

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

- A.** Deficiency of iron-containing enzymes
- B.** Deficiency of vitamin B₁₂
- C.** Decreased production of parathyrin
- D.** Deficiency of vitamin A
- E.** Decreased production of thyroid hormones

2. A 27-year-old woman has used penicillin containing eye drops. In a few minutes itching, skin burning, lips and eyelids edema, whistling cough, decreasing BP appeared. What antibodies can lead to 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 patient with hypersecretion of the gastric juices was recommended to exclude concentrated bouillons and vegetable decoctions from the diet because of their stimulation of gastric secretion. What is dominating mechanism of stimulation of secretion in this case?

- A.** Stimulation of gastrin production by G-cells
- B.** Irritation of taste receptors
- C.** Irritation of mechanoreceptors of the oral cavity
- D.** Irritation of mechanoreceptors of the stomach
- E.** Stimulation of excretion of secretin in the duodenum

4. A journalist's body temperature has sharply increased in the morning three weeks after his mission in India, it was accompanied with shivering and bad headache. A few hours later the temperature decreased. The attacks began to repeat in a day. He was diagnosed with tropical malaria. What stage of development of Plasmodium is infective for anopheles-female?

- A.** Gametocytes
- B.** Shizontes
- C.** Merozoites
- D.** Microgamete
- E.** Sporozoites

5. A 10-year-old child complains of weakness, nausea, irritability. Helminthes

of white color and 5-10 mm long were found on the underwear. On microscopy of the scrape from the perianal folds achromic ova of unsymmetrical form were revealed. Indicate what helminth is parasiting on the child?

- A.** Enterobius vermicularis
- B.** Ancylostoma duodenalis
- C.** Trichuris
- D.** Trichina
- E.** Ascaris lumbricoides

6. A patient has been brought to the hospital with the complaints of headache, pain in left hypochondrium. He has been ill for 1,5 weeks. The sudden illness began with the increase of body temperature up to 39,0°C. In 3 hours the temperature decreased and hydropoiesis began. The attacks repeat rhythmically in 48 hours. The patient had visited one an African country. The doctors have suspected malaria. What method of laboratory diagnostics is necessary to use?

- A.** Blood examination
- B.** Immunological tests
- C.** Stool examination
- D.** Examination of vaginal and urethral discharge
- E.** Urine examination

7. Slime, blood and protozoa 30-200 microns of length have been revealed in a man's feces. The body is covered with cilia and has correct oval form with a little bit narrowed forward and wide round shaped back end. On the forward end a mouth is visible. In cytoplasm there are two nucleuses and two short vacuoles. For whom are the described attributes typical?

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

8. Galactosemia has been revealed in a child. Concentration of glucose in the blood has not considerably changed. What enzyme deficiency caused this illness?

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

9. Synthesis of phospholipids is disordered

under the liver fat infiltration. 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

10. 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

11. A patient in three weeks after acute myocardial infarction has pain in the heart and joints and pneumonia. What is the main mechanism of development of post-infarction Dressler's syndrome?

- A. Autoimmune inflammation
- B. Ischemia of myocardium
- C. Resorption of enzymes from necrotized area of myocardium
- D. Secondary infection
- E. Vessels' thrombosis

12. 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

13. A patient suffering from thrombophlebitis of deep veins suddenly died. The 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 the morbid anatomist?

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

14. Purulent endometritis developed in a woman after delivery. Treating with antibiotics inhibitors of murein synthesis was ineffective. Wide spectrum bactericidal antibiotic was administered to her. In 6 hours temperature rapidly increased up to 40°C with shiver. Muscle pains have appeared. BP dropped down to 70/40 mmHg. Oliguria has developed. What is the main reason for the development of this condition?

- A. Endotoxic shock
- B. Toxic effect of preparation
- C. Internal bleeding
- D. Anaphylactic shock
- E. Bacteremia

15. 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 microcirculatory stream
- C. Nerve elements
- D. Parenchymatous elements of the organ
- E. Lymphatic vessels

16. Methotrexate (structural analogue of the folic acid which is competitive inhibitor of the dihydrofolatreductase) is prescribed for treatment of the malignant tumour. On which level does methotrexate hinder synthesis of the nucleic acids?

- A. Mononucleotide synthesis
- B. Replication
- C. Transcription
- D. Reparation
- E. Processing

17. A 2-year-old child experienced convulsions because of lowering calcium ions concentration in the blood plasma. Function of what structure is decreased?

- A. Parathyroid glands
- B. Hypophysis
- C. Adrenal cortex
- D. Pineal gland
- E. Thymus

18. From the nasopharynx of a 5-year-old child a microorganism was excreted which is identical to *Corynebacterium diphtheri-*

ae dose according to morphological and biochemical signs. 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

19. A patient with encephalopathy was admitted to neurological department. Correlation of increasing encephalopathy and substances absorbed by the bloodstream from the intestines was revealed. What substances created in the intestines can cause endotoxemia?

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

20. 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

21. A 40-year-old woman has had a feeling of abdominal discomfort for the past 8 months. On pelvic examination, there is the right adnexal mass. Abdominal CT scan demonstrates a 7 cm cystic mass involving the right ovary with small areas of calcification. The uterus is normal in size. The right fallopian tube and ovary have been removed surgically. Grossly, the mass on sectioning is filled with abundant hair and sebum. Microscopically, the mass has glandular spaces lined by columnar epithelium, squamous epithelium with hair follicles, cartilage, and dense connective tissue. What type of tumour is it?

