescribed primaquine. On the 3-rd day from the begin of treatment there appeared stomach and heart pains, dyspepsia, general cyanosis, hemoglobinuria. What caused side effects of the preparation?

- A. Genetic insufficiency of glucose 6-phosphate dehydrogenase
- B. Cumulation of the preparation
- C. Decreased activity of microsomal liver enzymes
- D. Delayed urinary excretion of the preparation
- E. Drug potentiation by other preparations

**176.** A 17-year-old boy fell seriously ill, body temperature rose up to 38,5°C, there is cough, rhinitis, lacrimation, nasal discharges. What kind of inflammation is it?

- A. Catarrhal inflammation
- B. Serous inflammation
- C. Fibrinous inflammation
- D. Suppurative inflammation
- E. Hemorrhagic inflammation

**177.** A genetics specialist analyzed the genealogy of a family and found that both males and females may have the illness, not across all the generations, and that healthy parents may have ill children. What is the type of illness inheritance?

- A. Autosomal recessive
- B. Autosomal dominant
- C. X-linked dominant
- D. X-linked recessive
- E. Y-linked

**178.** A patient who has been treated with diazepam on account of neurosis complains of toothache. Doctor administered him an analgetic, but its dose was lower than average therapeutic dose. What phenomenon did the doctor take into account while prescribing the patient an underdose?

- A. Potentiation
- B. Summation
- C. Cumulation
- D. Drug dependence
- E. Tolerance

**179.** Inflammatory process of modified subserous layer around cervix of the uterus caused an intensive pain syndrome. In what region of genitals does the pathological process take place?

- A. *Parametrium*
- B. *Mesometrium*
- C. *Myometrium*
- D. *Endometrium*
- E. *Perimetrium*

**180.** Analysis of amniotic fluid that was obtained as a result of amniocentesis (puncture of amniotic sac) revealed cells the nuclei of which contain sex chromatin (Barr's body). What can it be evidence of?

- A. Development of female fetus
- B. Development of male fetus
- C. Genetic disorders of fetus development
- D. Trisomy
- E. Polyploidy

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

- A. Vitamin K deficiency
- B. Activation of tissue thromboplastin
- C. PP hypovitaminosis
- D. Fibrinogen deficiency
- E. Hypocalcemia

**182.** Autopsy of a 46-year-old man revealed multiple brown-and-green layers and hemorrhages on the mucous membrane of rectum and sigmoid colon; slime and some blood in colon lumen; histologically - fibrinous colitis. In course of bacteriological analysis of colon contents *S. Sonne* were found. What is the most probable diagnosis?

- A. Dysentery
- B. Cholera
- C. Salmonellosis
- D. Yersiniosis
- E. Crohn's disease

**183.** A patient had been ill with bronchial asthma for many years and died from asthmatic fit. Histologic lung examination revealed: lumen of bronchioles and small bronches contain a lot of mucus with some eosinophils, there is sclerosis of alveolar septums, dilatation of alveole lumen. What mechanism of development of hypersensitivity reaction took place?

- A. Reagin reaction
- B. Cytotoxic reaction
- C. Immunocomplex reaction
- D. Cytolysis determined by lymphocytes
- E. Granulomatosis

**184.** To anaesthetize the surgical treatment of burn surface, a patient was intravenously injected a medication for short-acting narcosis. 1 minute later the patient being under anaesthesia showed increased blood pressure, tachycardia, increased tone of skeletal muscles; reflexes remained. After recovering from anaesthesia the patient had disorientation and visual hallucinations. What medication was the patient injected?

- A. Ketamine
- B. Sombrevin
- C. Diethyl ether
- D. Thiopental sodium
- E. Nitrous oxide

**185.** Desulfiram is widely used in medical practice to prevent alcoholism. It inhibits aldehyde dehydrogenase. Increased level of what metabolite causes aversion to alcohol?

- A. Acetaldehyde
- B. Ethanol
- C. Malonyl aldehyde
- D. Propionic aldehyde
- E. Methanol

**186.** A 1-year-old child with symptoms of muscle involvement was admitted to the hospital. Examination revealed carnitine deficiency in his muscles. What process disturbance is the biochemical basis of this pathology?

- A. Transporting of fatty acids to mitochondrions
- B. Regulation of  $Ca^{2+}$  level in mitochondrions
- C. Substrate phosphorylation
- D. Lactic acid utilization
- E. Actin and myosin synthesis

**187.** A patient died from acute cardiac insufficiency. The histological examination of his heart revealed the necrotized section in myocardium of the left ventricle, which was separated from undamaged tissue by the zone of hyperemic vessels, small hemorrhages and leukocytic infiltration. What is the most likely diagnosis?

