

1. Patient with hypersecretion of the gastric juices was recommended to exclude from the diet concentrated bouillons and vegetable decoctions because of their stimulation of gastric secretion. What is dominating mechanism of stimulation of secretion in this case?

- a. Stimulation of excretion of secretin in the duodenum
- b. Irritation of mechanoreceptors of the stomach
- c. Stimulation of gastrin production by G-cells**
- d. Irritation of taste receptors
- e. Irritation of mechanoreceptors of the oral cavity

2. Buffer capacity of blood was decreased in the worker due to exhausting muscular work. Entry of what acid substance to the blood can this state be explained?

- a. Lactate**
- b. Pyruvate
- c. 3-phosphoglycerate
- d. 1,3-bisphosphoglycerate
- e. α -ketoglutarate

3. Extensive thromboembolic infarction of the left cerebral hemispheres, large septic spleen, immunocomplex glomerulonephritis, ulcers on the edges of the aortic valves, covered with polypous thrombus with colonies of staphylococcus were revealed on autopsy of the young man who died in com

- a. Septic bacterial endocarditis
- b. Septicopyemia
- c. Rheumatic thromboendocarditis
- d. Acute rheumatic valvulitis**
- e. What disease caused cerebral thromboemboly?

4. On the empty stomach in the patients blood glucose level was 5,65 mmol/L, in an hour after usage of sugar it was 8,55 mmol/L, in a 2 hours - 4,95 mmol/L. Such indicators are typical for:

- a. Patient with non-insulin dependent diabetes mellitus
- b. Patient with tireotoxicosis
- c. Healthy person**
- d. Patient with hidden diabetes mellitus
- e. Patient with insulin-dependent diabetes mellitus

5. Inhibition of alpha-motoneuron of the extensor muscles was noticed after stimulation of alpha-motoneuron of the flexor muscles during the experiment on the spinal column. What type of inhibition can this process cause?

- a. Depolarizational
- b. Reciprocal**
- c. Recurrent
- d. Presynaptic
- e. Lateral

6. A 68-year-old woman cant move by the upper and lower right extremities due to insult. Muscle tone of these extremities and reflexes are increased. There are pathological reflexes. What form of the paralysis is it?

- a. Paraplegia
- b. Hemiplegia**
- c. Monoplegia
- d. Tetraplegia
- e. Dissociation

7. 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 the unsymmetrical form were revealed. Indicate what helminth is parasiting on the child?

- a. *ancylostoma duodenalis*
- b. Enterobins vermicularis**

- c. Trichina
- d. Ascaris lumbricoides
- e. Trichuris

8. Fatty of phospholipids is disordered due to fat infiltration of the liver. Indicate which of the presented substances can enhance the process of methylation during phospholipids synthesis?

- a. Glucose
- b. Citrate
- c. Glycerin
- d. Methionine**
- e. Ascorbic acid

9. 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. Mesaton
- b. Atropine sulphate
- c. Lobeline hydrochloride**
- d. Adrenalin hydrochloride
- e. Pentamin

10. Scraps of the mycelium of a fungus, spores, air bubbles and fat drops were discovered on microscopy of the patients hair excluded from the infected areas. For what fungus disease is this microscopic picture characteristic?

- a. Microspory
- b. Trichophytosis
- c. Sporotrichosis
- d. Epidermophytosis
- e. Favus**

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

- a. Neuroparalytic arterial hyperemia**
- b. Venous hyperemia
- c. Neurotonic arterial hyperemia
- d. Stasis
- e. Metabolic arterial hyperemia

12. The cell of the laboratory animal was overdosed with Roentgen rays. As a result albuminous fragments formed in the cytoplasm. What cell organoid will take part at their utilization?

- a. Lysosomes**
- b. Golgi complex
- c. Ribosome
- d. Endoplasmic reticulum
- e. Cells centre

13. Lung of 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

14. In a patient with clinical signs of immunodeficiency the number and functional activity of T and B lymphocytes are not changed. Defect with dysfunction of antigen-presentation to the

immunocompetent cells was found during investigation on the molecule level. Defect of what cells is the most probable?

- a. 0-lymphocytes
- b. NK-cells
- c. Macrophages, monocytes**
- d. T-lymphocytes, B-lymphocytes
- e. Fibroblasts, T-lymphocytes, B-lymphocytes

15. Processes of repolarisation are disturbed in ventricular myocardium in examined person. It will cause amplitude abnormalities of configuration and duration of the wave:

- a. Q
- b. P
- c. R
- d. S
- e. T**

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

- a. Decreased production of parathyrin
- b. Deficiency of vitamin B12
- c. Deficiency of iron-containing enzymes**
- d. Deficiency of vitamin A
- e. Decreased production of thyroid hormones

17. Larvae were detected occasionally on the microscopic examination of the sputum of the patient with pneumonia. Eosinophiles were detected on the blood examination. What helminthiasis can be diagnosed?

- a. Ascariasis**
- b. Opisthorchis
- c. Paragonimiasis
- d. Trichocephaliasis
- e. Enterobiosis

18. Patient with bronchial asthma was taking tablets which caused insomnia, headache, increased blood pressure. What medicine can cause such complications?

- a. Adrenaline
- b. Chromolin sodium
- c. Izadrine
- d. Euphyline
- e. Ephedrine**

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

- a. Hypophysis
- b. Thymus
- c. Parathyroid glands**
- d. Pineal gland
- e. Adrenal cortex

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

- a. Reagin type cytotoxicity
- b. Immunocomplex cytotoxicity
- c. Antibody cytotoxicity
- d. Cells cytotoxicity**
- e. Granuloma formation

21. During investigation of patient, it was found formation in the white substance of cerebral hemispheres with location in the knee and frontal part of posterior crus of internal capsule. Fibres of what conductive tract of the brain will be disrupted?

- a. Tr. frontothalamicus
- b. Tr. pyramidalis**
- c. Tr. frontopontinus
- d. Tr. parietooccipitopontinus
- e. Tr. thalamocorticalis

22. Three separate bones connected with cartilage in the area of pelvis cavity are noticed on the X-ray of the pelvis. What are these bones?

- a. Iliac, sacral, coccyx
- b. Sciatic, femoral, sacral
- c. Pubic, sciatic, femoral
- d. Sacral, pubic, coccyx
- e. Iliac, pubic, sciatic**

23. A13-year-old boy complains of general weakness, dizziness, tiredness. He is mentally retarded. Increased level of valine, isoleucine, leucine is in the blood and urine. Urine has specific smell. What is the diagnosis?

- a. Tyrosinosis
- b. Histidinemia
- c. Maple syrup urine disease**
- d. Addisons disease
- e. Graves disease

24. Aspirin has antiinflammatory effect due to inhibition of the cyclooxygenase activity. Level of what biological active acids will decrease?

- a. Biogenic amines
- b. Prostaglandins**
- c. Iodinethyronins
- d. Leucotriens
- e. Catecholamines

25. Child inspired button. Where is it likely to be?

- a. In the right main bronchus**
- b. In the gullet
- c. In the larynx
- d. In the left main bronchus
- e. In the trachea

26. Young man felt sharp pain in the back during active tightening on the horizontal bar. Objectively: pain while moving of upper extremity, limited pronation and adduction functions. Sprain of what muscle is presented?

- a. M. levator scapulae
- b. M. romboideus major
- c. M. latissimus dorsi**
- d. M. trapezius
- e. M. subscapularis

27. An aged patient complains of headache, dizziness, quick tiredness, worsening of memory. Anamnesis: craniocerebral injury. Medicine of what group should be prescribed?

- a. Analgetics
- b. Somnific
- c. Nootropics**
- d. Neuroleptics
- e. Sedatives

28. Patient with diabetes didn't get insulin injection in time that caused hyperglycemic coma (glucose in the blood 50mmol/L). What mechanism is prevalent in the development of the coma?

- a. Hypoxia
- b. Hyponatremia
- c. Acidosis
- d. Hypokaliemia
- e. Hyperosmia**

29. 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. Myofibroblasts
- b. Satellite-cells**
- c. Myoepithelial cells
- d. Fibroblasts
- e. Myoblasts

30. Spasm of smooth muscle of bronchi developed in the patient. Usage of activators of what membrane cytoceptors is physiologically valid to decrease attack?

- a. M-cholinoreceptors
- b. beta-adrenoreceptors**
- c. N-cholinoreceptors
- d. beta- alpha-adrenoreceptors
- e. alpha-adrenoreceptors

31. Patient was admitted to the infection unit with diagnosis of bacterial dysentery. On laboratory studies it was revealed that causative element is sensitive to the many antimicrobial medicines, but patient has anemia. What medicine is contra-indicated to the patient?

- a. Ampicillin
- b. Furazolidone
- c. Phthalazol
- d. Levomycetin**
- e. Enteroseptol

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

- a. Amphibian**
- b. Mammals
- c. Fishes
- d. Birds
- e. Reptiles

33. 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 worsening?

- a. Allergic reaction
- b. Irresponsiveness of an agent to the levomycetin
- c. Reinfection
- d. The effect of endotoxin agent**
- e. Secondary infection addition

34. 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 present in the intercellular fluid. What kind of edema will appear in this case?

- a. Hydrodynamic
- b. Membranogenic
- c. Mixed**

- d. Colloid-osmotic
- e. Lymphogenic

35. Patient complains of frequent and difficult urination. Imperfection of what formation can cause it?

- a. Prostate**
- b. Sperm bubbles
- c. Testicle adnexa
- d. Testicles
- e. Bulb-uretic glands

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

- a. Macrophages and fibroblasts
- b. Adipocytes and adventitious cells
- c. Fibroblasts and labrocytes
- d. Plasmocytes and lymphocytes**
- e. Pigmentocytes and pericytes

37. 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 inhibit synthesis of the nucleic acids?

- a. Reparation
- b. Mononucleotide synthesis**
- c. Transcription
- d. Replication
- e. Processing

38. Patient was on glucocorticoids for a long time, discontinuation of usage caused exacerbation of the illness, decreased BP, weakness. How can you explain it?

- a. Cumulation
- b. Sensitization
- c. Insufficiency of adrenal glands**
- d. Adaptation to the medicine
- e. Hyperproduction of ACTH

39. Arterial hypertention is caused by the stenosis of the renal arteries in the patient. Activation of what system is the main link in the pathogenesis of this form of hypertension?

- a. Sympathoadrenal
- b. Hypothalamic-pituitary
- c. Kallikrein-kinin
- d. Renin-angiotensin**
- e. Parasympathetic

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

- a. Armine
- b. Prozerin**
- c. Dipyroxim
- d. Diazepam
- e. Pilocarpine

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

- a. IgG and IgD
- b. IgE and IgG**
- c. IgM and IgG

- d. IgM and IgD
- e. IgA and IgM

42. Highly injured person gradually died. Please choose the indicator of biological death:

- a. Absence of palpitation
- b. Autolysis and decay in the cells**
- c. Absence of movements
- d. Loss of consciousness
- e. Disarray of chemical processes

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

- a. Muroid swelling
- b. Amyloidosis
- c. Fibrinoid inflammation
- d. Hyalinosis
- e. Fibrinoid swelling**

44. Child asked you to puff up the balloon as much as possible for a one exhalation. What air volume will you use?

- a. Vital volume of the lungs**
- b. Functional residual volume
- c. Total volume of the lungs
- d. Inspiration volume
- e. Backup volume of the inspiration

45. While studying of the family tree with history of hypertrichosis (hyperhirsutism of the ear) this sign was founded only in the men and it was inherited from father to the son. Define the type of hypertrichosis inheritance?

- a. Connected with X-chromosome recessive
- b. Autosomal-dominant
- c. Connected with Y-chromosome**
- d. Autosomal- recessive
- e. Connected with X-chromosome dominant

46. The person was selling "homemade pork" sausages on the market. State sanitary inspector suspected falsification of the sausages. With help of what serological immune reaction can food substance be identified?

- a. Indirect hemagglutination test
- b. Precipitation test**
- c. Complement- fixation test
- d. Immunofluorescence test
- e. Agglutination test

47. Vegetative abnormalities in the sleep, heat regulation, all kinds of metabolism, diabetes insipidus are developing in the patient due to growth of the tumour in the III ventricle of brain. Irritation of the nucleus of what part of the brain can cause this symptoms?

- a. Hypothalamus**
- b. Medulla
- c. Pons cerebelli
- d. Cerebral peduncles (crura cerebri)
- e. Mesencephalic tegmentum

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

- a. Teres major muscle**
- b. Infraspinous muscle

- c. Subscapular muscle
- d. Teres minor muscle
- e. Supraspinous muscle

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

- a. Methicillin
- b. Phenoxymethylpenicillin
- c. Oxacillin
- d. Carbenicillin disodium**
- e. Benzylpenicillin

50. On microscopic examination of the enlarged neck gland of a 14-year-old girl it was 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 cells of the large size are present. What is the most likely diagnosis?

- a. Acute lympholeucosis
- b. Fungous mycosis
- c. Lymphogranulomatous**
- d. Chronic lympholeucosis
- e. Berkitts lymphoma

51. In the experiment on the animal the part of the cerebral cortex hemispheres was removed. It caused elimination of previously formed conditioned reflex to the light irritation. What part of the cortex was removed?

- a. Occipital cortex**
- b. Limbic cortex
- c. Postcentral convolution
- d. Temporal lobe
- e. Precentral convolution

52. Marked increase of activity of MB-forms of CPK (creatinephosphokinase) and LDH-1 were revealed on the examination of the patients blood. What is the most likely pathology?

- a. Hepatitis
- b. Myocardial infarction**
- c. Rheumatism
- d. Pancreatitis
- e. Cholecystitis

53. The patient with acute myocardial infarction was given intravenously different solutions during 8 hours with medical dropper 1500ml and oxygen intranasally. He died because of pulmonary edema. What caused the pulmonary edema?

- a. Inhalation of the oxygen
- b. Neurogenic reaction
- c. Volume overload of the left ventricular**
- d. Allergic reaction
- e. Decreased oncotic pressure due to hemodilution

54. Shock and signs of acute renal failure (ARF) developed in the patient due to permanent injury. What is the leading cause of development of ARF in the case?

- a. Increased pressure in the renal arteries
- b. Decreased oncotic BP
- c. Increased pressure in the nephron capsule
- d. Urine excretion violation
- e. Decreased arterial pressure**

55. Index of pH of the blood changed and became 7,3 in the patient with diabetes mellitus. Detecting of the components of what buffer system is used while diagnosing disorder of the acid-base equilibrium?

- a. Oxyhemoglobin
- b. Hemoglobin
- c. Bicarbonate**
- d. Protein
- e. Phosphate

56. On examination of the person it was revealed that minute volume of heart is 3500mL, systolic volume is 50 mL. What is the frequency of cardiac contraction?

- a. 80 bpm
- b. 60 bpm
- c. 50 bpm
- d. 90 bpm
- e. 70 bpm**

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

- a. Hyperaldosteronism
- b. Hyperosmolarity of plasma
- c. Proteinuria**
- d. Disorder of albuminous kidneys function
- e. Hyperproduction of vasopressin

58. The alternate usage of dichlotiazide, etacrin acid and lasex didnt cause marked diuretic effect in patient with marked peripheral edema. Increased amount of aldosterone is in the blood. Indicate the medicine to be prescribed

- a. Clopamid
- b. Amilorid
- c. Urea
- d. Mannit
- e. Spironolacton**

59. A 65-year-old suffering from the gout man complains of the pain in the kidneys region. On ultrasonic examination the renal calculi were revealed. As a result of what process were they formed?

- a. Ornithine cycle
- b. Heme decay
- c. Decay of purine nucleotides**
- d. Restoration of cysteine
- e. Protein catabolism

60. 46 chromosomes were revealed on karyotype examination of the 5-year-old girl. One of the 15th pair of chromosomes is longer than usual due to connected chromosome from the 21 pair. What type of mutation does this girl have?

- a. Translocation**
- b. Deletion
- c. Inversion
- d. Insufficiency
- e. Duplication

61. On autopsy of the man with alcohol abuse for a long time it was revealed: dense, small-knobby, small size liver. Microscopically: small pseudo-lobules, divided with thin layers of connective tissue with lymphomacrophagial infiltrates; hepatocytes in the state of globular fatty dystrophy. What is the most likely diagnosis?

- a. Chronic persistent alcohol hepatitis
- b. Fatty hepatosis
- c. Alcohol cirrhosis**

- d. Toxic liver dystrophy
- e. Chronic active alcohol hepatitis

62. Galactosemia is revealed in the child. Concentration of glucose in the blood is not considerably changed. Deficiency of what enzyme caused this illness?

- a. Hexokinase
- b. Amylo-1,6-glucosidase
- c. Galactokinase
- d. Galactose-1-phosphate uridylyltransferase**
- e. Phosphoglucomutase

63. Due to activation of ion channels of external membrane of excitable cell its rest potential has significantly increased. What channels were activated?

- a. Sodium and calcium channels
- b. Slow calcium channels
- c. Sodium channels
- d. Potassium channels**
- e. Fast calcium channels

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

- a. Visceral
- b. Sinusoidal**
- c. Fenestrational
- d. Lymphatic
- e. Somatic

65. Glomerular filtration rate (GFR) increased for 20% due to prolonged starvation of the person. The most likely cause of filtration changes under these conditions is:

- a. Increase of renal plasma stream
- b. Increase of penetration of the renal filter
- c. Increase of systemic blood pressure
- d. Increase of filtration coefficient
- e. Decrease of oncotic pressure of blood plasma**

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

- a. Biotin
- b. Indole**
- c. Ornithine
- d. Acetate
- e. Butyrate

67. Patient in the unconscious state was admitted to the emergency room. Skin is cold, pupils are delayed, breathing is heavy, with cycles of the Cheyne-Stokes type, blood pressure is decreased, urinary bladder is overloaded. Poisoning with what substance is the most likely?

- a. Narcotic analgesics**
- b. Non-narcotic analgesics
- c. Sedatives
- d. -
- e. M-cholinergic antagonists

68. In a 45-year-old patient on ECG it was revealed: sinus rhythm, the number of auricular complexes exceeds number of ventricular complexes; progressing extension of the P-Q interval from complex to complex; fallout of some ventricular complexes; P waves and QRST complexes are without changes. Name the type of heart rhythm dysfunction

- a. Atrioventricular block of the II degree**

- b. Synoauricular block
- c. Intraatrial block
- d. Complete atrioventricular block
- e. Atrioventricular blockade of the I degree

69. While emotional excitement the heart rate in a 30-year-old person run up to 112 Bpm. What part of the conducting system of the heart caused it?

- a. Intraventricular node
- b. His bundle branches
- c. Purkinjes fibers
- d. His bundle
- e. Synoatrial node**

70. Genetic structure of eukaryote is "exon-intron-exon". This structure-functional organization of gene caused transcription peculiarities. What will be pro-i-RNA according to the schema?

- a. Exon-intron
- b. Exon-intron-exon**
- c. Intron-exon
- d. Exon-exon-intron
- e. Exon-exon

71. A 63-year-old woman developed signs of rheumatoid arthritis. Increase of which indicated blood values level could be helpful in proving diagnosis?

- a. Lipoproteids
- b. General cholesterol
- c. Acid phosphatase
- d. R-glycosidase
- e. Additive glycosaminoglycans**

72. Daltonism was diagnosed in a 7-year-old boy while prophylactic medical examination. Parents are healthy, color vision is normal. Grandfather from the mothers side has the same disorder. What is the type of inheriting of this anomaly?

- a. Dominant, connected with sex
- b. Autosomal-recessive
- c. Incomplete domination
- d. Recessive, connected with sex**
- e. Autosomal-dominant

73. Patient with vomiting, dizziness, sensation of double vision, difficult swallowing was admitted to the hospital. Doctor suspects botulism. What diagnostic methods should be used for diagnosis approving?

- a. Allergic test, serological
- b. Protozoological, microscopical
- c. Bacteriological, mycological
- d. Biological test, bacteriological**
- e. -

74. Local lymphonodules enlarged near the infected wound. Increased amount of macrophages, lymphocytes, lymphatic follicles in the cortical layer and large amount of plasma cells were revealed on histological examination. What process in the lymphatic nodules represent these histological changes?

- a. Innate insufficiency of the lymphoid tissue
- b. Antigen stimulation**
- c. Tumour transformation
- d. Hypersensibility reaction
- e. Acquired insufficiency of the lymphoid tissue

75. Middle part of cochlear of internal ear was destroyed in animal during experiment. It will cause

abnormalities of the sound perception of the following frequencies:

- a. Low
- b. High and low
- c. High
- d. No abnormalities

e. Middle

76. During metabolic process active forms of the oxygen including superoxide anion radical are formed in the human body. With help of what enzyme is this anion activated?

- a. Glutathioneperoxidase
- b. Glutathionereductase
- c. Peroxidase

d. Superoxide dismutase

e. Catalase

77. A 50-year-old patient complains of thirst, drinking of a lot of water, marked polyuria. Blood glucose is 4,8mmol/L, urine glucose and acetone bodies are absent, urine is colorless, specific gravity is 1,002-1,004. What is the cause of polyuria?

- a. Thyrotoxicosis
- b. Insulin insufficiency
- c. Hypothyroidism
- d. Aldosteronism

e. Vasopressin insufficiency

78. Decreased blood supply to the organs causes hypoxia that activates fibroblasts function. Volume of what elements is increased in this case?

a. Intercellular substance

- b. Vessels of microcircular stream
- c. Nerve elements
- d. Lymphatic vessels
- e. Parenchymatous elements of the organ

79. From the defecation of a 6-year-old ill child, who has artificial feeding, the intestinal bacillus with antigen structure 0-111 is excreted. What is the diagnosis?

- a. Food poisoning
- b. Gastroenteritis
- c. Cholera-like disease

d. Coli-enteritis

e. Disentery-like disease

80. Arterial hypertension, hyperglycemia, glucosuria were observed clinically for a long time in the patient with upper type of obesity. Death was due to the cerebral haemorrhage. Basophilic hypophysis adenoma, hyperplasia of adrenal gland cortex were revealed on pathomorphological examination. What is the likely diagnosis?

- a. Acromegaly
- b. Hypophysis nanism

c. Cushing disease

- d. Adiposogenitalis dystrophy
- e. Diabetes mellitus

81. A 45-year-old patient was admitted to the surgical department with complaints of abrupt sharp pain in the epigastric region. After examination it was diagnosed: perforated ulcer of the posterior wall of the stomach. Where did content of the stomach flow out while perforation?

- a. To the proventriculus sack
- b. To the left mesenteric sinus
- c. To the liver bursa
- d. To the right mesenteric sinus

e. To the omental bursa

82. 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. Right hepatic duct
- c. Common hepatic duct
- d. Left hepatic duct
- e. Cystic duct

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

- a. Deletion
- b. Replication

c. Inversion

- d. Translocation
- e. Doubling

84. Diuretic drug was prescribed to the patient with hypertension in the course of complex treatment. In a few days BP decreased but signs of hypokaliemia developed. What drug could cause such complications?

a. Lasix

- b. Enalapril
- c. Spironolactone
- d. Triamterene
- e. Clophelin

85. Pathological changes of the liver and brain were revealed in a 27-year-old patient. The copper concentration is abruptly decreased in blood plasma and increased in the urine. Wilson's disease was diagnosed. Activity of what enzyme in the blood serum should be examined to prove diagnosis?

a. Xanthioxidase

b. Ceruloplasmin

- c. Alcoholdehydrogenase
- d. Carboanhydrase
- e. Leucinamineopeptidase

86. On autopsy of the 40-year-old woman suffering from rheumatic arthritis, the enlarged solid spleen was revealed. On section its tissue is of the mahogany color with enlarged follicles, which look like semi-transparent grayish-whitish grains. What pathological process is the most likely?

- a. Glaze spleen
- b. Porphyric spleen

c. Sago spleen

- d. Waxy spleen
- e. Hyaline spleen

87. The person has decreased diuresis, hypernatremia, hypokalemia. Hypersecretion of what hormone can cause such changes?

- a. Auricular sodiumuretic factor
- b. Parathormone
- c. Adrenalin

d. Aldosterone

e. Vasopressin

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

- a. Brucella abortus
- b. Francisella tularensis

c. Bacillus anthracis

- d. Mycobacterium bovis
- e. Yersinia pestis

89. A 5-year-old child was admitted to the otorhinolaryngological department with diagnosis - suppurative inflammation of the middle ear. Disease started from the inflammation of the nasopharynx. Through the what canal of the temporal bone did the infection get into the tympanic cavity?

- a. Tympanic Canaliculus tympanicus
- b. Carotid canal
- c. Musculotubal canal
- d. Canaliculus chordal tympani
- e. Canaliculi caroticotympanici

90. The patient with thymoma (thymus gland tumour) has cyanosis, extension of subcutaneous venous net and edema of the soft tissues of face, neck, upper part of the trunk and upper extremities. What venous trunk is pressed with tumour?

- a. Clavicular vein
- b. Frontal jugular vein
- c. Superior vena cava
- d. Internal jugular vein
- e. External jugular vein

91. What heat transfer mechanism is the most effective while the man being at 80% of air moisture and the temperature +35°C?

- a. Convection
- b. Radiation
- c. -

d. Evaporation

- e. Heat conduction

92. While having the dinner the child choked and aspirated the food. Meavy cough has started, skin and mucose are cyanotic, rapid pulse, rear breathing, expiration is prolonged. What disorder of the external breathing developed in the child?

- a. Biots breathing
- b. Alternating breathing
- c. Stenotic breathing
- d. Stage of inspiratory dyspnea on asphyxia
- e. Stage of expiratory dyspnea on asphyxia

93. A 42-year man suffering from gout has increased level of urinary acid in the blood. Allopurinol was prescribed to decrease the level of urinary acid. Competitive inhibitor of what enzyme is allopurinol?

- a. Adeninephosphoribosiltransferase
- b. Hypoxanthinphosphoribosiltransferase
- c. Guaninedeaminase
- d. Adenosinedeaminase
- e. Xanthinoxidase

94. Anapriline therapy caused positive effect in the dynamic of the disease of a 44-year-old woman suffering from stenocardia. What is the main mechanism of the effect of this medicine?

- a. Decreased power inputs of myocardium due to reduced loading
- b. Blockade of beta-adrenoreceptors and decrease myocardial requirements to the oxygen
- c. Decreased need in increasing of oxygen supply to the myocardium
- d. Increased oxygen supply to the myocardium
- e. Decrease of oxidative exchange in myocardium due to enzyme blockade of Krebs cycle

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

a. Nuclear receptors

- b. Proteins- activators of transcription
- c. Ribosomes
- d. Chromatin
- e. Membrane receptors

96. Patient with diarrhoea was admitted to the infection unit. Gramnegative curved rod-like bacteria were founded on bacterioscopic examination of faecal masses. What is the most likely disease in this patient?

a. Intestinal form of plague

b. Cholera

- c. Salmonellosis gastroenteritis
- d. Typhoid fever
- e. Diphtheria

97. On autopsy it is 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. Pyelonephritis

b. Polycystic kidney

- c. Necrotic nephrosis
- d. Infarction
- e. Glomerulonephritis

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

a. Minkowsky-Shauffard disease

b. Sickle-cell anemia

- c. Thalassemia
- d. Favism
- e. Hemoglobinosis

99. On experiment on the dog the peripheral part of nervus vagus of the neck was irritated. What changes of the heart function would be observed?

- a. Increased atrioventricular conduction
- b. Increased contraction force

c. Decreased contraction rate

- d. Increased myocardial excitability
- e. Increased contraction force and rate

100. A 43-year-old patient has thrombopenia, reduction of fibrinogen, products of degradation of fibrin presented in the blood, petechial haemorrhage along with septic shock. What is the most likely cause of the changes?

a. DIC-syndrom

- b. Disorder of thrombocytes production
- c. Haemorrhagic diathesis
- d. Autoimmune thrombocytopenia
- e. Exogenous intoxication

101. A 30-year-old patient with bacteriologically proved dysentery developed the signs of paraproctitis. What is the stage of local changes in this patient?

a. Ulceration stage

- b. Follicular colitis
- c. Catarrhal colitis
- d. Fibrinous colitis
- e. Healing of the ulcers stage

102. On autopsy it was 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. Acute warty endocarditis
- c. Recurrent warty endocarditis
- d. Diffusive endocarditis
- e. Fibroplastic endocarditis

103. Tuberculine was injected intraperitoneally to the animal sensibilized with tuberculine. Venous hyperemia and peritoneal edema were detected on the laparotomy in 24 hours. Increased amount of lymphocytes and monocytes were in the smear-print from the peritonium. What pathological process is in the animal?

- a. Fibrinous inflammation
- b. Aseptic inflammation

c. Allergic inflammation

- d. Suppurative inflammation
- e. Serous inflammation

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

- a. Metaplasia
- b. Hypertrophic excrescence
- c. Displasia

d. Glandulo-gangliac hyperplasia

- e. Atrophy

105. A 25-year-old patient complained of the decreased vision. Accommodation disorders, dilated pupil, not reacting on the light were revealed on examination. Function of what muscles is disturbed?

- a. Pupil narrowing and dilating muscle
- b. Pupil dilating muscle, ciliary
- c. Lateral rectus muscle, pupil narrowing

d. Pupil narrowing muscle, ciliary

- e. Inferior oblique muscle, ciliary

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

a. Reticular formation

- b. Hippocampus
- c. Nuclears of the cerebral nerves
- d. Cortex of the large hemispheres
- e. Black substances

107. Gramnegative bin-shaped diplococcus inside and outside of leucocytes were detected on bacteriological examination of the purulent exudates from the cervix of the uterus. Name the causative agent of purulent inflammation of the cervix of the uterus

- a. Trichomonas vaginalis
- b. Haemophilus vaginalis
- c. Calymmatobacterium granulomatis
- d. Chlamidia trachomatis

e. Neisseria gonorrhoeae

108. 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. Mature
- b. Primary**
- c. Atretic
- d. Secondary
- e. Primordial

109. For a long time a 49-year-old woman was suffering from glomerulonephritis which caused death. On autopsy it was revealed that kidneys size was 7x3x2.5 cm, weight is 65,0 g, they are 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. Thrombopenia
- b. Anemia
- c. DIC-syndrome
- d. Sepsis

e. Uraemia

110. Accelerated frequency of the heart rate and increased blood pressure were marked in the sportsman on the start before the competitions. Influence of what parts of the CNS can explain these changes?

- a. Hypothalamus

b. Cortex of the large hemispheres

- c. Medulla
- d. Diencephalon
- e. Mesencephalon

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

a. Previous hepatitis B

- b. Chronic hepatitis B
- c. Acute hepatitis C
- d. Acute hepatitis B
- e. Chronic hepatitis C

112. Respiratory coefficient was studied in the patient who strictly kept certain diet for 10 days. It was determined that it is 1. What diet does the patient follow?

- a. Mixed
- b. With domination of proteins and fat
- c. With domination of proteins and carbohydrates

d. With domination of carbohydrates

- e. With domination of fat and carbohydrates

113. On autopsy it is revealed enlarged dense right lung, fibrin layers on the pleura. Lung tissue is light green color on incision with muddy liquid exudates. What lung disease are these symptoms typical for?

- a. Bronchopneumonia,
- b. Pulmonary gangrene
- c. Interstitial pneumonia

d. Lung-fever

- e. Fibrosing alveolitis

114. Patient with mercury poisoning was admitted to the toxicological department from the chemical industry. What medicine should be used?

- a. Isonitrozin
- b. Activated carbon
- c. Enterosorbent

d. Unithiol

- e. Naloxone

115. On some diseases it is observed aldosteronism with hypertension and edema due to sodium retention in the organism. What organ of the internal secretion is affected on aldosteronism?

- a. Hypophysis

b. Adrenal glands

- c. Ovaries

- d. Testicle
- e. Pancreas

116. Person felt thirsty after staying in heat for a long time. Signals of what receptors caused it first of all?

- a. Baroreceptors of aortic arch
- b. Osmoreceptors of the liver
- c. Sodium receptors of hypothalamus
- d. Glucoreceptors of hypothalamus
- e. Osmoreceptors of hypothalamus**

117. Due to action of electric current on the excitable cell there appeared depolarization of its membrane. Movement of what ions through the membrane caused depolarisation?

- a. Cl^-
- b. Na^+**
- c. HCO_3^-
- d. K^+
- e. Ca^{2+}

118. On blood grouping on the system ABO, standard serum of the I and II groups caused erythrocytes agglutination of the examined blood and serum group of the III didn't. What agglutinogens are in this erythrocytes?

- a. A
- b. B**
- c. A and B
- d. D and C
- e. C

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

- a. Aorta abdominalis
- b. Vena hepatica
- c. Vena porta**
- d. Vena cava superior
- e. Vena cava inferior

120. After trauma a 44-year-old patient had a rupture of left palm muscle tendons and of the surface of blood vessels. After operation and removal of the most part of the necrotically changed muscle tissue the bloodstream was normalized. What vessels have helped with restoration of bloodstream?

- a. Arcus palmaris profundus**
- b. Arcus palmaris superficialis
- c. Aa. digitales palmares communes
- d. Aa. perforantes
- e. Aa. metacarpeae palmares

121. Due to cranial trauma the patient developed the symptoms: intention tremor, dysmetria, adiadochokinesis, dysarthria. What structure of the brain is injured?

- a. Striatum
- b. Motor cortex
- c. Cerebellum**
- d. Black substance
- e. Pale sphere

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

- a. Etaperazine

b. Platyphylline

c. Contrycal

d. No-spa

e. Ephedrine

123. A 12-year-old boy often suffers from virus and bacterial infections and eczematous skin lesions. Enlargement of T-lymphocytes and IgM with normal IgA and IgG was revealed on examination. What type of immune system pathology is presented in the patient?

a. Hereditary immunodeficiency of the complement system

b. Hypoplasia of thymus

c. Turners syndrome

d. Brutons hypogammaglobulinemia

e. Composite immunodeficiency

124. Dystrophic changes of the heart muscle are accompanied with cardiac cavity enlargement, decrease of the strength of heart contraction, increased amount of blood, which remains in the heart during systolic phase, overfilled veins. For what state of heart is it characteristic?

a. Tamponade of the heart

b. Tonogenic dilatation

c. Myogenic dilatation

d. Emergency stage of hyperfunction and hypertrophy

e. Cardiosclerosis

125. Usage of oral contraceptives with sex hormones inhibits secretion of the hypophyseal hormones. Secretion of which of the indicated hormones is inhibited while using oral contraceptives with sex hormones?

a. Oxytocin

b. Vasopressin

c. Follicle-stimulating

d. Thyrotropic

e. Somatotrophic

126. Person has stable HR, not more than 40 bpm. What is the pacemaker of the heart rhythm in this person?

a. Branches of His bundle

b. His bundle

c. Purkinje fibers

d. Atrioventricular node

e. Sinoatrial node

127. A 56-year-old patient with complaints of thirst and frequent urination was diagnosed to have diabetes mellitus and butamin was prescribed. What is the mechanism of action of this medicine?

a. It inhibits absorption of glucose in the intestines

b. It relieves transport of glucose through the cells membranes

c. It stimulates beta-cells of Langerhans islets

d. It helps to absorb the glucose by the cells of the organism tissues

e. It inhibits alpha cells of Langerhans islets

128. A 62-year-old patient was admitted to the neurological department due to cerebral haemorrhage. Condition is grave. There is observed progression of deepness and frequency of breath that turns into reduction to apnoea, and the cycle repeats. What respiration type has developed in the patient?

a. Cheyne-Stokes respiration

b. Biots respiration

c. Gasping respiration

d. Apneustic respiration

e. Kussmaul respiration

129. While registering the child to the school Mantoux test was made to define whether revaccination

was needed test result is negative. What does this result of the test mean?

- a. Absence of cell immunity to the tuberculosis
- b. Absence of antitoxic immunity to the tuberculosis
- c. Absence of antibodies for tubercle bacillus
- d. Presence of antibodies for tubercle bacillus
- e. Presence of cell immunity to the tuberculosis

130. Patient experienced increased susceptibility of the skin to the sunlight. His urine after some time became dark-red. What is the most likely cause of this?

- a. Albinism
- b. Hemolytic jaundice
- c. Alkaptonuria
- d. Porphyrria
- e. Pellagra

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

- a. Emigration of lymphocytes
- b. Diapedesis of erythrocytes
- c. Secondary alteration
- d. Primary alteration
- e. Proliferation of fibroblasts

132. On simulation of inflammation of the lower extremity the animal experienced rise in temperature, increase of amount of antibodies and leukocytes in the blood. What substances caused this general reaction of the organism on inflammation?

- a. Leucotriens
- b. Mineralcorticoid
- c. Somatomedins
- d. Glucocorticoid
- e. Interleukin

133. Transmural myocardial infarction in the patient was complicated with progressive acute left ventricle insufficiency. What is the most typical for this state?

- a. Edema of the extremities
- b. Edema of the lungs
- c. Ascites
- d. Arterial hypertension
- e. Cyanosis

134. 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. Meningococcal nasopharyngitis
- b. Rhinovirus infection
- c. Virus rhinitis
- d. Allergic rhinitis
- e. Scleroma

135. A 59-year-old man has signs of the parenchymatous jaundice and portal hypertension. On histological examination of the puncture of the liver biopate, it was revealed: beam-lobule structure is affected, 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. Viral hepatitis
- b. Chronic hepatosis
- c. Toxic dystrophy
- d. Liver cirrhosis

e. Alcohol hepatitis

136. A 70-year-old man, who suffered from chronic bronchitis, was prescribed medicine for the cough - codeine. What is the mechanism of anticoughing effect?

- a. Competitive
- b. Peripheral effect
- c. Local effect

d. Central

e. Reflex

137. A 32-year-old patient was admitted to the hospital with gross bloodloss due to auto accident trauma. Ps - 110Bpm, RR- 22 pm, BP- 100/60mm Hg. What changes in the blood will occur in an hour after the bloodloss?

- a. Hypoproteinemia
- b. Leukopenia
- c. Erythropenia

d. Hypovolemia

e. Hypochromia of erythrocytes

138. Where should the cathetor for evacuation of the lymph from the thoracic lymph duct be inserted?

- a. To the right venous corner
- b. To the inferior vena cava
- c. To the superior vena cava
- d. To the left inguinal vein

e. To the left venous corner

139. Woman applied to the medico-genetic consulting centre for information about the risk of haemophilia in her son. Her husband has been suffering from this disease since birth. Woman and her parents are healthy (dont have haemophilia). Is the boy likely to have the disease in this family?

- a. 75% of the boys will be ill
- b. 25% of the boys will be ill
- c. 50% of the boys will be ill

d. All boys will be healthy

e. All boys will be ill

140. A 7-year-old child cant abduct the shoulder, raise it to the horizontal level. He can raise the hand to the face only with dorsal side with abduction of the shoulder (with help of supraspinous muscle) - "bugler" arm. Active function of what muscle is absent?

- a. Teres minor
- b. Pectoral major

c. Deltoid

- d. Infraspinous
- e. Teres major

141. The specimens present sections of haemopoetic and immunogenetic organs. Organ has lymph tissue forming different structures (lymph nodes,lobules, bars). In what organ does antigen-independent proliferation and differantiation take place?

a. Thymus

- b. Hemolymph nodes
- c. Spleen
- d. Tonsil
- e. Lymphatic nodes

142. Concentration of pyruvate is increased in the patients blood, the most of which is excreted with urine. What avitaminosis is observed in the patient?