- A. Teratoma
- B. Squamous cell carcinoma of ovary
- C. Melanoma
- D. Sarcoma of ovary
- E. Metastase of cervical carcinoma

22. A man died 8 days after the beginning of the disease. He was diagnosed with dysentery. At the autopsy it was found out a thickened wall of the sigma and rectum, fibrinous membrane on the surface of mucous membrane. Histologically: there is a deep necrosis of mucous membrane with infiltration of necrotic masses with fibrin. What kind of colitis does correspond to the changes?

- A. Diphtheritic
- B. Catarrhal
- C. Ulcerative
- D. Chronic
- E. Gangrenous

23. 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

24. 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 auricle
- C. Aorta and inferior vena cava
- D. Pulmonary trunk and superior vena cava
- E. Aorta and superior vena cava

25. 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

26. A woman suffering from dysfunctional metrorrhagia was made a diagnostic abortion. Histologically in the scrape there were a lot of small stamped glandulars covered with multirowed epithelium. The lumens of some glandulars were cystically extended. Choose the variant of general pathologic process in the endometrium.

- A. Glandular-cystic hyperplasia of endometrium
- B. Atrophy of endometrium
- C. Metaplasia of endometrium
- D. Neoplasm of endometrium
- E. Hypertrophic growth

27. A 60-year-old patient was hospitalised 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

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

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

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

- A. Alveocytes type II
- B. Alveocytes type I
- C. Alveolar macrophages
- D. Secretory cells
- E. Fibroblasts

30. A young man felt sharp pain in the

back during active tightening on the horizontal bar. Objectively: pain while moving upper extremity, limited pronation and adduction functions. Sprain of what muscle can be observed here?

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

31. The alternate usage of dichlotiazide, etacrin acid and lasex did not cause marked diuretic effect in the patient with marked peripheral edema. The aldosterone level in the blood is increased. Indicate which medicine should be prescribed:

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

32. A 46 year-old man complains of difficult nose breathing. Mikulich cells, storage of epithelioid cells, plasmocytes, lymphocytes, hyaline balls are discovered in the biopsy material of the nose thickening. What is the most likely diagnosis?

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

33. 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 β -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 α -cells of Langergans' islets
- E. It inhibits absorption of glucose in the intestines

34. During the breakout of acute respiratory infection in order to diagnose influenza the express-diagnosis, based on revealing of specific viral antigen in the examined material (nasopharyngeal lavage), is carried out. Which reaction is used for this?

- A. Immunofluorescence
- B. Complement binding
- C. Agglutination
- D. Precipitation
- E. Opsonization

35. A patient with clinical signs of immunodeficiency has unchanged number and functional activity of T and B lymphocytes. Dysfunction's defect of antigen-presentation to the immunocompetent cells was found during investigation on the molecule level. Defect of what cells is the most probable here?

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

36. The action of electric current on the excitable cell caused depolarization of its membrane. Movement of what ions through the membrane caused depolarization?

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

37. Electrocardiogram of a 45-year-old man showed absence of P-wave in all the leads. What part of the conducting system is blocked?

- A. Sinu-atrial node
- B. Atrioventricular node
- C. Common branch of the bundle of His
- D. Branches of the bundle of His
- E. Purkinje's fibres

38. The alveolar ventilation of the patient is 5 L/min, the breath frequency is 10 per/min, and the tidal volume is 700 ml. What is the patient's dead space ventilation?

- A. 2,0 L/min
- B. 0,7 L/min
- C. 1,0 L/min
- D. 4,3 L/min
- E. -

39. During histological examination of the stomach it was found out that glands contained very small amount of parietal cells or they were totally absent. Mucose

membrane of what part of the stomach was studied?

- A. Pyloric part
- B. Fundus of stomach
- C. Cardia
- D. Body of stomach
- E. -

40. Live vaccine is injected into the human body. Increasing activity of what cells of connective tissue can be expected?

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

41. 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

42. In the blood of a 26-year-old man 18% of erythrocytes of the spherical, ball-shaped, flat and thorn-like shape have been revealed. Other eritrocytes were in the 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

43. In case of enterobiasis acirhine - the structural analogue of vitamin B_2 - is administered. The synthesis disorder of which enzymes does this medicine cause in microorganisms?

