1. Teturam (Disulfiram) that is an aldehyde dehydrogenase inhibitor is widely used in medical practice for alcoholism prevention. What metabolite causes an aversion to alcohol, if its blood levels are high?

a. Malonaldehyde
b. Ethanol
c. Acetaldehyde
d. Methanol
e. Propionaldehyde

2. A young person has excessive levels of somatotropic hormone and enlarged nose, lips, ears, lower jaw, hands and feet. What is the most likely diagnosis in this case?

a. Cushing disease
b. Adiposogenital dystrophy
c. Acromegaly
d. Pituitary dwarfism
e. Addison disease

3. A certain syndrome manifests as damage to the teeth, hair, and bones. Each generation has affected persons. Men and women are affected with equal frequency. What is the type of inheritance of this syndrome?

a. X-linked recessive
b. X-linked dominant
c. Autosomal recessive
d. Y-linked
e. Autosomal dominant

4. A patient was treating chronic edema syndrome with furosemide. In the process he developed disturbed cation composition of blood plasma. What should be used to correct the cation composition?

a. Potassium chloride
b. Sodium bicarbonate
c. Calcium chloride
d. Lithium carbonate
e. Sodium chloride

5. A 38-year-old patient died with multiple thromboembolisms of various organs. In the cardiac tissue, macrophage granulomas were detected in the valvular and parietal endocardium with endocardial damage and deposition of thrombotic masses. Macrophage granulomas were detected in the myocardium, as well. These pathological changes are characteristic of the following disease:

a. Rheumatism
b. Systemic lupus erythematosus
c. Essential hypertension
d. Atherosclerosis
e. Infectious myocarditis

6. A doctor observes that during the first breath taken in by a newborn the volume of the exhaled air is 2-3 times smaller than the volume of the inhaled air. Why does it happen?

a. The inspiratory reserve volume is being formed
b. The tidal volume is being formed
c. The vital capacity of the lungs is being formed
d. The total lung capacity is being formed
e. The functional residual capacity of the lungs is being formed

7. A child has a hereditary skin condition - no sweat glands (anhidrosis) - which impairs important skin functions - perspiration and thermoregulation. This condition results from maldevelopment of the following structure during embryogenesis:

a. Ectoderm
b. Sclerotome
c. Dermatome

d. Endoderm
e. Splanchnotome

8. People, who live in mountainous areas, have an increased erythrocyte count in blood, which may be caused by an increase in production of the following in the kidneys:
a. Urokinase
b. Erythropoietin
c. Renin
d. Prostaglandins
e. Vitamin D_3

9. Histological slides of spleen and lymph node show enlargement of lymphoid tissue, which can indicate activation of immune responses. Where in these organs can be found a zone of antigen-independent proliferation and differentiation of B lymphocytes (B zone)?
a. Brain sinuses
b. Mantle zone
c. Periarterial zone
d. Germinal center of a lymph node
e. Paracortical zone

10. A man with suspected typhoid fever was admitted to the infectious diseases hospital on the 3rd day of illness. What microbiological method should be used for diagnostics in this case?
a. Metod of isolation of a blood culture
b. Metod of isolation of a urine culture
c. Metod of isolation of a stool culture
d. Metod of isolation of the causative agent from the cerebrospinal fluid
e. Metod of isolation of a bile culture

11. Autopsy of the body of a patient diagnosed with multiple myeloma, who died with signs of heart failure, shows an enlarged heart with enlarged cavities. The myocardium is pale, dense and has a waxy sheen. Microscopically, Congo red staining results in a positive reaction. What is this pathology of the heart?
a. Hypertensive heart disease
b. Tiger heart disease
c. Cardiac obesity
d. Fatty heart
e. -

12. A patient with chronic cardiovascular failure was taking digoxin. After the patient was prescribed an additional therapy, he developed signs of cardiac glycoside intoxication. What drug can accelerate the process of cardiac glycoside intoxication?
a. Potassium chloride
b. Calcium chloride
c. Asparcam (potassium aspartate and magnesium aspartate)
d. Magnesium chloride
e. Glucose solution

13. A patient with severe poisoning caused by an unknown substance was brought into the intensive care unit. What drug should be used to induce forced diuresis in the patient?
a. Triamterene
b. Spironolactone
c. Hydrochlorothiazide
d. Acetazolamide
e. Furosemide

14. A patient is diagnosed with glucocerebroside lipidosis (Gaucher's disease) that manifests as splenomegaly, liver enlargement, affected bone tissue, and neuropathies. What enzyme of complex lipid catabolism is deficient, causing this disease?
a. Glucocerebrosidase

b. Sphingomyelinase
c. Hyaluronidase
d. Hexosaminidase
e. beta-galactosidase

15. Examination of a surgically excised adrenal gland shows large cells that can be impregnated with a potassium dichromate solution. What hormone is being synthesized by these cells?
a. Secretin
b. Thyroxine
c. Aldosterone
d. Adrenaline
e. Cholecystokinin

16. A patient has been diagnosed with mixed intestinal helminthiasis. An ultra-broad spectrum anthelmintic drug was prescribed for the treatment in this case. This drug inhibits the polymerization of tubulin protein in helminths. What drug is it?
a. Doxycycline
b. Chingamine (Chloroquine)
c. Albendazole
d. Metronidazole
e. Fluconazole

17. A patient diagnosed with rheumatic myocarditis periodically experiences irregular pulse. The ECG reveals irregular occurrences of idioventricular extrasystoles. What pathogenetic mechanism causes a compensatory pause in this case?
a. Delay of excitation in the atrioventricular node
b. Retrograde conduction of excitation to the atria
c. Inhibition of sinus node functioning
d. Myocardial refractoriness before receiving the next impulse
e. Disturbed myocardial contractility

18. A patient presents with a purulent inflammatory process in the thigh region (a post-injection abscess). Whath lymph nodes become enlarged because of this process?
a. Posterior cervical
b. Submandibular
c. Popliteal
d. Inguinal
e. Paratracheal

19. An older woman has broken her arm four times already. What substance makes bones more fragile, if its concentration is increased?
a. Nonorganic substances
b. Extracellular fluid
c. Binding substance
d. Water
e. Organic substances

20. A woman has been diagnosed with the bone marrow syndrome of acute radiation sickness. What hematological symptoms will be observed during the height of the disease?
a. Relative lymphopenia
b. Erythrocytosis
c. Relative lymphocytosis
d. Pancytopenia
e. Left-shift of the leukogram

21. In a 40-year-old man, testicular inflammation was complicated by hydrocele testis. A surgery is necessary. What testicular tunic would be the last to be dissected by the surgeon during the operation?
a. Internal spermatic fascia

b. Cremaster muscle
c. Parietal layer of the tunica vaginalis of the testicle
d. External spermatic fascia
e. Tunica dartos

22. Examination of a 7-year-old child detects clinical signs of Down's syndrome. What is the cause of this pathology?
a. Trisomy 21
b. Trisomy 13
c. Deletion of the short arm of chromosome 21
d. Nondisjunction of sex chromosomes
e. Trisomy X