- a. Avitaminosis E
- b. Avitaminosis B6

c. Avitaminosis B2

d. Avitaminosis B1

e. Avitaminosis B3

143. On bacteriological examination of the defecation of a 4-months-old baby with the symptoms of acute bowel infection there were revealed red colonies spread in the large quantity in the Endo environment. What microorganism can it be?

a. Streptococcus

b. Salmonella

c. Escherichia

d. Staphylococcus

e. Shigella

144. The ventral roots of 5 frontal segment of spinal cord were cut during experiment in the animal. What changes will take place in the innervation region?

a. Hypersensitivity

b. Loss of temperature sensitivity

c. Loss of movements

d. Loss of touch sensitivity

e. Loss of proprioceptive sensitivity

145. Secretion of which gastrointestinal hormones is primarily decreased in patient with removed duodenum?

a. Histamine

b. Gastrin and histamine

c. Neurotensin

d. Gastrin

e. Cholecystokinin and secretin

146. The guide of the scientific expedition in India was native who always was with his dog. What invasive diseases can be transmitted by the dog if it is the source of invasion?

a. Paragonimiasis

b. Fascioliasis

c. Echinococcosis

d. Teniasis

e. Dicrocoeliasis

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

a. Synthesis of t-RNA

b. Synthesis of m-RNA

c. Reverse transcription

d. Maturation of m-RNA

e. Primers synthesis

148. Patient with pneumonia has intolerance to antibiotics. Which of the combined sulfanilamide medicines should be prescribed to the patient?

a. Sulfadimethoxine

b. Natrium sulfacyl

c. Aethazol

d. Streptocid

e. Biseptol

149. 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 appears?

a. Waved tetanus

b. Asynchronous

c. Single

d. Tonic

e. Continuous(smooth) tetanus

150. 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. Metaphase
- b. Prophase
- c. Telophase
- d. Interfase
- e. Anaphase**

151. On autopsy it is revealed: soft arachnoid membrane of the upper parts of cerebral hemisphere is plethoric, it is of yellowish-green color, soaked with purulent and fibrose exudate, it looks like cap. For what disease is it characteristic picture

- a. Meningitis at anthrax
- b. Meningococcal meningitis**
- c. Tuberculous meningitis
- d. Meningitis at typhus
- e. Influenza meningitis

152. Profuse foam appeared when dentist put hydrogen peroxide on the mucous of the oral cavity. What enzyme caused such activity?

- a. Catalase**
- b. Glucose-6-phosphatdehydrogenase
- c. Acetyltransferase
- d. Methemoglobinreductase
- e. Cholinesterase

153. Periodic renal colics attacks are observed in the woman with primery hyperparathyroidizm. Ultrasonic examination revealed small stones in the kidneys. What is the cause of the formation of the stones?

- a. Hyperuricemia
- b. Hypercholesterinemia
- c. Hypercalcemia**
- d. Hyperkalemia
- e. Hyperphosphatemia

154. Disorder of the airways passage in small and middle bronchi was revealed in the patient. What disorder of the acid-base equilibrium can be detected in the blood?

- a. Respiratory acidosis**
- b. -
- c. Metabolic alkalosis
- d. Metabolic acidosis
- e. Respiratory alkalosis

155. Gonorrhoea was revealed in the patient on bacterioscopy of the smear from urethra. Taking into account that medicines for gonorrhoea are fluorquinolones, patient should be prescribed:

- a. Ciprofloxacin**
- b. Cefazoline
- c. Furazolidone
- d. Urosulfan
- e. Fluorouracil

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

- a. 8,0 mmol/L
- b. 1,5 mmol/L**
- c. 5,5 mmol/L
- d. 10,0 mmol/L

e. 3,3 mmol/L

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

- a. Tavegil
- b. Phencarol
- c. Dimedrol
- d. Ketotifen**
- e. Diazoline

158. During histological examination of the stomach it was found out that glands contain very small amount of parietal cells or they are totally absent. Mucous membrane of what part of the stomach was studied?

- a. -
- b. Body of stomach
- c. Pyloric part**
- d. Cardiac part
- e. Fundus of stomach

159. The patient has taken the mixture prescribed by neuropathologist for neurasthenia for 2 weeks. Patient felt better but developed coryza, conjunctivitis, rash, inertia, decrease of memory. Bromism was diagnosed. What should be prescribed to decrease symptoms?

- a. Asparcam
- b. Glucose solution 5%
- c. -
- d. Polyglucin
- e. Natrium chloride**

160. During surgery in a 17-year-old patient it was revealed the tumor of 4,5x5,0x3,5 cm in size on the lower surface of the liver with sub-serous localization, of dark-red color. On the section tumor has cavities with marked amount of blood. What is preliminary diagnosis?

- a. Hemangioendothelioma
- b. Cavernous hemangioma**
- c. Hemangiopericytoma
- d. Lymphangioma
- e. Capillar hemangioma

161. Low level of albumins and fibrinogen was detected in the patients blood. Decreased activity of what organelle of the liver hepatocytes can cause it?

- a. Agranular endoplasmatic net
- b. Golgi complex
- c. Granular endoplasmatic net**
- d. Mitochondrions
- e. Lysosomes

162. Increased production of thyroidal hormones T3 and T4, weight loss, tachycardia, psychic excitement and so on present on thyrotoxicosis. How do thyroidal hormones effect energy metabolism in the mitochondrion of cells?

- a. Stops respiratory chain
- b. Activates oxidated phosphorylation
- c. Activates phosphorylation of substance
- d. Disconnect oxidation and oxidated phosphorylation**
- e. Stops phosphorylation of substance

163. Increased amount of free fat acids is observed in the blood of the patients with diabetes mellitus. It can be caused by:

- a. Decreased activity of phosphatidylcholine-cholesterol-acyltransferase blood plasma

b. Increased activity of triglyceridelipase adipocytes

- c. Activation of the synthesis of the apolipoproteins
- d. Storage of palmitatol-CoA
- e. Activation of the ketone bodies utilization

164. Parents with ill child came to the infectionist. They worked in one of the Asian countries for a long time. Child has eathy colored skin, loss of appetite, laxity, enlarged liver, spleen, peripheral glands. What protozoan illness can this child have?

a. Visceral leishmaniasis

- b. Balantidiasis
- c. Amebiasis
- d. Lamblasis
- e. Toxoplasmosis

165. A 10-year-old girl often experiences acute respiratory infections with multiple spotty haemorrhages in the places of clothes friction. Hypovitaminosis of what vitamin is present at the girl?

a. B6

b. C

- c. B1
- d. B2
- e. A

166. While examining the child the doctor revealed symmetric cheeks roughness, diarrhea, disfunction of the nervous system. Lack of what food components caused it?

a. Nicotinic acid, tryptophane

- b. Phenylalanine, pangamic acid
- c. Lysine, ascorbic acid
- d. Threonine, pantothenic acid
- e. Methionine, lipoic acid

167. Unpainfull formation without marked borders appeared in the soft tissues of the thigh of a young man. On the tissue bioptate the formation looks like the meat of a fish, consisting of immature fibroblast-like cells with multiple mitosis, which grow through the muscles. What is the most likely diagnosis?

- a. Fibroma
- b. Cancer

c. Fibrosarcoma

- d. Myosarcoma
- e. Myoma

168. In result of the damage of one of the Atomic Power Plant reactor the run-out of radioelements happened. People in the increased radiation zone were radiated with approximately 250-300 r. They were immediately hospitalized. What changes in the blood count would be typical?

- a. Anemia
- b. Leukopenia
- c. Neutropenia
- d. Thrombopenia

e. Lymphopenia

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

- a. Choroid
- b. Ciliary muscle
- c. Back epithelium of cornea

d. Venous sinus

- e. Ciliar body

170. Ovarian tumour was diagnosed in the woman. Surgery was indicated. What ligament should be cut by the surgeon to disconnect the ovary and the uterus?

a. The ovarian ligament

- b. Broad ligament of uterus
- c. Round ligament of uterus
- d. Lateral umbilical ligament
- e. Suspensory ligament of ovary

171. During the fetal period of the development in the vascular system of the fetus large arterial (Botallus) duct is functioning which converts into lig. arteriosum after birth. What anatomical formations does this duct connect between each other?

- a. Pulmonary trunk and superior vena cava
- b. Aorta and superior vena cava

c. Pulmonary trunk and aorta

- d. Aorta and inferior vena cava
- e. Right and left auricle

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

a. Hypoacid hyposecretion

b. Hyperacid hypersecretion

- c. Achylia
- d. Hyperacid hyposecretion
- e. Hypoacid hypersecretion

173. Carnitine including drug was recommended to the sportsman for improving results. What process is activated most of all with help of carnitine?

- a. Synthesis of ketone bodies
- b. Synthesis of lipids
- c. Tissue respiration

d. Transport of fatty acids to the mitochondria

- e. Synthesis of steroid hormones

174. Patient complains of weakness, dyspnea, low extremities oedema. Diagnosis: chronic cardiac insufficiency. What medicine should be prescribed first of all?

- a. Propranolol
- b. Caffeine

c. Digoxin

- d. Papaverine
- e. Rauvolfin

175. Chronic inflammation and transformation of the one-layer ciliated epithelium into multiple-layers flat epithelium was revealed in the thickened mucous membrane of the bronchus biopsate of the patient with smoke abuse. Which of the processes is the most likely?

- a. Epithelium hypertrophy
- b. Hyperplasia of the epithelium
- c. Leucoplacia

d. Metaplasia

- e. Squamous cancer

176. The 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 the different size and shape, lined with single-layer proliferative epithelium. What is the most appropriate diagnosis?

- a. Infiltrative cancer
- b. Mastitis
- c. Noninfiltrative cancer

d. Papilloma

e. Fibroadenoma

177. Pain along large nervous stems and increased amount of pyruvate in the blood were revealed in the patient. Insufficiency of what vitamin can cause such change?

a. B1

b. Biotin

c. B2

d. Pantothenic acid

e. PP

178. Purulent endometritis with fatal outcome was progressing in the woman after abortion performed not at the hospital. On autopsy multiple lung abscesses, subcapsule ulcers in the kidneys, spleen hyperplasia were revealed. What form of sepsis developed in the patient?

a. Chroniosepsis

b. Lung sepsis

c. Urosepsis

d. Septicemia

e. Septopyemia

179. Signs of gastropathy develop in the patient with rheumatoid arthritis who was treated with indometacin. With what activity of the drug can this complication be connected?

a. Antiserotonin

b. Anticyclooxygenase

c. Antikinine

d. Local irritating

e. Antihistamine

180. On bacteriological study of rinsing water of the patient with food poisoning, the pure bacterial culture was inoculated with the following properties: gram-negative motile bacillus in the Endo environment grows like achromic colony. Representative of what genus has caused the illness?

a. Escherichia

b. Yersinia

c. Salmonella

d. Citrobacter

e. Shigella

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

a. Chromosome mutation

b. Phage conversion

c. Growing with antitoxic serum

d. Cultivation in the telluric environment

e. Passing through the organism of the sensitive animals

182. Increased breaking of vessels, enamel and dentine destruction in scurvy patients are caused by disorder of collagen maturing. What stage of modification of procollagen is disordered in this avitaminosis?

a. Removal of C-ended peptide from procollagen

b. Detaching of N-ended peptide

c. Glycosylation of hydroxylysine residues

d. Formation of polypeptide chains

e. Hydroxylation of proline

183. From the group of children who were eating sweet sappy watermelon two kids developed the signs of poisoning: rapid weakness, dizziness, headache, vomiting, edema, tachycardia, cyanosis of mouth, ears, tips of the fingers cyanosis. High concentration of nitrates was detected. What is the

leading mechanism of the pathogenesis of the poisoning in the two children?

- a. Insufficiency glutathione pyroxidase
- b. Block cytochrome oxidase
- c. Insufficiency of met-Hb-reductase**
- d. Insufficiency of superoxiddismutase
- e. Insufficiency of catalase

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

- a. Leukopenia
- b. Increase of haematocrite rate
- c. Leucocytosis
- d. Polycythemia
- e. Reduction of haematocrite rate**

185. For serological diagnostics of the whooping cough it was made large-scale reaction with parapertussis and pertussis diagnosticums. At the bottom of the test-tubes with diagnosticum of Bordetella parapertussis grain-like sediment formed. What antibodies have this reaction revealed?

- a. Precipitins
- b. Bacteriolysins
- c. Antitoxins
- d. Agglutinins**
- e. Opsonins

186. The patient was treated medically for psychosis for 2 weeks. Patients condition improved but rigidity, tremor, hypokinesia developed. Which of the drugs can cause such complications?

- a. Chlordiazepoxide
- b. Aminazine**
- c. Diphenine
- d. Imipramine
- e. Sydnocarb

187. Punctata hemorrhage was found out in the patient after application of a tourniquet. With disfunction of what blood cells is it connected?

- a. Eosinophiles
- b. Monocytes
- c. Platelets**
- d. Neutrophiles
- e. Lymphocytes

188. Intrapleural pressure is being measured in a person. In what phase has a person hold his breath if the pressure is - 25 cm H₂O?

- a. Speed up inspiration**
- b. -
- c. Speed up expiration
- d. Calm expiration
- e. Calm inspiration

189. In the blood of a 26-year-old man it was revealed 18% of erythrocytes of the spherical, ball-shaped, flat and thorn-like shape. Other eritrocytes were in the form of the concavo-concave disks. How is such phenomenon called?

- a. Physiological anisocytosis
- b. Pathological poikilocytosis
- c. Physiological poikilocytosis**
- d. Erythrocytosis
- e. Pathological anisocytosis

190. Tere is observed inhibited fibrillation in the patients with bile ducts obstruction, bleeding due to

low level of absorption of some vitamin. What vitamin is in deficit?

- a. Carotene
- b. K**
- c. D
- d. A
- e. E

191. Victim has elbow joint trauma with avulsion of medial epicondyle of humerus. What nerve can be damaged in this trauma?

- a. Medial cutaneous nerve of forearm
- b. Musculocutaneous nerve
- c. Radial
- d. Ulnar**
- e. Cardiac cutaneous nerve

192. Systemic amebiasis with involvement of intestines, liver, lungs was diagnosed in a 52-year-old patient. What drug should be prescribed?

- a. Enteroseptol
- b. Tetracycline
- c. Quingamine
- d. Quiniofone
- e. Metronidasol**

193. A man with internal abdominal right side injury and suspicion of liver rupture was admitted to the traumatological department. In what peritoneal structure will blood accumulate?

- a. Recessus intersigmoideus
- b. Excavatio rectovesicalis**
- c. Fossa ischio-analis
- d. Bursa omentalis
- e. Recessus duodenalis inferior

194. The patient with complaints of permanent thirst applied to the doctor. Hyperglycemia, polyuria and increased concentration of 17-ketosteroids in the urine were revealed. What disease is the most likely?

- a. Insulin-dependent diabetes mellitus
- b. Myxoedema
- c. Addison's disease
- d. Steroid diabetes**
- e. Type I glycogenosis

195. Patients with similar complaints applied to the doctor: weakness, pain in the intestines, disorder of GIT. Examination of the faeces revealed that one patient with four nucleus cysts should be hospitalized immediately. For what protozoa are such cysts typical?

- a. Dysenteric amoeba**
- b. Trichomonas
- c. Intestinal amoeba
- d. Lamblia
- e. Balantidium

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

- a. Hospitalize the patient and keep under the doctor's supervision
- b. Immediate injection of DPT (Diphtheria, Pertussis, Tetanus) vaccine
- c. Start immunisation with rabies vaccine**
- d. Immediately inject normal gamma globulin
- e. Prescribe combined antibiotic therapy

197. Patient with abscess of the cut wound applied to the traumatological department. Doctor for the

cleaning of the wound from the pus washed it with 3% hydrogen peroxide. Foam was absent. What caused the absence of the drug activity?

- a. Inherited insufficiency of phosphatodehydrogenase of erythrocyte
- b. Pus in the wound
- c. Low concentration of H_2O_2
- d. Shallow wound
- e. Inherited insufficiency of catalase**

198. Multiple oval ulcers along the intestine were revealed on autopsy of the person, who died from diffuse peritonitis in the distal part of the small intestine. Bottom parts of the ulcers are clear, smooth, formed with muscular or serous covering, edges of ulcers are flat, rounded. There are perforations up to 0,5 cm in diameter in two ulcers. What disease can be diagnosed?

- a. Typhoid fever**
- b. Typhus
- c. Tuberculosis
- d. Dysentery
- e. Cholera

199. White-haired, with blue eyes girl was born in healthy parents. Irritability, anxiety, troubled sleep and feeding developed in the first months of life of the infant. What method of genetic investigation should be used for the exact diagnosis?

- a. Cytological
- b. Biochemical**
- c. Genealogical
- d. Twin
- e. Population-statistical

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

- a. Fat embolism
- b. Embolism with foreign body
- c. Tissue embolism
- d. Thromboembolism**
- e. Thrombosis

201. The examination of skin biopsy of a patient with hemorrhage vasculitis revealed the next: the vessel wall was thickened, homogenous, stained in yellow colour by means of picrofuchsin, PAS-positive. What pathologic process has developed in the vessel walls?

- a. Lipidosis
- b. Muroid swelling
- c. Amyloidosis
- d. Fibrinoid swelling**
- e. Hyalinosis

202. Patients with collagenosis have the destruction of the connective tissue. It is confirmed by increasing in the blood of:

- a. Contents of creatine and creatinine
- b. Contents of oxyprolin and oxylysin**
- c. Contents of urates
- d. Activity of transaminases
- e. Activity of isoenzymes of LDH

203. Patients with diabetes mellitus and people during starvation have the increased contents of acetone bodies in their blood, which are used as energy material. What substance are they synthesized from?

- a. Malate
- b. Citrate**

c. Succinyl-CoA carboxylase

d. Ketoglutarate

e. Acetyl-CoA carboxylase

204. The penetration of the irritable cell membrane for potassium ions has been increased experimentally. What changes of membrane electric status can occur?

a. Action potential

b. Local response

c. Hyperpolarization

d. No changes

e. Depolarization

205. An old man had infarction of the right cerebrum hemisphere. One year later, taking into consideration the absence of movements of his left extremities, the patient underwent computer tomography of the cerebrum, which revealed a smooth-walled cavity, full of liquor. What pathological process is found out in the cerebrum?

a. Postinfarction cyst

b. Gray maceration of the brain

c. Brain infarction

d. Hematoma

e. Hydrocephaly

206. On bacteriological examination of the defecation of a 4-months-old baby with the symptoms of acute bowel infection there were revealed red colonies spread in the large quantity in the Endo medium. What microorganism can it be?

a. Escherichia

b. Shigell

c. Streptococcus

d. Staphylococcus

e. Salmonella

207. In case of enterobiasis acridine - the structural analogue of vitamin B2 - is administered. The synthesis disorder of which enzymes does this medicine cause in microorganisms?

a. NAD - dependent dehydrogenases

b. FAD - dependent dehydrogenases

c. Cytochromeoxidases

d. Aminotransferases

e. Peptidases

208. A 42-year-old man was administered pyriminyl in order to prevent the distant results of quartan malaria. 3 days since the beginning of the treatment with therapeutic dosage of this medicine the patient has developed pain in the cardiac and abdominal regions, dyspepsia and general cyanosis. What could cause such side effects?

a. Reduced activity of microsomal liver enzymes

b. Delay preparation excretion with urine

c. Accumulation of the medication

d. Potential activity with other preparations

e. Genetic insufficiency of glucose 6-phosphate dehydrogenase

209. A 6-month-old child is suffocating while lying on his back. The palpation on the anterior wall of trachea up to jugular notch of the sternum revealed tumor-like mass, stretching into the anterior mediastinum. What from the belowmentioned can squeeze trachea?

a. Parathyroid glands

b. Thymus gland

c. Peritracheal lymph nodes

d. Parathyroid lymph nodes

e. Thyroid gland

210. Synthesis of phospholipids is disordered due to fat infiltration of liver. Indicate which of the presented substances can enhance the process of methylation during phospholipids synthesis?

- a. Ascorbic acid
- b. Glucose
- c. Methionine**
- d. Citrate
- e. Glycerin

211. Dystrophic changes of the heart muscle are accompanied with cardiac cavity enlargement, decrease of the strength of heart contraction, increased amount of blood, which remains in the heart during systolic phase, overfilled veins. For what state of heart is it characteristic?

- a. Tamponade of the heart
- b. Emergency stage of hyperfunction and hypertrophy
- c. Cardiosclerosis
- d. Tonogenic dilatation
- e. Myogenic dilatation**

212. In the blood smear, stained according to Romanovsky-Giemsa method, there are 20% big (20 mcm in diameter), rounded cells with pale-basophilic cytoplasm and bean-shaped nucleus. How is this condition characterised clinically?

- a. Leukopenia
- b. Lymphocytosis
- c. Monocytosis**
- d. Neutrophilosis
- e. Reticulocytosis

213. Person has stable HR, not more than 40 bpm. What is the pacemaker of the heart rhythm in this person?

- a. Branches of His bundle
- b. Purkinje fibers
- c. Sinoatrial node
- d. Atrioventricular node**
- e. His bundle

214. Child asked you to puff up the balloon as much as possible for a one exhalation. What air volume will you use?

- a. Functional residual volume
- b. Backup volume of the inspiration
- c. Total volume of the lungs
- d. Inspiration volume
- e. Vital volume of the lungs**

215. A female patient complaining of indigestion and diffuse abdominal pain came to the doctor. During the examination the doctor found out considerably decreased hemoglobin level in the blood. During the inquiry it turned out that the woman, living in the Far East, was frequently eating lightly salted caviar. Some relatives, who were living with her, had the same complaints. What was the diagnosis?

- a. Trichinosis
- b. Echinococcosis
- c. Diphyllbothriasis**
- d. Teniasis
- e. Ascariasis

216. During the staining of sputum smear of a patient with suspected croupous pneumonia the following reagents and stainings were used: gentian violet solution, Lugol's solution, 960 spiritus and water fuchsin. What method of staining is used in this case?

- a. Leffler's
- b. Ziehl-Neelsen's

c. Romanovskys

d. Neissers

e. Grams

217. A patient complaining of weight loss (10 kg during 2 months), palpitation and exophthalmos came to the endocrinologist. For the hyperfunction of what endocrine gland (glands) are these complaints the most typical?

a. Ovaria

b. Adrenal glands

c. Thyroid

d. Pancreas

e. Parathyroid glands

218. A 56-year-old patient with cardiac failure notices edematous feet and shins, the skin in the place of edema is pale and cold. What is the leading pathogenesis of this patient's edema?

a. Reduced oncotic pressure in capillaries

b. Increased capillary penetration

c. Positive water balance

d. Increased hydrostatic pressure in venules

e. Lymph outflow impairment

219. The 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 appropriate diagnosis?

a. Mastitis

b. Noninfiltrative cancer

c. Infiltrative cancer

d. Fibroadenoma

e. Papilloma

220. A 50-year-old man had been blocked up for 2 days because of earthquake. After he was rescued, the diagnosis of compression syndrome was made. What further complication is the most likely to develop in this case?

a. Acute vascular failure

b. Acute renal failure

c. Acute respiratory failure

d. Acute hepatic failure

e. Acute cardiac failure

221. A patient because of pathological process has thickened alveolar membrane. What will be reduced directly as a result of this?

a. Minute respiratory capacity

b. Oxygen capacity of blood

c. Diffuse lung capacity

d. Alveolar lung ventilation

e. Reserve expiratory capacity

222. A doctor made the diagnosis of gonorrhoea. It was known from the anamnesis that a patient had had gonorrhoea before and he had been treated completely. What type of infection can this new disease be attributed to?

a. Superinfection

b. Secondary infection

c. Autoinfection

d. Relapse

e. Reinfection

223. A 58-year-old woman complains of increased tiredness, decreased capacity for work,

somnolence and dyspnea during fast walking. Blood test revealed: erythrocytes - 4,61012/l, hemoglobin - 92 g/l, colour index - 0,6. Blood smear demonstrated high contents of microcytes and anulocytes. What anemia is it typical for?

- a. Penicious
- b. Sickle cell
- c. Hemolytic
- d. Iron deficiency**
- e. Acute posthemorrhagic

224. A patient, who had been blowing a cloud (smoking tobacco) for a long time developed lung cancer. Which of the suggested cancerogenic substances is contained in the tobacco smoke and is attributed to the polyunsaturated aromatic carbohydrates (PAC)?

- a. ?- naphthylamine
- b. Benzpyrene**
- c. Diethylnitrosamine
- d. Dimethylaminoazobenzene
- e. Orthoaminoazotoluene

225. Patient with vomiting, dizziness, sensation of dubble vision, difficult swallowing was admitted to the hospital. Doctor suspects botulism. What diagnostic methods should be used for diagnosis approving?

- a. Biological test, bacteriological**
- b. -
- c. Protozoological, microscopical
- d. Bacteriological, mycological
- e. Allergic test, serological

226. A patient after hypertension stroke has no voluntary movements in his right arm and leg, muscle tone in these extremities is increased. What type of dysfunction of nervous system is it?

- a. Peripheral paralysis
- b. Central paresis
- c. Peripheral paresis
- d. Central paralysis**
- e. Reflex paresis

227. The person was selling "homemade pork" sausages on the market. State sanitary inspector suspected falcification of the sausages. With help of what serological immune reaction can food substance be identified?

- a. Agglutination test
- b. Complement- fixation test
- c. Precipitation test**
- d. Indirect hemagglutination test
- e. Immunofluorescence test

228. The autopsy of the mans body, that was working for a long time as a miner and died beacuse of chronic pulmonary-cardiac insufficiency, revealed that lungs were not in their ful volume, significantly thickened, sclerotic, the apexis were emphysematously changed, the surface was gray-black in colour, on section the lung tissue was aspid-black in colour. What disease caused the death?

- a. Asbestosis
- b. Aluminosis
- c. Talcosis
- d. Silicosis
- e. Anthracosis**

229. In the microspecimen of red bone marrow there were revealed multiple capillares through the walls of which mature blood cells penetrated. What type of capillares is it?

- a. Somatical
- b. Fenestrational**

- c. Lymphatic
- d. Visceral

e. Sinusoidal

230. The alternate usage of dichlotiazide, etacrin acid and lasex didnt cause substantial diuretic effect in patient with evident peripheral edema. There is increased amount of aldosterone in the blood. Indicate the medicine to be prescribed

- a. Clopamid
- b. Amilorid

c. Spironolacton

- d. Urea
- e. Mannit

231. Unpainfull formation without marked borders appeared in the soft tissues of the thigh left of the young man. On the tissue biopate the formation looks like a meat of a fish, consisting of the immature fibroblast-like cells with multiple mitosis, which grow through the muscles. What is the most likely diagnosis?

a. Fibrosarcoma

- b. Cancer
- c. Myoma
- d. Myosarcoma
- e. Fibroma

232. The auscultation of a patient with dry pleuritis has revealed plueral friction rub. What epithelium type can cause such signs?

a. Transitional epithelium

b. Simple flat epithelium

- c. Simple cubical epithelium
- d. Simple prismatic epithelium
- e. Laminated epithelium

233. The autopsy a 35-year-old man body revealed in the second segment of the right lung the focus of carnification, which was 5 cm in diametre and was enclosed in a thin capsule. The focus was a tough dry friable tissue with a dim surface. What disease are such morphological changes typical for?

- a. Chondroma
- b. Lung cancer

c. Tuberculoma

- d. Postinflammatory pneumosclerosis
- e. Tumorous form of silicosis

234. During metabolic process active forms of the oxygen including superoxide anion radical are formed in the human body. With help of what enzyme is this anion activated?

a. Superoxide dismutase

- b. Glutathioneperoxidase
- c. Glutathionereductase
- d. Peroxidase
- e. Catalase

235. A patient has myocardial infarction in the region of anterior wall of the left ventricle. What artery basin has the circulatory impairment occurred in?

a. Circumflex branch of left coronal artery

b. Anterior interventricular branch of left coronal artery

- c. Anterior ventricular branches of right coronal artery
- d. Atrioventricular branch of left coronal artery
- e. Left marginal branch of left coronal artery

236. A patient underwent the surgical removal of pathologically disordered distal quarter of small intestine. How will it influence the absorption of nutritional substances in case of patients ordinary

diet?

- a. Lipids absorption will be reduced
- b. Absorption will not be altered**
- c. Proteins absorption will be reduced
- d. Water absorption will be reduced
- e. Carbohydrates absorption will be reduced

237. The study of mitotic cycle phases of onion root revealed the cell, in which the chromosomes are situated in the equatorial plane, forming a star. What stage of the cell mitosis is it?

- a. Anaphase
- b. Interphase
- c. Metaphase**
- d. Prophase
- e. Telophase

238. A patient with paroxysmal attacks of asphyxia, which appear after inhalation of different aromatic substances has been made a diagnosis of bronchial asthma. Ig E rate is elevated. What type of reaction is it the most typical for?

- a. Delayed type of hypersensitivity
- b. Cytotoxic
- c. Immunocomplex
- d. Anaphylactic**
- e. Autoimmune

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

- a. Thalassemia
- b. Favism
- c. Minkowsky-Shauffard disease
- d. Sickle-cell anemia**
- e. Hemoglobinosis

240. A patient was admitted to the hospital with a wound in the region of his neck. The examination revealed the damaged nerve, situated in front of the anterior ladder muscle. What nerve is damaged?

- a. Sublingual
- b. Glossopharyngeal
- c. Phrenic**
- d. Cervical part of sympathetic trunk
- e. Vagus

241. A patient during a visit to his dentist developed severe hypotension. Which of the medicines, stimulating adrenergic structures, should be used to normalise blood pressure?

- a. Doxazozin
- b. Ergotamine
- c. Mesaton**
- d. Sanorin
- e. Xylomethazolin hydrochloride

242. A student is thoroughly summarising a lecture. When his groupmates began talking the quality of the summarising worsened greatly. What type of the inhibition in the cerebral cortex is the cause of this?

- a. Dying
- b. External**
- c. Protective
- d. Differential
- e. Delayed

243. Galactosemia is revealed in a child. Concentration of glucose in the blood is not considerably

changed. Deficiency of what enzyme caused this illness?

a. Galactose-1-phosphate uridylyltransferase

b. Hexokinase

c. Galactokinase

d. Phosphoglucomutase

e. Amylo-1,6-glucosidase

244. Careless student occasionally met his dean. The concentration of what hormone will most likely increase in the blood of the student?

a. Cortisol

b. Corticotropin

c. Adrenalin

d. Thyrotropin-releasing hormone

e. Somatotropin

245. 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. Mesaton

c. Adrenalin hydrochloride

d. Pentamin

e. Atropine sulphate

246. Some time later after the intensive physical training a sportman activates his gluconeogenesis. What is its main substance?

a. α -ketoglutarate

b. Aspartic acid

c. Glutamic acid

d. Serine

e. Lactate

247. Because of suspected intrahospital infection in the neonatal department of the maternity home the inspection was carried out. In some children and on some general things Staphylococcus aureus was revealed. What properties of these cultures allow to establish their origin from one source?

a. Biochemical activity

b. Antigenic structure

c. Antibioticogramma

d. Phagotype

e. Chromogenesis

248. The patient with complaints of permanent thirst applied to the doctor. Hyperglycemia, polyuria and increased concentration of 17-ketosteroids in the urine were revealed. What disease is the most likely?

a. Insulin-dependent diabetes mellitus

b. Steroid diabetes

c. Myxoedema

d. Type 1 glycogenosis

e. Addison's disease

249. A 40-year-old pregnant woman underwent amniocentesis. The examination of fetus karyotype revealed 47XY+21. What pathology of the fetus was found out?

a. Down's syndrome

b. Klinefelter's syndrome

c. Patau's disease

d. Phenylketonuria

e. Schereschewsky-Turner's disease

250. In the micropreparation made from patients regional lymph node punctate and stained according to Romanovsky-Giemsa method, the doctor found out thin microorganisms with 12-14 equal ringlets and pale-pink sharp pointes 10-13 mkm in length. The pathogen of what disease is it about?

- a. Relapsing fever
- b. Leishmaniasis
- c. Surra
- d. Leptospirosis

e. Syphilis

251. A 50- year-old man suddenly began having severe palpitation, pain in the heart, sharp weakness, high blood pressure; arrhythmic pulse, with deficiency. The ECG revealed no P waves and there was different duration of R-R intervals. What disorder of heart rhythm did the patient have?

- a. Respiratory arrhythmia
- b. Paroxysmal tachicardia

c. Atrial fibrillation

- d. Sinus extrasystolia
- e. Transversal heart block

252. The heart rate and the systemic arterial blood pressure of a man have increased due to voluntary respiratory delay for 40 c. Realisation of what regulation mechanism caused these changes?

a. -

b. Unconditioned sympathetic reflexes

- c. Conditioned sympathetic reflexes
- d. Conditioned parasympathetic reflexes
- e. Unconditioned parasympathetic reflexes

253. A patient with diabetes mellitus suddenly began having sharp pain in his right foot. The examination revealed black hallux, swollen foot tissues, focuses of epidermis detachment, secreta with unpleasant smell. What clinico-morphological form of necrosis developed in a patient?

a. Moist gangrene

- b. Sequester
- c. Dry gangrene
- d. Bedsore
- e. Infarction

254. A patient who had been suffering for many years from bronchial asthma died from asphyxia. The histological examination of his lungs revealed the following: much mucus with eosinophiles contents in the lumen of bronchioles and small bronchi, sclerosis of interalveolar septa, dilation of alveolar lumen. Which of the mechanisms of allergy development is it?

a. Reagin

- b. Granulomatosis
- c. Cytolysis, caused by lymphocytes
- d. Cytotoxic
- e. Immunocomplex

255. 2 weeks since the blood transfusion a receipient has developed fever. What protozoal disease can it be?

- a. Trypanosomiasis
- b. Amebiasis
- c. Leishmaniasis
- d. Toxoplasmosis

e. Malaria

256. A patient died 3 days after the operation because of perforated colon with the manifestations of diffuse purulent peritonitis. The autopsy demonstrated: colon mucos membrane was thickened and covered with a fibrin film, isolated ulcers penetrated into different depth. Results of histology: mucous

membrane necrosis, leukocytes infiltration with hemorrhages focuses. The complication of what disease caused the patients death?

- a. Crohns disease
- b. Typhoid
- c. Nonspecific ulcerative colitis
- d. Amebiasis
- e. Dysentery**

257. The examination of a foreigner revealed intestinal schistosomiasis. How could the patient be infected?

- a. Through insects bites
- b. While eating fish
- c. During river swimming**
- d. While eating meat
- e. Through dirty hands

258. For serological diagnostics of the whooping cough there was made a large-scale reaction with parapertussis and pertussis diagnostici. At the bottom of the test-tubes with diagnosticum of Bordetella parapertussis grain-like sediment was formed. What antibodies have this reaction revealed?

- a. Precipitins
- b. Antitoxins
- c. Agglutinins**
- d. Opsonins
- e. Bacteriolysins

259. 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 appears?

- a. Waved tetanus**
- b. Single
- c. Asynchronous
- d. Tonic
- e. Continuous (smooth) tetanus

260. A woman with myasthenia developed respiratory disorders, which required artificial ventilation. What type of respiratory insufficiency did the woman have?

- a. Neuromuscular**
- b. Restrictive
- c. Centrogenic
- d. Thoracophrenic
- e. Obstructive

261. A 59-year-old man has signs of the parenchymatous jaundice and portal hypertension. On histological examination of the puncture of the liver biopate, it was revealed: beam-lobule structure is affected, 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. Toxic dystrophy
- c. Alcohol hepatitis
- d. Viral hepatitis
- e. Chronic hepatosis

262. A 46-year-old man on his head skin has got a little bulged out nevus pigmentosis of a dark colour which didn't trouble him. For the last time the nevus began growing in size, a pain developed, the colour became black-brown; the palpation of it demonstrated a node at its base. The histological examination of the removed tissue revealed spindle-shaped and polymorphic cells, the cytoplasm of which contained the pigment of fulvous colour. What tumor is it about?

- a. Hemangioma
- b. Hematoma
- c. Melanoma**
- d. Basalioma
- e. Carcinoid

263. A 26-year-old woman is complaining of thirst and dryness in her mouth. The examination has revealed glucosuria and blood glucose content of 6,5 mmol/l. What condition are these symptoms the most typical for?

- a. Diabetes mellitus
- b. Steroid diabetes
- c. Diabetes insipidus

d. Renal diabetes

- e. Alimentary glucosuria

264. After the radioactive exposure a patient has stem cells disorder. The regeneration of what cells of friable connective tissue will be damaged?

a. Macrophages

- b. Fibroblasts
- c. Adipocytes
- d. Pigment cells
- e. Pericytes

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

- a. Autosome-dominant
- b. X-linked dominant chromosome
- c. X-linked recessive chromosome
- d. Autosome-recessive

e. Y-linked chromosome

266. The speed of excitement conduction through the atrioventricular node in a healthy adult is 0,02-0,05 mps. What does arttrioventricular delay supply?

- a. Sufficient force of ventricles contraction
- b. Simultaneous contraction of both atria

c. Sequence of atria and ventricles contraction

- d. Simultaneous contraction of both ventricles
- e. Sufficient force of atria contraction

267. A patient has got frequent internal organs and mucosal hemorrhages. The analysis indicated insufficiency of hydroxyproline and hydroxylysine in the collagenous fibres. The insufficiency of what vitamin caused the impairment of hydroxylylation of abovementioned aminoacids in a patient?

- a. Vitamin A
- b. Vitamin H

c. Vitamin C

- d. Vitamin K
- e. Vitamin PP

268. Patient in the unconscious state was admitted to the emergency room. Skin is cold, pupils are delayed, breathing is heavy, with cycles of the Cheyne-Stokes type, blood pressure is decreased, urinary bladder is overloaded. Poisoning with what substance is the most likely?

a. Narcotic analgesics

- b. Sedatives
- c. -
- d. M-cholinergic antagonists
- e. Non-narcotic analgesics

269. A 65-year-old man with signs of profuse obesity and risk of fatty liver dystrophy was recommended high-lipotropic diet. The contents of what substance in his diet is the most effective in this case?

- a. Glycin
- b. Glucose
- c. Vitamin C
- d. Cholesterol
- e. Methionine**

270. A patient died from acute cardiac insufficiency. The histological examination of his heart revealed in myocardium of the left ventricle the necrotized section, 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 ischemic dystrophy
- b. Productive myocarditis
- c. Myocardial infarction**
- d. Focal exudate myocarditis
- e. Diffuse exudate myocarditis

271. Ion cells have been blocked in the excitative cell. It doesn't change significantly the quiet potential, but the cell has lost its capacity to the generation of AP (action potential). What canals have been blocked?

- a. Sodium**
- b. Sodium and potassium
- c. Calcium
- d. Chlorine
- e. Potassium

272. A 44-year-old woman was admitted to the therapeutic department because of right-side pleuritis. The examination confirmed the presence of liquid in the pleural cavity. What sinus of the pleura will have the biggest accumulation of the serosity?

- a. Left mediastinodiaphragmatic
- b. Left costomediastinal
- c. Right costodiaphragmatic**
- d. Right costomediastinal
- e. Right mediastinodiaphragmatic

273. Patient was admitted to the infection unit with diagnosis of bacterial dysentery. On laboratory studies it was revealed that causative element is sensitive to many antimicrobial medicines, but patient had anemia. What medicine was contra-indicated to the patient?

- a. Levomycetin**
- b. Enteroseptol
- c. Phthalazol
- d. Furazolidone
- e. Ampicillin

274. A 63-year-old man, suffering from cancer of esophagus, has metastases to mediastinum, lymph nodes and cancer cachexy. What is the pathogenetic stage of the given tumorous process?

- a. -
- b. Transformation
- c. Progression**
- d. Initiation
- e. Promotion

275. A 58-year-old man has a clinical picture of acute pancreatitis. The increase of what substance in the urine from belowmentioned will confirm the diagnosis?