- A. Myocardial infarction
- B. Myocardial ischemic dystrophy
- C. Focal exudate myocarditis
- D. Diffuse exudate myocarditis
- E. Productive myocarditis

**188.** Kidneys of a man under examination show increased resorption of calcium ions and decreased resorption of phosphate ions. What hormone causes this phenomenon?

- A. Parathormone
- B. Thyrocalcitonin
- C. Hormonal form  $D_3$
- D. Aldosterone
- E. Vasopressin

**189.** An isolated cell of human heart automatically generates excitation impulses with frequency 60 times per minute.

nute. What structure does this cell belong to?

- A. Sinoatrial node
- B. Atrium
- C. Ventricle
- D. Atrioventricular node
- E. His' bundle

**190.** While preparing a patient to the operation the heart chambers' pressure was measured. In one of them the pressure changed during one heart cycle from 0 to 120 mm Hg. What chamber of heart was it?

- A. Left ventricle
- B. Right ventricle
- C. Right atrium
- D. Left atrium
- E. -

**191.** Part of alveoles of a preterm infant didn't spread because of enhanced elastic recoil of lungs. How can this recoil be reduced?

- A. By surfactant introduction
- B. By pure oxygene inhalation
- C. By artificial pulmonary ventilation
- D. By fluid suction from the respiratory tracts
- E. By glyucose introduction

**192.** A young man has a painlessl formation without marked borders in the soft tissues of his thigh. On the tissue biopate the formation looks like flesh of fish and consists of immature fibroblast-like cells with multiple mitosis growing through the muscles. What is the most likely diagnosis?

- A. Fibrosarcoma
- B. Myosarcoma
- C. Fibroma
- D. Cancer
- E. Myoma

**193.** In course of prophylactic medical examination a 7-year-old boy was diagnosed to have daltonism. Parents are healthy, color vision is normal. But grandfather from the mother's side has the same disorder. What is the type of inheriting of this anomaly?

- A. Recessive, sex-linked
- B. Dominant, sex-linked
- C. Incomplete domination
- D. Autosomal-recessive
- E. Autosomal-dominant

**194.** Objective examination of a patient revealed: slender figure, big skull, highly developed frontal region of face, short extremities. What constitutional type is it characteristic for?

- A. Respiratory
- B. Muscular
- C. Digestive
- D. Cerebral
- E. Mixed

**195.** A 38-year-old patient died during intractable attack of bronchial asthma. Histologic examination revealed mucus accumulation in bronchial lumen, a lot of fat cells (labrocytes) in the wall of bronches, many of them are in the state of degranulation, there are also a lot of eosinophils. What pathogenesis of bronchial changes is it?

- A. Atopy
- B. Cytotoxic, cytolytic action of antibodies
- C. Immunocomplex mechanism
- D. Cellular cytolysis
- E. Granulomatosis

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

- A. Pulmonary artery embolism
- B. Pulmonary artery thrombosis
- C. Bronchial artery thrombosis
- D. Bronchial artery embolism
- E. Pulmonary venous thrombosis

**197.** Diabetes mellitus causes ketosis as a result of activated oxidation of fatty acids. What disorders of acid-base equilibrium may be caused by excessive accumulation of ketone bodies in blood?

- A. Metabolic acidosis
- B. Metabolic alkalosis
- C. Any changes woun't happen
- D. Respiratory acidosis
- E. Respiratory alcalosis

**198.** A woman with 0 (I) blood group has born a child with AB blood group. This woman's husband has A blood group. What genetic interaction explains this phenomenon?

- A.** Recessive epistasis
- B.** Codominance
- C.** Polymery
- D.** Incomplete dominance
- E.** Complementation

**199.** A 30-year-old woman was diagnosed with insufficiency of exocrinous function of pancreas. Hydrolisis of what nutrients will be disturbed?

- A.** Proteins, fats, carbohydrates
- B.** Proteins, fats
- C.** Proteins, carbohydrates
- D.** Fats, carbohydrates
- E.** Proteins

**200.** A 39-year-old woman has

madescence in the region of mammilla, a small ulcer with inflammatory hyperemia and cutaneous edema. Histologic examination of tissue sampling from this area revealed in the malpighian layer of thickened epidermis atypical cells with light and optically empty cytoplasm, with no intracellular bridges. Such cells were also found in the orifice of big mammal gland ducts. What is the most probable diagnosis?

- A.** Paget's disease
- B.** Intraductal cancer
- C.** Basal cell carcinoma
- D.** Epidermoid cancer
- E.** Melanocarcinoma