- A. FAD-dependent dehydrogenases
- B. Cytochromeoxidases
- C. Peptidases
- D. NAD-dependet dehydrogenases
- E. Aminotransferases

44. When the pH level of the stomach lumen decreases to less than 3, the antrum of the stomach releases peptide that acts in paracrine fashion to inhibit gastrin release. This peptide is:

- A. GIF
- B. Acetylcholine
- C. Gastrin-releasing peptide (GRP)
- D. Somatostatin
- E. Vasoactive intestinal peptide (VIP)

45. 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. -CONH₂
- D. -CH₃
- E. -NH₂

46. The conjugated protein necessarily contains special component as a non-protein part. Choose the substance that can't carry out this function:

- A. HNO_3
- B. ATP
- C. Thiamine pyrophosphate
- D. AMP
- E. Glucose

47. A denaturation of proteins can be found in some substances. Specify the substance that is used for the incomplete denaturation of hemoglobin:

- A. Urea
- B. Toluene
- C. Sulfuric acid
- D. Nitric acid
- E. Sodium hydroxide

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

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

49. 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

50. The 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

51. Only one factor can influence the charge of amino acid radicals in the active centre of enzyme. Name this factor:

- A. pH medium
- B. Pressure
- C. Temperature
- D. The presence of a competitive inhibitor
- E. The surplus of a product

52. The high level of Lactate Dehydrogenase (LDH) isozymes concentration showed the increase of LDH-1 and LDH-2 in a patient's blood plasma. Point out the most probable diagnosis:

- A. Myocardial infarction
- B. Skeletal muscle dystrophy
- C. Diabetes mellitus
- D. Viral hepatitis
- E. Acute pancreatitis

53. Succinate dehydrogenase catalyses the dehydrogenation of succinate. Malonic acid $HOOC - CH_2 - COOH$ is used to interrupt the action of this enzyme. Choose the inhibition type:

- A. Competitive
- B. Allosteric
- C. Non-competitive
- D. Limited proteolysis
- E. Dephosphorylation

54. Pyruvate concentration in the patient's urine has increased 10 times from normal amount. What vitamin deficiency can be the reason of this change:

- A. Vitamin B₁
- B. Vitamin C
- C. Vitamin A
- D. Vitamin E
- E. Vitamin B₆

55. Hydroxylation of endogenous substrates and xenobiotics requires a donor of protons. Which of the following vitamins can play this role?

- A. Vitamin C
- B. Vitamin P
- C. Vitamin B_6
- D. Vitamin E
- E. Vitamin A

56. The gluconeogenesis is activated in the liver after intensive physical trainings. What substance is utilized in gluconeogenesis first of all in this case:

- A. Lactate
- B. Pyruvate
- C. Glucose
- D. Glutamate
- E. Alanine

57. The formation of a secondary mediator is obligatory in membrane-intracellular mechanism of hormone action. Point out the substance that is unable to be a secondary mediator:

- A. Glycerol
- B. Diacylglycerol
- C. Inositol-3,4,5-triphosphate
- D. CAMP
- E. Ca^{2+}

58. There is only one hormone among the neurohormones which refers to the derivatives of amino acids according to classification. Point it out:

- A. Melatonin
- B. Thyroliberin
- C. Vasopressin
- D. Oxytocin
- E. Somatotropin

59. A patient with complaints of 3-day-long fever, general weakness, loss of appetite came to visit the infectionist. The doctor suspected enteric fever. Which method of laboratory diagnosis is the best to confirm the diagnosis?

- A. Detachment of blood culture
- B. Detachment of myeloculture
- C. Detachment of feces culture
- D. Detachment of urine culture
- E. Detachment of pure culture

60. A consumptive patient has an open pulmonary form of disease. Choose what sputum staining should be selected for finding out the tubercle (Koch's) bacillus?

- A. Method of Ziel-Neelsen
- B. Method of Romanowsky-Giemsa
- C. Method of Gram
- D. Method of Neisser
- E. Method of Burry-Gins

61. During surgical operation a blood transfusion was made. The blood must be checked to find antigens of some disease. What disease is expected to be found?

- A. Virus of hepatitis B
- B. Virus of hepatitis A
- C. Adenovirus
- D. Enterovirus
- E. Virus of hepatitis E

62. A person has steady HR not exceeding 40 bpm. What is the pacemaker of the heart rhythm in this person?

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

63. The sterile Petri dishes and pipettes are necessary to prepare for microbiological tests in bacteriological laboratory. What way of sterilization should be applied in this case?

- A. Dry-heat sterilization
- B. Tyndallization
- C. Pasteurization
- D. Steam sterilization in autoclave
- E. Boiling

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

- A. Atropine
- B. Norepinephrine
- C. Proserine
- D. Physostigmine
- E. Pentamine

65. A 58-year-old female has undergone surgery for necrotic bowel. Despite having been treated with antibiotics, on postoperative day 5, she develops symptoms (fever, hypotension, tachycardia, declining urine output, and confusion) consistent with septic shock. What hemodynamic support would be helpful?

- A.** Fluids and Dobutamine infusion
- B.** Dobutamine infusion
- C.** Antibiotic administration
- D.** Fluid administration
- E.** Atropine administration

66. A 42-year-old man who has been injured in a car accident is brought into the emergency room. His blood alcohol level on admission is 250 mg/dL. Hospital records show a prior hospitalization for alcohol related seizures. His wife confirms that he has been drinking heavily for 3 weeks. What treatment should be provided to the patient if he goes into withdrawal?

- A.** Diazepam
- B.** Phenobarbital
- C.** Pentobarbital
- D.** Phenytoin
- E.** None

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

- A.** Salbutamol
- B.** Cromolyn
- C.** Beclomethasone
- D.** Methylprednisolone
- E.** Ipratropium

68. 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 analgesic effect

69. 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

70. Some diseases reveal symptoms of aldosteronism with hypertension and edema due to sodium retention in the organism. What organ of the internal secretion is affected on aldosteronism?