- a. Urea
- b. Nonprotein (rest) nitrogen

- c. Albumin
- d. Uric acid

e. Amylase

276. A patient after tooth extraction developed persistent substernal pain. Sublingual antianginal substance relieved the substernal pain, but the patient complained of headache and dizziness. What medicine did the patient use?

a. Nitroglycerin

- b. Anaprilin
- c. Verapamil
- d. Validol
- e. Metoprolol

277. During ultrasound examination of the heart the doctor observes the leaves of the mitral valve. What happens to them during the systole?

a. They turn inside the cavity of the ventricle

- b. They clasp with the walls of the atrium
- c. They clasp with wall of the vessel
- d. They close up covering the lumen of the orifice
- e. They turn inside the cavity of the atrium

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

a. Increased contents of erythrocytes

b. Increased contents of leukocytes

- c. Increased plasma proteins
- d. Reduced contents of thrombocytes
- e. Reduced contents of erythrocytes

279. A patient with ascariasis was administered a medicine which influences the immune system and is used as immunomodulator. What medicine was administered?

a. Levamisole

- b. Pyrantel
- c. Phenazol
- d. Piperazine adipinate
- e. Naphthamon

280. Systemic amebiasis with involvement of intestines, liver, lungs was diagnosed in a 52-year-old patient. What drug should be prescribed?

- a. Tetracycline
- b. Quiniofone
- c. Quingamine

d. Metronidasol

e. Enteroseptol

281. A 39-year-old man has got an increased risk of infectious processes development, hyperkeratinization, disorder of mesopic vision. What vitamin should be administered?

a. Retinol acetate

- b. Pyridoxine hydrochloride
- c. Tocopherol acetate
- d. Riboflavine
- e. Ergocalciferol

282. During the complicated labour the symphysis pubis ruptured. What organ can be damaged the most?

- a. Ovaria
- b. Rectum
- c. Uterus

d. Urinary bladder

e. Uterine tubes

283. The electrocardiogram analysis demonstrated that the duration of man's heart cycle is 1 sec. What is the heart rate per minute?

a. 80

b. 60

c. 70

d. 50

e. 100

284. A patient suffers from arterial hypertension, strokes, accompanied by tachycardia, excessive sweat, sharp pain in the epigastric region. Which of the mentioned tumorous diseases are these symptoms the most typical for?

a. Pituitary basophil adenoma

b. Glomerular adrenal adenoma

c. Pheochromocytoma

d. Ovarian tumor

e. Thyroid adenoma

285. A 42-year-old man suffering from gout has increased level of urinary acid in the blood. Allopurinol was prescribed to decrease the level of urinary acid. Competitive inhibitor of what enzyme is allopurinol?

a. Xanthine oxidase

b. Adenosine deaminase

c. Hypoxanthine phosphoribosyltransferase

d. Guanine deaminase

e. Adenine phosphoribosyltransferase

286. A patient has increased contents of uric acid in his blood, what is clinically manifested by pain syndrome due to accumulation of urates in his joints. What process does the formation of this acid result from?

a. Purine nucleotide decay

b. Proteolysis

c. Purine bases re-using

d. Heme catabolism

e. Pyrimidine nucleotide decay

287. A patient with chronic heart failure being treated by digitalis drugs developed the symptoms, which confirmed the beginning of cardiac glycosides toxic activity. What drug should be administered to reduce the negative effect of cardiac glycosides?

a. Atropine sulfate

b. Ethymizol

c. Dipiroxim

d. Sodium caffeine-benzoate

e. Potassium chloride

288. A child was diagnosed to have fracture of humerus. The broken arm began retarding in growth. What part of the bone was damaged?

a. Apophysis

b. Metaphysis

c. Diaphysis

d. Marrow canal

e. Epiphysis

289. Extensive thromboembolic infarction of the left cerebral hemispheres, large septic spleen, immunocomplex glomerulonephritis, ulcers on the edges of the aortic valves, covered with polypous thrombus with colonies of staphylococcus were revealed on autopsy of the young man who died in

coma. What disease caused cerebral thromboemboly?

- a. Septic bacterial endocarditis**
- b. Septicemia
- c. Acute rheumatic valvulitis
- d. Rheumatic thromboendocarditis
- e. Septicopyemia

290. A patient in winter fall down into ice-hole, froze and fall ill. The temperature increased up to 39,70C and ranged from 39,0°C to 39,80C . Name the type of temperature curve of this patient

- a. Febris intermittens
- b. Febris continua**
- c. Febris recurrens
- d. Febris remittens
- e. Febris hectica

291. After the genealogy analysis a geneticist came to the conclusion: a feature is manifested in each generation, men and women inherit the feature with equal frequency, parents in the equal way give this feature to their offspring. What type of inheritance does the investigated feature have?

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

292. The examination of blood serum of a patient with immunodeficiency signs revealed antybodies to gp120 i gp41 proteins. The presence of what infection of this patient does it confirm?

- a. HLTV-1-infection
- b. ECHO-infection
- c. HIV-infection**
- d. HBV-infection
- e. TORCH-infection

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

- a. Venous sinus**
- b. Ciliary muscle
- c. Ciliar body
- d. Back epithelium of cornea
- e. Choroid

294. A patientl liver can not normally detoxify its natural metabolites and xenobiotics.The reduced activity of what cytochrome can cause this?

- a. Hemoglobin
- b. Cytochrome P- 450**
- c. Cytochrome B
- d. Cytochromoxidase
- e. Cytochrome C-1

295. A patient with prolonged bronchopneumonia was admitted to the therapeutic department. Antibiotic therapy was ineffective. What medicine should be added to the complex therapy of the patient to increase the immune status?

- a. Analgin
- b. Sulfocamphocain
- c. Dimedrol
- d. Timalin**
- e. Paracetamol

296. During the examination of a patient with bleeding wounds the doctor found out that the tissue was damaged by maggots, there were local maturations. The diagnosis was obligate myiasis. The maggots of what insect caused the disease?

- a. Triatomic bug
- b. Filth (house) fly
- c. Blow fly (*Musca Volfarti*)
- d. Tsetse fly (*Glossina*)
- e. Stable fly

297. Woman applied to the medico-genetic consulting centre for information about the risk of haemophilia in her son. Her husband has been suffering from this disease since birth. Woman and her parents are healthy (don't have haemophilia). Is the boy likely to have the disease in this family?

- a. 75% of the boys will be ill
- b. All boys will be ill
- c. All boys will be healthy
- d. 50% of the boys will be ill
- e. 25% of the boys will be ill

298. Local lymphonodules enlarged near the infected wound. Increased amount of macrophages, lymphocytes, lymphatic follicles in the cortical layer and large amount of plasma cells were revealed on histological examination. What process in the lymphatic nodules represent these histological changes?

- a. Hypersensitivity reaction
- b. Acquired insufficiency of the lymphoid tissue
- c. Innate insufficiency of the lymphoid tissue
- d. Antigen stimulation
- e. Tumour transformation

299. The patient has taken the mixture prescribed by neuropathologist for neurasthenia for 2 weeks. Patient felt better but developed coryza, conjunctivitis, rash, inertia, decrease of memory. Bromism was diagnosed. What should be prescribed to decrease symptoms?

- a. Asparcam
- b. Polyglucin
- c. Sodium chloride
- d. -
- e. Glucose solution 5%

300. During the intraoperative biopsy of thyroid gland the histological examination revealed lymphoid structures with growth centers, which were among the folliculi full of colloid. What disease was it?

- a. Sporadic goiter
- b. Endemic goiter
- c. Thyrotoxicosis (Basedow's goiter)
- d. Hashimoto's thyroiditis (lymphadenoid goiter)
- e. Riedel's goiter

301. On blood grouping on the system ABO, standard serum of the I and II groups caused erythrocytes agglutination of the examined blood and serum group of the III didn't. What agglutinogens are in this erythrocytes?

- a. A and B
- b. A
- c. D and C
- d. C
- e. B

302. The microscopic examination of wound lavage of a patient with acute woundy process of his shin revealed big contents of irregular extended-formed cells, with tough nucleus, the basophilic cytoplasm of which includes many lysosomes, phagosomes and pinocytotic bubbles. What cells are found out in the wound?

- a. Plasmocytes
- b. Tissue basophils
- c. Fibrocytes

d. Connective tissue macrophages

- e. Fibroblasts

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

- a. Nitrous oxide
- b. Thiopental sodium
- c. Diethyl ether
- d. Sombrevin

e. Ketamine

304. A patient, undergoing a course of curative starvation, has a normal glucose level of the blood mainly due to glucogenesis. What aminoacid in human liver the most actively synthesizes glucose?

- a. Glutamic acid
- b. Leucine

c. Alanine

- d. Valine
- e. Lysine

305. During the football match a player injured his knee joint. The X-ray examination showed fracture of the bone, which is situated in the tendon thickness of musculus quadriceps femoris. What of the mentioned groups does this bone belong to?

- a. Hollow
- b. Combined
- c. Flat
- d. Tubular

e. Sesamoid

306. A 27-year-old man has purulent inflammation of gallbladder. What region of the peritoneal cavity will the pus fall into if gallbladder ruptures in his typical position?

- a. Into pancreatic bursa

b. Into hepatic bursa

- c. Into the superior duodenal sinus
- d. Into epiploic bursa
- e. Into the left lateral duct

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

- a. Corticotropin
- b. Cortisol

c. Vasopressin

- d. Natriuretic
- e. Parathormone

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

- a. Black substances
- b. Hippocampus

c. Reticular formation

- d. Cortex of the large hemispheres
- e. Nuclears of the cerebral nerves

309. A woman, who was keeping a diet for a long time and eating refined rice, has developed polyneuritis (beriberi disease). The absence of what vitamin in the diet causes the development of such disease?

- a. Ascorbic acid
- b. Riboflavin
- c. Thiamine**
- d. Folic acid
- e. Pyridoxal

310. A 16-year-old patient died because of diffuse fibrinopurulent peritonitis. The autopsy in the inferior region of small intestine revealed an ulcer with a form of Peyer's plaque, with the perforation of intestine wall. The microscopic examination revealed lymph tissue pattern vagueness, the displacement of this tissue with proliferating monocytes, which were forming granulomata. Complication of what disease caused the death?

- a. Cholera
- b. Nonspecific ulcerative colitis
- c. Brucellosis
- d. Typhoid**
- e. Dysentery

311. After the usage of acetylsalicylic acid a patient developed epigastric pain because of exacerbation of his ulcer. What are the principles of this medication ulcerogeny?

- a. Cholagogic effect
- b. Stimulation of pepsin secretion
- c. Spasm of vessels
- d. Immunodepressive effect
- e. Antiprostaglandinic effect**

312. Because of present gallstone in the common bile duct, a patient has no bile excretion into duodenum. What disorder can it cause?

- a. Proteins digestion
- b. Proteins absorption
- c. Carbohydrates digestion
- d. Carbohydrates absorption
- e. Lipids digestion**

313. In the microspacemen of spinal medulla it is necessary to analyse the condition of the nucleus, neurons of which form the motor endings in the skeletal musculature. What nucleus of the spinal medulla is it about?

- a. Nucleus intermediolateralis
- b. Disseminate nucleus**
- c. Gray substance proper nucleus
- d. Nucleus thoracicus (Clarke's nucleus)
- e. Posterior horn proper nucleus

314. A patient suffers from nocturnal paroxysms of bronchial asthma accompanied by bradycardia, spastic intestinal pains and diarrhea. Medicine of what group can relieve these symptoms?

- a. H-cholinergic receptors
- b. Saluretics
- c. β -adrenoblockers
- d. Sympatholytics
- e. M-cholinergic receptors**

315. A patient becomes quickly tired during his work. In vertical position with closed eyes he is dizzying and losing equilibrium. Skeletal muscle tone is reduced. Which of the belowmentioned brain structures is damaged?

- a. Cerebellum**
- b. Precentral gyrus of cerebral hemispheres cortex

- c. Thalamus
- d. Basal ganglia
- e. Hypothalamus

316. A young man increased his energy inputs from 500 to 2000 kJ per hour. What from the suggested can cause it?

- a. Food taking
- b. Mental activity
- c. Rising of external temperature
- d. Physical activity**
- e. Change of sleeping for waking

317. A 30-year-old patient with bacteriologically proved dysentery developed the signs of paraproctitis. What is the stage of local changes of this patient?

- a. Healing of the ulcers stage
- b. Ulceration stage**
- c. Catarrhal colitis
- d. Fibrinous colitis
- e. Follicular colitis

318. Genetic structure of eukaryote is "exon-intron-exon". This structure-functional organization of gene caused transcription peculiarities. What will be pro-i-RNA according to the scheme?

- a. Exon-intron-exon**
- b. Exon-exon-intron
- c. Exon-exon
- d. Exon-intron
- e. Intron-exon

319. A 42-year-old woman with trigeminal nerve neuralgia complaints of redness of right part of her face and neck, feeling of heat rush and increased dermal sensitiveness. What is the arterial hyperemia in this case according to pathophysiological mechanism?

- a. Metabolic
- b. Neuroparalytic
- c. Working
- d. Reactive
- e. Neurotonic**

320. A 56-year-old patient with complains of thirst and frequent urination was diagnosed to have diabetes mellitus and butamin was prescribed. What is the mechanism of action of this medicine?

- a. It inhibits alpha cells of Langergans islets
- b. It relieves transport of glucose through the cells membranes
- c. It helps to absorb the glucose by the cells of the organism tissues
- d. It inhibits absorption of glucose in the intestines
- e. It stimulates beta-cells of Langergans islets**

321. Shock and signs of acute renal failure (ARF) developed in the patient due to severe injury. What is the leading cause of development of ARF in the case?

- a. Increased pressure in the renal arteries
- b. Urine excretion violation
- c. Increased pressure in the nephron capsule
- d. Decreased oncotic BP
- e. Decreased arterial pressure**

322. A malarial plasmodium (haemamoeba) - the pathogene of vivax malaria - has two strains: southern and northern. They differ by the duration of their incubation period: the southern has short and the northern - long one. What selection works in this case?

- a. Cutting**
- b. Artificial

- c. Sexual
- d. Moving
- e. Stabilizing

323. A patient with bronchial asthma is administered inhalation of 0,5% isadrine solution. Bronchospasm was relieved, but the patient began complaining of pain in the heart region and palpitation. It is connected with the stimulation of:

- a. β_1 -adrenoreceptors
- b. β_2 -adrenoreceptors
- c. M-cholinergic receptors
- d. Acetylcholine synthesis
- e. β_1 -adrenoreceptors**

324. During the experiment performed on a rabbit the superior cervical node of sympathetic stem was removed. On the side of the extraction there is redness and rising temperature of the head skin. What form of peripheral circulation disorder developed in this case?

- a. Metabolic arterial hyperemia
- b. Neuroparalytic arterial hyperemia**
- c. Stasis
- d. Venous hyperemia
- e. Neurotonic arterial hyperemia

325. A woman complaining of coryza, phonasthenia, eyelids redness and lacrymation during spring period came to the doctor. What type of allergic reaction by Gell and Coombs classification develops in this case?

- a. Delayed type of hypersensitivity
- b. Stimulating
- c. Anaphylactic**
- d. Cytotoxic
- e. Immunocomplex

326. A patient with burn disease died due to progressive septicaemia. The autopsy in the anterior abdominal wall by means of microscopic examination revealed diffuse infiltration of intermuscular spaces by segmentonuclear leukocytes, tissues edema and lysis of muscular fibres. Determine the nature of the pathological process

- a. Catarrhal inflammation
- b. Phlegmon**
- c. Necrosis
- d. Abscess
- e. Diphtheritic inflammation

327. During investigation of patient, it was found formation in the white substance of cerebral hemispheres with location in the knee and frontal part of posterior crus of internal capsule. Fibres of what conductive tract of the brain will be disrupted?

- a. Tr. frontopontinus
- b. Tr. thalamocorticalis
- c. Tr. parietooccipitopontinus
- d. Tr. pyramidalis**
- e. Tr. frontothalamicus

328. A 25-year-old patient complained of vision reduction. Accommodation disorder, dilated pupil, not reacting on the light were revealed on examination. Function of what muscles is disturbed?

- a. Lateral rectus muscle, pupil narrowing
- b. Pupil narrowing and dilating muscle
- c. Inferior oblique muscle, ciliary
- d. Pupil narrowing muscle, ciliary**
- e. Pupil dilating muscle, ciliary

329. A patient with iron deficiency anemia has been treated at the in-patient hematological department of the regional childrens hospital during 13 years. What hypoxia type does this patient have?

- a. Combined
- b. Respiratory
- c. Hemic**
- d. Circulatory
- e. Tissue

330. Decreased blood supply to the organs causes hypoxia that activates fibroblasts function. Volume of what elements is increased in this case?

- a. Vessels of microcircular stream
- b. Intercellular substance**
- c. Parenchymatous elements of the organ
- d. Nerve elements
- e. Lymphatic vessels

331. A 6-months-old baby has got frequent and extensive subdermal hemorrhages. The administration of the synthetic analogue of vitamin K (vicasol) was effective. γ -carboxylation of glutamic acid of what protein of blood coagulation system does this vitamin take part in?

- a. Antihemophilic globulin A
- b. Prothrombin**
- c. Rosentals factor
- d. Hagemans factor
- e. Fibrinogen

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

- a. Teres minor
- b. Subscapular
- c. Teres major**
- d. Supraspinous
- e. Subspinous

333. A 30-year-old man with cutting wound of his forearm has got an impairment of his fingers extension. What nerve is damaged?

- a. Muscularcutaneous
- b. Ulnar
- c. Middle
- d. Radial**
- e. Medial antebrachial cutaneous nerve

334. The energy inputs of a healthy man have been identified. What position was the patient if his energy inputs were less than the main exchange?

- a. Rest
- b. Nervous exertion
- c. Sleep**
- d. Calmness
- e. Easy work

335. A patient with brain bloodstream disorder has got difficulties with swallowing, he can choke over while eating liquid food. What part of the brain is damaged?

- a. Cerebellum
- b. Midbrain
- c. Medulla**
- d. Thalamencephalon
- e. Cervical part of the spinal medulla

336. During total (with water) alimentary starvation the generalized edemata have developed. Which of the pathogenic factors is dominant in this case?

- a. Reduced oncolitic pressure of blood plasma
- b. Reduced osmotic pressure of blood plasma
- c. Increased osmotic pressure of interstitial fluid
- d. Increased oncolitic pressure of interstitial fluid
- e. Reduced hydrostatic pressure of interstitial fluid

337. While examining the child the doctor revealed symmetric cheeks roughness, diarrhea, disfunction of the nervous system. Lack of what food components caused it?

- a. Lysine, ascorbic acid
- b. Phenylalanine, pangamic acid
- c. Threonine, pantothenic acid
- d. Nicotinic acid, tryptophane
- e. Methionine, lipoic acid

338. Highly injured person gradually died. Please choose the indicator of biological death:

- a. Absence of palpitation
- b. Disarray of chemical processes
- c. Loss of consciousness
- d. Absence of movements
- e. Autolysis and decay in the cells

339. Collagen, elastin and reticulin belong to the fibrillar elements of connective tissue. Indicate the aminoacid which constitutes only collagen, and identification of which in biological fluids is used for the diagnosing of the connective tissue diseases

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

340. A patient suffers from hemeralopia. Which of the suggested substances will have curable effect?

- a. Carnosine
- b. Carotene
- c. Creatine
- d. Carnitine
- e. Keratin

341. The examination of an youth with mental retardation revealed eunuchoid body construction and genitals underdevelopment. The cells of the oral cavity contained chromatine. What method of genetic investigation should be performed to make more specified diagnosis?

- a. Clinico-genealogical
- b. Cytological
- c. Dermatoglyphics
- d. Population-statistic
- e. Biochemical

342. 4 months ago a 43-year-old man underwent traumatic amputation of his left lower extremity. At the time of his examination the patient complaints of feeling of present amputated extremity and constant sometimes unbearable pain in it. What pain type does the patient have?

- a. Reflex
- b. Causalgia
- c. Thalamic
- d. Neuralgia
- e. Phantom limb

343. On examination of the person it was revealed that minute volume of heart is 3500mL, systolic

volume is 50 mL. What is the frequency of cardiac contraction?

- a. 90 bpm
- b. 70 bpm**
- c. 60 bpm
- d. 50 bpm
- e. 80 bpm

344. An 18-year-old man with asthenic body constitution: tall, narrow shoulders, broad pelvis and with poor hair on his face came to the geneticist. There was marked mental retardation. The preliminary diagnosis was Klinefelter's syndrome. What method of medical genetics can confirm the diagnosis?

- a. Gemellary
- b. Genealogic
- c. Dermatoglyphics
- d. Cytogenic**
- e. Population-statistic

345. A patient with fibrillation, who has had bronchial asthma in his anamnesis, should be administered antiarrhythmic drug. Which preparation from the suggested group is contraindicated for this patient?

- a. Anaprilin (Propranolol)**
- b. Nifedipine
- c. Ajmaline
- d. Novocainamid
- e. Verapamil

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

- a. Adrenal gland**
- b. Thyroid
- c. Thymus
- d. Lymph node
- e. Kidney

347. Complaints and objective data allow to suggest that a patient has inflammation in his gallbladder, bile colloidoclasia, probability of gallstones formation. What can be the main cause of gallstones formation?

- a. Chlorides
- b. Urates
- c. Phosphates
- d. Oxalates
- e. Cholesterol**

348. The microscopic examination of liver biopsy revealed granulomata, consisting of plasmatic, lymphoid, giant polynuclear cells of Pirogov-Lachgans type, small vessels with the signs of endo- and perivasculitis, and there were foci of caseation necrosis. What disease are these granulomata typical for?

- a. Tuberculosis
- b. Rhinoscleroma
- c. Leprosy
- d. Glanders
- e. Syphilis**

349. A patient after trauma has developed paralysis, algesia impairment on the right; there are no paralysis on the left but temperature and pain sensitivity are also impaired. What is the cause of this?

- a. Cerebellum injury
- b. Motor zone brain cortex injury

- c. Midbrain injury
- d. Brainstem injury

e. Unilateral right-side spinal cord injury

350. Buffer capacity of blood was decreased in the worker due to exhausting muscular work. Entry of what acid substance to the blood can this state be explained by?

- a. Pyruvate
- b. Lactate**
- c. α -ketoglutarate
- d. 3-phosphoglycerate
- e. 1,3-bisphosphoglycerate

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

- a. Aa. metacarpeae palmares
- b. Aa. perforantes

c. Arcus palmaris profundus

- d. Arcus palmaris superficialis
- e. Aa. digitales palmares communes

352. A patient died with uremia. The autopsy demonstrated kidneys to be enlarged, of flabby consistence, cortex was broad, edematous, with red spots; medulla was dark red in colour. Microscopic examination in the glomeruli capsule cavity revealed "semilunar formations", squeezing capillaries, nephrocytes dystrophy, edema and infiltration of stroma. What disease caused the death of the patient?

- a. Pyelonephrosis
- b. Nephrotic syndrome

c. Glomerulonephrosis

- d. Renal amyloidosis
- e. Nephrolithiasis

353. During the postsynthetic period of mitotic cycle the synthesis of proteins - tubulines, which take part in the mitosis formation, was destroyed. It can cause the impairment of:

- a. Duration of mitosis
- b. Cytokinesis
- c. Chromosome despiralization

d. Chromosome separation

- e. Chromosome spiralization

354. A 35-year-old woman with chronic renal disease has developed osteoporosis. Deficiency of which from the belowmentioned substances causes such complication?

- a. 25OHD3
- b. D2
- c. 1.25(OH)² D3**
- d. D3
- e. Cholesterol

355. A 43-year-old man suffers from chronic atrophic gastritis and megaloblastic hyperchromic anemia. He also has methylmalonic aciduria. Insufficiency of what vitamin led to the development of such complex of symptoms?

a. Vitamin B12

- b. Vitamin B1
- c. Vitamin B5
- d. Vitamin B3
- e. Vitamin B2

356. On autopsy of the 58-year-old man it is revealed: mitral valve is deformed, thickened, not totally

closed. Microscopically: centers of collagen fibers are eosinophilic, have positive fibrin reaction. The most likely it is:

a. Fibrinoid swelling

- b. Muroid swelling
- c. Amyloidosis
- d. Fibrinoid inflammation
- e. Hyalinosis

357. A man in a quiet condition has increased activity of the muscles, responsible for the inspiration. What from the below mentioned can cause this?

- a. Superficial breathing
- b. Negative intrapleural pressure
- c. Reduction of minute respiratory capacity
- d. Infrequent breathing

e. Airways narrowing

358. A child with diphtheria 10 days after injection of antitoxic antidiphtherial serum has developed skin rash, accompanied by severe itch, rising temperature up to 38°C and joints pain. What is the cause of these symptoms?

- a. Delayed type of hypersensitivity
- b. Contact allergy

c. Serum sickness

- d. Atopia
- e. Anaphylactic reaction

359. The autopsy of the dead body revealed enlarged, solid with rounded margins liver, on section the tissue was yellow-brown in colour with dark red spots and stripes, which resembled nutmeg. What pathological process led to such liver changes?

a. Chronic venous polyemia

- b. Arterial polyemia
- c. Arterial anemia
- d. Chronic hemorrhage
- e. Acute venous polyemia

360. A 40-year-old man was admitted to the surgical department with spleen rupture. What anatomic formation will accumulate the blood?

- a. Rectovesical excavation
- b. Omental bursa
- c. Right lateral canal
- d. Hepatic bursa

e. Bursa pregastrica

361. A child, suffering from pylorostenosis accompanied by frequent vomiting, developed signs of dehydration. What form of acid-base disbalance can develop in this case?

- a. Nongaseous acidosis
- b. Gaseous acidosis
- c. Gaseous alkalosis

d. Nongaseous alkalosis

- e. Metabolic acidosis

362. A 33-year-old woman who has been treated for a long time from chronic polyarthritis complains of increased blood pressure, changes in the distribution of the adipose tissue and dysmenorrhea. The usage of what medicine could cause such complaints?

a. Sinaflan

b. Prednisolone

- c. Butadion
- d. Indometacin
- e. Beclometasone

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

- a. PP hypovitaminosis
- b. Hypocalcemia
- c. Vitamin K insufficiency**
- d. Fibrinogen deficiency
- e. Activation of tissue thromboplastin

364. A woman came to the surgeon because of the solid mass in her mamma. What direction should the surgeon make an incision in during the operation to injure the lobe less?

- a. -
- b. Vertical
- c. Transverse
- d. Radial**
- e. Arcuate

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

- a. Proteinuria**
- b. Hyperproduction of vasopressin
- c. Hyperosmolarity of plasma
- d. Disorder the livers protein formation function
- e. Hyperaldosteronism

366. During the examination of blood gases a patient with chronic respiratory diseases accompanied by dyspnea, tachycardia and cyanosis demonstrated the development of hypoxemia and hypercapnia. What disorder of the external respiration does the patient have?

- a. Hypoperfusion
- b. Hypoventilation**
- c. Hyperdiffusion
- d. Hyperventilation
- e. Hyperperfusion

367. An experimental dog by means of stomach tube was given 150 ml of meat broth. The concentration of which of the belowmentioned substances will be increased in animals blood?

- a. Vasoactive intestinal polypeptide
- b. Somatostatin
- c. Insulin
- d. Gastrin**
- e. Neurotensin

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

- a. Nuclear receptors**
- b. Chromatin
- c. Membrane receptors
- d. Ribosomes
- e. Proteins-activators of transcription

369. A group of men applied to the doctor complaining of rising temperature, headache, swelling of face and eyelids, myalgia. From the history it became known that they all were hunters and they often ate meat of wild animals. What is the most likely diagnosis?

- a. Teniasis
- b. Trichinosis**
- c. Filariasis
- d. Teniarhynchosis
- e. Cysticercosis

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

- a. Uroporphyrinogen 2
- b. Heme
- c. Protoporphyrin
- d. Uroporphyrinogen 1**
- e. Coproporphyrinogen 3

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

- a. (R)CFT- Reiters complement fixation test**
- b. RIHA - Reverse indirect hemagglutination assay
- c. RDHA - Reverse direct hemagglutination assay
- d. IFA - Immunofluorescence assay
- e. Immunoblot analysis

372. A 48-year-old patient after severe psychoemotional exertion suddenly began feeling sharp pain in the heart region, irradiating into left arm. Nitroglycerin relieved pain 10 minutes later. What pathogenetic mechanism is responsible for the development of pain in this case?

- a. Spasm of coronary vessels**
- b. Occlusion of coronary vessels
- c. Increase of myocardial needs in oxygen
- d. Compression of coronary vessels
- e. Dilation of peripheral vessels

373. A 38-year-old patient after taking aspirin and sulphanilamides has profound hemolysis of erythrocytes, which is caused by glucose 6-phosphate dehydrogenase insufficiency. The disorder of formation of what coenzyme causes this pathology?

- a. NADPH**
- b. FADH₂
- c. Pyridoxalphosphate
- d. FMNH₂
- e. Ubiquinone

374. 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. Opsonization
- b. Complement binding
- c. Agglutination
- d. Precipitation
- e. Immunofluorescence**

375. A patient with symmetric dermatitis of open dermal areas came to the doctor. Talking to the patient the doctor found out that the patient mostly eats cereals and eats little meat, milk and eggs. The deficiency of which of the mentioned vitamins is dominant in this patient?

- a. Calciferol
- b. Tocopherol
- c. Folic acid
- d. Nicotinamide**
- e. Biotin

376. During the examination of a patient, who had been to the mountain pasture and had been hospitalized in a bad condition with fever, the doctor found out the enlargement of inguinal lymph nodes to 8 cm, which were attached to the surrounding tissues, immovable, the skin above them was red and tender. The microscopic examination of the node revealed acute serohemorrhagic inflammation. What disease is it typical for?

- a. Anthrax
- b. Syphilis
- c. Brucellosis
- d. Tularemia

e. Plague

377. A patient with acute myeloblast leucosis has developed liver and spleen enlargement, anemia, myeloblasts in peripheral blood. What principal sign allows to differ myeloblast leukosis from chronic one?

- a. Blast cells in peripheral blood
- b. Thrombocytopenia
- c. Pancytopenia
- d. Anemia

e. Leukemic collapse

378. A patient with thrombophlebitis is administered the complex therapy, which influences different stages of clotforming. Which of the given substances contributes to the restoration of the vascular permeability?

a. Fibrinolysin

- b. Acetylsalicylic acid
- c. Neodykumarin
- d. Dipiridamol
- e. Heparin

379. Karyotyping of healthy man cells is carried out. In the karyotype there was found out a fine acrocentric odd chromosome. What chromosome is it?

- a. Group B chromosome
- b. Group A chromosome
- c. X-chromosome
- d. Group C chromosome

e. Y-chromosome

380. A patient with liver disease revealed the decreasing of prothrombin level in the blood. It can, first of all, result in the impairment of:

- a. Fibrinolysis
- b. The first phase of the coagulatory hemostasis
- c. Vascular-thrombocytic hemostasis

d. The second phase of the coagulatory hemostasis

e. Anticoagulative properties of the blood

381. Patient with pneumonia has intolerance to antibiotics. Which of the combined sulfanilamide medicines should be prescribed to the patient?

a. Sulfadimethoxine

b. Bisseptol

- c. Aethazol
- d. Streptocid
- e. Natrium sulfacyl

382. On the 8th day since the patient was inoculated with antitetanic serum because of dirty wound of his foot he has developed rising temperature up to 38°C, pains in the joints, rash and itch. The blood tests revealed leukopenia and thrombocytopenia. Allergic reaction of what type has developed in this case?

a. Stimulating

b. Immunocomplex

- c. Cytotoxic
- d. Delayed type of hypersensitivity
- e. Anaphylactic

383. A 2-year-old boy has some enlargement of his liver and spleen and cataract. Sugar concentration in blood is elevated but glucose tolerance test is normal. The congenital metabolic disorder of what substance is the cause of this condition?

- a. Sucrose
- b. Glucose
- c. Maltose
- d. Galactose**
- e. Fructose

384. A 50-year-old patient complains of thirst, drinking of a lot of water, marked polyuria. Blood glucose is 4,8mmol/L, urine glucose and acetone bodies are absent, urine is colorless, specific gravity is 1,002-1,004. What is the cause of polyuria?

- a. Vasopressin insufficiency**
- b. Insulin insufficiency
- c. Thyrotoxicosis
- d. Aldosteronism
- e. Hypothyroidism

385. After brain injury a patient has lost his vision. What zone of the brain cortex is damaged in this case?

- a. Frontal
- b. Parietal
- c. Temporal
- d. Occipital**
- e. Temporal and parietal

386. A patient with urolithiasis after the examination was administered allopurinol - competitive inhibitor of xanthine oxidase. It was influenced by chemical analysis of the calculuses, which consisted mainly of:

- a. Sodium urate**
- b. Calcium sulphate
- c. Calcium oxalate dihydrate
- d. Calcium oxalate monohydrate
- e. Calcium phosphate

387. Prozerin, given systematically to the rat, increases skeletal muscles tone. Halothane (phthorothan) causes the relaxation of the skeletal muscles and weakens the effect of prozerin. Determine the nature of interactivity of prozerin and halothane

- a. Competitive antagonism
- b. Indirect functional antagonism**
- c. Direct functional antagonism
- d. Independent antagonism
- e. Incompetitive antagonism

388. Processes of repolarisation are disturbed in ventricular myocardium in examined person. It will cause amplitude abnormalities of configuration and duration of the wave:

- a. S
- b. T**
- c. R
- d. Q
- e. P

389. A 40-year-old man ran 10 km per 60 minutes. What changes of energy exchange will take place in his muscular tissue?

- a. Increase of fatty acids oxidation rate**
- b. Proteolysis intensification
- c. Glycogenolysis intensification
- d. Glycolysis intensification

e. Glyconeogenesis intensification

390. During the merry-go-round riding a 25- year-old woman began having nausea, vomiting and intensive sweat. Activation of which receptors caused the reflex development of these symptoms?

- a. Proprioceptors of skeletal muscles
- b. Otolith vestibular receptors
- c. Optic receptors
- d. Receptors of Cortis organ
- e. Vestibular receptors of semicircular duct**

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

- a. Juxtaglomerular**
- b. Interstitial
- c. Smoothmuscular
- d. Mesangial
- e. Juxtavascular

392. During the bacteriological tests of the purulent secreta from urethra there were found bacteria, which according to Gramm were negatively staining, looked like coffee beans. These bacteria were splitting glucose and maltose to acid, they were located inside the leucocytes. The aetiological agent of what disease are these microorganisms?

- a. Melioidosis
- b. Syphilis
- c. Gonorrhoea**
- d. Venereal lymphogranulomatosis
- e. Chancroid

393. A patient with bronchial asthma during 2 months was taking pills of prednisolon. After she began feeling much better she suddenly stopped taking the medicine. What complication can develop in this case?

- a. Obesity of upper part of the body
- b. Abstinence syndrome**
- c. Hypotension
- d. Gastric hemorrhage
- e. Itsenko-Cushing syndrome

394. A 39-year-old patient after radiotherapy because of hepatoma developed ulcer of small intestine. It was caused by the inhibition of mytotic activity of the cells, which are responsible for regeneration of small intestine surface epithelium. Inhibition of what cells mitotic activity does this patient have?

- a. Crypt columnar cells without margins**
- b. Endocrine cells
- c. Exocryocytes with acidophilic granules
- d. Caliciform exocrynocytes
- e. Columnar cells

395. Where should the cathetor for evacuation of the lymph from the thoracic lymph duct be inserted?

- a. To the superior vena cava
- b. To the inferior vena cava
- c. To the left venous corner**
- d. To the right venous corner
- e. To the left inguinal vein

396. Patients with similar complaints applied to the doctor: weakness, pain in the intestines, disorder of GIT. Examination of the faeces revealed that one patient with four nucleus cysts should be hospitalized immidiately. For what protozoa are such cysts typical?

- a. Lamblia
- b. Balantidium
- c. Dysenteric amoeba**
- d. Intestinal amoeba
- e. Trichomonas

397. A 42-year-old man was admitted to the cardiological department because of angina pectoris. Among the medicines administered to the patient there was inhibitor of phosphodiesterase. The concentration of what substance in the heart muscle will be increased?

- a. AMP
- b. ADP
- c. Cyclo-AMP**
- d. GMP
- e. ATP

398. A patient has a suspected pneumonia. In his sputum there were revealed grampositive diplococci, prolonged with the slightly pointed opposite ends. What microorganisms are revealed in the sputum?

- a. Staphylococcus aureus
- b. Neisseria meningitidis
- c. Streptococcus pneumoniae**
- d. Klebsiella pneumoniae
- e. Neisseria gonorrhoeae

399. A patient has tissue ischemia lower the knee joint, accompanied with "intermittent claudication". Which artery is occluded in this case?

- a. Proximal part of the femoral
- b. Popliteal**
- c. Fibial
- d. Posterior tibial
- e. Anterior tibial

400. A patient with clinical signs of encephalitis was admitted to the infectious hospital. In his anamnesis there is information about tick bite. During the hemagglutination inhibition reaction there were found antibodies against the pathogen of tick-borne encephalitis in dilution 1:20, which is not diagnostic. What should the doctor do next, after he has got such results?

- a. Use more sensitive reaction
- b. Reexamine the same serum
- c. Remake the examination of the serum taken 10 days later**
- d. Cancel the diagnosis of tick-borne encephalitis
- e. Remake the examination with another diagnosticum

401. 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. Lidocaine
- b. Bupivacaine
- c. Procaine**
- d. Etidocaine
- e. Cocaine

402. 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 atrio-ventricular node
- b. Arrhythmia
- c. Violation of the automatism of a Sino-Atrial node**
- d. Violation of a conductivity in the right auricle

e. Block of a conductivity in the atrio-ventricular node

403. 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. Testicle

b. Pancreas

c. Adrenal glands

d. Hypophysis

e. Ovaries

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

a. Testicles

b. Prostate

c. Bulb-uretic glands

d. Testicle adnexa

e. Sperm bubbles

405. 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. Fishes

b. Mammals

c. Reptiles

d. Amphibian

e. Birds

406. 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 Langhan's cells

b. Granulomas with Virchow's cells

c. Interstitial inflammation

d. Granulomas with foreign body cells

e. Granulomas with Mikulicz's cells

407. 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. Increased sensitivity of the tissues to insulin

b. Cartilaginous tissue proliferation under growth hormone influence

c. Joints dystrophy development

d. Joints chronic inflammation development

e. Increased sensitivity of the tissues to growth hormone

408. 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. Hyalinosis

c. Amyloidosis

d. Muroid swelling

e. Fibrinoid inflammation

409. 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

410. 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. Simple columnar ciliated epithelium
- b. Transitional epithelium, no muscularis mucosa
- c. Transitional epithelium, no submucosa
- d. Well developed muscularis, no submucosa

e. No muscularis mucosa, stratified squamous epithelium

411. 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. D
- b. E

c. K

- d. A
- e. Carotene

412. The calcium canals of cardiomyocytes have been blocked on an isolated rabbits heart. What changes in the hearts activity can happen as a result?