23. A patient has been diagnosed with mitral valve stenosis. What pathogenetic type of heart failure is it?
a. Heart failure due to myocardial hypertrophy
b. Volume overload-induced heart failure
c. Pressure overload-induced heart failure
d. Heart failure due to myocardial damage
e. Mixed form of heart failure

24. For the treatment of glaucoma, the patient was prescribed a diuretic along with other drugs. This diuretic inhibits carbonic anhydrase, reduces the formation of intraocular fluid and improves its efflux. Name this drug.
a. Acetazolamide
b. Spironolactone
c. Chlorthalidone
d. Furosemide
e. Hydrochlorothiazide

25. Increased levels of direct bilirubin and bile acids were detected in the blood of a patient with jaundice. There is no stercobilinogen in the patient's urine. In what type of jaundice can these signs be observed?
a. Mechanical
b. Hepatic
c. Suprahepatic
d. Hemolytic
e. Parenchymatous

26. A 25-year-old woman complains of deteriorating vision. Examination revealed a defect in accommodation, the pupil is dilated and unresponsive to light. What muscles are functionally disturbed in this case?
a. Iris sphincter muscle, ciliary muscle
b. Superior oblique muscle, ciliary muscle
c. Iris sphincter and iris dilator muscles
d. Iris dilator muscle, ciliary muscle
e. Lateral rectus muscle, iris sphincter muscle

27. Blood test of the patient revealed albumin content of 20 g/L and increased activity of lactate dehydrogenase isoenzyme 5 (LDH_5). The disorder of which organ indicate these results?
a. Spleen
b. Kidneys
c. Lungs
d. Heart
e. Liver

28. After the introduction of a large dose of antibodies into the glomerular basement membrane of the kidney, the experimental animal developed acute glomerulonephritis. This pathology is based on the following type of allergic reaction according to the Gell-Coombs classification:

a. Delayed hypersensitivity
b. Stimulating
c. Cytotoxic
d. Anaphylactic
e. Immune complex-mediated

29. Phenylketonuria belongs to the following group of molecular metabolic diseases:
a. Hereditary diseases of connective tissue metabolism
b. Disorders of amino acid metabolism
c. Hereditary diseases of lipid metabolism
d. Disorders of carbohydrate metabolism
e. Disorders of mineral metabolism

30. Examination of an 18-year-old girl detects the following: underdeveloped ovaries, broad shoulders, narrow pelvis, shortened legs, "neck of the sphinx", normal mental development. Provisionally, she was diagnosed with Turner syndrome. What method can be used to confirm this pathology?
a. Dermatoglyphics
b. Genealogical method
c. Biochemical method
d. Twin study
e. Cytogenetics

31. A 45-year-old man complains of a plaque-like formation on his neck. Histology of the skin biopsy material detected clusters of round and oval tumor cells with thin layer of basophilic cytoplasm. These cells resemble the cells of basal layer of epidermis. Specify the name of this tumor:
a. Epidermal carcinoma
b. Trichoepithelioma
c. Hidradenoma
d. Basal cell carcinoma
e. Syringoadenoma

32. Hepatocytes of a man, who died of chronic alcoholism, have an increased count of single membrane-bound organelles that contain catalase enzyme and take part in the detoxification process. Name these organelles:
a. Golgi apparatus
b. Peroxisomes
c. Ribosomes
d. Mitochondria
e. Lysosomes

33. In the course of an urgent surgery, the vermiform appendix of the patient was excised. The appendix was acutely distended and gray-black throughout its whole length. In the distal segment a defect of the appendix wall was detected, through which a foul-smelling gray-brown substance was being discharged from the appendix lumen. Histological analysis shows necrotization of the appendix wall with hemorrhagic foci; lumen of the mesenteric artery is filled with a trombus. What type of appendicitis is it?
a. Chronic
b. Acute superficial
c. Acute phlegmonous
d. Acute simple
e. Acute gangrenous

34. A patient died of chronic renal failure. The patient's pericardial leaflets are dull-colored and have gray and thin filamentous coating. What pathological process occurred in the pericardium?
a. Fibrinous inflammation
b. Catarrhal inflammation
c. Purulent inflammation

d. Proliferative inflammation
e. Serous inflammation

35. A patient presents with a sharp decrease in oncotic pressure and albumin levels in the blood plasma. What would be the result of this condition?
a. Edema
b. Reduced diuresis
c. Increased blood density
d. Reduced ESR
e. Increased blood volume

36. A man has been working for a long time in oil processing. What type of carcinogens does he encounter at his workplace?
a. Polycyclic aromatic hydrocarbons
b. Nitrosamines
c. Biological carcinogens
d. Amino-azo compounds
e. Amines

37. A 36-year-old man has been diagnosed with herpes simplex of the mucosa of the lips. As a part of complex therapy, the doctor prescribed him a topical drug with antiviral effect. What drug is it?
a. Amikacin
b. Acyclovir
c. Thymalinum
d. Interferon
e. Rimantadine

38. Insufficient production of mineralocorticoids (Addison disease) is accompanied by muscle weakness caused by increased excretion of the following ions with urine:
a. Potassium
b. Sodium
c. Calcium
d. Magnesium
e. Hydrogen

39. Trauma of peripheral nerves leads to muscle atrophy, bones become porous and brittle, ulcers develop on the skin and mucosa. What function of the nervous system is affected in such cases?
a. Trophic
b. Sensory
c. Motor
d. Vegetative
e. Higher nervous activity

40. A patient came to the dentist with complaints of pain and redness of oral mucosa and swollen gums. The patient was diagnosed with herpetic gingivostomatitis. This disease is likely to be caused by:
a. Cytomegalovirus
b. Herpes simplex virus 1
c. Varicella zoster virus
d. Herpes simplex virus 2
e. Epstein-Barr virus

41. During diabetes mellitus and starvation, the number of acetone bodies in blood increases. These bodies are used as a source of energy and are synthesized from the following substance:
a. Acetyl-CoA
b. Ketoglutarate
c. Citrate
d. Malate
e. Succinyl-CoA

42. A biopsy material obtained from the mucosa of a patient with bronchial asthma contains a significant number of cells with numerous metachromatic granules. Name these cells.

a. Plasma cells
b. Fibroblasts
c. Tissue basophils
d. Macrophages
e. Reticulocytes

43. What part of the nervous system increases its activity under the influence of thyroid hormones?

a. Parasympathetic division of autonomic nervous system
b. Sympathetic division of autonomic nervous system
c. Somatic nervous system
d. Parasympathetic and metasympathetic divisions of autonomic nervous system
e. Metasympathetic division of autonomic nervous system

44. When performing a surgery on the knee joint, the doctor must keep in mind the artery that gives the largest number of branches for the formation of the arterial network around the knee joint. What artery is it?

a. A) femoralis
b. A) poplitea
c. A) tibialis posterior
d. A) tibialis anterior
e. A) fibularis

45. In practically healthy individuals, moderate physical exertion causes an increase in the systolic pressure and a slight decrease in the diastolic pressure. What causes such changes?