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

71. 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

72. A patient after hypertension stroke does not have voluntary movements in his right arm and leg with the increased muscle tone in these extremities. What type of dysfunction of nervous system is it?

- A.** Central paralysis
- B.** Peripheral paralysis
- C.** Peripheral paresis
- D.** Reflex paresis
- E.** Central paresis

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

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

74. A patient has a malignisation of thoracic part of esophagus. What lymphatic nodes are regional for this organ?

- A.** Anulus lymphaticus cardiae
- B.** Nodi lymphatici paratrachealis
- C.** Nodi lymphatici prevertebralis
- D.** Nodi lymphatici pericardiales laterales
- E.** Nodi lymphatici mediastinales posteriores

75. 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 in the patient?

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

76. 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

77. 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 a sick dogs

78. The patient has come to the hospital from the smelting workshop in the condition of hyperthermia. What is the direct cause of loss of consciousness at the heat stroke?

- A.** Decreased brain blood supply
- B.** Arterial pressure drop
- C.** Increased water loss through sweating
- D.** Decrease of heart output
- E.** Dilatation of peripheral vessels

79. There is an inhibited coagulation in the patients with bile ducts obstruction, bleeding due to the low level of absorption of a vitamin. What vitamin is in deficiency?

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

80. 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 hematopoietic cells)

81. 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

82. 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

83. A 52 year-old patient with bronchial asthma was treated with glucocorticoids. Fever reaction appeared as a result of postinjective abscess. The patient had subfebrile temperature, which didn't correspond to latitude and severity of inflammatory process. Why did patient have low fever reaction?

- A.** Inhibited endogen pyrogens production
- B.** Violation of heat loss through lungs
- C.** Inflammatory barrier formation in injection place
- D.** Violation of heat-producing mechanisms
- E.** Thermoregulation center inhibition

84. Patient 54 year-old, 5th day after surgical operation. Blood count:

Erythrocytes $3,6 \times 10^{12}/l$, Hemoglobin 95 g/l, Erythrocyte's hemoglobin content (color index) 0,78; Leukocytes $16 \times 10^9/l$, Platelets $450 \times 10^9/l$ Blood picture: anisocytosis, poikilocytosis, reticulocytes-3,8%. What anemia does this patient have?

- A. Acute posthemorrhagic anemia
- B. Acquired hemolytic anemia
- C. Anemia from iron deficiency
- D. Hypoplastic anemia
- E. Chronic posthemorrhagic anemia

85. 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

86. X-ray examination discovered lungs emphysema in the patient. What is the reason of short breath development in this case?

- A. Decreased lungs elasticity
- B. Increased lungs elasticity
- C. Inhibition of respiratory center
- D. Excitation of respiratory center
- E. Decreasing of alveoli receptors sensitivity

87. The patient with pneumonia was treated with antibiotics for a long period. After treatment patient complains of frequent and watery stool, abdominal pain. What is the reason of intestine function disorder?

- A. Intestinal disbacteriosis development
- B. Antibiotics toxic influence on the GIT
- C. Autoimmune reaction development
- D. Bacteria toxins influence
- E. Hereditary enzyme defect

88. A 16 year-old patient got numerous traumas in automobile accident. Now the patient is having a shock. AP - 80/60 mm Hg. daily urine volume 60-80 ml. What pathogenic mechanism leads to kidneys function violation?

- A. Decreased hydrostatic pressure in glomerular capillaries
- B. Increased osmotic pressure in glomerular capillaries
- C. Increased pressure in Bowman's capsule
- D. Increased vasopressin blood concentration
- E. Trauma of the urinary bladder

89. 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

90. A 55-year-old patient was hospitalized in result of the trauma of the medial group of femoral muscles. What kind of movements is the patient unable to do?

- A. Adduction of femur
- B. Abduction of femur
- C. Flexion of femur
- D. Extension of femur
- E. Supination of femur

91. 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

92. 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

93. A 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 injure 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

94. A 32-year-old patient has been diagnosed with bartholinitis (inflammation of Bartholin's glands). In what part of the female urogenital system are the Bartholin's glands located?

- A.** The labia major
- B.** The labia minor
- C.** The clitoris
- D.** The vagina
- E.** The uterus

95. A 50 year-old patient was injured on the occipital region of the head. The closed skull's 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

96. A 50 year-old patient had hemorrhage of the brain and was taken to the hospital. The place of hemorrhage was revealed on the lateral hemispheres surfaces during the medical examination. What artery was injured ?

- A.** The middle cerebral artery
- B.** The anterior cerebral artery
- C.** The posterior cerebral artery
- D.** The anterior communicating artery
- E.** The posterior communicating artery

97. A 30-year-old patient was hospitalized due to bleeding of the facial artery . What place on the face has to be pressed to stop

bleeding?

- A.** The mandible's edge
- B.** The mental process
- C.** The mandible's branch
- D.** The nose's back
- E.** The molar bone

98. A 19 year-old patient was diagnosed with appendicitis and was hospitalized. The surgical operation on ablating appendix vermiformis is to be performed. What artery must be fixed to stop bleeding during the surgical operation?

- A.** The ileocolic artery
- B.** The colica dextra
- C.** The colica media
- D.** The colica sinistra
- E.** The iliac

99. An autopsy has revealed that kidneys are enlarged, surface is large-granular because of multiple cavities with smooth wall, which are filled with clear fluid. What kidney disease did the patient have?