- a. Decreased heart beat rate
- b. Heart stops in diastole
- c. Heart stops in systole
- d. Decreased force of the contraction

e. Decreased rate and force of heart beat

413. 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. Precipitation

b. Immunofluorescence

- c. Agglutination
- d. Complement binding
- e. Opsonization

414. 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 mind-brain

b. The cerebellum

- c. The spinal cord
- d. The medulla oblongata
- e. The inter-brain

415. 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. Condyle of the thigh

b. The neck of the thigh

- c. Ischial bone
- d. Pubic bone
- e. The body of the thigh bone

416. 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. R-glycosidase
- c. Lipoproteids
- d. Acid phosphatase
- e. General cholesterol

417. 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 anterior communicating artery

b. The middle cerebral artery

- c. The anterior cerebral artery
- d. The posterior cerebral artery
- e. The posterior communicating artery

418. 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. Cardiac cutaneous nerve
- d. Musculocutaneous nerve
- e. Medial cutaneous nerve of forearm

419. 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. Brachioradial muscle
- b. Brachial muscle
- c. Tendon of the triceps muscle
- d. Anconeus muscle

e. Aponeurosis of biceps muscle

420. 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. Right hepatic duct
- b. Cystic duct
- c. Left hepatic duct
- d. Common hepatic duct

e. Hepatopancreatic ampulla

421. 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. Respiratory centers have to be stimulated
- e. He has to be given pure oxygen

422. 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. Flexion of femur
- c. Extension of femur
- d. Abduction of femur
- e. Supination of femur

423. 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 anaerobic breakage of glucose is increased in muscles
- c. The gluconeogenesis is increased in liver
- d. The breakage of glycogen is increased in liver
- e. The anaerobic glucose metabolism predominates in muscles

424. 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. Viral hepatitis
- b. Skeletal muscle dystrophy
- c. Diabetes mellitus
- d. Myocardial infarction**
- e. Acute pancreatitis

425. 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. Cortisol
- c. Natriuretic
- d. Parathormone
- e. Corticotropin

426. 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. Pasteurization
- b. Boiling
- c. Tyndallization
- d. Dry-heat sterilization**
- e. Steam sterilization in autoclave

427. Necrosis focus was observed in the area of hyperemia and skin edema in a few hours after burn. What mechanism strengthens destructive effects in the inflammation area?

- a. Proliferation of fibroblasts
- b. Primary alteration
- c. Emigration of lymphocytes
- d. Secondary alteration**
- e. Diapedesis of erythrocytes

428. A patient died 3 days after the operation because of perforated colon with manifestations of diffuse purulent peritonitis. The autopsy revealed: colon mucos 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 patients death?

- a. Nonspecific ulcerative colitis
- b. Typhoid
- c. Amebiasis
- d. Crohns disease
- e. Dysentery**

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

- a. Toxic dystrophy
- b. Liver cirrhosis**
- c. Viral hepatitis
- d. Chronic hepatosis
- e. Alcohol hepatitis

430. While enrolling a child to school Mantus test was made to define whether revaccination was needed. The test result is negative. What does this test result mean?

- a. Absence of antitoxic immunity to the tuberculosis
- b. Presence of cell immunity to the tuberculosis
- c. Absence of antibodies for tubercle bacillus
- d. Absence of cell immunity to the tuberculosis**
- e. Presence of antibodies for tubercle bacillus

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

- a. Mast cells
- b. Proliferating cells (stem hematoplastic cells)
- c. Cells that contain receptor T4 (T-helpers)**
- d. Specialized nervous cells (neurons)
- e. Cells that contain receptor IgM (B-lymphocytes)

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

- a. Pulmonary trunk and aorta**
- b. Pulmonary trunk and superior vena cava
- c. Aorta and inferior vena cava
- d. Aorta and superior vena cava
- e. Right and left auricle

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

- a. Cultivation in the telluric environment
- b. Growing with antitoxic serum
- c. Phage conversion**
- d. Chromosome mutation
- e. Passing through the organism of the sensitive animals

434. 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. Shigella
- d. Staphylococcus
- e. Streptococcus

435. 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. Squamous cell carcinoma of ovary
- b. Teratoma**
- c. Sarcoma of ovary
- d. Melanoma
- e. Metastase of cervical carcinoma

436. 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. Chronic lympholeucosis
- b. Fungous mycosis
- c. Acute lympholeucosis
- d. Berkitts lymphoma

e. Lymphogranulomatous

437. 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. Diethyl ether
- b. Ketamine**
- c. Sombrevin
- d. Thiopental sodium
- e. Nitrous oxide

438. 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. Oxytocin
- c. Somatotropin
- d. Thyroliberin
- e. Vasopressin

439. 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. Frontal central gurus
- b. Frontal zone
- c. Posterior central gurus**
- d. Occipital zone of the cortex
- e. Parietal zone of the cortex

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

- a. The uterus
- b. The labia major**
- c. The labia minor
- d. The clitoris
- e. The vagina

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

- a. Euphyline
- b. Izadrine
- c. Chromolin sodium
- d. Adrenaline
- e. Ephedrine**

442. 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. Sporozoites
- d. Merozoites
- e. Microgamete

443. 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 bromizm. What should be prescribed to decrease the symptoms?

- a. Asparcam
- b. Glucose solution 5%
- c. -
- d. Natrium chloride**
- e. Polyglucin

444. 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 uridyltransferase**
- b. Amylo-1,6-glucosidase
- c. Phosphoglucomutase
- d. Galactokinase
- e. Hexokinase

445. Slime, blood and protozoa 30-200 microns of length have been revealed in a mans feces. The body is covered with ciliars 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. Dysenteric amoeba
- b. Balantidium**
- c. Intestinal amoeba
- d. Lamblia
- e. Trichomonas

446. A 50-year-old patient with typhoid fever was treated with Levomycetin, the next day his condition became worse, temperature rose to 39,60C. What caused the complication?

- a. The effect of endotoxin agent**
- b. Secondary infection addition
- c. Irresponsiveness of an agent to the levomycetin
- d. Reinfection
- e. Allergic reaction

447. 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. Violation of heat-producing mechanisms
- b. Inhibited endogen pyrogens production**
- c. Violation of heat loss through lungs
- d. Thermoregulation center inhibition
- e. Inflammatory barrier formation in injection place

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

- a. K⁺
- b. Cl⁻
- c. Na⁺**
- d. Ca²⁺
- e. HCO₃⁻

449. 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. Low concentration H_2O_2
- b. Inherited insufficiency of catalase**
- c. Pus in the wound
- d. Inherited insufficiency erythrocytes phosphatdehydrogenase
- e. Shallow wound

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

- a. Diffusive endocarditis
- b. Fibroplastic endocarditis
- c. Polypus-ulcerative endocarditis**
- d. Acute warty endocarditis
- e. Recurrent warty endocarditis

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

- a. Glucose
- b. Thiamine pyrophosphate
- c. AMP
- d. ATP
- e. HNO_3**

452. 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. Metaphase
- b. Prophase
- c. Interfase
- d. Telophase
- e. Anaphase**

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

- a. His bundle
- b. Branches of His bundle
- c. Atrioventricular node**
- d. Sinoatrial node
- e. Purkinje fibers

454. 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. Pineal gland
- c. Hypophysis
- d. Thymus
- e. Adrenal cortex

455. 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. Uracil
- b. Cysteine
- c. Dihydrouracil**
- d. Adenine
- e. Cytosine

456. 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. Increase of filtration coefficient
- b. Decrease of oncotic pressure of blood plasma**
- c. Increase of renal plasma stream
- d. Increase of systemic blood pressure
- e. Increase of penetration of the renal filter

457. 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 patients dead space ventilation?

- a. 4,3 L/min
- b. 2,0 L/min**
- c. 1,0 L/min
- d. -
- e. 0,7 L/min

458. 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. -CONH₂
- b. -NH₂
- c. -CH₃
- d. -OH**
- e. -SH

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

- a. Uroporphyrinogen 2
- b. Coproporphyrinogen 3
- c. Heme
- d. Uroporphyrinogen 1**
- e. Protoporphyrin

460. 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. Thymus
- b. Thyroid
- c. Kidney
- d. Adrenal gland**
- e. Lymph node

461. 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. Entodermal epithelium and mesoderm
- b. Mesodermal epithelium and mesenchyme
- c. I, II brachial arches
- d. Entodermal epithelium of a tooth plate and mesenchyme
- e. Ectodermal epithelium of a tooth plate and mesenchyme**

462. 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. Ischiofemoral
- c. Perpendicular of the acetabulum
- d. Iliofemoral
- e. Pubofemoral

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

- a. Oxygen capacity of blood
- b. Alveolar lung ventilation
- c. Diffuse lung capacity**
- d. Reserve expiratory capacity
- e. Minute respiratory capacity

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

- a. Phagocytosis**
- b. Pinocytosis
- c. Diffusion
- d. Osmosis
- e. Facilitated diffusion

465. 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 C
- c. Chronic hepatitis B
- d. Acute hepatitis B
- e. Chronic hepatitis C

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

- a. Venous sinus**
- b. Choroid
- c. Ciliar body
- d. Ciliary muscle
- e. Back epithelium of cornea

467. 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. X-linked recessive chromosome
- b. X-linked dominant chromosome
- c. Autosome-dominant
- d. Y-linked chromosome**
- e. Autosome-recessive

468. 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. Lymphocytes
- c. Eosinophils
- d. Monocytes
- e. Basophils

469. 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. Cardia
- b. Body of stomach
- c. Fundus of stomach
- d. Pyloric part**
- e. -

470. Patient 54 year-old, 5th day after surgical operation. Blood count: Erythrocytes 3,61012/l, Hemoglobin 95 g/l, Erythrocyte's hemoglobin content (color index) 0,78; Leukocytes 16109/l, Platelets 450109/l Blood picture: anizocytosis, poikilocytosis, reticulocytes- 3,8%. What anemia does this patient have?

- a. Hypoplastic anemia
- b. Chronic posthemorrhagic anemia
- c. Acute posthemorrhagic anemia**
- d. Acquired hemolytic anemia
- e. Anemia from iron deficiency

471. 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 mosquitos bites
- b. With contaminated fruits and vegetables
- c. Through dirty hands
- d. After contact with a sick dogs
- e. As a result of bugs bites**

472. 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 sm, 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. Thrombopenia
- c. DIC-syndrome
- d. Anemia
- e. Sepsis

473. 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. Neutropenia
- b. Lymphopenia**
- c. Leukopenia
- d. Anemia
- e. Thrombopenia

474. A patients 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. Myocardial infarction
- b. Splenomegaly
- c. Vitamin B deficiency
- d. Polycytemia**
- e. Hepatitis

475. 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. Arterial pressure drop
- b. Dilatation of peripheral vessels
- c. Decrease of heart output
- d. Decreased brain blood supply**
- e. Increased water loss through sweating

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

- a. Inhibition of respiratory center
- b. Excitation of respiratory center

c. Decreasing of alveoli receptors sensitivity

d. Increased lungs elasticity

e. Decreased lungs elasticity

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

a. Hemoglobinosis

b. Favism

c. Minkowsky-Shauffard disease

d. Thalassemia

e. Sickle-cell anemia

478. 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. Juxtavascular

b. Interstitial

c. Smoothmuscular

d. Juxtaglomerular

e. Mesangial

479. 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. Action potential

b. Depolarization

c. Hyperpolarization

d. Local response

e. No changes

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

a. Aggressive behaviour

b. The rejection of food

c. Depression

d. Thirst

e. Unsatisfied hunger

481. 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. Common branch of the bundle of His

b. Branches of the bundle of His

c. Purkinje's fibres

d. Atrioventricular node

e. Sinu-atrial node

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

a. All answers are correct

b. Maintaining the body temperature

c. Maintaining the blood sedimentation system

d. Maintaining the oncotic blood pressure

e. Maintaining the Ph level

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

a. Miocardial infarction

b. Pancreatitis

c. Cholecystitis

d. Rheumatism

e. Hepatitis

484. 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 disfunction of nervous system is it?

- a. Peripheral paralysis
- b. Reflex paresis
- c. Central paresis
- d. Peripheral paresis
- e. Central paralysis**

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

- a. Nitric acid
- b. Sodium hydroxide
- c. Urea**
- d. Sulfuric acid
- e. Toluene

486. 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 roller
- b. Nostrils
- c. Choanes
- d. Nasal septa
- e. Nasal limen**

487. 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 globulins decreases
- c. The content of fibrinogen decrease
- d. The content of albumins decreases
- e. The level of sugar decreases

488. 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. 5,5 mmol/L
- b. 3,3 mmol/L
- c. 8,0 mmol/L
- d. 10,0 mmol/L
- e. 1,5 mmol/L**

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

- a. Ephedrine
- b. No-spa
- c. Etaperazine
- d. Platyphylline
- e. Contrycal**

490. 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. Metaplasia of endometrium
- c. Atrophy of endometrium
- d. Hypertrophic growth
- e. Neoplasm of endometrium

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

- a. Glycine receptors
- b. Adenosine receptors**
- c. Cholinergic muscarinic receptors
- d. Glutamate receptors
- e. GABA receptors

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

- a. By general analgetic effect
- b. By inhibiting leucocyte migration into the joint
- c. By inhibiting uric acid synthesis**
- d. By increasing uric acid excretion
- e. By general anti-inflammatory effect

493. 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. Protective
- b. Delayed
- c. Differential
- d. External**
- e. Dying

494. 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. 80 bpm
- b. 90 bpm
- c. 60 bpm
- d. 70 bpm**
- e. 50 bpm

495. 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. Fibroblasts
- b. Secretory cells
- c. Alveocytes type II**
- d. Alveolar macrophages
- e. Alveocytes type I

496. 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. Increased vasopressin blood concentration
- b. Increased pressure in Bowman's capsule
- c. Decreased hydrostatic pressure in glomerular capillaries**
- d. Trauma of the urinary bladder
- e. Increased osmotic pressure in glomerular capillaries

497. 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. Enterovirus

b. Virus of hepatitis A

c. Virus of hepatitis B

d. Adenovirus

e. Virus of hepatitis E

498. 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. Mature

b. Primordial

c. Atretic

d. Secondary

e. Primary

499. 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. Lymphogenic

b. Colloid-osmotic

c. Hydrodynamic

d. Membranogenic

e. Mixed

500. 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. Hyperproduction of vasopressin

b. Proteinuria

c. Hyperosmolarity of plasma

d. Liver dysfunction of protein formation

e. Hyperaldosteronism

501. 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. Fibroblasts

b. Endocrine cells

c. Goblet cells

d. Intercalated cells

e. Langerhans cells

502. 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. Ascorbic acid

b. Glucose

c. Methionine

d. Citrate

e. Glycerin

503. 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. Increasing of respiration

b. Activation of oxidation reactions

c. Increasing of tissue blood supply

d. Prevention of tissue's hypoxia

e. Inhibition of free radicals formation

504. Scraps of the mycelium of a fungus, spores, air bubbles and fat drops were discovered on

microscopy of the patients hair excluded from the infected areas. What fungus disease is characterised by this microscopic picture?

- a. Sporotrichosis
- b. Microspory
- c. Trichophytosis
- d. Epidermophytosis
- e. Favus**

505. A mother of a newborn complains of her babys constant belching with undigested milk. Which developmental anomaly is it an evidence of?

- a. Esophageal fistula
- b. Esophageal atresia**
- c. Labium leporium
- d. Anal atresia
- e. Faux lupinum

506. 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. Right epicondyle of the thigh
- b. Left epicondyle of the thigh
- c. Knee-cap**
- d. Head of the thigh bone
- e. Neck of the thigh bone

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

- a. Urinary bladder**
- b. Uterine tubes
- c. Uterus
- d. Rectum
- e. Ovaria

508. 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. Hereditary enzyme defect
- b. Intestinal disbacteriosis development**
- c. Bacteria toxins influence
- d. Autoimmune reaction development
- e. Antibiotics toxic influence on the GIT

509. 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. CAMP
- b. Ca^{2+}
- c. Glycerol**
- d. Diacylglycerol
- e. Inositol-3,4,5-triphosphate

510. Punctata hemorrhage was found out in the patient after application of a tourniquet. With disfunction of what blood cells is it connected?

- a. Lymphocytes
- b. Platelets**
- c. Eosinophiles
- d. Neutrophiles
- e. Monocytes

511. 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. Mesaton
- b. Atropine sulphate
- c. Adrenalin hydrochloride
- d. Lobeline hydrochloride**
- e. Pentamin

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

513. 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. Reparation
- b. Replication
- c. Transcription
- d. Processing
- e. Mononucleotide synthesis**

514. 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 A
- b. Vitamin C
- c. Vitamin B1**
- d. Vitamin B6
- e. Vitamin E

515. A patient suffering from trombophlebitis 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. Embolism with foreign body
- b. Fat embolism
- c. Tissue embolism
- d. Thrombosis
- e. Tromboembolism**

516. 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. Cortisol
- b. Mineralocorticoids
- c. ACTH
- d. Insulin
- e. Thyroxine**

517. 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. Cockroaches
- b. Lice**
- c. Houseflies
- d. Spiders

e. Bed-bugs

518. 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 nephron's glomerulus

b. In the collecting duct

c. In ascending part of loop of Henle

d. In distal tubule of nephron

e. In proximal tubule of nephron

519. Intrapleural pressure is being measured in a person. In what phase does a person hold his breath if the pressure is - 25 cm H₂O?

a. Quiet inspiration

b. Forced expiration

c. Forced inspiration

d. Quiet expiration

e. -

520. 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. Noninfiltrative cancer

c. Papilloma

d. Infiltrative cancer

e. Mastitis

521. A young man has an unpainful formation without marked borders in the soft tissues of his thigh. On the tissue biopsate 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. Fibroma

b. Cancer

c. Myosarcoma

d. Myoma

e. Fibrosarcoma

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

a. Presynaptic

b. Reciprocal

c. Recurrent

d. Depolarizational

e. Lateral

523. 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. Ascendant part

b. Upper horizontal part

c. Descendent part

d. Lower horizontal part

e. Bulb

524. 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. Immunoblot analysis

b. RIHA - Reverse indirect hemagglutination assay

c. IFA - Immunofluorescence assay

d. (R)CFT- Reiter's complement fixation test

e. RDHA - Reverse direct hemagglutination assay

525. 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. Beclomethasone

b. Methylprednisolone

c. Cromolyn

d. Salbutamol

e. Ipratropium

526. 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. 100%

b. 0

c. 25%

d. 75%

e. 50%

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

a. It inhibits absorption of glucose in the intestines

b. It stimulates β -cells of Langerhans islets

c. It helps to absorb the glucose by the cells of the organism tissues

d. It inhibits α -cells of Langerhans islets

e. It relieves transport of glucose through the cells membranes

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

a. Glucose

b. Alanine

c. Pyruvate

d. Lactate

e. Glutamate

529. 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. Supraspinous

b. Teres minor

c. Teres major

d. Subscapular

e. Subspinous

530. 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. Glomerulonephritis

b. Pyelonephritis

c. Necrotic nephrosis

d. Infarction

e. Polycystic kidney

531. 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. None
- b. Pentobarbital
- c. Phenytoin
- d. Phenobarbital
- e. Diazepam**

532. 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. Thrombus-embolus
- b. Air
- c. Fat**
- d. Tissue
- e. Foreign body

533. 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. Vessels thrombosis
- b. Ischemia of myocardium
- c. Resorption of enzymes from necrotized area of myocardium
- d. Autoimmune inflammation**
- e. Secondary infection

534. 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 erythrocytes were in the form of the concavo-concave disks. How is this phenomenon called?

- a. Physiological anisocytosis
- b. Pathological anisocytosis
- c. Erythrocytosis
- d. Pathological poikilocytosis
- e. Physiological poikilocytosis**

535. 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. Proserine
- b. Norepinephrine
- c. Pentamine
- d. Atropine**
- e. Physostigmine

536. 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 colica sinistra
- b. The ileocolic artery**
- c. The iliac
- d. The colica media
- e. The colica dextra

537. 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 hyperimic vessels, small hemorrhages and leukocytic infiltration. What is the most likely diagnosis?

- a. Myocardial infarction**

- b. Productive myocarditis
- c. Diffuse exudate myocarditis
- d. Myocardial ischemic dystrophy
- e. Focal exudate myocarditis

538. 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. Activation of the sodium-potassium pump
- c. Decreased velocity of the AP distribution
- d. Decreased AP
- e. Prolonged duration of the AP

539. 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. 3-phosphoglycerate
- b. Lactate**
- c. Pyruvate
- d. α -ketoglutarate
- e. 1,3-bisphosphoglycerate

540. 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. Lung cancer
- b. Chondroma
- c. Tumorous form of silicosis
- d. Tuberculoma**
- e. Postinflammatory pneumosclerosis

541. 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 Cums underlies this disease?

- a. Cytotoxic
- b. Stimulating
- c. Immunocomplex
- d. Delayed type hypersensitivity**
- e. Anaphylactic

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

- a. Concentration of calcium-ions in myofibrils
- b. Heart temperature
- c. Concentration of Ca^{2+} -ions in heart vessels
- d. Concentration of oxygen in heart vessels
- e. Rest potential of cardiomyocytes**

543. 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. Gangrenous
- b. Ulcerative
- c. Diphtheritic**
- d. Chronic
- e. Catarrhal

544. 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. Continuous (smooth) tetanus
- b. Tonic
- c. Single
- d. Asynchronous

e. Waved tetanus

545. 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.trapezius
- c. M.romboideus major
- d. M.levator scapulae
- e. M.subscapularis

546. 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. Hamartoma
- b. Adenocarcinoma
- c. Melanoma
- d. Lymphoma

e. Lipoma

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

- a. Method of Gram
- b. Method of Burry-Gins

c. Method of Ziel-Neelsen

- d. Method of Romanowsky-Giemsa
- e. Method of Neisser

548. A 10-year-old child complains of weakness, nausea, irritability. Helminthes of while color and 5-10 mm long were found on the underwear. On microscopy of the scrape from the perianal folds achromic ovums of unsymmetrical form were revealed. Indicate what helminth is parasiting on the child?

- a. Trichuris
- b. Ascaris lumbricoides

c. Enterobins vermicularis

- d. Ancylostoma duodenalis
- e. Trichina

549. 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. Golgi complex

b. Ribosomes

- c. Smooth endoplasmic reticulum
- d. Microtubules
- e. Mitochondria

550. In the microspecimen of red bone marrow multiple capillares were revealed through the walls of which mature blood cells penetrated. What type of capillares is it?

- a. Somatical
- b. Visceral
- c. Lymphatic

d. Sinusoidal

e. Fenestrational

551. 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 hepatic

- a. IL-1
- b. Ketonic body
- c. Necrogenic substances
- d. Autoantibody

e. Ammonia

552. 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. Butyrate
- b. Acetate
- c. Ornithine
- d. Biotin

e. Indole

553. 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. IgG and IgD
- b. IgE and IgG**
- c. IgA and IgM
- d. IgM and IgG
- e. IgM and IgD

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

- a. Vitamin E
- b. Vitamin A
- c. Vitamin B6

d. Vitamin C

e. Vitamin P

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

- a. The surplus of a product
- b. The presence of a competitive inhibitor
- c. Pressure
- d. Temperature

e. pH medium

556. A patient with clinical signs of immunodeficiency has unchanged number and functional activity of T and B lymphocytes. Dysfunction 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. NK-cells
- b. T-lymphocytes, B-lymphocytes
- c. Fibroblasts, T-lymphocytes, B-lymphocytes

d. Macrophages, monocytes

e. O-lymphocytes

557. Succinate dehydrogenase catalyses the dehydrogenation of succinate. Malonic acid $\text{HOOC-CH}_2\text{-COOH}$ is used to interrupt the action of this enzyme. Choose the inhibition type:

- a. Limited proteolysis

- b. Allosteric
- c. Non-competitive
- d. Competitive**
- e. Dephosphorylation

558. 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. Phenoxymethylpenicillin
- b. Carbenicillin disodium**
- c. Methicillin
- d. Benzylpenicillin
- e. Oxacillin

559. 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. Fibroblasts
- b. Satellite-cells**
- c. Myoblasts
- d. Myoepithelial cells
- e. Myofibroblasts

560. 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. Patau's syndrome
- b. Phenocopy**
- c. Down's syndrome
- d. Edward's syndrome
- e. Genocopy

561. 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 the dominating mechanism of stimulation of secretion in this case?

- a. Irritation of mechanoreceptors of the oral cavity
- b. Stimulation of excretion of secretin in the duodenum
- c. Stimulation of gastrin production by G-cells**
- d. Irritation of mechanoreceptors of the stomach
- e. Irritation of taste receptors

562. 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 hypertensive effects of procainamide would aggravate the hypertension
- c. The cholinergic effects of procainamide would aggravate the diabetes
- d. The local anesthetic effect of procainamide would aggravate the hypertension
- e. The local anesthetic effect of procainamide would potentiate diabetes

563. 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. Ligament
- b. Suture
- c. Gomphosis
- d. Membrane**
- e. Fontanel

564. 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. Habituation
- b. Cumulation
- c. Appearance of adrenal insufficiency**
- d. Sensibilization
- e. Hyperproduction of ACTH

565. 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. Antibiotic administration
- c. Atropine administration
- d. Dobutamine infusion
- e. Fluid administration

566. 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. Rifampicin
- c. Cycloserine
- d. Thiacetazone
- e. Aminosalicilic acid

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

- a. Anulus lymphaticus cordiae**
- b. Nodi lymphatici pericardiales laterales
- c. Nodi lymphatici prevertebralis
- d. Nodi lymphatici paratrachealis
- e. Nodi lymphatici mediastinales posteriores

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

- a. Disarray of chemical processes
- b. Absence of movements
- c. Loss of consciousness
- d. Absence of palpitation and breathing
- e. Autolysis and decay in the cells**

569. 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. Gasping respiration
- b. Cheyne-Stockes respiration**
- c. Kussmaul respiration
- d. Biots respiration
- e. Apneustic respiration

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

- a. To the left inguinal vein
- b. To the superior vena cava
- c. To the inferior vena cava

d. To the left venous corner

e. To the right venous corner

571. 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 nose's back
- b. The mandible's branch
- c. The molar bone
- d. The mental process

e. The mandible's edge

572. 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. Internal bleeding
- c. Toxic effect of preparation
- d. Anaphylactic shock
- e. Bacteremia

573. 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 plasma proteins
- b. Reduced contents of thrombocytes
- c. Increased contents of erythrocytes

d. Increased contents of leukocytes

- e. Reduced contents of erythrocytes

574. 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. Hyperemia
- c. Metaplasia
- d. Dystrophy
- e. Inflammation

575. 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. Lysosomes

b. Mitochondria

- c. Centrioles
- d. Golgi complex
- e. Ribosomes

576. 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 stoniness formation?

- a. Hyperkalemia
- b. Hyperphosphatemia
- c. Hypercholesterinemia

d. Hypercalcemia

- e. Hyperuricemia

577. 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. Malaria
- b. Tularemia
- c. Epidemic typhus**
- d. Scabies
- e. Plague

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

- a. Replication
- b. Translocation
- c. Doubling
- d. Deletion
- e. Inversion**

579. 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. Gastrin-releasing peptide (GRP)
- c. Vasoactive intestinal peptide (VIP)
- d. Somatostatin
- e. Acetylcholine

580. 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. Hypocalcemia
- b. Activation of tissue thromboplastin
- c. Fibrinogen deficiency
- d. PP hypovitaminosis
- e. Vitamin K insufficiency**

581. In case of enterobiasis acridine - the structural analogue of vitamin B2 - is administered. The synthesis disorder of which enzymes does this medicine cause in microorganisms?

- a. Peptidases
- b. Aminotransferases
- c. Cytochromeoxidases
- d. FAD-dependent dehydrogenases**
- e. NAD-dependent dehydrogenases

582. Decreased blood supply to the organs causes hypoxia that activates fibroblasts function. Volume of what elements is increased in this case?

- a. Intercellular substance**
- b. Vessels of microcirculatory stream
- c. Nerve elements
- d. Parenchymatous elements of the organ
- e. Lymphatic vessels

583. 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. Diazoline
- b. Phencarol
- c. Ketotifen**
- d. Tavegil
- e. Dimedrol

584. Live vaccine is injected into the human body. Increasing activity of what cells of connective

tissue can be expected?

- a. Macrophages and fibroblasts
- b. Plasmocytes and lymphocytes**
- c. Adipocytes and adventitious cells
- d. Pigmentocytes and pericytes
- e. Fibroblasts and labrocytes

585. 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. IV – VIII: TF – Xa
- c. IV – VIIa – Xa
- d. III – VIII: TF – Xa
- e. III – IV – Xa

586. 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. Increased numbers of parafollicular cells
- b. Decreased numbers of parafollicular capillaries
- c. Columnar-shaped follicular cells**
- d. An abundance of colloid in the lumen of the follicle
- e. Decreased numbers of follicular cells

587. 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. Trichina
- b. Trichuris
- c. Ancylostoma duodenalis
- d. Enterobius vermicularis**
- e. Ascaris lumbricoides

588. 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. Dissociation
- b. Paraplegia
- c. Monoplegia
- d. Tetraplegia
- e. Hemiplegia**

589. 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. Complement- fixation test
- c. Indirect hemagglutination test
- d. Agglutination test
- e. Immunofluorescence test

590. 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 urine culture
- c. Detachment of pure culture

d. Detachment of myeloculture

e. Detachment of feces culture

591. 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 39,9°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. Examination of vaginal and urethral discharge

d. Stool examination

e. Urine examination

592. 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. Mannit

b. Amilorid

c. Urea

d. Spironolacton

e. Clopamid

593. 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 symtoms?

a. Meningococcal meningitis

b. Influenza meningitis

c. Meningitis at typhus

d. Tuberculous meningitis

e. Meningitis at anthrax

594. 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. Turners syndrome

b. Klinefelters syndrome

c. Downs syndrome

d. Supermales

e. Alkaptonuria

595. 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. Meningococcal nasopharyngitis

c. Virus rhinitis

d. Rhinovirus infection

e. Allergic rhinitis

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

a. Chemical mutogenesis

b. Recombination

c. Cancerogenesis

d. Teratogenesis

e. Biological mutogenesis

597. 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 vitamin A
- b. Decreased production of thyroid hormones
- c. Decreased production of parathyrin
- d. Deficiency of iron-containing enzymes**
- e. Deficiency of vitamin B12

598. A 57-year-old patient was admitted to the gastroenterological department with suspicion of Zollinger-Ellison syndrom 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. Achylia
- b. Hypoacidity hypersecretion
- c. Hypoacidity hyposecretion
- d. Hyperacidity hyposecretion
- e. Hyperacidity hypersecretion**

599. 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. Calmness
- b. Sleep**
- c. Nervous exertion
- d. Easy work
- e. Rest

600. 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. Amino acids
- b. Ketone bodies**
- c. Cholesterol esters
- d. Monosaccharides
- e. High fatty acids

601. Buffer capacity of a workers blood was decreased due to exhausting muscular work. By coming of what acid substance in the blood can this state be explained?

- a. 3-phosphoglycerate
- b. Lactate**
- c. β -ketoglutarate
- d. 1,3-bisphosphoglycerate
- e. Pyruvate

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

- a. By general analgetic effect
- b. By inhibiting leucocyte migration into the joint
- c. By general anti-inflammatory effect
- d. By inhibiting uric acid synthesis**
- e. By increasing uric acid excretion

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

- a. Pupil dilating muscle, ciliary
- b. Pupil narrowing muscle, ciliary**
- c. Lateral rectus muscle, pupil narrowing
- d. Inferior oblique muscle, ciliary
- e. Pupil narrowing and dilating muscles

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

- a. Nalorphine
- b. Atropine
- c. Unithiol
- d. Isonitrosine
- e. Dipiroxim

605. 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. Pubic bone
- b. Condyle of the thigh
- c. Ischial bone
- d. The neck of the thigh
- e. The body of the thigh bone

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

- a. Sepsis
- b. DIC-syndrome
- c. Thrombopenia
- d. Uraemia
- e. Anemia

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

- a. Prescribe combined antibiotic therapy
- b. Immediately inject normal gamma globulin
- c. Start immunisation with rabies vaccine
- d. Immediate injection of DPT(Diphtheria, Pertusis, Tetanus) vaccine
- e. Hospitalize the patient and keep under the doctors supervision

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

- a. -NH₂
- b. -CONH₂
- c. -CH₃
- d. -SH
- e. -OH

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

- a. The mind-brain
- b. The medulla oblongata
- c. The spinal cord
- d. The inter-brain
- e. The cerebellum

610. A patient with infectious mononucleosis had been taking glucocorticoids for two weeks. He was brought into remission, but he fell ill with acute attack of chronic tonsillitis. What action of glucocorticoids caused this complication?

- a. Antishock
- b. Anti-inflammatory
- c. Immunosuppressive

- d. Antitoxic
- e. Antiallergic

611. 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. Klinefelters syndrome
- b. Turners syndrome
- c. Downs syndrome**
- d. Supermales
- e. Alkaptonuria

612. 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. Concentration of oxygen in heart vessels
- c. Concentration of Ca-ions in heart vessels
- d. Heart temperature
- e. Concentration of calcium-ions in myofibrils

613. 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. Golgi complex
- b. Microtubules
- c. Smooth endoplasmic reticulum
- d. Ribosomes**
- e. Mitochondria

614. 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. Myoblasts
- b. Satellite-cells**
- c. Myoepithelial cells
- d. Fibroblasts
- e. Myofibroblasts

615. 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. Stimulating
- b. Immunocomplex
- c. Delayed type hypersensitivity**
- d. Anaphylactic
- e. Cytotoxic

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

- a. Eosinophils
- b. B-lymphocytes
- c. T-lymphocytes**
- d. Erythrocytes
- e. Basophils

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

- a. Peroneal artery

- b. Proximal part of femoral artery
- c. Posterior tibial artery
- d. Anterior tibial artery

e. Popliteal artery

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

a. Antidiphtheric antitoxic serum

- b. Eubiotic
- c. Bacteriophage
- d. Diphtheria antitoxin
- e. Interferon

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

- a. Periarteritis nodosa
- b. Epidemic typhus

c. Meningococemia

- d. Radiation sickness
- e. Systemic lupus erythematosus

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

a. 75%

b. 100%

- c. 0%
- d. 35%
- e. 25%

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

- a. Black substance
- b. Motor cortex

c. Cerebellum

- d. Pale sphere
- e. Striatum

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

a. Naloxone

b. Unithiol

- c. Enterosorbent
- d. Activated carbon
- e. Isonitrozin

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

a. Scurvy

- b. Biermers anemia
- c. Rachitis
- d. Pellagra
- e. Polyneuritis (beriberi)

624. 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. Increasing of tissue blood supply
- b. Increasing of respiration

c. Inhibition of free radicals formation

- d. Prevention of tissues hypoxia
- e. Activation of oxidation reactions

625. 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 ischemic dystrophy
- b. Focal exudate myocarditis

c. Myocardial infarction

- d. Diffuse exudate myocarditis
- e. Productive myocarditis

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

- a. Mixed
- b. Cerebral
- c. Muscular

d. Respiratory

- e. Digestive

627. 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. Asynchronous

b. Waved tetanus

- c. Continuous (smooth) tetanus
- d. Single
- e. Tonic

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

- a. Tympanic membrane
- b. Main membrane of cochlea near helicotrema
- c. Eustachian tube

d. Main membrane of cochlea near the oval window

- e. Muscles of middle ear

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

- a. Hypertrophic excrescence
- b. Metaplasia

c. Hyperplasia glandulocystica

- d. Atrophy
- e. Dysplasia

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

a. Genetic insufficiency of glucose 6-phosphate dehydrogenase

- b. Drug potentiation by other preparations
- c. Delayed urinary excretion of the preparation
- d. Cumulation of the preparation
- e. Decreased activity of microsomal liver enzymes

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

- a. Infiltrative cancer
- b. Papilloma
- c. Fibroadenoma**
- d. Noninfiltrative cancer
- e. Mastitis

632. Inhibition of 6-motoneuron of the extensor muscles was noticed after stimulation of 6-motoneuron of the flexor muscles during the experiment on the spinal cord. What type of inhibition is this process based upon?

- a. Depolarizational
- b. Lateral
- c. Reciprocal**
- d. Presynaptic
- e. Recurrent

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

- a. Malonyl aldehyde
- b. Acetaldehyde**
- c. Methanol
- d. Ethanol
- e. Propionic aldehyde

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

- a. Cystic duct
- b. Left hepatic duct
- c. Common hepatic duct
- d. Right hepatic duct
- e. Hepatopancreatic ampulla**

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

- a. Immunocomplex mechanism
- b. Cellular cytolysis
- c. Cytotoxic, cytolytic action of antibodies
- d. Granulomatosis
- e. Atrophy**

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

- a. By surfactant introduction**
- b. By fluid suction from the respiratory tracts
- c. By glucose introduction
- d. By pure oxygen inhalation
- e. By artificial pulmonary ventilation

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

- a. Carbohydrate degeneration
- b. Amyloidosis**

c. Hyaline degeneration

d. Fatty parenchymatous degeneration

e. Fatty vascular-stromal degeneration

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

a. Myocardial infarction

b. Hepatitis

c. Vitamin B deficiency

d. Polycythemia

e. Splenomegaly

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

a. Granuloma formation

b. Reagin type cytotoxicity

c. Antibody cytotoxicity

d. Immunocomplex cytotoxicity

e. Cell cytotoxicity

640. A 34-year-old patient was diagnosed with chronic glomerulonephritis 3 years ago. Edema have developed within the last 6 months. What caused the edema?

a. Liver dysfunction of protein formation

b. Hyperosmolarity of plasma

c. Proteinuria

d. Hyperproduction of vasopressin

e. Hyperaldosteronism

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

a. Hypoacidic hypersecretion

b. Hypoacidic hyposecretion

c. Hyperacidic hyposecretion

d. Achylia

e. Hyperacidic hypersecretion

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

a. Aorta abdominalis

b. Vena cava inferior

c. Vena cava superior

d. Vena porta

e. Vena hepatica

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

a. Parathormone

b. Thyrocalcitonin

c. Hormonal form D3

d. Vasopressin

e. Aldosterone

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

a. Minor bronchi

- b. Trachea
- c. Larynx
- d. Major bronchs
- e. Median bronchs

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

- a. Increase of filtration coefficient
- b. Increase of renal plasma stream
- c. Increase of penetration of the renal filter
- d. Decrease of oncotic pressure of blood plasma**
- e. Increase of systemic blood pressure

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

- a. Fenestrational
- b. Somatical
- c. Lymphatic
- d. Visceral
- e. Sinusoidal**

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

- a. Gastrin and histamine
- b. Neurotensin
- c. Cholecystokinin and secretin**
- d. Histamine
- e. Gastrin

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

- a. Immunofluorescence test
- b. Agglutination test
- c. Indirect hemagglutination test
- d. Precipitation test**
- e. Complement-fixation test

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

- a. Chronic lympholeucosis
- b. Acute lympholeucosis
- c. Fungoid mycosis
- d. Berkitts lymphoma
- e. Lymphogranulomatosis**

650. 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. Pubofemoral
- d. Ischiofemoral
- e. Iliofemoral

651. A mother of a newborn complains of her babys constant belching with undigested milk. Which

developmental anomaly is it an evidence of?

- a. Esophageal atresia
- b. Anal atresia
- c. Faux lupinum
- d. Esophageal fistula
- e. Labium leporium

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

- a. Fat embolism
- b. Thrombosis
- c. Tissue embolism
- d. Tromboembolism
- e. Embolism with foreign body

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

- a. Auricular sodiumuretic factor
- b. Parathormone
- c. Vasopressin
- d. Adrenalin
- e. Aldosterone

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

- a. Tr. thalamocorticalis
- b. Tr. frontothalamicus
- c. Tr. pyramidalis
- d. Tr. parietooccipitopontinus
- e. Tr. frontopontinus

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

- a. Myometrium
- b. Mesometrium
- c. Endometrium
- d. Parametrium
- e. Perimetrium

656. 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. Bed-bugs
- b. Spiders
- c. Houseflies
- d. Lice
- e. Cockroaches

657. The calcium canals of cardiomyocytes have been blocked on an isolated rabbits heart. What changes in the hearts activity can result from it?