a. Increased tone of the arterioles and increased volume of the blood depot
b. Increased volume of the circulating blood
c. Increased force of cardiac contractions and relaxation of the arterioles due to the effect of lactic acid
d. Increased force and rate of cardiac contractions
e. Increased renin release due to a decreased blood supply to the kidneys

46. A laboratory received a sample of the patient's sputum. It is necessary to perform bacteriological tests for tuberculosis. What technique should the medical laboratory scientist use to stain the preparation for detection of mycobacteria?

a. Methylene blue
b. Gram
c. Romanowsky-Giemsa
d. Ziehl-Neelsen
e. Fuchsin

47. A 65-year-old woman, who had been suffering from deep vein thrombophlebitis of the lower leg, suddenly died when awaiting her appointment with the doctor. Autopsy revealed loose friable red masses with corrugated dull surface in the main pulmonary artery and its bifurcation. What pathologic process was discovered by the pathologist in the pulmonary artery?

a. Fat embolism
b. Foreign body embolism
c. Thromboembolism
d. Thrombosis
e. Tissue embolism

48. Histology of the biopsy material obtained from a mammary gland detects large neoplastic epithelial cells in the epithelium of the ducts, the epidermis of the nipple, and the adjacent skin areas. These cells have a hyperchromic nucleus and pale cytoplasm. They originate from the epithelium of apocrine glands. The cells are isolated and located mostly along basal epidermal cells. What is the most likely diagnosis in this case?

a. Paget's cancer

b. Infiltrating lobular cancer
c. Adenofibroma
d. Simple (usual) ductal hyperplasia
e. Medullary cancer

49. A 26-year-old patient complains of muscle pain, seizures, muscle weakness, and red urine, observed after minor physical exertion. Muscle biopsy detected accumulation of glycogen in the muscles. No changes were detected during liver biopsy. What disease is most likely in the patient?
a. Von Gierke disease
b. Niemann-Pick disease
c. Hartnup disease
d. Maple syrup urine disease
e. McArdle disease

50. One of the parts of the central nervous system has a layered arrangement of neurons, among which there are stellate, spindle-shaped, horizontal, and pyramidal cells. This structure corresponds with the following part of the nervous system:
a. Cerebral cortex
b. Medulla oblongata
c. Hypothalamus
d. Spinal cord
e. Cerebellum

51. A patient presents with impaired sensitivity on the lateral surface of the forearm. What nerve is damaged in this case?
a. N. medianus
b. N. axillaris
c. N. ulnaris
d. N. musculocutaneus
e. N. radialis

52. Microscopy of the stools of a patient with profuse diarrhea, repeated episodes of vomiting, and increasing intoxication detected Gram-negative rod-shaped microorganisms that resembled a comma and were arranged in groups that looked like shoals of fish. A culture of the pathogen was isolated using the storage medium - 1% peptone water, where it formed a delicate film. What disease can be caused by the pathogen that was isolated in this case?
a. Cholera
b. Shigellosis
c. Salmonellosis
d. Intestinal yersiniosis
e. Pseudotuberculosis

53. Pathogenic bacteria can actively penetrate into the internal environment of the body and intensively spread through the tissues. What enzyme gives bacteria their invasive properties?
a. Hyaluronidase
b. Catalase
c. Oxidoreductase
d. Plasma coagulase
e. Lactase

54. A 50-year-old woman has been hospitalized with a closed craniocerebral injury in the area of the occipital bone. Examination revealed impaired gait, disturbed balance, and hand tremors. What part of the brain is damaged in this case?
a. Medulla oblongata
b. Pons
c. Diencephalon
d. Cerebellum
e. Spinal cord

55. A 38-year-old man died while trying to lift a weight. Autopsy of the body shows a rupture of an extensive aneurysm of the thoracic aorta. The man had a history of visceral syphilis. What pathological process in this case resulted in the decreased strength of the aortic wall, its distension and rupture?

a. Damage to elastic fibers
b. Atrophy of the muscular layer
c. Vascular neoplasms
d. Endovasculitis
e. -

56. After chronic pneumonia a patient developed pulmonary fibrosis. What indicator of pulmonary ventilation will be the most affected in this case?

a. Vital capacity will decrease
b. Residual volume will increase
c. Functional residual capacity will increase
d. Inspiratory reserve volume will increase
e. Expiratory reserve volume will increase

57. When examining a biopsy material obtained from the thyroid gland, the pathologist discovered lymphocyte infiltration of the thyroid tissues and destruction of the parenchymal elements. Diffuse lymphocyte infiltration with lymphoid follicles was detected in the stroma. What is the most likely diagnosis?

a. Papillary thyroid cancer
b. Hashimoto thyroiditis (chronic lymphocytic thyroiditis)
c. Graves disease (toxic diffuse goiter)
d. Undifferentiated thyroid carcinoma
e. Solid adenoma of the thyroid

58. A 14-year-old adolescent has diphtheria. During the peak of the disease against the background of acute drop in body temperature and tachycardia the blood pressure is 70/50 mm Hg. What type of vascular tone disturbance is it?

a. Chronic hypotension
b. -
c. Somatoform autonomic dysfunction
d. Acute hypotension
e. Essential hypotension

59. A 55-year-old man was examined by the endocrinologist because of a disturbance in the pancreatic endocrine function. This disturbance manifests as decreased blood glucagon levels. What cells of this gland do not function properly in this case?

a. PP cells
b. D cells
c. A cells
d. B cells
e. D1 cells

60. A patient with streptococcal pneumonia was prescribed an antimicrobial drug that disrupts formation of microbial shell. What drug is it?

a. Doxycycline hydrochloride
b. Erythromycin
c. Gentamycin sulfate
d. Benzylpenicillin sodium salt
e. Azithromycin

61. The causative agent of tuberculosis can exist both intracellularly and extracellularly, as well as in caseous necrosis. What drug can have a harmful effect on Mycobacterium tuberculosis of any localization?

a. Ethambutol

b. Isoniazid
c. Streptomycin
d. Rifampicin
e. Sodium aminosalicylate

62. Respiratory quotient was measured in a patient, who for 10 days was keeping to a strict diet. The patient's respiratory quotient was 1.0. What kind of diet was it?
a. Mainly containing lipids and carbohydrates
b. Mixed type
c. Mainly containing carbohydrates
d. Mainly containing proteins and carbohydrates
e. Mainly containing proteins and lipids

63. A woman with menstrual disorders that include prolonged bleeding presents with hypochromia, low reticulocyte count, microcytosis, and hyposideremia. What pathogenetic group of anemia is it?
a. B_{12 and folate-deficiency anemia
b. Hemolytic anemia
c. Hypoplastic anemia
d. Metaplastic anemia
e. Iron-deficiency anemia

64. A woman giving birth has an increased pain threshold due to activation of the following system:
a. Sympathoadrenal and pituitary-adrenal
b. Antinociceptive
c. Sympathoadrenal
d. Sympathoadrenal and antinociceptive
e. Pituitary-adrenal and antinociceptive