- A.** Polycystic kidney
- B.** Necrotic nephrosis
- C.** Pyelonephritis
- D.** Glomerulonephritis
- E.** Infarction

100. 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

101. A 45-year-old man fell on the right knee and felt the acute pain in the joint. On examination: severe edema on the anterior surface of the knee joint. Crunching sounds are heard while moving the joint. Which bone is destroyed?

- A.** Knee-cap
- B.** Neck of the thigh bone
- C.** Left epicondyle of the thigh
- D.** Right epicondyle of the thigh
- E.** Head of the thigh bone

102. 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

103. A 6-year-old child fell on the cutting object and traumatized soft tissues between tibia and fibula . What kind of bone connection was injured?

- A.** Membrane
- B.** Suture
- C.** Ligament
- D.** Fontanel
- E.** Gomphosis

104. An autopsy revealed: soft arachnoid membrane of the upper parts of cerebral hemisphere is plethoric, of yellowish-green color, soaked with purulent and fibrose exudate, it looks like a cap. What disease is characterised by these symptoms?

- A.** Meningococcal meningitis
- B.** Tuberculous meningitis
- C.** Influenza meningitis
- D.** Meningitis at anthrax
- E.** Meningitis at typhus

105. Usually the intravenous injection is done into median cubital vein because it is slightly movable due to fixation by the soft tissues. What does it fix in the cubital fossa?

- A.** Aponeurosis of biceps muscle
- B.** Tendon of the triceps muscle
- C.** Brachial muscle
- D.** Brachioradial muscle
- E.** Anconeus muscle

106. 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

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

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

108. A person was selling "homemade pork"sausages on 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

109. 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

110. The CNS stimulation produced by methylxanthines, such as caffeine, is most likely due to the antagonism of one of the following receptors:

- A.** Adenosine receptors
- B.** Glycine receptors
- C.** Glutamate receptors
- D.** GABA receptors
- E.** Cholinergic muscarinic receptors

111. 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

112. A student is thoroughly summarising a lecture. When his groupmates begin talking the quality of the summarising worsens greatly. What type of inhibition in the cerebral cortex is the cause of it?

- A. External
- B. Protective
- C. Dying
- D. Differential
- E. Delayed

113. 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

114. The donor who had not donated the blood for a long time was examined 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

115. Inhibition of alpha-motoneuron of the extensor muscles was noticed after stimulation of α -motoneuron of the flexor muscles during the experiment on the spinal column. What type of inhibition can be caused by this process?

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

116. A worker has decreased buffer capacity of blood due to exhausting muscular work. The influx of what acid substance in the blood can cause this symptom?

- A. Lactate
- B. Pyruvate
- C. 1,3-bisphosphoglycerate
- D. α -ketoglutarate
- E. 3-phosphoglycerate

117. Substitution of the glutamic acid on valine was revealed while examining initial molecular structure. For what inherited pathology is this symptom typical?

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

118. Inflammation is characterised by increasing penetration of vessels of microcirculation stream, increasing of their fluid dynamic blood pressure. Increasing of the osmotic concentration and dispersity of protein structures can be found in the intercellular fluid. What kind of edema are to be observed in this case?

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

119. 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

120. Autopsy of the 58-year-old man had revealed that mitral valve is deformed, thickened, does not totally close. Microscopically: centers of collagen fibers are eosinophilic, have positive fibrin reaction. The most probable diagnosis is:

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

121. A highly injured person has gradually died. Please choose the indicator of biological death:

- A. Autolysis and decay in the cells
- B. Disarray of chemical processes
- C. Loss of consciousness
- D. Absence of palpitation and breathing
- E. Absence of movements

122. 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

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

- A. Tuberculoma
- B. Lung cancer
- C. Chondroma
- D. Tumorous form of silicosis
- E. Postinflammatory pneumosclerosis

124. A 62-year-old patient was admitted to the neurological department due to cerebral haemorrhage. His condition is grave. There is evident progression of deep and frequent breath that turns into reduction to apnoea and the cycle repeats. What respiration type has developed in the patient?

- A. Cheyne-Stokes respiration
- B. Kussmaul respiration
- C. Biot's respiration
- D. Gasping respiration
- E. Apneustic respiration

125. Punctate hemorrhage was found out in the patient after application of a tourniquet. With dysfunction of what blood cells is it connected?

- A. Platelets
- B. Eosinophiles
- C. Monocytes
- D. Lymphocytes
- E. Neutrophiles

126. In the microspecimen of red bone marrow multiple capillaries were revealed through the walls of which mature blood cells penetrated. What type of capillaries is

it?

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

127. 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 the most probable disorder of the secretory function of the stomach here?

- A. Hyperacidity hypersecretion
- B. Hyperacidity hyposecretion
- C. Achylia
- D. Hypoacidity hyposecretion
- E. Hypoacidity hypersecretion

128. After breathing with poisonous steams there is an increased quantity of slime in respiratory passages of a chemical production worker. What of respiratory tract epithelial cells participate in mucous moistening?