- a. Decreased heart beat rate
- b. Heart stops in systole
- c. Decreased force of the contraction
- d. Decreased rate and force of heart beat
- e. Heart stops in diastole

658. While enrolling a child to school Mantoux 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. Absence of antitoxic immunity to the tuberculosis
- c. Absence of antibodies for tubercle bacillus
- d. Presence of antibodies for tubercle bacillus
- e. Presence of cell immunity to the tuberculosis

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

- a. Lymphohypoplastic
- b. Exudative-catharral
- c. Arthritism
- d. Asthenic
- e. Hemorrhagic

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

- a. Pancreas
- b. Hypophysis
- c. Adrenal glands
- d. Testicle
- e. Ovaries

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

- a. Stenotic respiration
- b. Biots respiration
- c. Stage of inspiratory dyspnea on asphyxia
- d. Alternating respiration
- e. Stage of expiratory dyspnea on asphyxia

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

- a. It will disappear
- b. First it will increase, then decrease
- c. It will be considerably increased
- d. First it will decrease, then increase
- e. It will be slightly increased

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

- a. All above mentioned tonsils
- b. Tonsilla tubaria
- c. Tonsilla lingualis
- d. Tonsilla pharyngea
- e. Tonsilla palatina

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

- a. PP hypovitaminosis
- b. Hypocalcemia
- c. Vitamin K deficiency
- d. Fibrinogen deficiency
- e. Activation of tissue thromboplastin

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

- a. Diapedesis of erythrocytes
- b. Proliferation of fibroblasts
- c. Primary alteration
- d. Emigration of lymphocytes
- e. Secondary alteration**

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

- a. Lamblia**
- b. Balantidium
- c. Dysentery amoeba
- d. Intestinal amoeba
- e. Trichomonas

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

- a. Pyrazinamide**
- b. Cycloserine
- c. Aminosalicylic acid
- d. Thiacetazone
- e. Rifampicin

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

- a. Proserin**
- b. Dipiromim
- c. Pilocarpine
- d. Diazepam
- e. Armine

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

- a. Phage conversion**
- b. Cultivation in the telluric environment
- c. Passing through the organism of the sensitive animals
- d. Chromosome mutation
- e. Growing with antitoxic serum

670. 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 - IV - Xa
- b. III - VIII: TF - Xa
- c. IV - VIII: TF - Xa
- d. III - VIIa - Xa**
- e. IV - VIIa - Xa

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

- a. Tissue
- b. Fat**

- c. Thrombus-embolus
- d. Air
- e. Foreign body

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

- a. Lipoproteids
- b. Additive glycosaminoglycans**
- c. R-glycosidase
- d. Acid phosphatase
- e. General cholesterol

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

- a. Antiserotonin
- b. Antikinine
- c. Anticyclooxygenase**
- d. Antihistamine
- e. Locally irritating

674. A 58-year-old patient with acute cardiac insufficiency has decreased volume of daily urine - oliguria. What is the mechanism of this phenomenon?

- a. Reduced permeability of renal filter
- b. Decreased glomerular filtration**
- c. Rise of hydrostatic blood pressure in capillars
- d. Decreased number of functioning glomerules
- e. Drop of oncotic blood pressure

675. A 50-year-old patient with typhoid fever was treated with Levomycetin, next day his condition became worse, temperature rose to 39,60C. What caused the complication?

- a. Reinfection
- b. Secondary infection addition
- c. The effect of endotoxin agent**
- d. Allergic reaction
- e. Irresponsiveness of an agent to the levomycetin

676. A patient operated on complicated appendicitis has the following changes of blood count: erythrocytes - 4,0.10¹²/l, Hb - 120 g/l, color index - 0,9, leukocytes - 18.10⁹/l, basophils - 0, eosinophils - 0, myelocytes - 0, juvenile - 0, stab neutrophils - 20, segmentonuclear neutrophils - 53, lymphocytes - 21, monocytes - 5. How is such nuclear shift of leukocytic formula called?

- a. Degenerative left shift**
- b. Hyperregenerative
- c. Regenerative left shift
- d. Regeneratively-degenerative
- e. Right shift

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

- a. 5,5 mmol/L
- b. 10,0 mmol/L
- c. 1,5 mmol/L**
- d. 8,0 mmol/L
- e. 3,3 mmol/L

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

- a. Phencarol

b. Ketotifen

- c. Tavegyl
- d. Diazoline
- e. Dimedrol

679. Examination of a newborn boys genitals revealed a cleft of urethra that opens on the inferior surface of his penis. What developmental anomaly is meant?

- a. Epispadia
- b. Cryptorchism
- c. Hermaphroditism
- d. Monorchism

e. Hypospadia

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

- a. Meningococcal nasopharyngitis

b. Scleroma

- c. Virus rhinitis
- d. Rhinovirus infection
- e. Allergic rhinitis

681. Decreased blood supply to the organs causes hypoxia that activates fibroblasts function. Volume of what elements is increased in this case?

- a. Lymphatic vessels
- b. Parenchymatous elements of an organ
- c. Nerve elements

d. Inter cellular substance

- e. Vessels of microcircular stream

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

- a. Cisterna cerebellomedullaris posterior

b. Spatium subarachnoideum

- c. Spatium epidurale
- d. Spatium subdurale
- e. Cavum trigeminale

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

a. Agglutinins

- b. Bacteriolysins
- c. Antitoxins
- d. Precipitins
- e. Opsonins

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

- a. Drug dependence
- b. Summation

c. Potentiation

- d. Tolerance
- e. Cumulation

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

- a. Pus in the wound
- b. Low concentration H₂O₂
- c. Inherited insufficiency of erythrocyte phosphatdehydrogenase
- d. Inherited insufficiency of catalase**
- e. Shallow wound

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

- a. Canalis adductorius
- b. Hiatus saphenus**
- c. Anulus inguinalis superficialis
- d. Anulus femoralis
- e. Lacuna musculorum

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

- a. Phenoxymethylpenicillin
- b. Carbenicillin disodium**
- c. Oxacillin
- d. Benzylpenicillin
- e. Methicillin

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

- a. Paracetamol
- b. Benadryl
- c. Timaline**
- d. Sulfocamphocaine
- e. Analgin

689. 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. Joints dystrophy development
- b. Cartilaginous tissue proliferation under growth hormone influence**
- c. Increased sensitivity of the tissues to insulin
- d. Increased sensitivity of the tissues to growth hormone
- e. Joints chronic inflammation development

690. 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. Adrenalin hydrochloride
- b. Atropine sulphate
- c. Pentamin
- d. Lobeline hydrochloride**
- e. Mesaton

691. 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. Bulb
- b. Descendent part**

- c. Upper horizontal part
- d. Lower horizontal part
- e. Ascendant part

692. Scraps of the mycelium of a fungus, spores, air bubbles and fat drops were discovered on microscopy of the patients hair excluded from the infected areas. What fungus disease is characterised by this microscopic picture?

- a. Trichophytosis
- b. Epidermophytosis
- c. Microspory
- d. Favus**
- e. Sporotrichosis

693. Albinos cant stand sun impact - they dont aquire sun-tan but get sunburns. Disturbed metabolism of what aminoacid underlies this phenomenon?

- a. Phenilalanine**
- b. Tryptophan
- c. Glutamic acid
- d. Methionine
- e. Histidine

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

- a. Crohns disease
- b. Salmonellosis
- c. Cholera
- d. Yersiniosis
- e. Dysentery**

695. A patient who has been strictly keeping to a certain diet for 10 days went through examination of respiratory coefficient. It was determined that it was equal 1. What have the patient been keeping to?

- a. With domination of proteins and carbohydrates
- b. Mixed
- c. With domination of fat and carbohydrates
- d. With domination of carbohydrates**
- e. With domination of proteins and fat

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

- a. Tonogenic dilatation
- b. Cardiosclerosis
- c. Emergency stage of hyperfunction and hypertrophy
- d. Cardiac tamponade
- e. Myogenic dilatation**

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

- a. Miocardial infarction**
- b. Cholecystitis
- c. Rheumatism
- d. Hepatitis
- e. Pancreatitis

698. Intrapleural pressure of an individual is being measured. In what phase did he hold his breath if

the pressure is - 25 cm H₂O?

- a. -
- b. Quiet inspiration
- c. Forced expiration
- d. Quiet expiration
- e. Forced inspiration**

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

- a. Interphase
- b. Anaphase**
- c. Telophase
- d. Metaphase
- e. Prophase

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

- a. Oxytocin
- b. Vasopressin
- c. Follicle-stimulating**
- d. Somatotrophic
- e. Thyrotropic

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

- a. Plague
- b. Scabies
- c. Epidemic typhus**
- d. Tularemia
- e. Malaria

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

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

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

- a. Hydrodynamic
- b. Membranogenic
- c. Lymphogenic
- d. Colloid-osmotic
- e. Mixed**

704. 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

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

- a. E
- b. D
- c. K**
- d. Carotene
- e. A

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

- a. Aa. metacarpeae palmares
- b. Aa. perforantes
- c. Aa. digitales palmares communes
- d. Arcus palmaris superficialis
- e. Arcus palmaris profundus**

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

- a. Metronidasol**
- b. Enteroseptol
- c. Tetracycline
- d. Quingamine
- e. Quiniofone

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

- a. In the esophagus
- b. In the right main bronchus**
- c. In the trachea
- d. In the left main bronchus
- e. In the larynx

709. Microscopic examination of the sputum of a patient with pneumonia occasionally revealed some larvae. Eosinophiles were detected on blood examination. What helminthiasis can be diagnosed?

- a. Ascariasis**
- b. Opisthorchosis
- c. Trichocephaliasis
- d. Paragonimiasis
- e. Enterobiosis

710. Concentration of pyruvate is increased in the patients blood, the most of which is excreted with urine. What avitaminosis has the patient?

- a. Avitaminosis B6
- b. Avitaminosis B3
- c. Avitaminosis B1**
- d. Avitaminosis E
- e. Avitaminosis B2

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

- a. Thyroidal hormones
- b. ACTH
- c. Catecholamines**
- d. Glucocorticoids
- e. Aldosterone

712. 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. RDHA - Reverse direct hemagglutination assay

d. Immunoblot analysis

e. RIHA - Reverse indirect hemagglutination assay

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

a. IgM and IgD

b. IgA and IgM

c. IgM and IgG

d. IgE and IgG

e. IgG and IgD

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

a. Anemia

b. Lymphopenia

c. Thrombopenia

d. Neutropenia

e. Leukopenia

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

a. Fading

b. Delayed

c. Protective

d. External

e. Differentiated

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

a. Galactokinase

b. Amylo-1,6-glucosidase

c. Hexokinase

d. Galactose-1-phosphate uridylyltransferase

e. Phosphoglucomutase

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

a. Cortex of the large hemispheres

b. Reticular formation

c. Nuclei of the cerebral nerves

d. Hippocampus

e. Black substance

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

a. Pulmonary artery thrombosis

b. Bronchial artery embolism

c. Pulmonary venous thrombosis

d. Bronchial artery thrombosis

e. Pulmonary artery embolism

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

a. Respiratory acidosis

b. Any changes would happen

c. Respiratory alkalosis

d. Metabolic acidosis

e. Metabolic alkalosis

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

a. Thiopental sodium

b. Sombrevin

c. Nitrous oxide

d. Diethyl ether

e. Ketamine

721. A 42-year-old man suffering from gout has increased level of urinary acid in blood. Allopurinol was prescribed to decrease the level of urinary acid. Competitive inhibitor of what enzyme is allopurinol?

a. Adenine phosphoribosyltransferase

b. Guanine deaminase

c. Hypoxanthine phosphoribosyltransferase

d. Xanthine oxidase

e. Adenosine deaminase

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

a. Pulmonary trunk and superior vena cava

b. Aorta and superior vena cava

c. Aorta and inferior vena cava

d. Pulmonary trunk and aorta

e. Right and left auricles

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

a. Valine

b. Tyrosine

c. Glutamic

d. Lysine

e. Tryptophan

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

a. Metabolic arterial hyperemia

b. Venous hyperemia

c. Neurotonic arterial hyperemia

d. Stasis

e. Neuroparalytic arterial hyperemia

725. An 18-year-old patient has enlarged inguinal lymph nodes, they are painless, thickened on

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

- a. Gonorrhea
- b. Tuberculosis
- c. Trophic ulcer
- d. Syphilis**
- e. Lepra

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

- a. Bacillus anthracis**
- b. Yersinia pestis
- c. Francisella tularensis
- d. Brucella abortus
- e. Mycobacterium bovis

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

- a. Proteins, fats
- b. Proteins
- c. Proteins, carbohydrates
- d. Proteins, fats, carbohydrates**
- e. Fats, carbohydrates

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

- a. Muroid swelling
- b. Fibrinoid inflammation
- c. Amyloidosis
- d. Hyalinosis
- e. Fibrinoid swelling**

729. A 39-year-old woman has madescence in the region of mammilla, a small ulcer with inflammatory hyperemia and cutaneous edema. Histologic examination of tissue sampling from this area revealed in the malpighian layer of thickened epidermis atypical cells with light and optically empty cytoplasm, with no intracellular bridges. Such cells were also found in the orifice of big mammal gland ducts. What is the most probable diagnosis?

- a. Melanocarcinoma
- b. Basal cell carcinoma
- c. Intraductal cancer
- d. Epidermoid cancer
- e. Pagets disease**

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

- a. Contrycal**
- b. Etaperazine
- c. No-spa
- d. Ephedrine
- e. Platyphylline

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

- a. Glutathionereductase**

b. Superoxide dismutase

- c. Glutathioneperoxidase
- d. Catalase
- e. Peroxidase

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

a. Tocopherol acetate

- b. Thiamine chloride
- c. Ergocalciferol
- d. Folic acid
- e. Riboflavin

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

- a. Para-aminosalicylic acid
- b. Streptomycin
- c. Isoniazid

d. Rifampicin

- e. Ethionamide

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

- a. Autosomal-dominant
- b. Incomplete domination
- c. Dominant, sex-linked

d. Recessive, sex-linked

- e. Autosomal-recessive

735. 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. Etidocaine
- c. Bupivacaine
- d. Cocaine
- e. Lidocaine

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

a. Glycerin

b. Methionine

- c. Glucose
- d. Ascorbic acid
- e. Citrate

737. An 18-year-old patient came to the out-patient department with the complaints of bleeding trauma in the vestibule of his nose. On examination: the mechanical injury of the mucous layer of the vestibule without continuation into nasal cavity proper. What is the boundary between the vestibule and nasal cavity proper?

- a. Nasal septa
- b. Choanes
- c. Nostrils
- d. Nasal roller

e. Nasal limen

738. Low level of albumins and fibrinogen was detected in the patients blood. Decreased activity of what organelle of the liver hepatocytes can most probably cause it?

a. Lysosomes

b. Granular endoplasmatic reticulum

c. Agranular endoplasmatic reticulum

d. Mitochondrions

e. Golgi complex

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

a. High fatty acids

b. Cholesterol esters

c. Monosaccharides

d. Ketone bodies

e. Amino acids

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

a. Recurrent

b. Septic

c. Intermittent

d. Continued

e. Hectic

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

a. Genealogical

b. Population-statistical

c. Gemellary

d. Cytological

e. Biochemical

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

a. Cancerogenesis

b. Teratogenesis

c. Biological mutogenesis

d. Recombination

e. Chemical mutogenesis

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

a. Polycythemia

b. Leukopenia

c. Reduction of haematocrite rate

d. Leucocytosis

e. Increase of haematocrite rate

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

a. Atretic

b. Primary

- c. Primordial
- d. Secondary
- e. Mature

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

- a. Pathological poikilocytosis
- b. Erythrocytosis
- c. Physiological poikilocytosis**
- d. Physiological anisocytosis
- e. Pathological anisocytosis

746. 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. Inflammation
- b. Metaplasia
- c. Dystrophy
- d. Hyperemia
- e. Regeneration**

747. Thyrotoxicosis leads to increased production of thyroidal hormones T3 and T4, weight loss, tachycardia, psychic excitement and so on. How do thyroidal hormones effect energy metabolism in the mitochondrion of cells?

- a. Activate substrate phosphorylation
- b. Stop respiratory chain
- c. Disconnect oxidation and oxidative phosphorylation**
- d. Stop substrate phosphorylation
- e. Activate oxidative phosphorylation

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

- a. Intermediate lateral nucleus
- b. Proper nucleus of gray substance
- c. Proper nucleus of the posterior horn
- d. Thoracic nucleus
- e. Proper nucleus of the anterior horn**

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

- a. Subscapular muscle
- b. Supraspinous muscle
- c. Teres major muscle**
- d. Teres minor muscle
- e. Infraspinous muscle

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

- a. Meningitis connected with anthrax
- b. Meningococcal meningitis**
- c. Tuberculous meningitis
- d. Grippal meningitis
- e. Meningitis connected with typhus

751. 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. Basophils
- c. Lymphocytes
- d. Monocytes
- e. Eosinophils

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

a. Reagin reaction

- b. Granulomatosis
- c. Cytotoxic reaction
- d. Immunocomplex reaction
- e. Cytolysis determined by lymphocytes

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

- a. M.romboideus major
- b. M.levator scapulae
- c. M.trapezius

d. M.latissimus dorsi

e. M.subscapularis

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

- a. DNA polymerase III
- b. RNA ligase
- c. Primase
- d. DNA gyrase

e. Endonuclease

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

- a. It inhibits β -cells of Langergans islets
- b. It relieves transport of glucose through the cells membranes
- c. It helps to absorb the glucose by the cells of the organism tissues
- d. It inhibits absorption of glucose in the intestines

e. It stimulates β -cells of Langergans islets

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

- a. Right ventricle
- b. Left atrium
- c. -
- d. Right atrium

e. Left ventricle

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

- a. B2
- b. B1
- c. C

- d. A
- e. B6

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

- a. Polyploidy
- b. Development of male fetus
- c. Development of female fetus**
- d. Genetic disorders of fetus development
- e. Trisomy

759. A 68-year-old woman cant move her upper and lower right extremities due to the stroke. Muscle tone of these extremities and their reflexes are increased. There are pathological reflexes. What form of paralysis is it?

- a. Monoplegia
- b. Hemiplegia**
- c. Paraplegia
- d. Dissociation
- e. Tetraplegia

760. A 17-year-old boy fell seriously ill, body temperature rose up to 38,50C, there is cough, rhinitis, lacrimation, nasal discharges. What kind of inflammation is it?

- a. Hemorrhagic inflammation
- b. Catarrhal inflammation**
- c. Serous inflammation
- d. Fibrinous inflammation
- e. Suppurative inflammation

761. 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. Cysteine
- c. Adenine
- d. Uracil
- e. Cytosine

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

- a. Rest
- b. Calmness
- c. Nervous exertion
- d. Easy work
- e. Sleep**

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

- a. Heme
- b. Coproporphyrinogen 3
- c. Uroporphyrinogen 1**
- d. Uroporphyrinogen 2
- e. Protoporphyrin

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

- a. Incomplete dominance
- b. Complementation
- c. Codominance

d. Polymery

e. Recessive epistasis

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

a. Previous hepatitis B

b. Acute hepatitis C

c. Chronic hepatitis B

d. Chronic hepatitis C

e. Acute hepatitis B

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

a. K^+

b. Na^+

c. HCO_3^-

d. Cl^-

e. Ca^{2+}

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

a. T-lymphocytes

b. Macrophages, monocytes

c. NK-cells

d. T-lymphocytes, B-lymphocytes

e. Fibroblasts, T-lymphocytes, B-lymphocytes

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

a. Ornithine

b. Biotin

c. Indole

d. Butyrate

e. Acetacetate

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

a. Regulation of Ca^{2+} level in mitochondrions

b. Lactic acid utilization

c. Transporting of fatty acids to mitochondrions

d. Substrate phosphorylation

e. Actin and myosin synthesis

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

a. Increased production of insulin

b. Decreased production of thyroidal hormones

c. Increased production of glucocorticoids

d. Increased production of mineralocorticoids

e. Decreased production of glucagon

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

- a. Thalassemia
- b. Minkowsky-Shauffard disease
- c. Favism
- d. Sickle-cell anemia**
- e. Hemoglobinosis

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

- a. Mineral salts
- b. Glucose
- c. Uric acid
- d. Creatinine**
- e. Common lipids

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

- a. Formation of polypeptide chains
- b. Hydroxylation of proline**
- c. Removal of C-ended peptide from procollagen
- d. Glycosylation of hydroxylysine residues
- e. Detaching of N-ended peptide

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

- a. Disorder of ammonia neutralization in ornithinic cycle**
- b. Inhibited activity of transamination enzymes
- c. Activated processes of aminoacids decarboxylation
- d. Increased putrefaction of proteins in intestines
- e. Disorder of biogenic amines neutralization

775. 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. Frontal central gurus
- b. Frontal zone
- c. Posterior central gurus**
- d. Parietal zone of the cortex
- e. Occipital zone of the cortex

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

- a. Oxidative phosphorylation
- b. Tissue respiration
- c. Anaerobic glycolysis**
- d. Peroxide decomposition
- e. Aminoacids desamination

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

- a. Gaseous acidosis
- b. Excretory alkalosis**
- c. Excretory acidosis
- d. Gaseous alkalosis

e. Metabolic acidosis

778. 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 aggravate the hypertension
- c. The local anesthetic effect of procainamide would potentiate diabetes
- d. The hypertensive effects of procainamide would aggravate the hypertension
- e. The cholinergic effects of procainamide would aggravate the diabetes

779. 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. After contact with sick dogs
- b. Through dirty hands
- c. With contaminated fruits and vegetables
- d. As a result of bugs bites
- e. As a result of mosquitos bites

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

- a. Myoma
- b. Fibroma
- c. Fibrosarcoma
- d. Myosarcoma
- e. Cancer

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

- a. His bundle
- b. Sinoatrial node
- c. Branches of His bundle
- d. Atrioventricular node
- e. Purkinjes fibers

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

- a. Pigmentocytes and pericytes
- b. Macrophages and fibroblasts
- c. Fibroblasts and labrocytes
- d. Plasmocytes and lymphocytes
- e. Adipocytes and adventitious cells

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

- a. Reverse transcription
- b. Maturation of m-RNA
- c. Primers synthesis
- d. Synthesis of t-RNA
- e. Synthesis of m-RNA

784. An isolated cell of human heart automatically generates excitation impulses with frequency 60 times pro minute. What structure does this cell belong to?

- a. Atrium
- b. Ventricle
- c. His bundle
- d. Atrioventricular node

e. Sinoatrial node

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

a. Croupous pneumonia

- b. Bronchopneumonia
- c. Pulmonary gangrene
- d. Fibrosing alveolitis
- e. Interstitial pneumonia

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

- a. Proteins-activators of transcription
- b. Chromatin
- c. Ribosomes

d. Nuclear receptors

- e. Membrane receptors

787. 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. Acute verrucous endocarditis
- b. Fibroplastic endocarditis
- c. Recurrent warty endocarditis

d. Polypous-ulcerative endocarditis

- e. Diffusive endocarditis

788. 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. Hamartoma
- c. Lymphoma
- d. Melanoma
- e. Adenocarcinoma

789. 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. Habituation
- b. Cumulation
- c. Sensibilization

d. Appearance of adrenal insufficiency

- e. Hyperproduction of ACTH

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

- a. Muscle that dilatates pupil
- b. Vitreous body
- c. Liquid of the anterior chamber of eye
- d. Cornea

e. Lens

791. Parents with an ill child consulted an infectionist. They had been working in one of Asian countries for a long time. The child has sallow skin, loss of appetite, laxity, enlarged liver, spleen,

peripheral lymph nodes. What protozoal illness can be suspected?

- a. Toxoplasmosis
- b. Amebiasis
- c. Balantidiasis
- d. Visceral leishmaniasis**
- e. Lambliasis

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

- a. Glucoreceptors of hypothalamus
- b. Baroreceptors of aortic arch
- c. Osmoreceptors of hypothalamus**
- d. Osmoreceptors of liver
- e. Sodium receptors of hypothalamus

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

- a. Specialized nervous cells (neurons)
- b. Cells that contain receptor IgM (B-lymphocytes)
- c. Cells that contain receptor T4 (T-helpers)**
- d. Proliferating cells (stem hematopoietic cells)
- e. Mast cells

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

- a. Increase of plasma proteins
- b. Increase of erythrocyte number
- c. Increase of leukocyte number**
- d. Decrease of erythrocyte number
- e. Decrease of thrombocyte number

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

- a. Inversion**
- b. Replication
- c. Deletion
- d. Translocation
- e. Doubling

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

- a. H-cholinoreceptors
- b. α - and β -adrenoreceptors
- c. β -adrenoreceptors**
- d. α -adrenoreceptors
- e. M-cholinoreceptors

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

- a. Decreased production of thyroid hormones
- b. Deficiency of vitamin A
- c. Deficiency of iron-containing enzymes**
- d. Decreased production of parathyroid
- e. Deficiency of vitamin B12

798. 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. Interstitial inflammation
- b. Granulomas with foreign body cells
- c. Granulomas with Langhans cells
- d. Granulomas with Virchows cells
- e. Granulomas with Mikulicz cells**

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

- a. Amilorid
- b. Mannit
- c. Clopamid
- d. Urea
- e. Spironolacton**

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

- a. Trichomonas
- b. Balantidium**
- c. Lamblia
- d. Dysenteric amoeba
- e. Intestinal amoeba

801. A patient is followed up in an endocrinological dispensary on account of hyperthyreosis. Weight loss, tachycardia, finger tremor are accompanied by hypoxia symptoms - headache, fatigue, eye flicker. What mechanism of thyroid hormones action underlies the development of hypoxia?

- a. Disjunction, oxydation and phosphorilation**
- b. Inhibition of respiratory ferment synthesis
- c. Competitive inhibition of respiratory ferments
- d. Specific binding of active centres of respiratory ferments
- e. Intensification of respiratory ferment synthesis

802. A laboratory received a material from a patients wound. Ppreliminary diagnosis is gaseous gangrene. What microbiological method should be applied to determine species of causative agent?

- a. Serological
- b. Allergic
- c. Bacteriological**
- d. RIA
- e. Bacterioscopic

803. A 4 y.o. child with signs of durative proteinic starvation was admitted to the hospital. The signs were as follows: growth inhibition, anemia, edemata, mental deficiency. Choose a cause of edemata development:

- a. Reduced synthesis of hemoglobin
- b. Reduced synthesis of globulins
- c. Reduced synthesis of lipoproteins
- d. Reduced synthesis of albumins**
- e. Reduced synthesis of glycoproteins

804. A 45 y.o. patient consulted a doctor about plaque-shaped formation on his neck. Histological examination of biopsy skin material revealed tumourous cells of round and oval form with thin ring of basophilic cytoplasm that resemble of cells of basal epidermal layer. What tumour is it?

- a. Hydradenoma
- b. Basalioma**

c. Syringoadenoma

d. Epidermal cancer

e. Trichoepithelioma

805. A boy is 7 y.o. Objectively: against the background of hyperemic skin there is knobby bright-pink rash on his forehead, neck, at the bottom of abdomen, in the popliteal spaces; nasolabial triangle is pale. Examination of oropharyngeal surface revealed localized bright-red hyperemia; tonsils are swollen, soft, lacunas contain pus, tongue is crimson. Cervical lymph nodes are enlarged, dense and painful. What is the most probable diagnosis?

a. Whooping cough

b. Diphtheria

c. Rubella

d. Infectious mononucleosis

e. Scarlet fever

806. A 45 y.o. woman suffers from Cushings syndrome - steroid diabetes. Biochemical examination revealed: hyperglycemia, hypochloremia. Which of the undermentioned processes is the first to be activated?

a. Glycogenolysis

b. Glycolysis

c. Gluconeogenesis

d. Glucose transport to the cell

e. Glucose reabsorption

807. Examination of an isolated cardiomyocyte revealed that it didnt generate excitation impulses automatically. This cardiomyocyte was obtained from:

a. Purkinjes fibers

b. Sinoatrial node

c. Ventricles

d. Atrioventricular node

e. His bundle

808. Inhabitants of territories with cold climate have high content of an adaptive thermoregulatory hormone. What hormone is meant?

a. Cortisol

b. Somatotropin

c. Insulin

d. Glucagon

e. Thyroxin

809. As a result of damage to certain structures of brainstem an animal lost orientation reflexes. What structures were damaged?

a. Medial nuclei of reticular formation

b. Black substance

c. Red nuclei

d. Vestibular nuclei

e. Quadritubercular bodies

810. According to the data of WHO, for about 250 mln of Earth population fall ill with malaria. This disease is mostly spread in tropical and subtropical regions. Range of its spread falls into the areal of the following mosquitoes:

a. Aedes

b. Culex

c. Culiseta

d. Anopheles

e. Mansonia

811. A 35 y.o. patient who often consumes alcohol was treated with diuretics. There appeared serious

muscle and heart weakness, vomiting, diarrhea, AP- 100/ 60 mm Hg, depression. This condition is caused by intensified excretion with urine of:

- a. Calcium
- b. Potassium**
- c. Chlorine
- d. Phosphates
- e. Sodium

812. On the 6th day of treatment a patient with acute renal insufficiency developed polyuria. Diuresis intensification at the beginning of polyuria stage of acute renal insufficiency is caused by:

- a. Reduction of vasopressin content in plasma
- b. Volume expansion of circulating blood
- c. Growth of natriuretic factor
- d. Reduction of aldosteron content in plasma
- e. Renewal of filtration in nephrons**

813. Osmotic pressure of a mans blood plasma is 350 mosmole/l (standard pressure is 300 mosmole/l). First of all it will result in high secretion of the following hormone:

- a. Adrenocorticotropin
- b. Natriuretic
- c. Aldosteron
- d. Vasopressin**
- e. Cortisol

814. Neurological examination of a 65 y.o. patient revealed a haemorrhage within the superior temporal gyrus. In the blood supplyarea of which artery is it?

- a. Anterior cerebral artery
- b. Anterior communicating artery
- c. Middle cerebral artery**
- d. Basilar artery
- e. Posterior cerebral artery

815. A 32 y.o. man is tall, he has gynecomastia, adult woman pattern of hair distribution, high voice, mental deficiency, sterility. Provisional diagnosis is Klinefelters syndrome. In order to specify diagnosis it is necessaryto analyze:

- a. Spermatogenesis
- b. Caryotype**
- c. Genealogy
- d. Leukogram
- e. Blood group

816. A patient was diagnosed with active focal pulmonary tuberculosis. What drug should be prescribed in the first place?

- a. Ethoxide
- b. Ethionamide
- c. Isoniazid**
- d. Sulfalen
- e. Cyclocerine

817. Examination of a young man in the AIDS centre produced a positive result of immune-enzyme assay with HIV antigens. Patients complaints about state of his health were absent. What can the positive result of immune-enzyme assay be evidence of?

- a. HBV persistence
- b. Having had AIDS recently**
- c. Being infected with HBV
- d. HIV infection
- e. Being ill with AIDS

818. RNA that contains AIDS virus penetrated into a leukocyte and by means of reverse transcriptase forced a cell to synthesize a viral DNA. This process is based upon:

- a. Reverse transcription
- b. Operon depression
- c. Reverse translation
- d. Convariant replication
- e. Operon repression

819. A patient is ill with diabetes mellitus that is accompanied by hyperglycemia of over 7,2 millimole/l on an empty stomach. The level of what blood plasma protein allows to estimate the glycemia rate retrospectively (4-8 weeks before examination)?

- a. C-re active protein
- b. Glycated hemoglobin
- c. Fibrinogen
- d. Ceruloplasmin
- e. Albumin

820. A sportsman was recommended to take a medication that contains carnitine in order to improve his results. What process is activated by carnitine the most?

- a. Synthesis of steroid hormones
- b. Synthesis of ketone bodies
- c. Fatty acids transport to mitochondrions
- d. Tissue respiration
- e. Synthesis of lipids

821. A patient consulted a doctor about bowels dysfunction. The doctor established symptoms of duodenitis and enteritis. Laboratory examination helped to make the following diagnosis: lamblia. What medication should be administered?

- a. Tetracycline
- b. Erythromycin
- c. Chingamin
- d. Metronidazole
- e. Monomycin

822. A man took a quiet expiration. Name an air volume that is meanwhile contained in his lungs:

- a. Vital lung capacity
- b. Respiratory volume
- c. Expiratory reserve volume
- d. Residual volume
- e. Functional residual capacity

823. During pubescence the cells of male sexual glands begin to produce male sex hormone testosterone that calls forth secondary sexual characters. What cells of male sexual glands produce this hormone?

- a. Leydig cells
- b. Sustentocytes
- c. Supporting cells
- d. Spermatozoa
- e. Sertoli cells

824. A 16 y.o. boy from a countryside entered an educational establishment. Scheduled Mantoux test revealed that the boy had negative reaction. What are the most reasonable actions in this case?

- a. To perform rapid Price diagnostics
- b. To repeat the reaction in a month
- c. To isolate the boy temporarily from his mates
- d. To perform serodiagnostics of tuberculosis
- e. To perform BCG vaccination

825. Autopsy of a 56 y.o. man revealed in the right temporal part of brain a big focus of softened grey matter that was semi-liquid and light grey. Arteries of cerebral tela contain multiple whitish-yellow thickenings of intima that abruptly narrow the lumen. What is your diagnosis?

- a. Brain abscess
- b. Brain edema
- c. Ischemic stroke**
- d. Hemorrhage
- e. Hemorrhagic infarction

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

- a. Hyaline degeneration
- b. Fatty vascular-stromal degeneration
- c. Amyloidosis
- d. Fatty parenchymatous degeneration**
- e. Carbohydrate degeneration

827. Labeled aminoacids alanine and tryptophane were introduced to a mouse in order to study localization of protein biosynthesis in its cells. Around what organelles will the accumulation of labeled aminoacids be observed?

- a. Agranular endoplasmic reticulum
- b. Golgi apparatus
- c. Ribosomes**
- d. Cell centre
- e. Lysosomes

828. 48 hours after performing tuberculin test (Mantoux test) to a child a 10 mm papule appeared on the spot of tuberculin introduction. What hypersensitivity mechanism underlies these changes?

- a. Antibody-dependent cytotoxicity**
- b. Cellular cytotoxicity
- c. Anaphylaxis
- d. Immune complex cytotoxicity
- e. Granulomatosis

829. A patient who has been suffering from cardiac insufficiency for several months has been taking digoxin on an outpatient basis. At a certain stage of treatment there appeared symptoms of drug overdose. What phenomenon underlies the development of this complication?

- a. Habituation
- b. Sensibilization
- c. Functional cumulation
- d. Tachyphylaxis
- e. Material cumulation**

830. Examination of a patient revealed reduced contents of magnesium ions that are necessary for attachment of ribosomes to the granular endoplasmatic reticulum. It is known that it causes disturbance of protein biosynthesis. What stage of protein biosynthesis will be disturbed?

- a. Replication
- b. Transcription
- c. Aminoacid activation
- d. Termination
- e. Translation**

831. A child complains of general weakness, loss of appetite, a troubled sleep, itching in the perianal area. The provisional diagnosis is enterobiasis. In order to specify this diagnosis it is necessary to perform:

- a. Roentgenoscopy
- b. Immune diagnostics

c. Biopsy of muscle tissue

d. Scraping from perianal folds

e. Duodenal contents analysis

832. In some regions of South Africa there is a spread sickle-shaped cell anemia, in which erythrocytes have shape of a sickle as a result of substitution of glutamin by valine in the hemoglobin molecule. What is the cause of this disease?

a. Genomic mutations

b. Transduction

c. Disturbance of mechanisms of genetic information realization

d. Gene mutation

e. Crossingover

833. A patient suffers from vision impairment - hemeralopy (night blindness). What vitamin preparation should be administered the patient in order to restore his vision?

a. Thiamine chloride

b. Vicasol

c. Pyridoxine

d. Retinol acetate

e. Tocopherol acetate

834. A patient presents high activity of LDH, aspartate aminotransferase, creatine phosphokinase. In what organ (organs) is the development of a pathological process the most probable?

a. In liver and kidneys

b. In connective tissue

c. In skeletal muscles (dystrophy, atrophy)

d. In kidneys and adrenals

e. In the heart muscle (initial stage of myocardium infarction)

835. A woman who has been keeping to a clean-rice diet for a long time was diagnosed with polyneuritis (beriberi). What vitamin deficit results in development of this disease?

a. Ascorbic acid

b. Pyridoxine

c. Thiamine

d. Folic acid

e. Riboflavin

836. Colonoscopy of a patient ill with dysentery revealed that mucous membrane of his large intestine is hyperemic, edematic, its surface was covered with grey-and-green coats. Name the morphological form of dysenteric colitis:

a. Fibrinous

b. Catarrhal

c. Purulent

d. Ulcerous

e. Necrotic

837. A 70 y.o. man has cut an abscess off in the area of mammiform process during shaving. Two days later he was admitted to the hospital with inflammation of arachnoid membranes. How did the infection penetrate into the cavity of skull?

a. V.v. tympanicae

b. V. emissariae mastoideae

c. V.v. labyrinthi

d. V.v. auriculares

e. V. facialis

838. 24 hours after appendectomy blood of a patient presents neutrophilic leukocytosis with regenerative shift. What is the most probable mechanism of leukocytosis development?

a. Redistribution of leukocytes in the organism

b. Decelerated leukocyte destruction

c. Amplification of leucopoiesis

d. Decelerated emigration of leukocytes to the tissues

e. Amplification of leukopoiesis and decelerated emigration of leukocytes to the tissues

839. Examination of cell culture got from a patient with lysosomal pathology revealed accumulation of great quantity of lipids in the lysosomes. What of the following diseases is this disturbance typical for?

a. Tay-Sachs disease

b. Galactosemia

c. Wilson disease

d. Gout

e. Phenylketonuria

840. A group of mountain climbers went through the blood analysis at the height of 3000 m. It revealed decrease of HCO_3^- to 15 micromole/l (standard is 22-26 micromole/l). What is the mechanism of HCO_3^- decrease?

a. Hyperventilation

b. Intensification of acidogenesis

c. Decrease of ammoniogenesis

d. Decrease of bicarbonate reabsorption in kidneys

e. Hypoventilation

841. A patient ill with diabetes mellitus felt acute pain in his right foot. Objectively: foot thumb is black, foot tissues are edematous, there are foci of epidermis desquamation, stinking discharges. What clinicopathological form of necrosis is it?

a. Infarction

b. Bedsore

c. Sequestrum

d. Moist gangrene

e. Dry gangrene

842. Power inputs of a boy increased from 500 to 2000 kJ per hour. What can be the cause of it?

a. Raise of outer temperature

b. Food intake

c. Physical exercise

d. Mental activity

e. Transition from sleep to wakefulness

843. For the preparation of a patient's burn skin surface a certain medication was used. Its antiseptic action is provided by free oxygen that segregates in presence of organic substances. Choose the right answer:

a. Boric acid

b. Furacilin

c. Chlorhexidine

d. Sodium bicarbonate

e. Potassium permanganate

844. Bacteriological examination of a patient with food poisoning required inoculation of a pure culture of bacteria with the following properties: gram-negative movable bacillus that grows in the Endo medium in form of colourless colonies. A representative of which species caused this disease?

a. *Yersinia*

b. *Salmonella*

c. *Shigella*

d. *Escherichia*

e. *Citrobacter*

845. A lymph node punctate of a patient with suspected protozoal disease was examined.

Examination of the stained specimen (Romanovskys stain) revealed some crescent bodies with pointed end, blue cytoplasm and red nucleus. What protozoan were revealed in the smears?

- a. Viscerotropic leishmania
- b. Malarial plasmodiums
- c. Dermotropic leishmania
- d. Trypanosomes**
- e. Toxoplasms

846. Long-term starvation cure of a patient resulted in diminished ratio of albumines and globulines in plasma. What of the following will be result of these changes?