65. Histological microslide of the wall of the eyeball shows a structure with no blood vessels. This morphological feature is characterisic of:
a. Choroid
b. Iris
c. Cornea
d. Ciliary body
e. Retina

66. For relief of pain syndrome, a patient with myocardial infarction was prescribed an analgesic. The patient's condition improved, but with time the patient developed euphoria and miosis. The doctor noted respiratory depression. What medicine was prescribed in this case?
a. Ibuprofen
b. Baralgin (Metamizole)
c. Meloxicam
d. Paracetamol
e. Morphine hydrochloride

67. During a surgery on the thoracic spine, the surgeon severed the ligaments that connect the vertebral arches. What ligaments were severed by the surgeon?
a. Ligg. interspinalia
b. Ligg. flava
c. Lig. supraspinale
d. Ligg. intertransversaria
e. Lig. longitudinale posterius

68. Leukotrienes belong to cellular mediators of inflammation. These bioactive substances form as a result of enzyme action. Name this enzyme:
a. Cyclooxygenase 1
b. Phospholipase A2
c. Thromboxane synthetase
d. Lipoxygenase

e. Cyclooxygenase 2

69. Inhibition of nociceptive information occurs with the participation of many mediators, except:
a. Glutamate
b. GABA
c. Noradrenaline
d. Serotonin
e. Endorphin

70. A 43-year-old patient, who had been suffering from tuberculosis for a long time, developed bleeding from the lungs, which resulted in the patient's death. Autopsy detected several oval and round cavities in the lungs. The walls of the cavities were formed by necrotic masses and lung tissue. What form of tuberculosis can be characterized by these pathological changes?
a. Tuberculoma
b. Caseous pneumonia
c. Acute focal tuberculosis
d. Fibrocavitary tuberculosis
e. Acute cavernous tuberculosis

71. A patient was hospitalized with provisional diagnosis of acute pancreatitis. What enzyme will have a markedly increased activity in the patient's blood and urine in this case?
a. Lactate dehydrogenase
b. Alanine aminotransferase
c. Creatine phosphokinase
d. Alpha-amylase
e. Aspartate aminotransferase

72. After a long-term antibiotic therapy, a patient developed whitish spots on the oral mucosa. Gram-positive oval budding cells were detected in the prepared smears. Name these pathogens.
a. Actinomycetes
b. Tetracocci
c. Staphylococci
d. Candida fungi
e. Sarcina

73. A patient with hepatic pathology developed bradycardia, low blood pressure, and signs of nervous system depression. What hepatic pathology can be characterized by these signs?
a. Cholemic syndrome
b. Hepatorenal syndrome
c. Acholic syndrome
d. Dyscholia
e. Portal hypertension syndrome

74. As the result of a trauma, the semicircular canals in the patient's inner ear were damaged. This person will be unable to respond adequately to the following stimuli:
a. Angularly accelerated motion
b. Linearly accelerated motion
c. Sound
d. Photic
e. Cutaneous

75. A 30-year-old man complains of abdominal pain and diarrhea that persist for 5 days already, chills, and fever of 37.5^oC) The day before, he was in a forest, where he was drinking from an open body of water. Bacteriology confirmed the diagnosis of amebic dysentery. What is the drug of choice for the treatment of this condition?
a. Metronidazole
b. Phthalazol (Phthalylsulfathiazole)
c. Levomycetin (Chloramphenicol)
d. Furazolidone

e. Emetine hydrochloride

76. A man has facial asymmetry that becomes especially noticeable when he is trying to actively contract his facial muscles. What nerve is functionally impaired in this case?

a. Trigeminal nerve, branch II
b. All branches of the trigeminal nerve
c. Trigeminal nerve, branch III
d. Facial nerve (motor branches)
e. Trigeminal nerve, branch I

77. A patient is diagnosed with herpetic stomatitis. What should be prescribed for treatment in this case?

a. Acyclovir
b. Thymalin
c. Clotrimazole
d. Sulfacyl-sodium (Sulfacetamide)
e. Tetracycline

78. Copper deficiency has an effect on energy metabolism in the human body. What substance becomes deficient as a result of this process?

a. Succinate dehydrogenase
b. Arginase
c. Pyruvate carboxylase
d. Cytochrome oxidase
e. Lactate dehydrogenase

79. A local anesthetic has been topically applied to the tip of the patient's tongue. Which taste sensation will be lost in this case?

a. Sour and salty
b. Sour
c. Salty
d. Bitter
e. Sweet

80. A patient has undergone a surgery for installation of a mitral valve prosthesis. Choose the drug to prevent thrombus formation in this patient.

a. Paracetamol
b. Warfarin
c. Acetylsalicylic acid
d. Urokinase
e. Dipyridamole

81. A 40-year-old man with impaired venous patency in the lower limbs developed edemas. What mechanism plays the main role in the development of this disturbance?

a. Elevated filtration pressure
b. Decreased gradient of osmotic pressure between blood and tissue
c. Hypoproteinemia
d. Disturbed humoral regulation of water-mineral balance
e. Positive fluid balance

82. A 15-year-old teenager was hospitalized into the allergology department with diagnosis of bronchial asthma. In this case the development of main clinical signs is caused by overproduction of certain antibodies. Name these antibodies:

a. -
b. IgA
c. IgM
d. IgD
e. IgE

83. Autopsy of the body of a 67-year-old man shows acutely swollen and dull rectosigmoid mucosa in his large intestine. The mucosa there has multiple erosions and ulcers, as well as single polyps. Histologically, the mucosa has acute infiltrations consisting of lymphocytes, plasma cells, neutrophilic granulocytes, and eosinophils, which are located mainly in the lumina of the crypts (crypt abscesses). The intestinal wall is sclerotic and there are proliferations of granulation tissue that form polyps. What is the most likely diagnosis?

a. Crohn disease
b. Dysentery
c. Typhoid fever
d. Exacerbation of nonspecific ulcerative colitis
e. Acute ulcerative colitis

84. Microscopy of a woman's vaginal swab detects cells with cytoplasmic inclusions. The doctor has provisionally diagnosed the patient with chlamydiosis. What test should be used to detect antibodies and confirm this diagnosis?

a. Agglutination reaction
b. Precipitation reaction
c. Reverse indirect hemagglutination
d. Enzyme immunoassay
e. Vidal's reaction

85. A 55-year-old patient complains of pain in the joints that becomes worse before changes in the weather. Blood tests detect high levels of uric acid. What substance is breaking down, likely causing this condition in the patient?

a. -
b. Thymidine monophosphate
c. Uridine monophosphate
d. Cytidine monophosphate
e. Adenosine monophosphate

86. A patient has been diagnosed with mucopolysaccharidosis. In this disease, certain substances typically become deposited in various tissues of the body. Name these substances.

a. Glycosaminoglycans
b. Fructose
c. Glycogen
d. Fatty acids
e. Triglycerides

87. Microscopy of a lung tissue shows an inflamed area that consists of a necrotic focus surrounded by regular rows of epithelioid and lymphoid cells. There are plasma cells, macrophages, and Pirogov-Langhans giant multinucleated cells. Specify the type of such inflammation.