- A. Goblet cells
- B. Fibroblasts
- C. Endocrine cells
- D. Langerhans cells
- E. Intercalated cells

129. A patient suffering from thyrotoxicosis symptoms of vegetoasthenic syndrome was revealed. What of the following would show the histological appearance of a thyroid gland being stimulated by thyroid-stimulating hormone (TSH)?

- A. Columnar-shaped follicular cells
- B. Decreased numbers of follicular cells
- C. Increased numbers of parafollicular cells
- D. An abundance of colloid in the lumen of the follicle
- E. Decreased numbers of parafollicular capillaries

130. 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 7x3x2,5 cm, weight 65,0 g, they were dense and small-grained. Microscopically: fibrinogenous inflammation of serous and mucous capsules, dystrophic changes of parenchymatous organs, brain edema. What complication can cause such changes of serous capsules and inner

organs?

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

131. The reason of occurrence of some diseases of an oral cavity is connected with structural peculiarities of its mucous membrane. What morphological attributes characterize these features?

- A. No muscularis mucosa, stratified squamous epithelium
- B. Transitional epithelium, no submucosa
- C. Simple columnar ciliated epithelium
- D. Well developed muscularis, no submucosa
- E. Transitional epithelium, no muscularis mucosa

132. There is the change of teeth at the 6-8-year-old children: deciduous are replaced by permanent. What embryonic tissues are the sources of formation of permanent teeth tissues?

- A. Ectodermal epithelium of a tooth plate and mesenchyme
- B. Endodermal epithelium of a tooth plate and mesenchyme
- C. Mesodermal epithelium and mesenchyme
- D. I, II brachial arches
- E. Endodermal epithelium and mesoderm

133. The B cells of endocrine portion of pancreas are selectively damaged by alloxan poisoning. How will it be reflected in blood plasma?

- A. The content of sugar increases
- B. The content of fibrinogen decrease
- C. The level of sugar decreases
- D. The content of globulins decreases
- E. The content of albumins decreases

134. A healthy woman has three sons affected by color blindness who were born after her two marriages. Children both of her husbands are healthy. What is the most possible pattern of inheritance of this disease?

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

135. A couple came for medical genetic counseling. The man has hemophilia, the

woman is healthy and there were no cases of hemophilia in her family. What is the risk of having a sick child in this family?

- A. 0
- B. 100%
- C. 75%
- D. 50%
- E. 25%

136. Oval and round organelles with double wall are seen at the electron micrograph. The outer membrane is smooth, the inner membrane folded into cristae contain enzyme ATPase synthetase. These are:

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

137. 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

138. A woman who was sick with rubella during the pregnancy gave birth to a deaf child with hare lip and cleft palate. This congenital defect is an example of:

- A. Phenocopy
- B. Edward's syndrome
- C. Genocopy
- D. Patau's syndrome
- E. Down's syndrome

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

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

140. At the laboratory experiment the eukocyte culture was mixed with staphylococci. Neutrophile leukocytes engulfed and digested bacterial cells. This processes are termed:

- A.** Phagocytosis
- B.** Pinocytosis
- C.** Diffusion
- D.** Facilitated diffusion
- E.** Osmosis

141. Marked increase of activity of MB-forms of CPK (creatinephosphokinase) and LDH-1 was revealed by examination of the patient's blood. What is the most probable pathology?

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

142. 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

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

- A.** Ammonia
- B.** IL-1
- C.** Autoantibody
- D.** Necrosogenic substances
- E.** Ketonic body

144. 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

145. A 19-year-old female suffers from tachycardia in rest condition, weight loss, excessive sweating, exophthalmos and irritability. What hormone would you expect to find elevated in her serum?

- A.** Thyroxine
- B.** Cortisol
- C.** Mineralocorticoids
- D.** ACTH
- E.** Insulin

146. The concentration of albumins in human blood sample is lower than normal. This leads to edema of tissues. What blood function is damaged?

- A.** Maintaining the oncotic blood pressure
- B.** Maintaining the Ph level
- C.** Maintaining the body temperature
- D.** Maintaining the blood sedimentation system
- E.** All answers are correct

147. 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

148. A patient has been taking a mixture prescribed by neuropathologist for neurasthenia for two weeks. The patient feels better but has developed coryza, conjunctivitis, rash, inertia, decrease of memory. She is diagnosed with bromism. What should be prescribed to decrease the symptoms?

- A.** Sodium chloride
- B.** Glucose solution 5%
- C.** Asparcam
- D.** Polyglucin
- E.** -

149. On autopsy of a still-born infant abnormalities have been revealed: ventricles are not separated, a single arterial trunk originates from the right part. For what class of vertebrates is such heart construction characteristic?

- A.** Amphibian
- B.** Fishes
- C.** Reptiles
- D.** Mammals
- E.** Birds

150. If strong oxidizers get into the bloodstream, a methemoglobin is formed. It is a compound, where iron (II) becomes iron (III). What has to be done to save the

patient?

- A. Interchangeable hemotransfusion has to be done
- B. Patient has to be exposed to the fresh air
- C. He has to be calmed down and put to bed
- D. He has to be given pure oxygen
- E. Respiratory centers have to be stimulated

151. A 10-year-old child complains of weakness, nausea, irritability. Helminthes of white color and 5-10 mm long have been found on the underwear. On microscopy of the scrape from the perianal folds achromic ova of the unsymmetrical form have been revealed. Which helminth is in the organism of the child?