- a. Hypercoagulation
- b. Increase of ESR
- c. Decrease of hematocrit
- d. Increase of hematocrit
- e. Decrease of ESR**

847. Histological examination of a 40 y.o. mans thymus revealed decreased share of parenchymatous gland elements, increased share of adipose and loose connective tissue, its enrichment with thymus bodies. The organs mass was unchanged. What phenomenon is it?

- a. Age involution**
- b. Atrophy
- c. Hypotrophy
- d. Dystrophy
- e. Accidental involution

848. A patient who suffers from cancer of back of tongue has an intense bleeding as a result of affection of dorsal lingual artery by the tumour. What vessel should be ligated to stop bleeding?

- a. Dorsal lingual artery
- b. Facial artery
- c. Lingual artery**
- d. Ascending pharyngeal artery
- e. Deep lingual artery

849. In course of indirect histogenesis of tubular bone tissue a plate is formed between epiphyseal and diaphyseal ossification centres that provides further lengthwise growth of bones. What structure is it?

- a. Layer of interior general plates
- b. Metaphyseal plate**
- c. Osteon
- d. Osseous plate
- e. Osseous cuff

850. A man with cut wound of his right foot sole was admitted to the hospital ward. The patient has limited elevation of the lateral foot edge. In course of wound management the injury of a muscle tendon was revealed. What muscle is injured?

- a. Short peroneal
- b. Anterior tibial
- c. Triceps muscle of crus
- d. Long extensor muscle of toes
- e. Long peroneal**

851. After resection of the middle third of femoral artery obliterated by a thromb the lower extremity is supplied with blood due to the surgical bypass. Name an artery that plays the main role in reestablishment of blood flow:

- a. Deep femoral artery**
- b. Descending genicular artery
- c. Superficial epigastric artery
- d. Superficial circumflex artery of hip bone

e. Deep external pudendal artery

852. An experimental animal was first sensitized whereupon an antigen dose was introduced subcutaneously. This injection resulted in the development of a fibrinous inflammation with alteration of vessel walls, basal substance and fibrous structures of connective tissue in form of mucoid and fibrinoid swelling and necrosis. What immunological reaction took place?

- a. Reaction of transplantation immunity
- b. Normergic reaction
- c. Immediate hypersensitivity
- d. Granulomatosis

e. Delayed-type hypersensitivity

853. Autopsy of a patient who suffered from croupous pneumonia and died from pneumococcal sepsis revealed 900 ml of turbid greenish-yellow liquid in the right pleural cavity. Pleural leaves are dull, plephoric. Name the clinicopathological form of inflammation in the pleural cavity:

- a. Acute abscess
- b. Fibrinous inflammation
- c. Chronic abscess

d. Empyema

e. Phlegmon

854. A patient was delivered to the hospital by an emergency team. Objectively: grave condition, unconscious, adynamy. Cutaneous surfaces are dry, eyes are sunken, face is cyanotic. There is tachycardia and smell of acetone from the mouth. Analysis results: blood glucose - 20,1 micromole/l (standard is 3,3-5,5 micromole/l), urine glucose - 3,5% (standard is - 0). What is the most probable diagnosis?

- a. Acute heart failure
- b. Hypoglycemic coma

c. Hyperglycemic coma

- d. Anaphylactic shock
- e. Acute alcoholic intoxication

855. A patient has a disturbed absorption of fat hydrolysates. It might have been caused by a deficit in the small intestine cavity:

- a. Of bile pigments
- b. Of lipolytic enzymes
- c. Of liposoluble vitamins

d. Of bile acids

e. Of sodium ions

856. An injured man has bleeding from branches of carotid artery. For a temporary arrest of bleeding it is necessary to press the carotid artery to the tubercle of a cervical vertebra. Which vertebra is it?

- a. IV
- b. II

c. VI

- d. III
- e. V

857. Reaction of passive hemagglutination conducted with erythrocytic typhoid Vidiagnosticum helped to reveal some antibodies in the dilution of the patients serum at a ratio of 1:80 that exceeds the diagnostic titer. Such result witnesses of:

- a. Typhoid fever recurrence
- b. Incubation period of typhoid fever
- c. Reconvalence of a patient ill with typhoid fever

d. Being a potential carrier of typhoid bacilli

e. Being ill with acute typhoid fever

858. A patient with clinical presentations of immunodeficiency went through immunological

examinations. They revealed significant loss of cells that form rosettes with erythrocytes of a ram. What conclusion can be made according to the analysis data?

- a. Decrease of complement system rate
- b. Decrease of T-lymphocytes rate**
- c. Insufficiency of effector cells of humoral immunity
- d. Decrease of natural killer cell rate
- e. Decrease of B-lymphocytes rate

859. Examination of a 60 y.o. patient revealed hyperglycemia and glucosuria. A doctor administered him a medication for internal use. What medication is it?

- a. Glibenclamid**
- b. Corglycon
- c. Pancreatine
- d. Furosemide
- e. Oxytocin

860. In order to estimate toxigenity of diphtheria agents obtained from patients the cultures were inoculated on Petri dish with nutrient agar on either side of a filter paper strip that was put into the centre and moistened with antidiphtheric antitoxic serum. After incubation of inoculations in agar the strip-like areas of medium turbidity were found between separate cultures and the strip of filter paper. What immunological reaction was conducted?

- a. Opsonization reaction
- b. Agglutination reaction
- c. Rings precipitation reaction
- d. Precipitation gel reaction**
- e. Coombs test

861. A woman with III (B), Rh blood group born a child with II (A) blood group. The child is diagnosed with hemolytic disease of newborn as a result of rhesus incompatibility. What blood group is the child's father likely to have?

- a. I (O), Rh-
- b. II (A), Rh-
- c. I (O), Rh+
- d. III (B), Rh+
- e. II (A), Rh+**

862. A 12 y.o. boy who suffers from bronchial asthma has an acute attack of asthma: evident expiratory dyspnea, skin pallor. What type of alveolar ventilation disturbance is it?

- a. Restrictive
- b. Obstructive**
- c. Neuromuscular
- d. Central
- e. Thoracodiaphragmatic

863. A patient diagnosed with carcinoid of bowels was admitted to the hospital. Analysis revealed high production of serotonin. It is known that this substance is formed of tryptophane amino acid. What biochemical mechanism underlies this process?

- a. Transamination
- b. Decarboxylation**
- c. Formation of paired compounds
- d. Microsomal oxydation
- e. Desamination

864. Examination of a patient revealed an abscess of pterygopalatine fossa. Where can the infection spread to unless the disease is managed in time?

- a. To the frontal sinus
- b. To the interpterygoid space**
- c. To the subgaleal temporal space

- d. To the orbit
- e. To the tympanic cavity

865. Examination of a man established that cardiac output equaled 3500 ml, systolic output - 50 ml. What is the mans heart rate pro minute?

- a. 90
- b. 70**
- c. 50
- d. 60
- e. 80

866. A 40 y.o. patient complains of intensive heartbeats, sweating, nausea, vision impairment, arm tremor, hypertension. From his anamnesis: 2 years ago he was diagnosed with pheochromocytoma. Hyperproduction of what hormones causes the given pathology?

- a. Glucocorticoids
- b. Catecholamines**
- c. Thyroid hormones
- d. ACTH
- e. Aldosterone

867. Mucous membrane of the right palatine tonsil has a painless ulcer with smooth lacquer fundus and regular cartilagenous edges. Microscopically: inflammatory infiltration that consists of lymphocytes, plasmocytes, a small number of neutrophils and epithelioid cells; endovasculitis and perivasculitis. What disease is it?

- a. Actinomycosis
- b. Ulcerous necrotic Vincents angina
- c. Tuberculosis
- d. Syphilis**
- e. Pharyngeal diphtheria

868. For trie purpose of retrrospective diagnostics of recent bacterial dysentery it was decided to perform serological examination of blood serum in order to determine antibody titer towards Shiga bacilli. What of the following reactions should be applied?

- a. Passive hemagglutination**
- b. Hemolysis
- c. Bacteriolysis
- d. Precipitation
- e. Bordet-Gengou test

869. Autopsy of a 48 y.o. man revealed a round formation 5 cm in diameter with clear-cut outlines in the region of the 1st segment of his right lung. This formation was encircled with a thin layer of connective tissue full of white brittle masses. Make a diagnosis of the secondary tuberculosis form:

- a. Fibrous cavernous tuberculosis**
- b. Acute focal tuberculosis
- c. Acute cavernous tuberculosis
- d. Caseous pneumonia
- e. Tuberculoma

870. A mans intrapleural pressure is being measured. In what phase did the man hold his breath, if his pressure is 7,5 cm Hg?

- a. Forced expiration
- b. -
- c. Forced inspiration
- d. Quiet expiration**
- e. Quiet inspiration

871. In the surgical department of a hospital there was an outbreak of hospital infection that showed itself in often postoperative wound abscesses. Bacteriological examination of pus revealed

aurococcus. What examination shall be conducted to find out the source of this causative agent among the department personnel?

- a. Biochemical identification
- b. Estimation of antibiotic susceptibility
- c. Serological identification
- d. Microscopical examination
- e. Phagotyping**

872. Heart rate of a man permanently equals 40 beats per minute. What is the pacemaker?

- a. His bundle
- b. His bundle branches
- c. Sinoatrial node
- d. Atrioventricular node**
- e. Purkinje fibers

873. A 4 y.o. boy has had recently serious viral hepatitis. Now there are such clinical presentations as vomiting, loss of consciousness, convulsions. Blood analysis revealed hyperammonemia. Disturbance of which biochemical process caused such pathological condition of the patient?

- a. Increased putrefaction of proteins in bowels
- b. Inhibition of transamination enzymes
- c. Disturbed neutralization of ammonia in liver**
- d. Activation of amino acid decarboxylation
- e. Disturbed neutralization of biogenic amines

874. An experimental rat with extremity paralysis has no tendon and cutaneous reflexes, muscle tone is decreased, but muscles of the affected extremity maintain their ability to react with excitation to the direct action of continuous current. What type of paralysis is it?

- a. Spastic peripheral
- b. Extrapyramidal
- c. Flaccid peripheral
- d. Flaccid central**
- e. Spastic central

875. Autopsy of a 58 y.o. man revealed that bicuspid valve was deformed, thickened and unclosed. Microscopically: foci of collagen fibrilla are eosinophilic, react positively to fibrin. The most probable is:

- a. Muroid swelling
- b. Amyloidosis
- c. Fibrinous inflammation
- d. Hyalinosis
- e. Fibrinoid swelling**

876. In course of an operation surgeon removed a part of a lung that was ventilated by a tertiary bronchus accompanied by branches of pulmonary artery and other vessels. What part of a lung was removed?

- a. Inferior lobe
- b. Pulmonary lobule
- c. Middle lobe
- d. Superior lobe
- e. Bronchopulmonary segment**

877. Vitamin A deficit results in the impairment of twilight vision. Name the cells that have the above-mentioned photoreceptor function:

- a. Bipolar neurons
- b. Rod receptor cell**
- c. Cone receptor cells
- d. Ganglion neurocytes
- e. Horizontal neurocytes

878. Microscopical examination of a removed appendix revealed an edema, diffuse neutrophilic infiltration of appendix wall along with necrosis and defect of mucous membrane with affection of its muscle plate. What appendicitis form was developed?

- a. Gangrenous
- b. Apostematous
- c. Superficial
- d. Phlegmonous**
- e. Ulcerophlegmonous

879. Introduction of a pharmaceutical substance to an experimental animal resulted in reduction of salivation, pupil mydriasis. Next intravenous introduction of acetylcholine didn't lead to any significant changes of heart rate. Name this substance:

- a. Adrenaline
- b. Salbutamol
- c. Proserin
- d. Propranolol
- e. Atropine**

880. Examination of a 43 y.o. anephric patient revealed anemia symptoms. What is the cause of these symptoms?

- a. Enhanced destruction of erythrocytes
- b. Reduced synthesis of erythropoietins**
- c. Iron deficit
- d. Folic acid deficit
- e. Vitamin B12 deficit

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

- a. Cryptorchism
- b. Monorchism
- c. Hermaphroditism
- d. Hypospadia**
- e. Epispadia

882. A patient ill with collagenosis has been taking prednisolone for a long time. Hypokalemia development caused spastic pain of skeletal muscles. What medication should be used in order to correct potassium exchange?

- a. Diazepam
- b. Noshpa
- c. Dithylinum
- d. Thyrocalcitonin
- e. Panangin**

883. From pharynx of a child with suspected diphtheria a pure culture of microorganisms was isolated. Their morphological, tinctorial, cultural and biochemical properties appeared to be typical for diphtheria causative agents. What study should be conducted in order to draw a conclusion that this is a pathogenic diphtheria bacillus?

- a. Estimation of urease activity
- b. Estimation of proteolytic properties
- c. Estimation of toxigenic properties**
- d. Estimation of cystinase activity
- e. Estimation of ability to decompose starch

884. A man was admitted to the hospital on the 5th day of disease that manifested itself by jaundice, muscle aching, chill, nose bleedings. In course of laboratory diagnostics a bacteriologist performed dark-field microscopy of the patient's blood drop. Name a causative agent of this disease:

- a. Bartonella bacilloformis
- b. Rickettsia mooseri

c. *Borrelia dutlonii*

d. *Leptospira interrogans*

e. *Calymmatobacterium granulomatis*

885. Nappies of a newborn have dark spots that witness of formation of homogentisic acid. Metabolic imbalance of which substance is it connected with?

a. Tyrosine

b. Galactose

c. Cholesterol

d. Tryptophan

e. Methionine

886. 12 hours after an acute attack of retrosternal pain a patient presented a jump of aspartate aminotransferase activity in blood serum. What pathology is this deviation typical for?

a. Myocardium infarction

b. Diabetes mellitus

c. Diabetes insipidus

d. Collagenosis

e. Viral hepatitis

887. A peripheral segment of vagus nerve on a dog's neck was being stimulated in course of an experiment. The following changes of cardiac activity could be meanwhile observed:

a. Heart rate fall

b. Enhancement of atrioventricular conduction

c. Increased excitability of myocardium

d. Heart hurry

e. Heart rate and heart force amplification

888. A 39 y.o. woman went through an operation in course of which surgeons removed her uterine tube that was enlarged and a part of an ovary with a big cyst. Histological examination of a tube wall revealed decidual cells, chorion villi. What was the most probable diagnosis made after examination of the uterine tube?

a. Tubal pregnancy

b. Papillary fetus

c. Choriocarcinoma

d. Lithopedion

e. Placental polyp

889. A forensic medical expert examines the body of a 58 y.o. man who had been consuming large amounts of alcohol for a long time and died at home. Microscopically: the right lung is dense and enlarged, its incision revealed that the tissue is greyish and homogenous, pleura is covered with greyish layers. Microscopically - alveolar cavities contain fibrin, hemolyzed erythrocytes. Make a diagnosis:

a. Focal pneumonia

b. Interstitial pneumonia

c. Primary pulmonary tuberculosis

d. Croupous pneumonia

e. Caseous pneumonia

890. A 40 y.o. woman was admitted to the infectious diseases department with high body temperature. Objectively: evident meningeal symptoms. A spinal cord puncture was made. What anatomic formation was punctured?

a. Cisterna cerebellomedullaris posterior

b. Spatium epidurale

c. Cavum trigeminale

d. Spatium subarachnoideum

e. Spatium subdurale

891. A patient with II stage hypertension has been taking one of hypotensive medications for the purpose of treatment. After a time arterial pressure decreased, but the patient started complaining of flaccidity, sleepiness, indifference. A bit later he felt stomach pain. He was diagnosed with ulcer. What hypotensive medication has the patient been taking?

- a. Captopril
- b. Furosemide
- c. Verapamil
- d. Reserpine**
- e. Dibazole

892. A patient had to go through an operation. Doctors introduced him dithylinum (listenone) and performed intubation. After the end of operation and cessation of anesthesia the independent respiration wasn't restored. Which enzyme deficit prolongs the action of muscle relaxant?

- a. K-iVa-adenosine triphosphatase
- b. Succinate dehydrogenase
- c. Carbanhydrase
- d. Pseudocholinesterase**
- e. iV-acetyltransferase

893. Ammonia is a very toxic substance, especially for nervous system. What substance takes the most active part in ammonia detoxication in brain tissues?

- a. Alanine
- b. Histidine
- c. Lysine
- d. Glutamic acid**
- e. Proline

894. A child's blood presents high content of galactose, glucose concentration is low. There are such presentations as cataract, mental deficiency, adipose degeneration of liver. What disease is it?

- a. Fructosemia
- b. Galactosemia**
- c. Lactosemia
- d. Steroid diabetes
- e. Diabetes mellitus

895. In course of an experiment a big number of column cells of red bone marrow was in some way destructed. Regeneration of which cell populations in the loose connective tissue will be inhibited?

- a. Of pigment cells
- b. Of lipocytes
- c. Of fibroblasts
- d. Of pericytes
- e. Of macrophages**

896. 6 months after delivery a woman had uterine bleeding. Gynecological examination revealed in the uterine cavity a dark-red tissue with multiple cavities that resembled of "sponge". Microscopic examination of the tumour revealed some atypical light epithelial Langhans cells and giant cells of syncytiotrophoblast in blood lacunas. What tumour is it?

- a. Vesicular mole
- b. Adenocarcinoma
- c. Squamous cell nonkeratinous carcinoma
- d. Chorionepithelioma**
- e. Fibromyoma

897. A 50 y.o. patient with chronic cardiac insufficiency and tachyarrhythmia was prescribed a cardiotonic drug. What drug was prescribed?

- a. Dopamine
- b. Digoxin**
- c. Mildronate

- d. Dobutamine
- e. Amyodarone

898. A young man consulted a doctor about disturbed urination. Examination of his external genitals revealed that urethra is split on top and urine runs out of this opening. What anomaly of external genitals development is the case?

- a. Hypospadias
- b. Paraphimosis
- c. Epispadia
- d. Hermaphroditism
- e. Phimosis

899. Violation of safety rules resulted in calomel intoxication. Two days later the daily diuresis was 620 ml. A patient experienced headache, vomiting, convulsions, dyspnea, moist rales in lungs. What pathology is it?

- a. Uraemic coma
- b. Chronic renal insufficiency
- c. Acute renal insufficiency
- d. Pyelonephritis
- e. Glomerulonephritis

900. A patient has a transverse disruption of spinal cord below the IV thoracic segment. What changes of respiration will it cause?

- a. Respiration will become more frequent
- b. Respiration will become less frequent
- c. Respiration will become deeper
- d. Respiration will stay unchanged
- e. Respiration will stop

901. A patient with a stab wound of the anterior stomach wall is in surgical care. What formation of abdominal cavity did the stomach contents get into?

- a. Hepatic bursa
- b. Right mesenteric sinus
- c. Antegastric bursa
- d. Omental bursa
- e. Left mesenteric sinus

902. A patient with infectious mononucleosis has been taking glucocorticoids for two weeks. He was brought into remission, but he fell ill with acute attack of chronic tonsillitis. What action of glucocorticoids caused this complication?

- a. Antishock
- b. Antitoxic
- c. Anti-inflammatory
- d. Antiallergic
- e. Immunosuppressive

903. Removal of gall bladder of a patient has disturbed processes of Ca absorption through the intestinal wall. What vitamin will stimulate this process?

- a. B12
- b. K
- c. PP
- d. C
- e. D3

904. A 9 m.o. child has delayed dentition, it is also out of order. Upper jaw configuration is horizontal ("high" palate); microscopically - irregular mineralization of tooth enamel, wrinkled enamel prisms, some of them are vacuolized. Predentin zone is extended; there are solitary denticles. What disease is it?

- a. Late rickets
- b. Gout
- c. Osteomalacia
- d. Early rickets**
- e. Hypervitaminosis D

905. Examination of a patient revealed a strong, balanced, inert type of higher nervous activity according to Pavlov. What temperament type does the patient have (according to Hippocrates classification)?

- a. Melancholic
- b. Choleric
- c. Phlegmatic**
- d. Sanguine
- e.

906. A patient suffers from hepatic cirrhosis. Examination of which of the following substances excreted by urine can characterize the state of antitoxic function of liver?

- a. Aminoacids
- b. Ammonium salts
- c. Hippuric acid**
- d. Kreatinine
- e. Uric acid

907. Examination of a child revealed some whitish spots looking like coagulated milk on the mucous membrane of his cheeks and tongue. Analysis of smears revealed grampositive oval yeast-like cells. What causative agents are they?

- a. Diphtheria bacillus
- b. Candida**
- c. Staphylococci
- d. Actinomyces
- e. Fusobacteria

908. A patient's knee joint doesn't extend, there is no knee-jerk reflex, skin sensitivity of the anterior femoral surface is disturbed. What nerve structures are damaged?

- a. Obturator nerve
- b. Femoral nerve**
- c. Big fibular nerve
- d. Superior gluteal nerve
- e. Inferior gluteal nerve

909. A patient has pain, edema and reddening of his skin in the anterosuperior area of his thigh and his foot's thumb. What lymph nodes of his lower extremity responded to the inflammatory process?

- a. Superficial longitudinal
- b. Deep inguinal
- c. Superficial inguinal**
- d. Internal longitudinal
- e. General longitudinal

910. Examination of a 43 y.o. patient revealed that his stomach has difficulties with digestion of protein food. Gastric juice analysis revealed low acidity. Function of which gastric cells is disturbed in this case?

- a. Parietal exocrinocytes**
- b. Mucous cells (mucocytes)
- c. Cervical mucocytes
- d. Endocrinous cells
- e. Main exocrinocytes

911. The permeability of the irritable cell membrane has been increased for potassium ions during an

experiment. What changes of membrane electric status can occur?

- a. Action potential
- b. Local response
- c. Depolarization
- d. Hyperpolarization**
- e. No changes

912. An ovary specimen stained by hematoxylin-eosin presents a follicle, where cells of follicular epithelium are placed in 1-2 layers and have cubic form, there is a bright-red membrane around the ovocyte. What follicle is it?

- a. Mature
- b. Primary**
- c. Atretic
- d. Secondary
- e. Primordial

913. Utilization of arachidonic acid via cyclooxygenase pathway results in formation of some bioactive substances. Name them:

- a. Somatomedins
- b. Thyroxine
- c. Biogenic amines
- d. Insulin-like growth factors
- e. Prostaglandins**

914. A woman has been applying a new cosmetic preparation for a week that resulted in eye-lid inflammation accompanied by hyperemia, infiltration and painfulness. What type of allergic reaction was developed?

- a. III
- b. IV
- c. I**
- d. V
- e. II

915. A doctor administered a patient with allergic dermatitis a i/i-histamine blocker as a part of complex treatment. Name this medication:

- a. Cromolyn sodium
- b. Prednisolone
- c. Loratadine**
- d. Hydrocortisone
- e. Adrenaline

916. A 1 y.o. child with symptoms of muscle affection was admitted to the hospital. Examination revealed carnitine deficit in muscles. Biochemical base of this pathology is disturbed process of:

- a. Transporting of fatty acids to mitochondrions**
- b. Actin and myosin synthesis
- c. Substrate phosphorylation
- d. Regulation of Ca^{2+} rate in mitochondrions
- e. Lactic acid utilization

917. A 30 y.o. woman- had been ill for a year when she felt pain in the area of joints for the first time, they got swollen and skin above them became reddened. Provisional diagnosis is rheumatoid arthritis. One of the most probable causes of this disease is a structure alteration of a connective tissue protein:

- a. Mucin
- b. Myosin
- c. Troponin
- d. Ovoalbumin
- e. Collagen**

918. A 56 y.o. patient has been suffering from thyreotoxicosis for a long time. What type of hypoxia can be developed?

- a. Mixed
- b. Tissue**
- c. Circulatory
- d. Hemic
- e. Respiratory

919. A 48 y.o. patient was admitted to the hospital with complaints about weakness, irritability, sleep disturbance. Objectively: skin and scleras are yellow. In blood: conjugated bilirubin, cholemia. Feces are acholic. Urine is of dark colour (bilirubin). What jaundice is it?

- a. Parenchymatous
- b. Gilberts syndrome
- c. Crigler-Najjar syndrome
- d. Hemolytic
- e. Mechanic**

920. A lightly dressed man is standing in a room, air temperature is +14°C, windows and doors are closed. In what way does he emit heat the most actively?

- a. Convection
- b. Evaporation
- c. Perspiration
- d. Heat conduction
- e. Heat radiation**

921. A patient complains of pain in the area of his liver. Duodenal intubation revealed yellowish, oval, narrowed at the poles eggs with an operculum at the end. Size of these eggs is the smallest among all helminth eggs. What is the most probable diagnosis?

- a. Echinococcosis
- b. Teniasis
- c. Beef tapeworm infection
- d. Diphyllbothriasis
- e. Opisthorchosis**

922. A patient who suffers from severe disorder of water-salt metabolism experienced cardiac arrest in diastole. What is the most probable mechanism of cardiac arrest in diastole?

- a. Hyperkalemia**
- b. Hyponatremia
- c. Organism dehydration
- d. Hypokalemia
- e. Hypernatremia

923. A 36 y.o. man has a craniocerebral trauma. Objectively: diminished breath sounds, thready pulse, no reflexes. What way of pyracetam introduction will be the most appropriate in this case?

- a. Subcutaneous
- b. Rectal
- c. Peroral
- d. Intravenous**
- e. Inhalation

924. Short-term physical activity resulted in reflex amplification of heart rate and raise of systemic arterial pressure. What receptors activation was the main cause of pressor reflex realization?

- a. Vascular chemoreceptors
- b. Hypothalamus thermoreceptors
- c. Vascular baroreceptors
- d. Proprioceptors of active muscles**
- e. Vascular volume receptors

925. A patient with neuritis of femoral nerve has disturbed flexion of thigh as well as disturbed crus extension in the knee joint. What muscles function is disturbed?

a. Quadriceps muscle of thigh

- b. Triceps muscle of thigh
- c. Semimembranous muscle
- d. Biceps muscle of thigh
- e. Semitendinous muscle

926. A 55 y.o. woman consulted a doctor about having continuous cyclic uterine hemorrhages for a year, weakness, dizziness. Examination revealed skin pallor. Hemogram: Hb- 70 g/l, erythrocytes $3,2 \times 10^{12}/l$, color index - 0,6, leukocytes $6,0 \times 10^9/l$, reticulocytes - 1%; erythrocyte hypochromia. What anemia is it?

- a. Iron-deficiency anemia
- b. Aplastic anemia
- c. Hemolytic anemia
- d. B12-folate-deficiency anemia

e. Chronic posthemorrhagic anemia

927. As a result of exhausting muscular work a worker has largely reduced buffer capacity of blood. What acidic substance that came to blood caused this phenomenon?

- a. 3-phosphoglycerate
- b. Pyruvate
- c. -
- d. 1,3-bisphosphoglycerate

e. Lactate

928. Bacteriological laboratory examines canned meat whether it contains botulinum toxin. For this purpose an extract of test specimen and antitoxic antitoxin serum of A, B, E types were introduced to a group of mice under examination; a control group of mice got the extract without antitoxin serum. What serological reaction was applied?

- a. Precipitation
- b. Opsonophagocytic
- c. Double immune diffusion

d. Neutralization

e. Complement binding

929. Parents of a 10 y.o. boy consulted a doctor about extension of hair-covering, growth of beard and moustache, low voice. Intensified secretion of which hormone must be assumed?

- a. Of somatotropin
- b. Of oestrogen
- c. Of progesterone

d. Of testosterone

e. Of cortisol

930. A 60 y.o. patient has a reduced perception of high-frequency sounds. What structures disorder of auditory analyzer caused these changes?

a. Main membrane of cochlea near the oval window

- b. Muscles of middle ear
- c. Tympanic membrane
- d. Eustachian tube
- e. Main membrane of cochlea near helicotrema

931. In course of an experiment a skeletal muscle is being stimulated by a series of electric impulses. What type of muscle contraction will arise, if every subsequent impulse comes in the period of relaxation of single muscle contraction?

- a. Holotetanus
- b. Asynchronous tetanus
- c. Muscle contracture

d. A series of single contractions

e. Partial tetanus

932. A liquidator of a breakdown at a nuclear power plant who was irradiated complained about vomiting that occurs all of a sudden. What medication should be prescribed?

a. Atropine

b. Metoclopramide

c. Reserpine

d. Aeron

e. De-Nol

933. A patient got a craniocerebral trauma that resulted in right-side convergent strabismus. Damage of which craniocerebral nerve caused such consequences?

a. n.trigeminus

b. n.facialis

c. n.abducens

d. n.aculomotorius

e. n.trochlearis

934. A patient ill with bronchial asthma didnt inform his doctor that he had attacks of stenocardia. Doctor administered him a medication, which taking resulted in less frequent attacks of bronchial asthma, but stenocardia attacks became more frequent. What medication was administered?

a. Cromolyn sodium

b. Aminophylline

c. Phenotherol

d. Isadrin

e. Salbutamol

935. Autopsy of a man who died from influenza revealed that his heart was slightly enlarged, pastous, myocardium was dull and had specks. Microscopical examination of myocardium revealed signs of parenchymatous adipose and hydropic dystrophy; stroma was edematic with poor macrophagal and lymphocytic infiltration, vessels were plethoric; perivascular analysis revealed petechial hemorrhages. What type of myocarditis was developed in this case?

a. Serous diffuse

b. Purulent

c. Serous focal

d. Interstitial proliferative

e. Granulomatous

936. In course of practical training students studied a stained blood smear of a mouse with bacteria phagocytied by leukocytes. What cell organella completes digestion of these bacteria?

a. Mytochondrions

b. Golgi apparatus

c. Granular endoplasmic reticulum

d. Lisosomes

e. Ribosomes

937. A 22 y.o. woman has enlarged lymph nodes. Histologically: a lymph node contains lymphocytes, histiocytes, reticular cells, small and big Hodgkins cells, multinucleated Sternberg cells, isolated foci of caseous necrosis. What disease are thesechanges typical for?

a. Lymphogranulomatosis

b. Chronic leukosis

c. Lymphosarcoma

d. Acute leukosis

e. Lung cancer metastasis

938. A 49 y.o. woman consulted a doctor about heightened fatigue and dyspnea during physical activity. ECG: heart rate is 50/min, PQ is extended, QRS is unchanged, P wave quanity exceeds

quantity of QRS complexes. What type of arrhythmia does the patient have?

- a. Sinoatrial block
- b. Extrasystole
- c. Atrioventricular block**
- d. Sinus bradycardia
- e. Ciliary arrhythmia

939. A patient who suffers from pneumonia has high body temperature. What biologically active substance plays the leading part in origin of this phenomenon?

- a. Histamine
- b. Serotonin
- c. Bradykinin
- d. Leukotrienes
- e. Interleukin-I**

940. A teenager was irradiated with high radiation dose that resulted in serious damages of lymphoid system, lysis of many lymphocytes. Restoration of normal hemogram is possible due to the functioning of the following gland:

- a. Thymus**
- b. Adrenal
- c. Pancreas
- d. Liver
- e. Thyroid

941. In course of histidine catabolism a biogenic amin is formed that has powerful vasodilatating effect. Name it:

- a. Dopamine
- b. Noradrenalin
- c. Serotonin
- d. Histamine**
- e. Dioxypheylalanine

942. According to audiometry data a patient has a disturbed perception of mediumfrequency sounds. It might have been caused by a damage of:

- a. Middle part of helix**
- b. Quadritubercular structure
- c. Spiral ganglion
- d. Lateral geniculate bodies
- e. Cochlear nuclei

943. A patient with fracture of his lower jaw was admitted to the maxillofacial department. It was decided to fix his bones surgically under anaesthetic. After intravenous introduction of muscle relaxant there arose short fibrillar contractions of the patients facial muscles. What muscle relaxant was applied?

- a. Pipecuronium bromide
- b. Melictine
- c. Tubocurarin chloride
- d. Dithylinum**
- e. Diazepam

944. Analysis of blood serum of a patient revealed increase of alanine aminotransferase and aspartate aminotransferase level. What cytological changes can cause such a situation?

- a. Disturbance of genetic apparatus of cells
- b. Disturbed function of energy supply of cells
- c. Disturbance of cellular interrelations
- d. Cellular breakdown
- e. Disorder of enzyme systems of cells**

945. A 63 y.o. man fell ill with acute tracheitis and bronchitis accompanied by bronchial pneumonia. On the 10th day the patient died from cardiopulmonary insufficiency. Autopsy revealed fibrinous hemorrhagic laryngotracheobronchitis; lungs were enlarged, their incision revealed the "coalminers" effect caused by interlacing of sections of bronchial pneumonia, hemorrhages into the pulmonary parenchyma, acute abscesses and atelectases. Internal organs have discirculatory and dystrophic changes. What is the most probable diagnosis?

- a. Respiratory syncytial infection
- b. Influenza, severe form**
- c. Adenoviral infection
- d. Moderately severe influenza
- e. Parainfluenza

946. As a result of spinal-cord trauma a 33 y.o. man has a disturbed pain and temperature sensitivity that is caused by damage of the following tract:

- a. Posterior spinocerebellar
- b. Lateral spinocortical
- c. Medial spinocortical
- d. Anterior spinocerebellar
- e. Spinothalamic**

947. A patient who suffers from heart failure has enlarged liver, edemata of lower extremities, ascites. What is the leading mechanism in the development of this edema?

- a. Colloid osmotic
- b. Hydrodynamic**
- c. -
- d. Membranogenic
- e. Lymphogenous

948. A rabbit's nerve that innervates the right ear was cut and its right superior cervical ganglion was removed. Immediately after operation the temperature of ear skin was measured. It was revealed that the temperature of the rabbit's ear skin on the side of denervation was by 1,5°C higher than on the opposite intact side. What of the following is the most probable explanation of the above-mentioned effects?

- a. Arterial hyperemia induced by metabolic factors
- b. Reactive arterial hyperemia
- c. Physiological arterial hyperemia
- d. Arterial neuroparalytic hyperemia**
- e. Arterial neurotopical hyperemia

949. Inflammation of a patient's eye was accompanied by accumulation of turbid liquid with high protein at the bottom of anterior chamber that was called hypopyon. What process underlies the changes under observation?

- a. Secondary alteration**
- b. Proliferation
- c. Disturbance of microcirculation
- d. -
- e. Primary alteration

950. A patient was ill with burn disease that was complicated by DIC syndrome. What stage of DIC syndrome can be suspected if it is known that the patient's blood coagulates in less than 3 minutes?

- a. Hypercoagulation**
- b. Transition phase
- c. Fibrinolysis
- d. Hypocoagulation
- e. Terminal

951. An experimental animal has been given excessive amount of carbon-labeled glucose for a week. What compound can the label be found in?

a. Palmitic acid

- b. Arachidonic acid
- c. Vitamin A
- d. Choline
- e. Methionine

952. A patient complains of dryness of head skin, itching, fragility and loss of hair. After examination he was diagnosed with seborrhea. Disturbed activity of which cells caused this condition?

a. Epithelial cells

b. Cells of sebaceous glands

- c. Melanocytes
- d. Cells of sudoriferous glands
- e. Adipocytes

953. A patient who had been working hard under conditions of elevated temperature of the environment, has now a changed quantity of blood plasma proteins. What phenomenon is the case?

a. Absolute hypoproteinemia

b. Paraproteinemia

- c. Disproteinemia
- d. Absolute hyperproteinemia
- e. Relative hyperproteinemia

954. Examination of a patient revealed extremely myotic pupils, sleepiness, infrequent Chain-Stokes respiration, urinary retention, slowing-down of heart rate, enhancement of spinal reflexes. What substance caused the poisoning?

a. Morphine

- b. Phosphactole
- c. Barbitol
- d. Caffeine
- e. Atropine

955. Examination of a patient with frequent hemorrhages from internals and mucous membranes revealed proline and lysine being a part of collagen fibers. What vitamin absence caused disturbance of their hydroxylation?

a. Thiamine

b. Vitamin C

- c. Vitamin E
- d. Vitamin K
- e. Vitamin A

956. The first grade pupils were examined in order to sort out children for tuberculosis revaccination. What test was applied for this purpose?

- a. Schick test
- b. Burnet test
- c. Anthraxine test

d. Mantoux test

e. Supracutaneous tularin test

957. A patient has extrasystole. ECG shows no P wave, QRS complex is deformed, there is a full compensatory pause. What extrasystoles are these?

a. -

b. Ventricular

- c. Sinus
- d. Atrioventricular
- e. Atrial

958. After intake of rich food a patient feels nausea and sluggishness; with time there appeared signs of steatorrhea. Blood cholesteryl concentration is 9,2 micromole/l. This condition was caused by

lack of:

- a. Fatty acids
- b. Chylomicrons
- c. Triglycerides
- d. Bile acids**
- e. Phospholipids

959. A 27 y.o. patient put eye drops that contain penicillin. After a few minutes she felt itching and burning of her body, there appeared lip and eye-lid edemata; arterial pressure began to drop. What immunoglobulins took part in the development of this allergic reaction?

- a. IgM and IgG
- b. IgA and IgM
- c. IgG and IgD
- d. IgM and IgD
- e. IgE and IgG**

960. A patient suffers from severe postoperative pseudomonadous infection. What of the following antibiotics should be administered in this case?

- a. Benzylpenicillin
- b. Amicacin sulfate**
- c. Doxycycline
- d. Erythromycin
- e. Cephazolin

961. A patient complains of frequent diarrheas, especially after consumption of fattening food, and of body weight loss. Laboratory examination revealed steatorrhea; hypocholic feces. What can be the cause of this condition?

- a. Unbalanced diet
- b. Mucous membrane inflammation of small intestine
- c. Obturation of biliary tracts**
- d. Lack of pancreatic phospholipase
- e. Lack of pancreatic lipase

962. Having helped to eliminate consequences of a failure at a nuclear power plant, a worker got an irradiation dose of 500 roentgen. He complains of headache, nausea, dizziness. What changes in leukocytes quantity can be expected 10 hours after irradiation?

- a. Neutrophilic leukocytosis**
- b. Leukopenia
- c. Lymphocytosis
- d. Leukemia
- e. Agranulocytosis

963. In case of a penetrating wound of the anterior abdominal wall the wound tract went above the lesser curvature of stomach. What peritoneum formation is most likely to be injured?

- a. Ligamentum hepatoduodenale
- b. Ligamentum hepatogastricum**
- c. Ligamentum hepatorenale
- d. Ligamentum triangulate sinistrum
- e. Ligamentum gastrocolicum

964. An electron micrograph of a kidney fragment presents an afferent arteriole. Under its endothelium some big cells can be seen that contain secretory granules. What type of cells is it?

- a. Smooth muscle cells
- b. Juxtavascular
- c. Mesangial
- d. Juxtaglomerular**
- e. Interstitial

965. Arterial pressure of a surgeon who performed a long operation rised upto 140/110 mm Hg. What changes of humoral regulation could have caused the rise of arterial pressure in this case?

- a. Activation of renin angiotensive system
- b. Activation of formation and excretion of aldosterone
- c. Activation of kallikrein kinin system
- d. Activation of sympathoadrenal system**
- e. Inhibition of sympathoadrenal system

966. A patient with chronic cardiac insufficiency has been treated with cardiotonic drugs and a thiazide diuretic, but in spite of it there are still edemata and risk of ascites. What medication should be prescribed to amplify diuretic effect of the applied drugs?

- a. Furosemide
- b. Clopamide
- c. Amyloride
- d. Spironolactone**
- e. Manitole

967. A newborn child with pylorostenosishas often repeating vomiting accompaniedby apathy, weakness, hypertonicity, sometimes convulsions. What disorder form of acid-base balance is it?

- a. Excretory acidosis
- b. Metabolic acidosis
- c. Gaseous alkalosis
- d. Nongaseous alkalosis**
- e. Gaseous acidosis

968. After a 2 y.o. child has had flu, there appeared complaints about ear ache. A doctor revealed hearing impairment and inflammation of the middle ear. How did the infection penetrate into the middle ear?