a. Typical productive inflammation
b. Leprosy inflammation
c. Exudative inflammation
d. Alterative inflammation
e. Tuberculous inflammation

88. In the lungs, an enzyme breaks down carbonic acid (H_2CO_3) into water and carbon dioxide that is released with the air. What enzyme catalyzes this reaction?

a. Catalase
b. Peroxidase
c. Carbonic anhydrase
d. Cytochrome oxidase
e. Cytochrome

89. Antileukocytic antibodies are detected in the blood of a patient with leukopenia. What type of Coombs-Gell hypersensitivity reaction developed in this case?

a. Anaphylactic

b. Stimulating
c. Immune complex-mediated
d. Cytotoxic
e. Delayed-type hypersensitivity

90. After administration of antitetanus serum the patient developed anaphylactic shock. What cells produce mediators in classic anaphylactic reaction?
a. Eosinophils
b. Neutrophils
c. B lymphocytes
d. Mast cells
e. T lymphocytes

91. A nurse was making an intramuscular injection into the posterior surface of the patient's shoulder. Suddenly the patient felt a severe pain in her shoulder muscles, which spread to the posterior surface of the forearm. What nerve was damaged during the injection?
a. Axillary nerve
b. Radial nerve
c. Ulnar nerve
d. Median nerve
e. Musculocutaneous nerve

92. Before surgery, a patient with a hepatic disorder was prescribed a drug that activates the synthesis of blood coagulation factors and is a synthetic water-soluble analogue of a certain vitamin. Name this drug.
a. Neodicumarin
b. Validol (Menthyl isovalerate)
c. Heparin
d. Menadione
e. Neostigmine

93. Due to an uncontrolled intake of a vitamin supplement, a child developed anorexia, nausea, vomiting, diarrhea, hyperthermia, hemorrhages on the skin and mucosa, as well as the signs of meningism. What supplement was the child taking?
a. Retinol acetate
b. Nicotinamide
c. Thiamine
d. Tocopherol acetate
e. Cyanocobalamin

94. The parents with normal hearing have two daughters and a son, who are congenitally deaf. Their other 5 children are healthy. What is the pattern of deafness inheritance in this case?
a. X-linked recessive
b. Autosomal recessive
c. Y-linked
d. Autosomal dominant
e. X-linked dominant

95. A newborn with asphyxia was administered a drug for direct stimulation of the respiratory center. This drug has an anti-inflammatory, anti-allergic, and broncholytic effects. It also inhibits the cerebral cortex and does not cause seizures. What drug has such characteristics?
a. Bemegride
b. Nikethamide
c. Aethimizolum
d. Lobeline
e. Camphor

96. Autopsy of the body of a patient who died with signs of cardiopulmonary failure shows deformed bronchi with sack-like protrusions of the bronchial wall and purulent inflammation. Hypertrophy of the

right ventricle was detected in the heart. Amyloidosis can be observed in the kidneys. The patient's history indicates that for the last 8 years the patient complained of asphyxia and cough with purulent sputum, the patient's fingers resembled drumsticks. What disease can be characterized by these pathological changes?

a. Chronic bronchitis
b. Tuberculosis
c. Abscess
d. Bronchiectasis
e. Acute bronchitis

97. A patient with bronchopulmonary aspergillosis developed allergic rhinitis. Enzyme-linked immunosorbent assay detects elevated levels of IgE) What cell type expresses receptors for IgE on its cell surface, which stimulates the cell to respond to parasites, such as worms?

a. T cells
b. B cells
c. Promonocytes
d. Mast cells
e. NK cells

98. A patient developed immune hemolytic anemia. What substance will be present in an increased concentration in the patient's blood serum?

a. Mesobilinogen
b. Stercobilinogen
c. Protoporphyrin
d. Direct bilirubin
e. Indirect bilirubin

99. Fibrillar elements of connective tissue include collagen, elastin, and reticulin. What amino acid is a component of only collagen and its levels in biological fluids can be used to diagnose connective tissue diseases?

a. Phenylalanine
b. Hydroxyproline
c. Glycine
d. Lysine
e. Proline

100. Analysis of the patient's ECG recorded in the I, II, and III standard leads shows that the P wave is positive in each one of them. What does it indicate?

a. Atrial depolarization rate
b. Pumping function of the left side of the heart
c. Mitral valve condition
d. Direction of atrial depolarization
e. Ventricular depolarization rate

101. A patient diagnosed with acute respiratory failure underwent artificial lung ventilation at a high partial pressure of oxygen, as a result of which the patient's condition became worse and the patient developed a respiratory distress syndrome. What is the likely cause of this complication?

a. Blood stasis in the lungs
b. Intensive oxidation of lung surfactant
c. Inflammatory process
d. Atelectasis
e. Fibrosis

102. A patient has been hospitalized into the intensive care unit with suspected carbon monoxide poisoning. What hemoglobin derivative will be detected using spectral analysis in this case?

a. Carboxyhemoglobin
b. Deoxyhemoglobin
c. Oxyhemoglobin

d. Carbhemoglobin
e. Methemoglobin

103. In an experiment a laboratory rat was subjected to a stress factor (electric current), which resulted in muscular hypotonia, arterial hypotension, hypothermia, and hypoglycemia in the animal. What period of general adaptation syndrome is it?
a. Resistance stage
b. -
c. Exhaustion stage
d. Shock phase
e. Antishock phase

104. A man with urethritis was undergoing self-treatment with a penicillin antibiotic for a week, but the treatment did not improve his condition. Bacteriological studies showed that the causative agent of this disease was mycoplasma. Why was the drug, that the patient was taking, ineffective in this case?
a. The pathogen reproduces inside the cells
b. Mycoplasmas have no cell wall
c. Mycoplasmas produce an enzyme that breaks down penicillin
d. Mycoplasmas produce no relevant transport proteins
e. Mycoplasma membrane contains cholesterol

105. In an experiment on a dog, the structure of the central parts of the auditory sensory system was being studied. As a result of the destruction of one of the brain structures, the animal has lost its orienting reflex towards acoustic stimuli. What structure was destroyed?
a. Superior colliculi of the corpora quadrigemina
b. Red nuclei
c. Inferior colliculi of the corpora quadrigemina
d. Medial geniculate nuclei
e. Lateral geniculate nuclei

106. A person was hospitalized into the intensive care unit in a state of hypoxia, caused by aspiration of vomitus. Objectively, the patient's condition is severe; the skin is moist, pale, and acrocyanotic. Tachypnea, tachycardia, and low blood pressure are noted. Which of the listed signs of acutely progressing hypoxia is an emergency defensive and adaptational reaction of the body?
a. Acrocyanosis development
b. Tachycardia
c. Skin pallor
d. Increased perspiration
e. Low blood pressure