- A. Enterobius vermicularis
- B. Ascaris lumbricoides
- C. Ancylostoma duodenalis
- D. Trichina
- E. Trichuris

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

- A. In the collecting duct
- B. In the nephron's glomerulus
- C. In proximal tubule of nephron
- D. In ascending part of loop of Henle
- E. In distal tubule of nephron

153. A patient with the symptoms of acute alcoholic poisoning was brought to the hospital. What carbohydrates metabolism changes are typical for this condition?

- A. The gluconeogenesis velocity in liver is decreased
- B. The gluconeogenesis is increased in liver
- C. The breakage of glycogen is increased in liver
- D. The anaerobic glucose metabolism predominates in muscles
- E. The anaerobic breakage of glucose is increased in muscles

154. A 60-year-old patient was diagnosed with hypothalamic lateral nuclei stroke. What changes in patient's behavior may be expected?

- A. The rejection of food
- B. Aggressive behaviour
- C. Depression
- D. Thirst
- E. Unsatisfied hunger

155. During the experiment on the influence of chemical substances in the muscles the reaction of Ca^{2+} -pump is weakened. Which phenomenon will be observed?

- A. Prolonged relaxation
- B. Prolonged duration of the AP
- C. Decreased AP
- D. Activation of the sodium-potassium pump
- E. Decreased velocity of the AP distribution

156. 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

157. The calcium canals of cardiomyocytes have been blocked on an isolated rabbit's heart. What changes in the heart's activity can happen as a result?

- 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

158. After the trauma, the patient's right *n.vagus* was damaged. Which violation of the cardiac activity is possible in this case?

- A. Violation of the automatism of a Kiss-Fleck node
- B. Violation of the automatism of a atrio-ventricular node
- C. Violation of a conductivity in the right auricle
- D. Block of a conductivity in the atrio-ventricular node
- E. Arrhythmia

159. A 59-year-old man has symptoms of parenchymatous jaundice and portal hypertension. Histological examination of the puncture of the liver bi-

optate has revealed an affected beam-lobule structure, part of hepatocytes has signs of fat dystrophy, port-portal connective tissue septa with formation of pseudo-lobules, with periportal lympho-macrophage infiltrations. What is the most probable diagnosis?

- A. Liver cirrhosis
- B. Alcohol hepatitis
- C. Chronic hepatitis
- D. Viral hepatitis
- E. Toxic dystrophy

160. A 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 and necrosis parts. Cell constitution of the node is polymorphous, lymphocytes, eosinophiles, atypical cells of the large size with multiple-lobule nuclei (Beresovsky-Shternberg cells) and onenucleus large size cells are observed. What is the most likely diagnosis?

- A. Lymphogranulomatous
- B. Acute lympholeucosis
- C. Chronic lympholeucosis
- D. Berkitt's lymphoma
- E. Fungous mycosis

161. A damage of the atomic power plant reactor resulted in the run-out of radioelements. People in the superstandard radiation zone were radiated with approximately 250-300 r. and were immediately hospitalized. What changes in the blood count would be typical?

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

162. Obturative jaundice developed in a 60-year-old patient because of malignant tumour of the big papillary of the duodenal. Lumen of what anatomical structure is squeezed with tumour?

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

163. Necrosis focus was observed in the area of hyperemia and skin edema in a few hours after burn. What mechani-

sm strengthens destructive effects in the inflammation area?

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

164. 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

165. Intrapleural pressure is being measured in a person. In what phase does a person hold his breath if the pressure is - 25 cm H_2O ?

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

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

- A. Increased contents of leukocytes
- B. Increased contents of erythrocytes
- C. Increased plasma proteins
- D. Reduced contents of thrombocytes
- E. Reduced contents of erythrocytes

167. Examination of a person revealed that minute volume of heart is 3500 mL, systolic volume is 50 mL. What is the frequency of cardiac contraction?

- A. 70 bpm
- B. 60 bpm
- C. 50 bpm
- D. 80 bpm
- E. 90 bpm

168. Glomerular filtration rate (GFR) increased by 20% due to prolonged starvation of the person. 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

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

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

170. A patient complains of frequent and difficult urination. Imperfection of what formation can cause it?

- A.** Prostate
- B.** Testicles
- C.** Bulb-uretic glands
- D.** Testicle adnexa
- E.** Sperm bubbles

171. A 45-year-old man with domestic upper arm injury came to the trauma unit. The objective data are: there are no extension, adduction or pronation functions of the arm. What muscle damage caused this condition?

- A.** Teres major
- B.** Subscapular
- C.** Teres minor
- D.** Subspinous
- E.** Supraspinous

172. A 68-year-old woman can not move her upper and lower right extremities after stroke. Muscle tone of these extremities and reflexes are increased. There are pathological reflexes. What form of the paralysis is it?

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

173. Part of the DNA chain turned about 180 degrees due to gamma radiation. What type of mutation took place in the DNA chain?

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

174. A histological specimen presents parenchymal organ, which has cortex and medulla. Cortex consists of epitheliocytes bars with blood capillaries between them; the bars form three zones. Medulla consists of chromaffinocytes and venous sinusoids. Which organ has these morphological features?