- a. Through atrium mastoideum
- b. Through the auditory tube**
- c. Through canalis caroticus
- d. Through foramen jugularis
- e. Through canalis nasolacimalis

969. In course of an experiment a skeletal muscle is being stimulated by a series of electric impulses. What type of muscle contraction will arise, if every subsequent impulse comes in the period of shortening of the previous single muscle contraction?

- a. Asynchronous tetanus
- b. Partial tetanus**
- c. A series of single contractions
- d. Holotetanus
- e. Muscle contracture

970. Examination of a miner revealed pulmonary fibrosis accompanied by disturbance of alveolar ventilation. What is the main mechanism of this disturbance?

- a. Constriction of superior respiratory tracts
- b. Disturbance of neural respiration control
- c. Limitation of breast mobility
- d. Limitation of respiratory surface of lungs**
- e. Bronchi spasm

971. A patient has symptoms of inflammation of urogenital tracts. Examination of a vaginal smear revealed big monocellular, pear-shaped organisms with the pointed spike at the posterior end of body, big nucleusand undulating membrane. What protozoawere found in the smear?

- a. Trichomonas buccalis
- b. Lamblia intestinalis
- c. Trypanosoma gambiense
- d. Trichomonas hominis

e. Trichomonas vaginalis

972. A child is languid, apathetic. Liver is enlarged and liver biopsy revealed a significant excess of glycogene. Glucose concentration in the blood stream is below normal. What is the cause of low glucose concentration?

a. Low (absent) activity of glycogene phosphorylase in liver

b. Low (absent) activity of glucose 6phosphatase

c. Low (absent) activity of hexokinase

d. Deficit of a gene that is responsible for synthesis of glucose 1-phosphaturidine transferase

e. High activity of glycogen synthetase

973. A man who went for a ride on a roundabout had amplification of heart rate, sweating and nausea. What receptors stimulation is it primarily connected with?

a. Tactors

b. Vestibular

c. Visual

d. Proprioceptors

e. Auditory

974. Two days after consumption of smoked pork a patient got face and eyelid edemata, gastrointestinal disturbances, abrupt temperature rise, muscle pain. Blood analysis showed full-blown eosinophilia. What helminth could the patient be infected with?

a. Whipworm

b. Pinworm

c. Trichina

d. Hookworm

e. Ascarid

975. Examination of a patient revealed hyperkalemia and hyponatremia. Low secretion of which hormone may cause such changes?

a. Aldosteron

b. Parathormone

c. Vasopressin

d. Cortisol

e. Natriuretic

976. After a tooth extraction a patient felt persistent pain behind his breast bone. After sublingual intake of an antianginal drug the pain behind the breast bone disappeared, but the patient complained of headache and dizziness. What drug are these properties typical for?

a. Verapamil

b. Validol

c. Nitroglycerin

d. Metoprolol

e. Propranolol

977. A 63 y.o. man with collapse symptoms was delivered to the emergency hospital. A doctor chose noradrenaline in order to prevent hypotension. What is the action mechanism of this medication?

a. Activation of β -adrenoreceptors

b. Activation of α -adrenoreceptors

c. Block of M-cholinoreceptors

d. Activation of dopamine receptors

e. Activation of serotonin receptors

978. Urine examination of a patient with acute cystitis revealed leukocytes and a lot of gram-negative bacilli. Inoculation resulted in growth of colonies of mucous nature that formed green soluble pigment. What microorganism is the most probable cause of the disease?

a. Pseudomonas aeruginosa

b. Escherihia coli

- c. Klebsiella pneumoniae
- d. Salmonella enteritidis
- e. Proteus mirabilis

979. An isolated cell of human heart automatically generates excitation impulses with frequency 60 times per minute. What heart structure was this cell obtained from?

- a. Ventricle
- b. Atrioventricular node
- c. His bundle
- d. Sinoatrial node**
- e. Atrium

980. A patient died under conditions of cardiovascular insufficiency. Autopsy results: postinfarction cardiosclerosis, myocardium hypertrophy and dilatation of its cavities, especially of its right ventricle. Liver is enlarged, its surface is smooth, incision revealed that it was plethoric, with dark-red specks against the background of brownish tissue. Histologically: plethora of central parts of lobules; peripheral parts around portal tracts contain hepatocytes in a state of adipose degeneration. How are these liver changes called?

- a. Amyloidosis
- b. Nutmeg liver**
- c. Liver steatosis
- d. Liver cirrhosis
- e. Pseudonutmeg liver

981. Autopsy of a newborn boy revealed polydactyly, microcephalia, cheiloschisis and uranoschisis as well as hypertrophy of parenchymatous organs. These defects correspond with the description of Patau syndrome. What is the most probable cause of this pathology?

- a. Trisomy of the 13th chromosome**
- b. Trisomy of the 21st chromosome
- c. Partial monosomy
- d. Nondisjunction of sex chromosomes
- e. Trisomy of the 18th chromosome

982. Glutamate decarboxylation results in formation of inhibitory transmitter in CNS. Name it:

- a. Histamine
- b. Serotonin
- c. GABA**
- d. Glutathione
- e. Asparagine

983. A patient who suffers from acute myocarditis has clinical signs of cardiogenic shock. What of the under-mentioned pathogenetic mechanisms plays the main part in shock development?

- a. Increase of peripheral vascular resistance
- b. Disturbance of pumping ability of heart**
- c. Reduction of diastolic flow to the heart
- d. Depositing of blood in organs
- e. Decrease of vascular tone

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

- a. Potentiation**
- b. Cumulation
- c. Drug dependence
- d. Tolerance
- e. Summation

985. A 23 y.o. patient complains of weakness, temperature rise up to 38 - 40°C. Objectively: liver and

spleen are enlarged. Hemogram: Hb-100 g/l, erythrocytes - $2,9 \times 10^{12}/l$, leukocytes - $4,4 \times 10^9/l$, thrombocytes - $48 \times 10^9/l$, segmentonuclear neutrophils 17%, lymphocytes - 15%, blast cells - 68%. All cytochemical reactions are negative. Make a hematological conclusion:

- a. Acute lymphoblastic leukemia
- b. Undifferentiated leukemia
- c. Acute erythromyelosis**
- d. Chronic myeloleukosis
- e. Acute myeloblastic leukemia

986. Continuous taking of a drug can result in osteoporosis, erosion of stomach mucous membrane, hypokaliemia, retention of sodium and water, reduced content of corticotropin in blood. Name this drug:

- a. Indometacin
- b. Digoxin
- c. Prednisolone**
- d. Reserpine
- e. Hydrochlorothiazide

987. A patient has a haemorrhage into the posterior central gyrus. What type of sensitivity on the opposite side will be disturbed?

- a. Visual
- b. Auditory
- c. Olfactory
- d. Skin and proprioceptive**
- e. Auditory and visual

988. As a result of an accident a patient has intense painfulness and edema of the anterior crus surface; dorsal flexion of foot is hindered. Function of which crus muscle is most likely to be disturbed?

- a. M. tibialis anterior**
- b. M. flexor digitorum longus
- c. M. peroneus brevis
- d. M. flexor hallucis longus
- e. M. peroneus longus

989. A 2 y.o. child has convulsions as a result of lowered concentration of calcium ions in blood plasma. It is caused by reduced function of:

- a. Adrenal cortex
- b. Hypophysis
- c. Thymus
- d. Parathyroid glands**
- e. Pineal gland

990. Histological specimen presents a vessel the wall of which consists of endothelium, basal membrane and loose connective tissue. What type of vessel is it?

- a. Artery
- b. Vein of muscular type**
- c. Lymphocapillary
- d. Hemocapillary
- e. Vein of non-muscular type

991. Examination of a man who hadn't been consuming fats but had been getting enough carbohydrates and proteins for a long time revealed dermatitis, poor wound healing, vision impairment. What is the probable cause of metabolic disorder?

- a. Lack of linoleic acid, vitamins A, D, E, K**
- b. Lack of vitamins PP, H
- c. Lack of oleic acid
- d. Lack of palmitic acid
- e. Low caloric value of diet

992. Analysis of a punction biopsy material of liver revealed hepatocyte dystrophy with necroses as well as sclerosis with disorder of beam and lobulous structure, with formation of pseudolobules and regenerative nodes. What is the most probable diagnosis:

- a. Acute hepatitis
- b. Chronic hepatosis
- c. Chronic hepatitis
- d. Liver cirrhosis**
- e. Progressive massive liver necrosis

993. A 50 y.o. patient was admitted to the hospital with complaints about pain behind his breastbone, asphyxia during physical activity. Angiography revealed pathological changes in the posterior interventricular branch of the right coronary artery. What heart parts are affected?

- a. Right atrioventricular valve
- b. Left atrium
- c. Anterior wall of the right and left ventricles
- d. Posterior wall of the right and left ventricles**
- e. Right atrium

994. A hepatitis outbreak was registered in a settlement. This episode is connected with water factor. What hepatitis virus could have caused the infective outbreak in this settlement?

- a. C**
- b. B
- c. G
- d. D
- e. E

995. Examination of coronary arteries revealed atherosclerotic calcific plaques that close vessel lumen by $\frac{1}{3}$. The muscle has multiple whitish layers of connective tissue. What process was revealed in myocardium?

- a. Diffuse cardiosclerosis**
- b. Tiger heart
- c. Myocarditis
- d. Myocardium infarction
- e. Postinfarction cardiosclerosis

996. Microscopical renal examination of a 36 y.o. woman who died from renal insufficiency revealed in the glomerules proliferation of capsule nephrothelium as well as of podocytes and phagocytes accompanied by formation of "crescents", capillary loop necrosis, fibrinous thrombs in their lumens; sclerosis and hyalinosis of glomerules, atrophy of tubules and fibrosis of renal stroma. What is the most probable diagnosis?

- a. Acute glomerulonephritis
- b. Membranous nephropathy
- c. Subacute glomerulonephritis**
- d. Focal segmentary sclerosis
- e. Chronic glomerulonephritis

997. To prevent postoperative bleeding a 6 y.o. child was administered vicasol that is a synthetic analogue of vitamin K. Name post-translational changes of blood coagulation factors that will be activated by vicasol:

- a. Glycosylation
- b. Carboxylation of glutamin acid**
- c. Polymerization
- d. Phosphorylation of serine radicals
- e. Partial proteolysis

998. According to clinical indications a patient was administered pyridoxal phosphate. What processes is this medication intended to correct?

- a. Desamination of purine nucleotide

b. Oxidative decarboxylation of ketonic acids

c. Transamination and decarboxylation of aminoacids

d. Synthesis of purine and pyrimidine bases

e. Protein synthesis

999. A 62 y.o. woman complains of frequent pains in the area of her chest and backbone, rib fractures. A doctor assumed myelomatosis (plasmocytoma). What of the following laboratory characteristics will be of the greatest diagnostical importance?

a. Hypoglobulinemia

b. Hypoproteinemia

c. Hyperalbuminemia

d. Proteinuria

e. Paraproteinemia

1000. A hypertensive glucose solution was introduced to a patient. It will intensify water movement:

a. There will be no changes of water movement

b. From the capillaries to the intercellular liquid

c. From the intercellular liquid to the capillaries

d. From the intercellular liquid to the cells

e. From the cells to the intercellular liquid

1001. A patient with massive burns developed acute renal insufficiency characterized by a significant and rapid deceleration of glomerular filtration. What is the mechanism of its development?

a. Damage of glomerular filter

b. Reduction of functioning nephron number

c. Renal artery embolism

d. Reduction of renal blood flow

e. Rise of pressure of tubular fluid

1002. Sanitary bacteriological research on water by the membrane filter method revealed two red colonies on a membrane filter (Endo agar) through which 500 ml of analyzed water were passed. Calculate the coli index and coli titer of the analyzed water:

a. 250 and 4

b. 2 and 500

c. 4 and 250

d. 250 and 2

e. 500 and 2

1003. A patient with drug intoxication presented with the dryness of oral mucous membrane and mydriatic pupils. Such action of this drug is associated with the following effect:

a. Muscarinic cholinoreceptor block

b. Nicotinic cholinoreceptor stimulation

c. Muscarinic cholinoreceptor stimulation

d. Adrenoreceptor stimulation

e. Adrenoreceptor block

1004. A patient has been given high doses of hydrocortisone for a long time. This caused atrophy of one of the adrenal cortex zones. Which zone is it?

a. -

b. Glomerular

c. Glomerular and reticular

d. Reticular

e. Fascial

1005. A girl has been diagnosed with adrenogenital syndrome (pseudohermaphroditism). This pathology is caused by hypersecretion of the following adrenal hormone:

a. Glucocorticoids

b. Estrogens

c. Mineralocorticoids

d. Androgens

e. Catecholamines

1006. A 12-year-old adolescent suffering from bronchial asthma has a severe attack of asthma: he presents with marked expiratory dyspnea, skin pallor. What type of alveolar ventilation disorder is observed?

a. Thoracodiaphragmatic

b. Neuromuscular

c. Restrictive

d. Obstructive

e. Central

1007. A patient consulted a physician about muscle rigidity, constrained movements, permanent arm tremor. The patient was diagnosed with Parkinsons disease. What preparation should be administered?

a. Levodopa

b. Phenytoin

c. Ethosuximide

d. Phenobarbital

e. Diazepam

1008. Depressions and emotional insanities result from the deficit of noradrenalin, serotonin and other biogenic amines in the brain. Their concentration in the synapses can be increased by means of the antidepressants that inhibit the following enzyme:

a. Monoamine oxidase

b. D-amino-acid oxidase

c. L-amino-acid oxidase

d. Phenylalanine-4-monooxygenase

e. Diamine oxidase

1009. A man has normal sensitivity of his finger skin, however he doesn't sense his wedding ring around the finger. What process induced by wearing of the ring has caused this phenomenon?

a. Impaired circulation

b. Abnormality of the epidermis structure

c. Receptor adaptation

d. Abnormality of the receptor structure

e. Development of the fibrous tissue

1010. A patient suffering from syphilis has been treated with bismuth preparations. As a result of it some grey spots turned up on the mucous membrane of the oral cavity; nephropathy symptoms were also present. What drug should be used for treatment of bismuth intoxication?

a. Nalorphine

b. Bemegride

c. Unithiol

d. Methylene blue

e. Naloxone

1011. While studying a microslide obtained from the punctuate of a regional lymph node and stained by Romanovsky-Giemsa method a physician revealed some light-pink thin microorganisms with 12-14 regular spiral coils and pointed ends, up to 10-13 micrometer long. This might be the causative agent of the following disease:

a. Relapsing fever

b. Syphilis

c. Leishmaniasis

d. Leptospirosis

e. Trypanosomiasis

1012. Nappies of a newborn have dark spots being the evidence of homogentisic acid formation. This is caused by the metabolic disorder of the following substance:

- a. Cholesterol
- b. Galactose
- c. Tryptophan
- d. Tyrosine**
- e. Methionine

1013. Products of some proteins hydrolysis and modification are the biologically active substances called hormones. Lipotropin, corticotropin, melanotropin and endorphins are synthesized in the hypophysis of the following protein:

- a. Thyreoglobulin
- b. Neuroglobulin
- c. Neurostromin
- d. Neuroalbumin
- e. Proopiomelanocortin (POMC)**

1014. Examination of a patient revealed overgrowth of facial bones and soft tissues, tongue enlargement, wide interdental spaces in the enlarged dental arch. What changes of the hormonal secretion are the most likely?

- a. Hyposecretion of thyroxin
- b. Hypersecretion of insulin
- c. Hypersecretion of the somatotrophic hormone**
- d. Hyposecretion of insulin
- e. Hyposecretion of the somatotrophic hormone

1015. A 58-year-old patient suffers from the cerebral atherosclerosis. Examination revealed hyperlipidemi a. What class of lipoproteins will most probably show increase in concentration in this patient's blood serum?

- a. Chylomicrons
- b. Cholesterol
- c. Fatty acid complexes with albumins
- d. Low-density lipoproteins**
- e. High-density lipoproteins

1016. In patients with the biliary tract obstruction the blood coagulation is inhibited; the patients have frequent haemorrhages caused by the subnormal assimilation of the following vitamin:

- a. E
- b. K**
- c. A
- d. D
- e. C

1017. Vagus nerves of an experimental animal have been cut on the both sides. What respiratory changes will result from this?

- a. Respiration will become deep and frequent
- b. There will be no respiratory changes
- c. Respiration will become shallow and infrequent
- d. Respiration will become deep and infrequent**
- e. Respiration will become shallow and frequent

1018. A 62-year-old female patient has developed a cataract (lenticular opacity) secondary to the diabetes mellitus. What type of protein modification is observed in case of diabetic cataract?

- a. Methylation
- b. Limited proteolysis
- c. ADP-ribosylation
- d. Phosphorylation
- e. Glycosylation**

1019. Study of bacteriological sputum specimens stained by the Ziel-Neelsen method revealed some bright-red acid-resistant bacilli that were found in groups or singularly. When inoculated onto the nutrient media, the signs of their growth show up on the 10-15 day. These bacteria relate to the following family:

- a. Histoplasma dubrosii
- b. Klebsiella rhinoscleromatis
- c. Coxiella burnettii
- d. Micobacterium tuberculosis**
- e. Yersinia pseudotuberculosis

1020. A microspecimen of the submandibular salivary gland shows some basket-shaped cells concentrated around the acines and excretory ducts. These cells surround bases of the serous cells and are called myoepitheliocytes. These cells relate to the following tissue:

- a. Muscular tissue**
- b. Special connective tissue
- c. Loose fibrous connective tissue
- d. Epithelial tissue
- e. Neural tissue

1021. As a result of a road accident a driver has gotten a trauma. Now he is in shock condition and presents with a decrease in daily diuresis down to 300 ml. What is the main pathogenetic factor of such alteration in the diuresis?

- a. Arterial pressure drop**
- b. Decrease in number of the functioning glomerules
- c. Secondary hyperaldosteronism
- d. Oncotic blood pressure drop
- e. Increase in vascular permeability

1022. A patients organism has decreased concentration of magnesium ions that are necessary for attachment of ribosomes to the granular endoplasmatic reticulum. It is known that this causes protein biosynthesis disturbanc e. What stage of protein biosynthesis will be disturbed?

- a. Termination
- b. Translation**
- c. Amino acid activation
- d. Replication
- e. Transcription

1023. A histological specimen presents a receptor zone of a sensoepithelial sense organ. Cells of this zone are placed upon the basal membrane and include the following types: external and internal receptor cells, external and internal phalangeal cell, stem cells, external limiting cells and external supporting cell. The described receptor zone belongs to the following sense organ:

- a. Equilibrium organ
- b. Olfactory organ
- c. Visual organ
- d. Gustatory organ
- e. Acoustic organ**

1024. In a healthy adult speed of the excitement conduction through the atrioventricular node is 0,02-0,05 m/se c. Atrioventricular delay enables:

- a. Simultaneity of both ventricles contractions
- b. Sequence of atrial and ventricular contractions**
- c. Simultaneity of both atria contractions
- d. Sufficient force of ventricular contractions
- e. Sufficient force of atrial contractions

1025. Following exposure to radiation a lot of mutant cells appeared in a patient. Some time later most of them were detected and destroyed by the following cells of the immune system:

- a. T-lymphocytes-supressors**

b. B-lymphocyte

c. T-lymphocytes-killers

d. Plasmoblasts

e. Stem cells

1026. Autopsy of a man who died from sepsis revealed a phlegmonous inflammation in the femoral bone of lower extremity. The inflammation was seen in the bone marrow, haversian canals and periosteum. There were also multiple abscesses underneath the periosteum; the surrounding soft tissues of the thigh were also affected by the phlegmonous inflammation. What pathological process is it?

a. Osteoporosis

b. Chronic haematogenous osteomyelitis

c. Osteopetrosis

d. Acute haematogenous osteomyelitis

e. -

1027. While determining power inputs of a patient's organism it was established that the respiratory coefficient equaled 1,0. This means that in the cells of the patient the following substances are mainly oxidized:

a. Fats

b. Proteins and carbohydrates

c. Proteins

d. Carbohydrates and fats

e. Carbohydrates

1028. After a serious psycho-emotional stress a 45-year-old patient suddenly felt constricting heart pain irradiating to the left arm, neck and left scapul a. His face turned pale, the cold sweat stood out on it. The pain attack was stopped with nitroglycerin e. What process has developed in this patient?

a. Psychogenic shock

b. Myocardial infarction

c. Stenocardia

d. Stroke

e. Stomach ulcer perforation

1029. During an experiment the myotatic reflex has been studied in frogs. After extension in a skeletal muscle its reflectory contraction was absent. The reason for it might be a dysfunction of the following receptors:

a. Articular

b. Muscle spindles

c. Tactile

d. Nociceptors

e. Golgi tendon organs

1030. A patient suffering from chronic bronchitis takes a synthetic mucolytic drug that facilitates the sputum thinning. What drug is it?

a. Heparin

b. Furosemide

c. Enalapril

d. Acetylcysteine

e. Diazepam

1031. While playing volleyball a sportsman jumped and then landed across the external edge of his foot. This caused acute pain in the talocrural articulation, active movements became limited, passive movements remained unlimited but painful. In the region of the external ankle a swelling appeared, the skin turned red and became warmer to the touch. What type of peripheral circulation disorder has developed in this case?

a. Arterial hyperaemia

b. Venous hyperaemia

- c. Embolism
- d. Thrombosis
- e. Stasis

1032. After the prior sensibilization an experimental animal was given a subcutaneous injection of an antigen. The place of injection exhibited a fibrinous inflammation with alteration of the vessel walls, basal substance and fibrous structures of the connective tissue in form of mucoid and fibrinoid swelling and necrosis. What immunological reaction is it?

- a. Normergic reaction
- b. Delayed-type hypersensitivity
- c. Immediate hypersensitivity**
- d. Granulomatosis
- e. Reaction of transplantation immunity

1033. Two weeks after lacunar tonsillitis a 20-year-old man started complaining about general weakness, lower eyelid edema. After examination the patient was diagnosed with acute glomerulonephritis. What are the most likely pathological changes in the urine formula?

- a. Proteinuria**
- b. Presence of fresh erythrocytes
- c. Pyuria
- d. Natriuria
- e. Cylindruria

1034. Life cycle of a cell includes a process of DNA autoreduplication. As a result of this process monochromatid chromosomes become bichromatid. This phenomenon is observed within the following period of the cell cycle:

- a. G₁
- b. G₀
- c. M
- d. G₂
- e. S**

1035. A patient with myocardial infarction was admitted to the cardiological department. For pain relief it was decided to potentiate fentanyl action with a neuroleptic. Which of the following neuroleptics is the most suitable for neuroleptanalgesia?

- a. Sulpiride
- b. Droperidol**
- c. Trifluoperazine
- d. Aminazine
- e. Haloperidol

1036. A 35-year-old patient complains about having severe rhinitis and loss of sense of smell for a week. Objectively: the nasal cavity contains a lot of mucus covering the mucous membrane and blocking olfactory receptors. In what region of the nasal cavity are these receptors located?

- a. Superior nasal concha**
- b. Vestibule of nose
- c. Inferior nasal concha
- d. Median nasal concha
- e. Common nasal meatus

1037. A man suffering from a hereditary disease married a healthy woman. They got 5 children, three girls and two boys. All the girls inherited their father's disease. What is the type of the disease inheritance?

- a. Autosomal dominant
- b. Dominant, X-linked**
- c. Autosomal recessive
- d. Recessive, X-linked
- e. Y-linked

1038. A patient with coronary artery disease was admitted to the cardiological department. For stenocardia prevention a drug from the group of beta-adrenoceptor blockers was administered. What drug is it?

- a. Atropine sulfate
- b. Morphine hydrochloride
- c. Metoprolol**
- d. Oxytocin
- e. Furosemide

1039. A 12-year-old teenager has significantly put off weight within 3 months; glucose concentration rose up to 50 millimole/l. He fell into a coma. What is the main mechanism of its development?

- a. Lactacidemic
- b. Hypoglycemic
- c. Ketonemic
- d. Hypoxic
- e. Hyperosmolar**

1040. After a disease a 16-year-old boy is presenting with decreased function of protein synthesis in the liver as a result of vitamin K deficiency. This may cause disorder of:

- a. Anticoagulant production
- b. Erythropoietin production
- c. Osmotic blood pressure
- d. Erythrocyte sedimentation rate
- e. Blood coagulation**

1041. An 18-year-old man was delivered to the hospital after a road accident. Examination at the traumatological department revealed multiple injuries of soft tissues of face in the region of the medial eye angle. The injuries caused massive haemorrhage. What arterial anastomosis might have been damaged in this region?

- a. A. carotis externa et A. carotis interna**
- b. A. carotis externa et A. subclavia
- c. A. carotis interna et A. ophthalmica
- d. A. subclavia et A. ophthalmica
- e. A. carotis interna et A. subclavia

1042. A mother consulted a doctor about her 5-year-old child who develops erythemas, vesicular rash and skin itch under the influence of sun. Laboratory studies revealed decreased iron concentration in the blood serum, increased uroporphyrinogen excretion with the urine. What is the most likely inherited pathology in this child?

- a. Erythropoietic porphyria**
- b. Coproporphyria
- c. Methemoglobinemia
- d. Hepatic porphyria
- e. Intermittent porphyria

1043. Pharmacological effects of antidepressants are based upon blocking (inhibiting) the enzyme that acts as a catalyst for the breakdown of biogenic amines noradrenalin and serotonin in the mitochondria of cephalic neurons. What enzyme takes part in this process?

- a. Decarboxylase
- b. Monoamine oxidase**
- c. Transaminase
- d. Peptidase
- e. Lyase

1044. After taking poor-quality food a patient developed repeated episodes of diarrhea. On the next day he presented with decreased arterial pressure, tachycardia, extrasystole. Blood pH is 7.18. These abnormalities were caused by the development of:

- a. Non-gaseous acidosis**

- b. Metabolic alkalosis
- c. Gaseous acidosis
- d. Gaseous alkalosis
- e. Nongaseous alkalosis

1045. A man has worked in an African country for 3 years. A month after his return to Ukraine he consulted an ophthalmologist and complained about eye ache, eyelid edema, lacrimation and temporary visual impairment. Underneath the eye conjunctiva the doctor revealed helminths 30-50 mm long with elongated filiform body. What diagnosis might be suspected?

- a. Enterobiasis
- b. Trichocephaliasis
- c. Filariasis**
- d. Diphyllbothriasis
- e. Ascariasis

1046. A patient with clinical presentations of immunodeficiency has undergone immunological tests. They revealed significant decrease in number of cells that form rosettes with sheep erythrocytes. What conclusion can be drawn on the ground of the analysis data?

- a. Decrease in T-lymphocyte level**
- b. Decrease in complement system level
- c. Decrease in natural killer level (NK-cells)
- d. Decrease in B-lymphocyte level
- e. Lack of effector cells of the humoral immunity

1047. A patient underwent a surgery for excision of a cyst on pancreas. After this he developed haemorrhagic syndrome with apparent disorder of blood coagulation. Development of this complication can be explained by:

- a. Activation of anticoagulation system
- b. Reduced number of thrombocytes
- c. Insufficient fibrin production
- d. Activation of Christmas factor
- e. Activation of fibrinolytic system**

1048. An elderly female patient suffers from the type 2 diabetes mellitus accompanied by obesity, atherosclerosis, coronary artery diseases. Basal hyperinsulinemia is also present. What treatment would be the most appropriate?

- a. Glibenclamid**
- b. Amlodipine
- c. Lovastatin
- d. Insulin
- e. Retabolil

1049. Examination of a young woman revealed a tumour up to 3 cm in diameter in form of a knot localized along the acoustic nerve. The tumour is homogenous, soft and elastic, of pink-and-white colour. Microscopically the tumour contains clusters of cells with oval nuclei. Fibrous cell clusters form regular structures made up by parallel rows of regularly oriented cells arranged in form of a palisade. Zones between the rows of cells are acellular and homogenous (Verocai bodies). What tumour is it?

- a. Malignant neurinoma
- b. Neuroblastoma
- c. Ganglioneuroma
- d. Ganglioneuroblastoma
- e. Neurinoma**

1050. Examination of a patient revealed a dense, movable skin tumour that is standing out distinctly from the surrounding tissues. Its section is found to be white and composed of fibrous tissue. Microscopic examination revealed interlacing collagen fibers and few cells. What tumour is it?

- a. Histiocytoma
- b. Myoma

c. Fibroma

- d. Dermatofibroma
- e. Desmoid

1051. In the pubertal period cells of the male sexual glands start producing the male sexual hormone testosterone that is responsible for formation of the secondary sexual characters. What cells of the male sexual glands produce this hormone?

- a. Sustentacular cells
- b. Spermatozoa
- c. Sertoli cells

d. Leydig cells

- e. Sertoli cells

1052. A patient who has been taking a drug for a long time cannot abruptly stop its use, because this may lead to psychic and somatic dysfunctions. Name the syndrome of different disorders caused by a drug withdrawal:

- a. Sensibilization

b. Abstinence

- c. Cumulation
- d. Idiosyncrasy
- e. Tachyphylaxis

1053. After a surgery a 36-year-old woman was given an intravenous injection of concentrated albumin solution. This has induced intensified water movement in the following direction:

a. From the intercellular fluid to the capillaries

- b. From the cells to the intercellular fluid
- c. From the capillaries to the intercellular fluid
- d. From the intercellular fluid to the cells
- e. No changes of water movement will be observed

1054. A patient has an increased pyruvate concentration in blood. A large amount of it is excreted with the urine. What vitamin is lacking in this patient?

- a. E
- b. B6
- c. B3

d. B1

- e. B2

1055. A man had worked in a coal mine for over 20 years. After his death autopsy revealed that his lungs were dense, grayish-black and had large areas of neogenic connective tissue containing a lot of macrophages with black pigment in the cytoplasm. What is the most likely diagnosis?

- a. Talcosis
- b. Siderosis
- c. Anthracosilicosis
- d. Silicoanthracosis

e. Anthracosis

1056. A man who is riding the carousel presents with increased heart rate, sweating, nausea. This condition is caused primarily by the stimulation of the following receptors:

- a. Auditory
- b. Vestibular otolithic
- c. Proprioceptors

d. Vestibular ampullar

- e. Visual

1057. A patient has pellagra. Interrogation revealed that he had lived mostly on maize for a long time and eaten little meat. This disease had been caused by the deficit of the following substance in the maize:

- a. Histidine
- b. Proline
- c. Tyrosine

d. Tryptophan

- e. Alanine

1058. A patient presents with twilight vision impairment. Which of the following vitamins should be administered?

- a. Ascorbic acid
- b. Retinol acetate**
- c. Pyridoxine hydrochloride
- d. Cyanocobalamin
- e. Nicotinic acid

1059. A section of the left lung was found to have an area of dense red tissue. The area was cone-shaped, stood out distinctly from the healthy tissue, with its base directed to the pleura. The dissected tissue was granular, dark-red. What is the most likely diagnosis?

- a. Lung gangrene
- b. Primary tuberculous affection
- c. Lung abscess
- d. Croupous pneumonia
- e. Haemorrhagic infarction**

1060. After a road accident a driver was delivered to the hospital with an injury of the medial epicondyle of humerus. What nerve might be damaged in this case?

- a. n. musculocutaneus
- b. n. radialis
- c. n. medianus
- d. n. axillaris
- e. n. ulnaris**

1061. A 1,5-year-old child presents with both mental and physical lag, decolorizing of skin and hair, decrease in catecholamine concentration in blood. When a few drops of 5% solution of trichloroacetic acid had been added to the child's urine it turned olive green. Such alterations are typical for the following pathology of the amino acid metabolism:

- a. Xanthinuria
- b. Tyrosinosis
- c. Phenylketonuria**
- d. Alkaptonuria
- e. Albinism

1062. A 9-month-old infant is fed with artificial formulas with unbalanced vitamin B6 concentration. The infant presents with pellagra dermatitis, convulsions, anaemia. Convulsion development might be caused by the disturbed formation of:

- a. Serotonin
- b. DOPA
- c. Dopamine
- d. GABA**
- e. Histamine

1063. After a trauma a patient lost ability of elbow extension. This might have been caused by dysfunction of the following main muscle:

- a. m. triceps brachii**
- b. m. teres major
- c. m. infraspinatus
- d. m. subscapularis
- e. m. levator scapulae

1064. A man with a stab wound in the region of the quadrilateral foramen consulted a doctor about it. Examination revealed that the injured couldn't abduct his arm from the body. What nerve is most likely damaged?

- a. n. ulnaris
- b. n. subclavius
- c. n. medianus
- d. n. radialis

e. n. axillaris

1065. A patient complains about dyspnea provoked by the physical activity. Clinical examination revealed anaemia and presence of the paraprotein in the zone of gamma-globulins. To confirm the myeloma diagnosis it is necessary to determine the following index in the patient's urine:

- a. Antitrypsin
- b. Bilirubin
- c. Bence Jones protein**
- d. Haemoglobin
- e. Ceruloplasmin

1066. A man with an injury in the nuchal region (regio nuchae) was admitted to the resuscitation department. What muscle occupies this region?

- a. m. trapezius**
- b. m. scalenus anterior
- c. m. rhomboideus minor
- d. m. latissimus dorsi
- e. m. sternocleidomastoideus

1067. Stimulation of an excitable cell by the electric current has led to the depolarization of its membrane. The depolarization has been caused mainly by the following ions penetrating into the cell through its membrane:

- a. Na⁺**
- b. HCO₃⁻
- c. Cl⁻
- d. Ca²⁺
- e. K⁺

1068. In a histological specimen parenchyma of an organ is represented by lymphoid tissue that forms lymph nodes; the latter are arranged in a diffuse manner and enclose a central artery. What anatomic formation has such morphological structure?

- a. Red bone marrow
- b. Thymus
- c. Tonsil

d. Spleen

- e. Lymph node

1069. An 8-year-old child was admitted to the infectious department with fever (up to 38°C) and punctuate bright-red skin rash. The child was diagnosed as having scarlet fever. Objectively: mucous membrane of pharynx is apparently hyperaemic and edematic, the tonsils are enlarged and have dull yellowish-grey foci with some black areas. What inflammation is the reason for the pharynx alterations?

- a. Purulent necrotic**
- b. Serous
- c. Haemorrhagic
- d. Catarrhal
- e. Fibrinous

1070. A patient with a limb fracture must be administered a depolarizing drug from the myorelaxant group for the purpose of a short-time surgery. What drug is it?

- a. Atropine sulfate

- b. Tubocurarine chloride
- c. Pentaminum
- d. Cytitonum
- e. Dithylinum**

1071. A 32-year-old patient consulted a doctor about the absence of lactation after parturition. Such disorder might be explained by the deficit of the following hormone:

- a. Vasopressin
- b. Thyrocalcitonin
- c. Somatotropin
- d. Prolactin**
- e. Glucagon

1072. In an embryo the process of dorsal mesoderm segmentation and somite formation is disturbed. What part of skin will probably have developmental abnormalities?

- a. Hair
- b. Perspiratory glands
- c. Dermis**
- d. Epidermis
- e. Sebaceous glands

1073. A patient has lost skin sensitivity in the region of the medial surface of his shoulder. This is the result of dysfunction of the following nerve:

- a. Axillary nerve
- b. Medial brachial cutaneous nerve**
- c. Ulnar nerve
- d. Radial nerve
- e. Medial antebrachial cutaneous nerve

1074. A man suffering from osteochondrosis got acute pain in the abdominal muscles (lateral and anterior). During objective examination a physician diagnosed increased pain sensitivity of skin in the hypogastric region. This pain might be caused by affection of the following nerve:

- a. Genitofemoral
- b. Iliohypogastric**
- c. Obturator
- d. Femoral
- e. Sciatic

1075. After a craniocerebral trauma a patient lost the ability to execute learned purposeful movements (apraxia). The injury is most likely localized in the following region of the cerebral cortex:

- a. Gyrus lingualis
- b. Gyrus paracentralis
- c. Gyrus parahippocampalis
- d. Gyrus supramarginalis**
- e. Gyrus angularis

1076. Examination of a patient admitted to the surgical department with symptoms of acute appendicitis revealed the following changes in the white blood cells: the total count of leukocytes is $16 \times 10^9/l$. Leukocyte formula: basophils - 0, eosinophils - 2%, juvenile forms - 2%, stabnuclear - 8%, segmentonuclear - 59%, lymphocytes - 25%, monocytes - 4%. The described changes can be classified as:

- a. Neutrophilia with hyperregenerative left shift
- b. Neutrophilia with regenerative left shift**
- c. Neutrophilic leukemoid reaction
- d. Neutrophilia with degenerative left shift
- e. Neutrophilia with right shift

1077. An experimental animal has lost orientative reflexes as a result of destruction of certain

brainstem structures. What structures had been destroyed?

- a. Black substance
- b. Quadrigeminal plate**
- c. Medial nuclei of the reticular formation
- d. Red nuclei
- e. Vestibular nuclei

1078. It was established that agglutination of the recipient's blood erythrocytes had been caused by the standard sera from the I and II groups. Serum from the III group as well as anti-Rh serum hadn't provoke any agglutination. Which blood group and rhesus is allowed to be transfused this recipient?

- a. AB (IV), Rh-
- b. B, ? (III) Rh-**
- c. A, ? (II) Rh-
- d. O, ?, ?, (I) Rh+
- e. AB (IV), Rh+

1079. ECG of a patient shows such alterations: P-wave is normal, P-Q-interval is short, ventricular QRST complex is wide, R-wave is double-peak or two-phases. What form of arrhythmia is it?

- a. Fredericks syndrome (atrial flutter)
- b. WPW syndrome (Wolff-Parkinson-White)**
- c. Ventricular fibrillation
- d. Ciliary arrhythmia
- e. Atrioventricular block

1080. A female patient consulted a doctor about pain and limited movements in the knee joints. Which of the following nonsteroid anti-inflammatory drugs should be administered taking into consideration that the patient has a history of chronic gastroduodenitis?

- a. Butadiounum
- b. Diclofenac sodium
- c. Celecoxib**
- d. Promedol
- e. Acetylsalicylic acid

1081. Preventive examination of a patient revealed an enlarged lymph node of metastatic origin on the medial wall of the left axillary crease. Specify the most likely localization of the primary tumour:

- a. Submandibular salivary gland
- b. Lung
- c. Mammary gland**
- d. Thyroid gland
- e. Stomach

1082. A 63-year-old patient with collapse presentations was delivered to the emergency hospital. A physician has chosen noradrenalin against hypotension. What is its mechanism of action?

- a. Activation of serotonin receptors
- b. Block of M-cholinoreceptors
- c. Activation of β -adrenoreceptors
- d. Activation of α 1-adrenoreceptors**
- e. Activation of dopamine receptors

1083. While examining a patient an otolaryngologist noticed hyperaemia and significantly edematous tonsils with a grayish film upon them. Microscopical examination of this film revealed some gram-positive bacilli placed at an angle with each other. What disease might be suspected?

- a. Epidemic parotitis
- b. Meningococcal nasopharyngitis
- c. Scarlet fever
- d. Diphtheria**
- e. Angina

1084. Before tooth extraction a patient was advised to take a certain drug for haemorrhage prevention. What drug was advised?

a. Vicasolum

- b. Heparin
- c. Magnesium sulfate
- d. Asparcam
- e. Dimedrol

1085. A patient who had myocardial infarction was administered 75 mg of acetylsalicylic acid a day. What is the purpose of this administration?

- a. Temperature reduction
- b. Inflammation reduction

c. Reduction of thrombocyte aggregation

- d. Coronary vessel dilatation
- e. Pain relief

1086. Examination of a patient 24 hours after appendectomy revealed neutrophilic leukocytosis with a regenerative shift. What is the most likely mechanism of leukocytosis development?