107. A 45-year-old man, who had been taking large doses of paracetamol to treat a cold, developed oliguria and azotemia. 5 days later he died with signs of acute renal failure. Renal histology shows diffuse edema of the medullary interstitium infiltrated with lymphocytes, eosinophils, and single neutrophils; renal tubular epithelium is destroyed; glomerular changes are mild. What is the most likely type of kidney damage in this case?
a. Nephrotic syndrome
b. Tubulointerstitial nephritis
c. Necronephrosis
d. Acute glomerulonephritis
e. Pyelonephritis

108. After partial pancreatic resection the patient developed steatorrhea, which indicates disturbed digestion of fats in the intestine. It is caused by deficiency of the following enzyme:
a. Trypsin
b. Gastricsin
c. Amylase
d. Lipase

e. Pepsin

109. A patient diagnosed with tuberculosis was prescribed etiotropic treatment. What antibiotic should be chosen for treatment in this case?
a. Levomycetin (Chloramphenicol)
b. Rifampicin
c. Tetracycline
d. Cefalexin
e. Bicillin (Benzathine benzylpenicillin)

110. A patient was hospitalized in a comatose state. The patient has a 5-year-long history of diabetes mellitus type 2. Objectively respiration is noisy, deep, with acetone breath odor. Blood glucose is 15.2 mmol/L, ketone bodies - 100 micromol/L. These signs are characteristic of the following diabetes complication:
a. Hepatic coma
b. Hyperosmolar coma
c. Hypoglycemic coma
d. Hyperglycemic coma
e. Ketoacidotic coma

111. When a person's body adapts to being high up in the mountains, the synthesis of 2,3-diphosphoglycerate in erythrocytes increases. What is the effect of this substance?
a. Stimulates oxyhemoglobin formation
b. Stimulates oxidative phosphorylation
c. Stimulates tissue respiration
d. Stimulates carbhemoglobin formation
e. Stimulates oxyhemoglobin dissociation

112. A 62-year-old woman diagnosed with arterial hypertension was prescribed an angiotensin-converting enzyme inhibitor. In this case, the production of a certain bioactive substance will decrease. Name this substance:
a. Noradrenaline
b. Angiotensinogen
c. Angiotensin II
d. Renin
e. Angiotensin I

113. The patient's blood test shows a significant increase in the activity of the MB-fraction of CPK (creatine phosphokinase) and LDH-1. What pathology can it indicate?
a. Cholecystitis
b. Pancreatitis
c. Myocardial infarction
d. Rheumatism
e. Hepatitis

114. For preventive immunization against poliomyelitis, inactivated vaccine was introduced parenterally. What immunoglobulins induce postvaccinal immunity in this case?
a. IgM, secretory IgA
b. Serum IgA, IgM
c. IgM, IgG
d. IgE, IgM
e. IgG, secretory IgA

115. A 38-year-old woman complains of constant thirst, frequent urination, low appetite, and headache. Her urine is colorless, clear, slightly acidic, without glucose. Her 24-hour diuresis is up to 12 liters. This condition can be caused by low levels of a certain hormone. Name this hormone:
a. Noradrenaline
b. Insulin
c. Atrial natriuretic factor

d. Glucagon

e. Vasopressin

116. Dwellers of a village located in the taiga make a living by harvesting berries. Lately the occurrence of alveococcosis in the village population has increased. What is the source of invasion in this case?

a. Foxes

b. Birds

c. Fish

d. Sick people

e. Rodents

117. In an 8-year-old child with purulent otitis media, the infection has spread from the tympanic cavity to the jugular bulb. This complication develops if one of the walls of the tympanic cavity has thinned. What wall is most likely to have an anomaly in this child?

a. Anterior wall

b. Superior wall

c. Medial wall

d. Inferior wall

e. Lateral wall

118. A 63-year-old man, according to his relatives, had three episodes of unconsciousness. His respiration rate is 18/min., heart rate - 45/min., blood pressure - 100/70 mm Hg. ECG shows that the frequency of P waves is 80/min., while the frequency of ventricular complexes is 42/min. What type of arrhythmia is the most likely in this case?

a. I degree AV block

b. Complete AV block

c. Sinoauricular block

d. II degree AV block

e. Sinus bradycardia

119. It is known that people with genetically determined glucose-6-phosphate dehydrogenase insufficiency can develop hemolysis of red blood cells in response to certain antimalarial drugs. Such atypical reaction to medicines is called:

a. Tolerance

b. Allergy

c. Tachyphylaxis

d. Idiosyncrasy

e. Sensitization

120. A patient with kidney disease presents with elevated blood pressure. What kidney structures cause this symptom?

a. Cells of proximal tubules

b. Cells of distal tubules

c. Cells of nephron loop

d. Juxtaglomerular cells

e. Cells of macula densa

121. A patient developed arterial hypertension, tachyarrhythmia, and persistent disturbances of blood circulation in the heart muscle. What drug should be prescribed for a patient with such a pathology?

a. Nikethamide

b. Medazepam

c. Nitroglycerin

d. Salbutamol

e. Metoprolol

122. To suppress autoimmune response after organ transplantation, a course of hormone therapy is mandatory. What hormones are used for this purpose?

a. Sex hormones

b. Glucocorticoids
c. Adrenaline
d. Somatotropin
e. Mineralocorticoids

123. A patient with inoperable lung cancer accompanied by unbearable pain was prescribed an analgesic. Against the background of analgesic therapy the patient developed signs of intestinal obstruction. What analgesic could have caused this complication?
a. Omnopon (Papaveretum)
b. Analgin (Metamizole)
c. Morphine
d. Promedol (Trimeperidine)
e. Fentanyl

124. A patient was prescribed a drug with methionine to maintain liver function. Synthesis of what substance is ensured in this case?
a. Lactate
b. Citrate
c. Pyruvate
d. Phosphatidylcholine
e. Phosphatidylserine

125. After exacerbation of chronic calculous cholecystitis, the patient developed acute jaundice. During ECG it was noted that against the background of normal sinus rhythm (heart rate is 51/min.) there are periodical extrasystoles. What mechanism is the most likely cause of disturbed electrical activity of the heart?
a. Bile acid damage to the myocardium
b. Bile acid stimulation of the vagal receptors
c. Bile acid stimulation of the sinus node
d. Stimulation of the conductive system by the toxins that were not neutralized in the liver
e. Bile acid damage to the sinus node

126. A 47-year-old man was diagnosed with arthritis of the toe on his right foot and nephroliths consisting of uric acid. The patient is taking allopurinol. What biochemical defect has likely been detected in this patient?
a. Disturbed pyrimidine metabolism
b. Urea synthesis defect
c. Disturbed arachidonic acid metabolism
d. Increased leukotriene levels
e. Disturbed purine metabolism

127. A person has died of an acute infectious disease accompanied by fever, jaundice, hemorrhagic rash on the skin and mucosa, as well as acute renal failure. Histology of the renal tissues (Romanowsky-Giemsa stain) shows curved bacteria that resemble letters C and S. What bacteria were found?
a. Campylobacter
b. Borrelia
c. Leptospira
d. Treponema
e. Spirilla