- A.** Adrenal gland
- B.** Kidney
- C.** Lymph node
- D.** Thymus
- E.** Thyroid

175. A patient with bronchial asthma had been taking tablets which caused insomnia, headache, increased blood pressure. What medicine can cause such complications?

- A.** Ephedrine
- B.** Adrenaline
- C.** Chromolin sodium
- D.** Euphyline
- E.** Izadrine

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

- A.** Dysentery
- B.** Typhoid
- C.** Nonspecific ulcerative colitis
- D.** Crohn's disease
- E.** Amebiasis

177. Periodic renal colics attacks are observed in a woman with primary hyperparathyroidism. Ultrasonic examination revealed small stones in the kidneys. What is the most plausible reason of the stones's formation?

- A. Hypercalcemia
- B. Hyperphosphatemia
- C. Hypercholesterinemia
- D. Hyperuricemia
- E. Hyperkalemia

178. Ovarian tumour was diagnosed in a woman. Surgery should be performed. What ligament should be extracted by the surgeon to disconnect the ovary and the uterus?

- A. The ovarian ligament
- B. Broad ligament of uterus
- C. Lateral umbilical ligament
- D. Suspensory ligament of ovary
- E. Round ligament of uterus

179. An intraoperative biopsy of mammary gland has revealed the signs of atypical tissue with disorder of parenchyma stroma proportion with domination of the last, gland structures of different size and shape, lined with single-layer proliferative epithelium. What is the most probable diagnosis?

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

180. The increased intraocular tension is observed in a patient with glaucoma. Secretion of aqueous humor by the ciliary body is normal. Injury of what structure of the eyeball caused the disorder of flow-out from the anterior chamber?

- A. Venous sinus
- B. Ciliary body
- C. Choroid
- D. Ciliary muscle
- E. Back epithelium of cornea

181. Chronic glomerulonephritis was diagnosed in a 34-year-old patient 3 years ago. Edema has developed within the last 6 months. What caused the edema?

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

182. Patient with diabetes mellitus experienced loss of consciousness and convulsions after an injection of insulin. What might be the result of biochemical blood analysis for concentration of 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

183. A 63-year-old woman developed symptoms of rheumatoid arthritis. Their increase of which blood values indicators could be the most significant in proving the diagnosis?

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

184. 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. Polypus-ulcerative endocarditis
- B. Recurrent warty endocarditis
- C. Acute warty endocarditis
- D. Fibroplastic endocarditis
- E. Diffusive endocarditis

185. Red colonies spread in the large quantity in the Endo culture medium were revealed on bacteriological stool examination of a 4-month-old baby with the symptoms of acute bowel infection. What microorganism can it be?

- A. Escherichia
- B. Salmonella
- C. Staphylococcus
- D. Streptococcus
- E. Shigella

186. A patient with abscess of the cut wound applied to the traumatological department. The wound was washed with 3% hydrogen peroxide to be cleaned from the pus. Foam was not observed. What caused inefficiency of the drug?

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

187. A 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

188. The study of the genealogy of a family with hypertrichosis (helix excessive pilosis) has demonstrated that this symptom is manifested in all generations only in men and is inherited by son from his father. What is the type of hypertrichosis inheritance?

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

189. A 50-year-old patient with typhoid fever was treated with Levomycetin, the 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

190. A patient after pathological process has a thickened alveolar membrane. The direct consequence of the process will be the reduction of:

- A. Diffuse lung capacity
- B. Oxygen capacity of blood
- C. Minute respiratory capacity
- D. Alveolar lung ventilation
- E. Reserve expiratory capacity

191. Where should the catheter for evacuation of the lymph from the thoracic lymph duct be inserted?

- A. To the left venous corner
- B. To the right venous corner
- C. To the superior vena cava
- D. To the inferior vena cava
- E. To the left inguinal vein

192. The penetration of the irritable cell membrane for potassium ions has been increased during an experiment. What changes of membrane electric status can occur?

- A. Hyperpolarization
- B. Depolarization
- C. Action potential
- D. Local response
- E. No changes

193. The electronic microphoto of kidney fragment has exposed afferent glomerular arteriole, which has giant cells under its endothelium, containing secretory granules. Name the type of these cells:

- A. Juxtaglomerular
- B. Mesangial
- C. Smoothmuscular
- D. Juxtavascular
- E. Interstitial

194. The energy inputs of a healthy man have been measured. In what position 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

195. A man after 1,5 litre blood loss has suddenly reduced diuresis. The increased secretion of what hormone caused such diuresis alteration?

- A. Vasopressin
- B. Corticotropin
- C. Natriuretic
- D. Cortisol
- E. Parathormone

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

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

197. To anaesthetize the manipulation related to burn surface treatment, a patient was intravenously injected a medication for short-acting narcosis. 1 minute later the patient being under anaesthesia had increased blood pressure, tachycardia, increased tone of skeletal muscles; reflexes remained. After awakening the patient had desorientation and visual hallucinations. What medication was the patient injected?

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

198. During complicated labour the symphysis pubis ruptured. What organ can be damaged mostly?

- A.** Urinary bladder
- B.** Rectum
- C.** Ovaria
- D.** Uterine tubes
- E.** Uterus

199. 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

200. A young man has an unpainful formation without marked borders in the soft tissues of his thigh. On the tissue bi-optate 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