128. In an experiment, certain nuclei of the hypothalamus were destroyed in homeothermic animals, which resulted in them being unable to maintain their body temperature. What nuclei were destroyed?
a. Lateral hypothalamic nuclei
b. Ventral hypothalamic nuclei
c. Medial hypothalamic nuclei
d. Posterior hypothalamic nuclei

e. Supraoptic nuclei

129. Inhibiting effect of GABA is based on increased permeability of postsynaptic membrane to chloride ions. This mediator forms in the result of decarboxylation of:
a. Arginine
b. Glutamine
c. Aspartate
d. Glutamate
e. Asparagine

130. During the study of digestive processes in vitro, a swelling of the protein substrate was observed. What component of gastric juice enables such protein transformation?
a. Pepsin
b. Gastrixin
c. Hydrochloric acid
d. Mucus
e. Trypsin

131. In a 35-year-old woman diabetes mellitus was complicated by development and progression of cataract that is likely to be caused by:
a. Glycosylation of proteins in the crystalline lens and accumulation of sorbitol
b. Disturbed insulin-receptor binding
c. Decreased oxygen affinity of the proteins
d. Cellular dehydration
e. NADPH2 deficiency and inhibition of fatty acid synthesis

132. Examination revealed that the patient has an insufficient immunoglobulin count. The likely cause of this finding is a disfunction of the following immune system cells:
a. T-suppressors
b. T-killers
c. Plasma cells
d. T-helpers
e. Plasmablasts

133. A 32-year-old man was diagnosed with acute radiation sickness. Laboratory analysis detected a sharp decrease in platelet serotonin levels. The most likely cause of a decrease in platelet serotonin is a disturbed decarboxylation of:
a. Pyruvic acid
b. Histidine
c. Tyrosine
d. 5-Oxytryptophan
e. Serine

134. The pregnant woman's condition was complicated by toxicosis. Laboratory testing detects ketonuria. What substance appeared in the patient's urine?
a. Creatinine
b. Urates
c. Pyruvate
d. Lactate
e. Acetoacetate

135. An ovarian tumor was detected in a woman. She is prescribed a surgery. What ligament should be severed by the surgeon to separate the patient's ovary from the uterus?
a. Round ligament of the uterus
b. Proper ovarian ligament
c. Lateral umbilical ligament
d. Suspensory ligament of the ovary
e. Broad ligament of the uterus

136. As a result of a head injury, a hematoma formed, localized in the area of the middle cranial fossa on the left, causing pupil dilation on the affected side. What nerve is affected in this case?

a. N. abduceus
b. N. trochlearis
c. N. oculomotorius
d. N. opticus
e. N. trigeminus

137. During diabetes mellitus, the content of ketone bodies in the blood is increased, which leads to metabolic acidosis. Ketone bodies are synthesized from:

a. Methylmalonyl-CoA
b. Acetyl-CoA
c. Propionyl-CoA
d. Malonyl-CoA
e. Succinyl-CoA

138. A patient with chronic purulent osteomyelitis died of chronic kidney failure. Autopsy of the body revealed large, dense, white-yellow kidneys with a greasy sheen on section. What is the most likely diagnosis in this case?

a. Subacute glomerulonephritis
b. Septic nephritis
c. Acute necrotizing nephrosis
d. Chronic glomerulonephritis
e. Renal amyloidosis

139. A 12-year-old child, who was being treated for influenza in the infectious diseases department of a hospital, developed a severe headache, nausea, dizziness, and meningeal signs 5 days after the onset of the illness. The death occurred in 24 hours after the development of progressing brain edema. Autopsy of the skull cavity shows edematous and plethoric pia mater, diffusely soaked with a bright red fluid; the gyri and sulci are smoothed out. What complication of influenza can be suspected in this case?

a. Purulent leptomeningitis
b. Intracerebral hemorrhage
c. Venous hyperemia of the meninges
d. Serous meningitis
e. Hemorrhagic meningitis

140. Pathomorphology of the gallbladder after cholecystectomy shows that it is enlarged, its walls are thickened, its serous tunic is dull and plethoric; there are viscous yellow-green masses in the gallbladder cavity. Microscopically, a diffuse infiltration of segmented neutrophils is observed in the gallbladder wall. What type of cholecystitis is the most likely in this case?

a. Granulomatous cholecystitis
b. Chronic cholecystitis
c. Acute phlegmonous cholecystitis
d. Acute gangrenous cholecystitis
e. Acute catarrhal cholecystitis

141. A young man with a history of gonorrhea that was completely treated presents with a case of gonorrhea again. This case can be classified as:

a. Mixed infection
b. Superinfection
c. Secondary infection
d. Recurrence
e. Reinfection

142. 12 days after a recovery from tonsillitis, a child developed lumbar pain, slight edema, and urinary syndrome. Renal biopsy was performed. Microscopy shows intracapillary proliferative inflammation, while electronic microscopy detects large subepithelial electron-dense deposits,

resembling ''humps''. What renal disease developed in the child?
a. Membranous glomerulonephritis
b. Postinfectious glomerulonephritis
c. Lipoid nephrosis
d. Rapidly progressive glomerulonephritis
e. Acute suppurative interstitial nephritis

143. Hypovitaminosis C causes decreased formation of organic matrix and disturbs the collagen synthesis, because this vitamin takes part in the processes of:
a. Proline carboxylation
b. Lysine carboxylation
c. Arginine hydroxylation
d. -
e. Proline hydroxylation

144. A histological specimen demonstrates a vessel with the wall that consists of endothelium, basement membrane, and loose connective tissue. This vessel belongs to the following type:
a. Non-muscular vein
b. Muscular vein
c. Lymph capillary
d. Artery
e. Hemocapillary

145. A man suffers from acne and inflammatory changes in the skin of his face. Microscopy of a material obtained from the lesion foci reveals living elongated creatures of the phylum Arthropoda type with 4 pairs of reduced limbs. What is the preliminary diagnosis?
a. Demodecosis
b. Allergy
c. Pediculosis
d. Sarcoptes scabiei lesions
e. Flea lesions

146. A 5-year-old child became acutely ill and developed fever, intoxication, and hemorrhagic skin rash. The child died of acute adrenal insufficiency. Autopsy revealed morphological changes caused by the severity of DIC syndrome and endotoxic shock. On the skin, there are necrotic foci, diapedetic hemorrhages, and fibrin thrombi in the dermal vessels. The adrenal glands have massive hemorrhages. What disease can be characterized by these changes?
a. Influenza
b. Measles
c. Typhus
d. Scarlet fever
e. Meningococcemia

147. A man has stopped breathing as a result of an injury to the back of his head. What could have caused apnea in this case?
a. Damage to the medulla oblongata
b. Damage to the cerebellum
c. Traumatic shock
d. A rupture of the spinal cord below the fifth cervical segment
e. A rupture between the mesencephalon and the medulla oblongata

148. A 30-year-old man complains of weakness, thirst, headache, and lumbar pain. One month ago, he had a case of bacterial tonsillitis. He has facial edemas. Pulse - 84/min., blood pressure - 175/100 mm Hg. General urinalysis: erythrocytes - 40-52 in sight, leukocytes - 1--2 in sight, protein - 4 g/L. The patient was diagnosed with acute diffuse glomerulonephritis. What is the main mechanism of kidney damage in this patient?
a. Impaired urodynamics
b. Tubular damage

c. Impaired hemodynamics in the kidneys
d. Direct damage to the glomeruli, caused by microorganisms
e. Immune-mediated damage to the glomeruli

149. Examination shows that the patient's apical beat is displaced 3.5 cm to the left from the left midclavicular line. What heart chambers are likey to be hyperthrophic in this case?
a. All heart chambers
b. Left atrium
c. Right ventricle
d. Right atrium
e. Left ventricle

150. A 45-year-old woman developed an acute inflammatory disease of her upper respiratory tract and eyes during the flowering period. She presents with hyperemia, edema, and mucous discharge. Increase in the number of what type of leukocytosis would be characteristic in this case?
a. Basophils
b. Monocyts
c. Neutrophils
d. Lymphocyts
e. Eosinophils

151. As a result of physical exertion, the person's blood clotting rate became faster, because the levels of a certain hormone increased in the blood. Name this hormone.
a. Thyroxine
b. Adrenaline
c. Cortisol
d. Plasmins
e. Somatotropin

152. A tuning fork was used to assess the patient's perception of sounds. When it was placed near the outer ear, the patient was unable to hear the sound of the tuning fork in the right ear. However, when the foot piece of the tuning fork was placed on the mastoid process, the patient was able to perceive its sound. What part of the auditory sensory system is damaged in this case?
a. Middle ear
b. Inner ear
c. Inferior colliculi
d. Auditory (cochlear) nerve
e. Medial geniculate body

153. When administered into the human body, dicoumarol causes acute drop in blood levels of prothrombin and other blood coagulation proteins. Dicoumarol is an antivitamin of:
a. Vitamin P
b. Vitamin K
c. Vitamin H
d. Vitamin C
e. Vitamin E

154. A 30-year-old man hospitalized with the diagnosis of acute glomerulonephritis has proteinuria. What disorder has caused this phenomenon?
a. Decreased number of functioning nephrons
b. Delayed excretion of products of nitrogenous metabolism
c. Decreased oncotic blood pressure
d. Increased permeability of the glomerular membrane
e. Increased hydrostatic pressure on the capillary wall

155. During regular examination of schoolchildren, a scrape from the perianal folds of a 10-year-old girl shows asymmetrical oval eggs with larvae inside. What diagnosis can be made?
a. Enterobiasis
b. Amebiasis

c. Ancylostomiasis
d. Ascariasis
e. Trichuriasis

156. During a surgery for inguinal hernia, the surgeon removes the superficial inguinal ring. The majority of its walls are formed by the derivatives of aponeurosis of a certain muscle. Name this muscle:
a. M. obliquus internus abdominis
b. M. obliquus externus abdominis
c. M. transversus abdominis
d. M. rectus abdominis
e. M. psoas major

157. A 45-year-old man with acute pneumonia has developed pulmonary edema on the 6th day of illness, which resulted in his death. Autopsy shows that the entire upper lobe of the right lung is affected. This lobe is enlarged, dense, and gray on section. It has fibrinous deposits on the pleura. A cloudy liquid flows from the section surface. Microscopy shows fibrin, neutrophils, macrophages, and hemolyzed erythrocytes in the lumen of the alveoli. What type of pneumonia is the patient present with?
a. Hypostatic pneumonia
b. Croupous pneumonia
c. Viral pneumonia
d. Staphylococcal bronchopneumonia
e. Adult respiratory distress syndrome

158. An oncology patient is to undergo a surgery on the descending colon. Name the main source of the blood supply to this organ:
a. Splenic artery
b. Middle colic artery
c. Celiac trunk
d. Superior mesenteric artery
e. Inferior mesenteric artery

159. In chromosomal disorders, to study the karyotype, the cell culture during mitosis is processed with colchicine. This substance blocks contractions of the fibers that form mitotic spindle. At what stage will the mitosis be interrupted?
a. Anaphase
b. Telophase
c. Interphase
d. Prophase
e. Metaphase

160. Submicroscopy of a cell shows that its cytoplasm contains many lysosomes, phagosomes, and pinocytotic vesicles. Other organelles are moderately developed. What function can such a cell perform?
a. Deposition of calcium ions
b. Synthesis of lipids
c. Reabsorption of sodium ions
d. Synthesis of polysaccharides
e. Phagocytosis

161. Eubiotic colicin is used for disease treatment and prevention. This protein suppresses the growth of pathogenic microorganisms. Colicin can be synthesized in the intestine by non-pathogenic bacilli. What structure codes the ability of a bacterial cell to synthesize colicins?
a. Nucleus
b. Nucleoid
c. Mesosome
d. Plasmid

e. Ribosome

162. A patient takes choleretic drugs. What process, besides bile secretion, do they stimulate?
a. Gastric motility
b. Intestinal motility
c. Secretion of pancreatic juice
d. Secretion of gastric juice
e. Water absorption

163. A patient with essential hypertension was prescribed a drug that inhibits angiotensin-converting enzyme (ACE). What drug is it?
a. Nifedipine
b. Lisinopril
c. Colestyramine
d. Carvedilol
e. Losartan

164. A 3-year-old girl with severe progression of chickenpox has facial defects and a Mongoloid eye-shape. Her blood test shows lymphocytopenia, though her levels of B-lymphocytes and blood immunoglobulins are normal. Her medical history states that the girl had convulsions and persistent mycosis of the oral mucosa. What immunodeficiency syndrome can be characterized by such clinical and laboratory findings?
a. Turner syndrome
b. Wiskott-Aldrich syndrome
c. Klinefelter syndrome
d. Louis-Barr syndrome
e. DiGeorge syndrome

165. A patient with asphyxia after a brief respiratory arrest developed single infrequent respirations with passive expiration, after which he stopped breathing completely. What type of respiration was observed in this case?
a. Gasping respiration
b. Cheyne-Stokes respiration
c. Apneustic respiration
d. Biot respiration
e. Kussmaul respiration

166. Excessive intake of carbohydrates (600 g per day) that surpasses the energy needs of a 28-year-old person will activate the process of:
a. Lipolysis
b. Glycolysis
c. Lipogenesis
d. Beta-oxidation of fatty acids
e. Gluconeogenesis

167. A transplanted kidney responds to painful stimuli by stopping urination. What causes this response?
a. Effect of the sympathetic nervous system
b. Effect of the parasympathetic nervous system
c. Decreased secretion of ADH
d. Increased secretion of ADH
e. Decreased secretion of ACTH

168. A man was diagnosed with spongy encephalopathy. A postmortem examination of his brain was performed. Histological microslide of his brain contains protein particles without nucleic acids. What pathogen caused the infectious disease in this man?
a. Defective phage
b. Viroid
c. Transposon

d. Prion
e. Episome