- a. Deceleration of leukocyte migration to the tissues
- b. Redistribution of the leukocytes in the organism

c. Intensification of leukopoiesis

- d. Intensification of leukopoiesis and deceleration of leukocyte migration to the tissues
- e. Deceleration of leukocyte breakdown

1087. During the regular sanitary-epidemiological inspection of a pharmacy, the bacteriological analysis of air was performed. The air was found to have bacilli, yeast fungi, hemolytic streptococci, micrococci. Which of the detected microorganisms indicate the direct epidemic danger?

a. Haemolytic streptococci

- b. -
- c. Micrococci
- d. Yeast fungi
- e. Bacilli

1088. A patient has a massive haemorrhage caused by damage of the dorsal lingual artery by cancer of tongue back. What vessel should be ligated for the haemorrhage arrest?

a. Lingual artery

- b. Ascending pharyngeal artery
- c. Facial artery
- d. Dorsal lingual artery
- e. Deep artery of tongue

1089. A 60-year-old patient presents with weakened peristaltic activity of the bowels. Which of the following foodstuffs would stimulate peristalsis most of all?

- a. Meat
- b. Lard
- c. Tea
- d. White bread

e. Brown bread

1090. Examination of the anterior abdominal wall of a pregnant woman revealed a tumour-like formation that arose on the spot of a tumour that was removed two years ago. The neoplasm was well-defined, dense, 2x1 cm large. Histological examination revealed that the tumour was composed of differentiated connective tissue with prevailing collagen fibres. What tumour might be suspected?

- a. Leiomyoma
- b. Fibrosarcoma
- c. Lipoma

d. Desmoid

- e. Hibernoma

1091. A bacteriological laboratory has received smears from the sputum of a patient with a chronic pulmonary disease. Microscopical examination of the smears stained by the Ziehl-Neelsen technique revealed red bacilli. What property of the tuberculosis bacillus has shown itself?

- a. Alcohol resistance
- b. Capsule formation
- c. Alkali resistance
- d. Acid resistance**
- e. Spore formation

1092. A patient was admitted to the hospital with an asphyxia attack provoked by a spasm of smooth muscles of the respiratory tracts. This attack was mainly caused by alterations in the following parts of the airways:

- a. Small bronchi**
- b. Large bronchi
- c. Median bronchi
- d. Terminal bronchioles
- e. Respiratory part

1093. A 62-year-old female patient complains about frequent pains in the region of thorax and vertebral column, rib fractures. A physician suspected myelomatosis (plasmocytoma). Which of the following laboratory indices will be of the greatest diagnostic importance?

- a. Proteinuria
- b. Hypoproteinemia
- c. Hyperalbuminemia
- d. Hypoglobulinemia
- e. Paraproteinemia**

1094. An electronic microphotograph shows a macrophagic cell with erythrocytes at different stages of differentiation located along its processes. This is the cell of the following organ:

- a. Thymus
- b. Red bone marrow**
- c. Tonsil
- d. Spleen
- e. Lymph node

1095. Autopsy of a 1,5-year-old child revealed haemorrhagic skin rash, moderate hyperaemia and edema of nasopharyngeal mucous membrane, small haemorrhages in the mucous membranes and internal organs; dramatic dystrophic alterations in liver and myocardium; acute necrotic nephrosis; massive haemorrhages in the adrenal glands. What disease are these alterations the most typical for?

- a. Measles
- b. Meningococcal infection**
- c. Diphtheria
- d. Epidemic typhus
- e. Scarlet fever

1096. Which muscle contraction will be observed in the upper extremity during holding (not moving) a load in a certain position?

- a. Auxotonic
- b. Concentric
- c. Excentric
- d. Isometric**
- e. Isotonic

1097. Autopsy of a man, who had been suffering from the multiple bronchiectasis for 5 years and died from chronic renal insufficiency, revealed that kidneys were dense and enlarged, with thickened cortical layer of white colour with greasy lustre. What renal disease might be suspected?

- a. Secondary amyloidosis**
- b. Chronic pyelonephritis

- c. -
- d. Glomerulonephritis
- e. Necrotic nephrosis

1098. In response to a change in body position from horizontal to vertical blood circulation system develops reflexory pressor reaction. Which of the following is its compulsory component?

- a. Decrease in the circulating blood volume
- b. Weakening of the pumping ability of heart
- c. Systemic dilatation of the arterial resistive vessels
- d. Increase in the heart rate
- e. Systemic constriction of the venous vessels**

1099. Quite often the cause of secondary immunodeficiency is an infection involvement, when the causative agents propagate directly in the cells of immune system and destroy it. The following diseases are characterized by:

- a. Tuberculosis, mycobacteriosis
- b. Infectious mononucleosis, AIDS**
- c. Q-febris, epidemic typhus
- d. Poliomyelitis, type A hepatitis
- e. Dysentery, cholera

1100. A 50-year-old patient complains about general weakness, appetite loss and cardiac arrhythmia. The patient presents with muscle hypotonia, flaccid paralyses, weakened peristaltic activity of the bowels. Such condition might be caused by:

- a. Hyponatremia
- b. Hypoproteinemia
- c. Hypophosphatemia
- d. Hypokaliemia**
- e. Hyperkaliemia

1101. Continuous use of a certain drug may cause osteoporosis, erosions of stomach mucosa, hypokaliemia, retention of sodium and water in the organism, decreased concentration of corticotropin in blood. What drug is it?

- a. Prednisolone**
- b. Hypothiazide
- c. Reserpine
- d. Indometacin
- e. Digoxin

1102. A married couple came to the genetic counseling. The husband suffers from the insulin-dependant diabetes, the wife is healthy. What is the probability that this couple will have an insulin-dependant child?

- a. 100%
- b. 50%
- c. Lower than throughout the population
- d. Higher than throughout the population**
- e. The same as throughout the population

1103. While on holiday in the countryside a boy found a spider with the following morphological peculiarities: body length of 2 cm, round black abdomen with two rows of red dots on its dorsal surface, four pairs of segmented extremities covered with tiny black hairs. Identify this arthropod:

- a. Tarantula
- b. Scorpion
- c. Solifugae
- d. Karakurt spider**
- e. Mite

1104. ECG study showed that the T-waves were positive in the standard extremity leads, their

amplitude and duration were normal. The right conclusion would be that the following process runs normally in the heart ventricles:

- a. Relaxation
- b. Contraction
- c. Repolarization**
- d. Depolarization
- e. Excitement

1105. A patient with high rate of obesity was advised to use carnitine as a food additive in order to enhance "fat burning". What is the role of carnitine in the process of fat oxidation?

- a. FFA activation
- b. Transport of FFA (free fatty acids) from cytosol to the mitochondria**
- c. It takes part in one of reactions of FFA beta-oxidation
- d. Transport of FFA from fat depots to the tissues
- e. Activation of intracellular lipolysis

1106. A 46-year-old patient suffering from the diffuse toxic goiter underwent resection of the thyroid gland. After the surgery the patient presents with appetite loss, dyspepsia, increased neuromuscular excitement. The body weight remained unchanged. Body temperature is normal. Which of the following has caused such a condition in this patient?

- a. Reduced production of thyroxine
- b. Increased production of thyrotropin
- c. Reduced production of parathormone**
- d. Increased production of calcitonin
- e. Increased production of thyroxine

1107. In clinical practice tuberculosis is treated with isoniazid preparation - that is an antivitamin able to penetrate into the tuberculosis bacillus. Tuberculostatic effect is induced by the interference with replication processes and oxidation-reduction reactions due to the buildup of pseudo-coenzyme:

- a. NAD**
- b. TDP
- c. FAD
- d. FMN
- e. CoQ

1108. A 70-year-old patient suffers from atherosclerosis complicated by the lower limb thrombosis that has caused gangrene on his left toes. What is the most likely cause of the thrombosis origin?

- a. Impaired heparin synthesis
- b. Transformation of fibrinogen into fibrin
- c. Transformation of prothrombin into thrombin
- d. Thrombocyte adhesion**
- e. Prothrombinase activation

1109. A patient complains about edema of legs, skin cyanosis, small ulcers on one side of the lateral condyle. Examination revealed a swelling, enlarged veins, formation of nodes. The pathological process has started in the following vein:

- a. V. iliaca externa
- b. V. femoralis
- c. V. saphena parva**
- d. V. saphena magna
- e. V. profunda femoris

1110. A married couple consulted a specialist at the genetic consultation about probability of having children with hemophilia. Both spouses are healthy, but the wife's father has hemophilia. In this family hemophilia may be passed to:

- a. All the children
- b. Both sons and daughters
- c. Half of daughters

d. Half of sons

e. Daughters only

1111. A 38-year-old patient with an uterine haemorrhage lasting for 2 days was delivered to the admission ward. Which of the following will be revealed in the patient's blood?

a. Increase in the colour index

b. Deceleration in ESR

c. Eosinophilia

d. Leukocytosis

e. Decrease in the haematocrite index

1112. An injured person was delivered to the hospital with a penetrating wound in the left lateral region of abdomen. What part of the large intestine is most likely damaged?

a. Rectum

b. Colon transverses

c. Caecum

d. Colon descendens

e. Colon ascendens

1113. Bacteriological examination of purulent discharges from the urethra revealed gram-negative bacteria looking like coffee beans. They were localized in the leukocytes and could decompose glucose and maltose to aci d. These are the causative agents of the following disease:

a. Gonorrhoea

b. Veneral lymphogranulomatosis

c. Melioidosis

d. Soft chancre

e. Syphilis

1114. The minute blood volume in a patient with transplanted heart has increased as a result of physical activity. What regulative mechanism is responsible for these changes?

a. Sympathetic conditioned reflexes

b. Parasympathetic conditioned reflexes

c. Parasympathetic unconditioned reflexes

d. Sympathetic unconditioned reflexes

e. Catecholamines

1115. An animal has an increased tonus of extensor muscles. This the result of intensified information transmission to the motoneurons of the spinal cord through the following descending pathways:

a. Rubrospinal

b. Lateral corticospinal

c. Vestibulospinal

d. Reticulospinal

e. Medial corticospinal

1116. After inoculation of the material obtained from the pharynx of an angina patient onto the blood-tellurite agar, grey colonies could be observe d. They were 4-5 mm in diameter, radially striated (in form of rosettes). Microscopical examination revealed gram-positive bacilli with clavate swollen ends arranged in form of wide-spread fingers. Identify these microorganisms:

a. Streptococci

b. Diphtheroids

c. Diphtheria corynebacteria

d. Clostridium botulinum

e. Streptobacilli

1117. A patient suffering from stomach ulcer has been treated with an antacid drug almagel. For acute bronchitis treatment he was prescribed the antibiotic methacyclin e. However within next 5 days the fever didn't fall, cough and sputum nature remained unchange d. A physician came to the conclusion that the drugs were incompatibl e. What type of drug incompatibility is the case?

a. Pharmacokinetic, absorption stage

- b. Pharmacodynamic
- c. Pharmaceutic
- d. Direct antagonism
- e. Pharmacokinetic, biotransformation stage

1118. A newborn child was found to have reduced intensity of sucking, frequent vomiting, hypotonia. Urine and blood exhibit increased concentration of citrullin. What metabolic process is disturbed?

- a. Tricarboxylic acid cycle
- b. Cori cycle
- c. Glycolysis
- d. Glyconeogenesis

e. Ornithinic cycle

1119. A 48-year-old patient was admitted to the hospital with complaints about weakness, irritability, sleep disturbance. Objectively: skin and scleras are of yellow colour. In blood: increased concentration of total bilirubin with prevailing direct bilirubin. The feces are acholic. The urine is dark (contains bile pigments). What type of jaundice is it?

- a. Crigler-Najjar syndrome
- b. Parenchymatous
- c. Haemolytic
- d. Gilberts syndrome

e. Mechanic

1120. A female patient suffering from bronchial asthma had got a viral infection that provoked status asthmaticus with fatal outcome. Histological examination of lungs revealed spasm and edema of bronchioles, apparent infiltration of their walls with lymphocytes, eosinophils and other leukocytes; labrocyte degranulation. What mechanism of hypersensitivity underlies the described alterations?

a. Reagin reaction

- b. Immune cytotoxicity
- c. Inflammatory
- d. Immune complex
- e. Autoimmune

1121. As a result of increased permeability of the erythrocyte membrane in a patient with microspherocytic anaemia (Minkowsky-Shauffard disease) cells receive sodium ions and water. Erythrocytes take form of spherocytes and can be easily broken down. What is the leading mechanism of erythrocyte damage in this case?

- a. Nucleic
- b. Acidotic
- c. Calcium
- d. Protein

e. Electrolytic osmotic

1122. A man died from an acute infectious disease accompanied by fever, jaundice, haemorrhagic rash on the skin and mucous membranes as well as by acute renal insufficiency. Histological examination of renal tissue (stained by Romanovsky-Giemsa method) revealed some convoluted bacteria looking like C and S letters. What bacteria were revealed?

- a. Borrelia
- b. Campilobacteria
- c. Spirilla
- d. Treponema

e. Leptospira

1123. Examination of a 2-year-old child revealed physical developmental lag, the child often has pneumonias. The child was diagnosed with nonclosure of ductus arteriosus. Haemodynamics disorder was caused by the intercommunication of the following vessels:

- a. Superior cava and aorta

b. Aorta and pulmonary veins

c. Aorta and pulmonary trunk

d. Pulmonary trunk and pulmonary veins

e. Superior cava and pulmonary trunk

1124. During a prophylactic medical examination a 7-year-old boy was diagnosed with daltonism. His parents are healthy and have normal colour vision, but his grandfather on his mother's side has the same abnormality. What is the type of the abnormality inheritance?

a. Autosomal recessive

b. Recessive, sex-linked

c. Dominant, sex-linked

d. Semidominance

e. Autosomal dominant

1125. Gynecological examination of the uterine cervix in a 30-year-old woman revealed some bright-red lustrous spots that easily bleed when touched. Biopsy showed that a part of the uterine cervix was covered with cylindrical epithelium with papillary outgrowths; in the depth of tissue the growth of glands was present. What pathology of the uterine cervix was revealed?

a. Glandular hyperplasia

b. Pseudoerosion

c. Leukoplakia

d. Endocervicitis

e. True erosion

1126. It is necessary to take the cerebrospinal fluid from a patient with suspected inflammation of brain tunics. Diagnostic puncture was performed between the arches of the lumbar vertebrae. During the puncture the needle went through the following ligament:

a. Intertransverse

b. Iliolumbar

c. Anterior longitudinal

d. Posterior longitudinal

e. Yellow (flaval)

1127. Medical examination at the military registration and enlistment office revealed that a 15-year-old boy was high, with eunuchoid body proportions, gynecomastia, female pattern of pubic hair distribution. The boy had also fat deposits on the thighs, no facial hair, high voice, subnormal intelligence quotient. Which karyotype corresponds with this disease?

a. 46, XX

b. 47, XXX

c. 46, XY

d. 47, XXY

e. 45, XO

1128. A stillborn child was found to have thickened skin resembling of the tortoise shell, underdeveloped auricles. Histological examination of skin revealed hyperkeratosis, atrophy of the granular epidermis layer; inflammatory changes were not present. What is the most likely diagnosis?

a. Dermatomyositis

b. Leukoplakia

c. Xerodermia

d. Ichthyosis

e. Erythroplakia

1129. A patient presents with icteritiousness of skin, sclerae and mucous membranes. Blood plasma the total bilirubin is increased, stercobilin is increased in feces, urobilin is increased in urine. What type of jaundice is it?

a. Cholestatic

b. Obstructive

c. Gilbert's disease

d. Parenchymatous

e. Haemolytic

1130. A patient suffers from the haemorrhagic syndrome that shows itself in frequent nasal bleedings, posttraumatic and spontaneous intracutaneous and intra-articular haemorrhages. After a laboratory study a patient was diagnosed with the type B haemophilia. This disease is provoked by the deficit of the following factor of blood coagulation:

- a. XI
- b. V
- c. VII
- d. VIII

e. IX

1131. A 10-year-old child had the mantoux tuberculin test administered. 48 hours later a papule up to 8 mm in diameter appeared on the site of the injection. What type of hypersensitivity reaction developed after the tuberculin injection?

- a. Atopic reaction
- b. Arthus phenomenon
- c. Type II hypersensitivity reaction

d. Type IV hypersensitivity reaction

e. Seroreaction

1132. A 49-year-old patient consulted a doctor about increased fatigability and dyspnea provoked by physical activity. ECG results: heart rate - 50/min, PQ-interval is prolonged, QRS-complex is unchanged, the number of P-waves exceeds the number of QRS-complexes. What type of arrhythmia is it?

- a. Sinoatrial block
- b. Extrasystole
- c. Sinus bradycardia

d. Atrioventricular block

e. Ciliary arrhythmia

1133. Examination of a patient with frequent haemorrhages from the internal organs and mucous membranes revealed proline and lysine within the collagen fibers. Disorder of their hydroxylation is caused by lack of the following vitamin:

a. Vitamin A

b. Vitamin C

- c. Vitamin B1
- d. Vitamin E
- e. Vitamin K

1134. A 38-year-old patient came to a traumatology centre and complained about an injury of his right hand. Objectively: the patient has a cut wound in the region of the thenar eminence on the right hand; distal phalanx of the I finger cannot be flexed. What muscle was injured?

a. Opposer muscle of thumb

b. Long flexor muscle of thumb

- c. Short abductor muscle of thumb
- d. Short flexor muscle of thumb
- e. Abductor muscle of thumb

1135. A patient has a transversal laceration in the spinal cord. What respiratory changes will result from this?

- a. Respiration will become deeper
- b. Respiration will become more frequent

c. Respiration will present no significant changes

- d. Respiration will stop
- e. Respiration will become less frequent

1136. A patient suffering from myasthenia has been administered proserin. After its administration the patient has got nausea, diarrhea, twitch of tongue and skeletal muscles. What drug would help to eliminate the intoxication?

- a. Mesatonum
- b. Physostigmine
- c. Pyridostigmine bromide
- d. Isadrine

e. Atropine sulfate

1137. A 28-year-old female patient consulted a gynecologist about sterility. Examination revealed underdeveloped ovaries and uterus, irregular menstrual cycle. Analysis of the sex chromatin revealed 2 Barr's bodies in most somatic cells. What chromosome disease is most likely?

- a. Patau syndrome
- b. Turner syndrome
- c. Klinefelter syndrome

d. Triple X syndrome

- e. Edwards syndrome

1138. Autopsy of a 50-year-old man revealed the following changes: his right lung was moderately compact in all parts, the dissected tissue was found to be airless, fine-grained, dryish. Visceral pleura had greyish-brown layers of fibrin. What is the most likely diagnosis?

- a. Pneumofibrosis
- b. Bronchopneumonia
- c. Interstitial pneumonia

d. Croupous pneumonia

- e. Tuberculosis

1139. After transfusion of 200 ml of blood a patient presented with body temperature rise up to 37.9°C. Which of the following substances is the most likely cause of temperature rise?

- a. Interleukin-2
- b. Interleukin-3

c. Interleukin-1

- d. Interleukin-4
- e. Tumour necrosis factor

1140. Examination of a patient suffering from chronic hepatitis revealed a significant decrease in the synthesis and secretion of bile acids. What process will be mainly disturbed in the patient's bowels?

- a. Amino acid absorption
- b. Glycerin absorption
- c. Protein digestion

d. Fat emulsification

- e. Carbohydrate digestion

1141. During an experiment the dorsal roots of the spinal cord of an animal have been cut. What changes will be observed in the innervation zone?

- a. Decrease in muscle tone
- b. Increase in muscle tone
- c. Loss of motor functions

d. Sensitivity loss

- e. Sensitivity loss and loss of motor functions

1142. A histological specimen shows a blood vessel. Its inner coat is composed by endothelium, subendothelium and internal elastic membrane. The middle coat is enriched with smooth myocytes. Such morphological characteristics are typical for the following vessel:

- a. Non-muscular vein

b. Muscular-type artery

- c. Capillary
- d. Elastic-type artery

e. Muscular-type vein

1143. As a result of a trauma a patient has developed traumatic shock that led to the following disorders: AP is 140/90 mm Hg, Ps is 120 bpm. The patient is fussy, talkative, pale. Such state relates to the following shock phase:

- a. Latent period
- b. Torpid
- c. -
- d. Terminal

e. Erectile

1144. Autopsy of a 73-year-old man who had been suffering from the coronary heart disease along with cardiac insufficiency for a long time revealed: nutmeg liver, brown induration of lungs, cyanotic induration of kidneys and spleen. What kind of circulation disorder was the cause of such effects?

- a. Chronic anaemia
- b. Acute anaemia
- c. General acute venous congestion
- d. General chronic venous congestion**
- e. Arterial hyperaemia

1145. As a result of durative antibiotic therapy a 37-year old patient developed intestinal dysbacteriosis. What type of drugs should be used in order to normalize intestinal microflora?

- a. Bacteriophages
- b. Autovaccines
- c. Sulfanilamides
- d. Vitamins

e. Eubiotics

1146. A 49-year-old driver complains about unbearable constricting pain behind the breastbone irradiating to the neck. The pain arose 2 hours ago. Objectively: the patient's condition is grave, he is pale, heart tones are decreased. Laboratory studies revealed high activity of creatine kinase and LDH1. What disease are these symptoms typical for?

- a. Acute myocardial infarction**
- b. Acute pancreatitis
- c. Stenocardia
- d. Cholelithiasis
- e. B. Diabetes mellitus

1147. The temperature of the ambient environment is 38°C and relative air humidity is 50%. What ways of heat emission provide maintaining a constant temperature of the human body?

- a. Convection and conduction
- b. Heat conduction
- c. Radiation
- d. Evaporation**
- e. Convection

1148. A patient consulted an urologist about pain during urination. Analysis of his urine taken in the daytime revealed eggs with a characteristic sharp point. It is known from the anamnesis that the patient has recently returned from Australia. What is the most likely diagnosis?

- a. Opisthorchiasis
- b. Intestinal schistosomiasis
- c. Japanese schistosomiasis
- d. Dicrocoeliasis
- e. Urogenital schistosomiasis**

1149. In spite of treatment with cardiotonics and thiazide diuretic a patient suffering from chronic cardiac failure still presents with edemata and faces a risk of ascites. What medication should be administered in order to increase the diuretic effect of the above mentioned drugs?

- a. Clopamide
- b. Manithol
- c. Furosemide
- d. Amiloride

e. Spironolactone

1150. A female patient consulted a physician about digestive disorder, extended abdominal pain. Examination revealed drastic decrease in hemoglobin concentration. It is known from the anamnesis that while living in the Far East the patient used to eat freshly-salted caviar. Some relatives living with her had the similar condition. What is the most likely diagnosis?

- a. Ascariasis
- b. Echinococcosis
- c. Teniasis

d. Diphyllbothriasis

- e. Trichiniasis

1151. A 45-year-old patient suffers from neurosis characterized by irritability, sleeplessness, motiveless anxiety. What drug would eliminate all the symptoms?

- a. Valerian extract
- b. Pyracetam
- c. Levodopa

d. Diazepam

- e. Caffeine sodium benzoate

1152. A 53-year-old female patient was diagnosed with liver rupture resulting from a blunt abdominal injury. The escaped blood will be assembled in the following anatomic formation:

- a. Vesicouterine pouch
- b. Left mesenteric sinus

c. Rectouterine pouch

- d. Omental bursa
- e. Right mesenteric sinus

1153. Vitamin B1 deficiency causes disturbance of oxidative decarboxylation of α -ketoglutaric acid. This leads to the impaired synthesis of the following coenzyme:

- a. Flavine adenine dinucleotide

b. Thiamine pyrophosphate

- c. Nicotinamide adenine dinucleotide
- d. Lipoic acid
- e. Coenzyme A

1154. A patient suffering from chronic hyperacidic gastritis takes an antacid drug for heartburn elimination. After its ingestion the patient feels better but at the same time he has a sensation of stomach swelling. Which of the following drugs might be the cause of such side effect?

- a. Magnesium trisilicate
- b. Aluminium hydroxide

c. Sodium hydrocarbonate

- d. Magnesium oxide
- e. Pepsin

1155. A patient suffering from coronary artery disease had taken a certain drug many times a day in order to arrest stenocardia attacks. Overdose of this drug finally caused intoxication. Objectively: cyanotic skin and mucous membranes, dramatic fall in the arterial pressure, tachycardia, respiration inhibition. Blood has increased concentration of methemoglobin. The drug the patient had taken relates to the following group:

- a. α -adrenoceptor blockers
- b. Calcium channel blockers
- c. Myotropic spasmolytics
- d. Adenosine drugs

e. Organic nitrates

1156. A baby refuses the breast, he is anxious, presents with arrhythmic respiration. The urine smells of "brewers yeast" or "maple syrup". This pathology was caused by the inherited defect of the following enzyme:

a. Glycerol kinase

b. Dehydrogenase of branched-chain alpha-keto acids

c. Glucose 6-phosphate dehydrogenase

d. UDP-glucuronil transferase

e. Aspartate aminotransferase

1157. A student came to see a doctor and asked to administer him a drug for treatment of allergic rhinitis that occurs in the period of linden flowering. What drug may be used?

a. Loratadine

b. Propanolol

c. Losartan

d. Noradrenaline hydrotartrate

e. Ambroxol

1158. A worker of a cattle farm fell acutely ill and then died from the progressing intoxication. Autopsy revealed enlarged, hyposthenic spleen of dark-cherry colour when dissected; excessive pulp scraping. At the base and fornix of brain pia maters are edematous, soaked with blood, dark-red ("scarlet hat"). Microscopic examination revealed serous haemorrhagic inflammation of brain tissues and tunics along with destruction of small vessel walls. What is the most likely diagnosis?

a. Plaque

b. Cholera

c. Brucellosis

d. Tularemia

e. Anthrax

1159. ECG of a 44-year-old patient shows signs of hypertrophy of both ventricles and the right atrium. The patient was diagnosed with the tricuspid valve insufficiency. What pathogenetic variant of cardiac dysfunction is usually observed in case of such insufficiency?

a. Cardiac tamponade

b. Coronary insufficiency

c. Heart overload by volume

d. Primary myocardial insufficiency

e. Heart overload by resistance

1160. Examination of a patient revealed autoimmune haemolytic anaemia (cytotoxic type). What substances act as antigens in the II-type allergic reactions?

a. Modified receptors of cell membranes

b. Serum proteins

c. Antibiotics

d. Hormones

e. Inflammation modulators

1161. The greater amount of nitrogen is excreted from the organism in form of urea. Inhibition of urea synthesis and accumulation of ammonia in blood and tissues are induced by the decreased activity of the following liver enzyme:

a. Carbamoyl phosphate synthetase

b. Aspartate aminotransferase

c. Amylase

d. Pepsin

e. Urease

1162. A 65-year-old man has purulent abscess on his neck. Analyses revealed a culture of gram-positive cocci with plasmocoagulase activity. This culture relates most likely to:

a. **Staphylococcus aureus**

b. Streptococcus pyogenes

c. -

d. Staphylococcus epidermidis

e. Staphylococcus saprophyticus

1163. Autopsy of a man with a malignant stomach tumour who had died from cancer intoxication revealed in the posteroinferior lung fields some dense, grayish-red irregular foci protruding above the section surface. Microscopic examination revealed exudate containing a large amount of neutrophils in the lumen and walls of small bronchi and alveoles. Such pulmonary alterations indicate the following disease:

a. Intermittent pneumonia

b. Acute bronchitis

c. Croupous pneumonia

d. Acute serous bronchopneumonia

e. **Acute purulent bronchopneumonia**

1164. A histological specimen of a kidney shows a part of the distal tubule going between the afferent and efferent arteriolar ends. The cells building the tubule wall have dense nuclei; basal membrane is absent. Such structural formation is called:

a. -

b. **Macula densa**

c. Juxtaglomerular cells

d. Mesangial cells

e. Juxtaglomerular cells

1165. A patient with a hypertensive crisis was admitted to the cardiological department. He was given an intravenous injection of an antihypertensive drug - alkali-earth metal salt. What drug was injected?

a. Potassium chloride

b. Calcium lactate

c. Benzohexonium

d. Sodium hydrocarbonate

e. **Magnesium sulfate**

1166. To prevent the transplant rejection after organ transplantation it is required to administer hormone therapy for the purpose of immunosuppression. What hormones are used for this purpose?

a. Thyroid

b. Sexual hormones

c. Catecholamines

d. **Glucocorticoids**

e. Mineralocorticoids

1167. Autopsy of a man who died from influenza revealed that the heart was slightly enlarged and pastose. The surface of the incision of myocardium appeared to be pale, with specks. Microscopic examination revealed signs of parenchymatous adipose and hydropic degeneration, edematous stroma with scant lymphocytic and macrophage infiltration; plethoric vessels; perivascular petechial haemorrhages. What type of myocarditis is it?

a. **Serous diffuse**

b. Serous focal

c. Interstitial proliferative

d. Granulomatous

e. Purulent

1168. While examining the oral cavity a stomatologist revealed inflammation of papillae on the border of the median and posterior third of the back of tongue. What papillae are inflamed?

a. Papillae fungiformes

b. Papillae foliatae

c. **Papillae vallatae**

- d. Papillae conicae
- e. Papillae filiformes

1169. Lung ventilation in a person is increased as a result of physical activity. Which of the following indices of the external respiration is much higher than in a state of rest?

- a. Inspiratory reserve volume
- b. Expiratory reserve volume
- c. Vital capacity of lungs
- d. Respiratory volume**
- e. Total lung capacity

1170. During an experiment vagus branches that innervate heart are being stimulated. This has stopped conduction of excitement from the atria to the ventricles. The reason for it are electrophysical changes in the following structures:

- a. His bundle
- b. Atrioventricular node**
- c. Sinoatrial node
- d. Ventricles
- e. Atria

1171. An oncological patient was administered methotrexat e. With the lapse of time the target cells of the tumour lost sensitivity to this preparation. We can observe changes in the gene expression of the following enzyme:

- a. Folate oxidase
- b. Desaminase
- c. Folate decarboxylase
- d. Dihydrofolate reductase**
- e. Thiminase

1172. During examination of an 11-month-old infant a pediatrician revealed osteoectasia of the lower extremities and delayed mineralization of cranial bones. Such pathology is usually provoked by the deficit of the following vitamin:

- a. Riboflavin
- b. Cholecalciferol**
- c. Bioflavonoids
- d. Pantothenic acid
- e. Thiamin

1173. A middle-aged man went to a foreign country because he had been offered a job ther e. However he had been unemployed for quite a long tim e. What endocrine glands were exhausted most of all in this man?

- a. Seminal glands
- b. Thyroid gland
- c. Substernal gland
- d. Parathyroid glands
- e. Adrenal glands**

1174. After a sprint an untrained person develops muscle hypoxi a. This leads to the accumulation of the following metabolite in muscles:

- a. Lactate**
- b. Oxaloacetate
- c. Acetyl CoA
- d. Glucose 6-phosphate
- e. Ketone bodies

1175. Autopsy of a 49-year-old woman who died from chronic renal insufficiency, revealed: kidneys were dense, reduced, multicoloured, with haemorrhagic areas. Microscopic examination revealed some hematoxylin bodies in the nuclei of the renal tubule epithelium; "wire-loop" thickening of the

glomerular capillary basement membrane; here and there in the capillaries some hyaline thrombi and foci of fibrinoid necrosis were present. What is the most likely diagnosis?

a. Systemic lupus erythematosus

b. Arteriosclerotic pneumosclerosis

c. Rheumatism

d. Atherosclerotic nephrosclerosis

e. Amyloidosis

1176. Cooling of the human body in water is much more faster than in the air. What way of heat emission in water is much more effective?

a. Heat conduction

b. -

c. Convection

d. Sweat evaporation

e. Heat radiation

1177. Microscopical examination of an enlarged cervical lymph node revealed blurring of its structure, absence of lymphoid follicles; all the microscopic fields showed cells with roundish nuclei and thin limbus of basophil cytoplasm. It is known from the clinical data that other groups of lymph nodes are also enlarged as well as spleen and liver. What disease might be suspected?

a. Multiple myeloma

b. Lymphoid leukosis

c. Lymphogranulomatosis

d. Myeloid leukosis

e. Lymphosarcoma

1178. As a result of continuous starvation the glomerular filtration rate has increased by 20%. The most probable cause of the glomerular filtration alteration under the mentioned conditions is:

a. Increase of the renal blood flow

b. Increase in the permeability of the renal filter

c. Increase in the systemic arterial pressure

d. Decrease in the oncotic pressure of blood plasma

e. Increase of the filtration quotient

1179. In a 2-year-old child with catarrhal presentations and skin rash a pediatrician suspected scarlet fever. The child was given intracutaneously a small dose of serum antibody to the streptococcal erythrogenic toxin; on the site of injection the rash disappeared. What do the reaction results mean?

a. The whole serum dose may be injected intravenously

b. The clinical diagnosis was confirmed

c. The disease wasn't caused by haemolytic streptococcus

d. The child has very weak immune system

e. The child has hypersensitivity to the erythrogenic toxin

1180. While eating a child choked on food and aspirated it. The child has severe cough, cyanotic skin and mucous membranes, rapid pulse, infrequent respiration, prolonged expiration. The child has developed the following disorder of the external respiration:

a. Alternating respiration

b. Stenotic respiration

c. Biots respiration

d. Expiratory dyspnea under asphyxia

e. Inspiratory dyspnea under asphyxia

1181. On the ground of clinical presentations a patient was prescribed pyridoxal phosphate. This medication is recommended for correction of the following processes:

a. Synthesis of purine and pyrimidine bases

b. Protein synthesis

c. Transamination and decarboxylation of amino acids

d. Oxidative decarboxylation of ketonic acids

e. Desamination of purine nucleotides

1182. After a hypertonic crisis a patient presents with lacking spontaneous movements in his right arm and leg, muscle tone of these extremities is increased. What type of motor dysfunction has developed in this case?

- a. Central paresis
- b. Peripheral paresis
- c. Reflexory paresis
- d. Peripheral paralysis

e. Central paralysis

1183. You are studying functioning of a bacteria operon. The operator gene has been released from the repressor gene. Immediately after this the following process will start in the cell:

- a. Processing
- b. Translation
- c. Repression
- d. Replication

e. Transcription

1184. Colonoscopy of a patient with dysentery revealed that the mucous membrane of the large intestine was hyperemic, edematous, and its surface was covered with grey-and-green layerings. What morphological form of dysenteric colitis is it?

- a. Necrotic
- b. Fibrinous**
- c. Catarrhal
- d. Ulcerous
- e. Purulent

1185. Pyeloureterography X-ray photo showed a renal pelvis with minor calyces only (major calyces were absent). What form of urinary tracts of a kidney was revealed?

- a. Mature
- b. -
- c. Fetal

d. Embryonal

e. Ampullar

1186. A man presents with increased heart rate, mydriatic pupils, dry mouth. This condition results from the activation of the following system of function regulation:

- a. Metasympathetic
- b. Parasympathetic
- c. Hypothalamo-pituitary-adrenal

d. Sympathetic

e. Vago-insular

1187. Proserin increases skeletal muscle tone when given systematically. Halothane induces relaxation of skeletal muscles and reduces proserin effects. What is the nature of proserin and halothane interaction?

- a. Independent antagonism
- b. Competitive antagonism
- c. Noncompetitive antagonism

d. Indirect functional antagonism

e. Direct functional antagonism

1188. A 30-year-old patient complains about having abdominal pain and diarrhea for five days; body temperature rose up to 37.5°C along with chills. The day before a patient had been in a forest and drunk from an open water reservoir. Laboratory analyses enabled to make the following diagnosis: amebic dysentery. What is the drug of choice for its treatment?

a. Levomycetin

b. Furazolidonum

c. Metronidazole

d. Phthalazol

e. Emetine hydrochloride

1189. A patient with android-type obesity had been suffering from arterial hypertension, hyperglycemia, glycosuria for a long time and died from the cerebral haemorrhage. Pathologic examination revealed pituitary basophil adenoma, adrenal cortex hyperplasia. What is the most likely diagnosis?

a. Pituitary nanism

b. Itsenko-Cushings syndrome

c. Adiposogenital dystrophy

d. Acromegalia

e. Diabetes mellitus

1190. A pathology-histology laboratory received a vermiform appendix up to 2,0 cm thick. Its serous membrane was pale, thick and covered with yellowish-green films. The wall was flaccid, of grayish-red colour. The appendix lumen was dilated and filled with yellowish-green substance. Histological examination revealed that the appendix wall was infiltrated with neutrophils. Specify the appendix disease:

a. Acute phlegmonous appendicitis

b. Acute superficial appendicitis

c. Acute gangrenous appendicitis

d. Acute simple appendicitis

e. Chronic appendicitis

1191. Examination of a 27-year-old patient revealed pathological changes in liver and brain. Blood plasma analysis revealed an abrupt decrease in the copper concentration, urine analysis revealed an increased copper concentration. The patient was diagnosed with Wilson's degeneration. To confirm the diagnosis it is necessary to study the activity of the following enzyme in blood serum:

a. Xanthine oxidase

b. Leucine aminopeptidase

c. Ceruloplasmin

d. Carbonic anhydrase

e. Alcohol dehydrogenase

1192. A woman delivered a dead child with multiple developmental defects. What protozoan disease might have caused the intrauterine death?

a. Lambliasis

b. Malaria

c. Leishmaniasis

d. Amebiasis

e. Toxoplasmosis

1193. A patient with severe course of respiratory viral infection presented with clinical signs of progressing heart failure that led to his death in the 2nd week of disease. Autopsy revealed that the heart cavities were significantly dilated, the heart was flabby. Histological examination of the myocardium revealed microvascular plethora and diffuse stroma infiltration with lymphocytes and histiocytes. What is the most likely diagnosis?

a. Stenocardia

b. Myocardial infarction

c. Acute coronary insufficiency

d. Cardiomyopathy

e. Myocarditis

1194. A patient has osmotic pressure of blood plasma at the rate of 350 mOsmol/l (norm is 300 mOsmol/l). This will cause hypersecretion of the following hormone:

a. Vasopressin

- b. Adrenocorticotropin
- c. Cortisol
- d. Natriuretic
- e. Aldosterone

1195. Cytoplasm of the myocytes contains a lot of dissolved metabolites resulting from glucose oxidation. Name the metabolite that turns directly into lactate:

- a. Oxaloacetate
- b. Fructose-6-phosphate
- c. Glycerophosphate
- d. Glucose-6-phosphate
- e. Pyruvate**

1196. Treatment course of bacterial pneumonia included benzylpenicillin sodium salt. What is the mechanism of its antimicrobial action?

- a. Inhibition of the intracellular protein synthesis
- b. Inhibition of cell wall synthesis of the microorganism**
- c. Antagonism with the paraaminobenzoic acid
- d. Inhibition of the cholinesterase activity
- e. Inhibition of the SH enzyme groups of the microorganisms

1197. In the perianal folds of a 5-year-old girl her mother has found some white "worms" that caused itch and anxiety in the child. The "worms" were sent to the laboratory. During examination the physician saw white filiform helminths 0,5-1 cm long, with pointed ends, some helminths had twisted ends. What is the most likely diagnosis?

- a. Ascariasis
- b. Enterobiasis**
- c. Teniasis
- d. Opisthorchiasis
- e. Diphylobothriasis

1198. A newborn develops dyspepsia after the milk feeding. When the milk is substituted by the glucose solution the dyspepsia symptoms disappear. The newborn has the subnormal activity of the following enzyme:

- a. Maltase
- b. Isomaltase
- c. Lactase**
- d. Amylase
- e. Invertase

1199. Retrospective diagnostics of bacterial dysentery involved serological analysis of blood serum intended for determination of Shigella antibody titer. Which of the following reactions should be applied for this purpose?

- a. Bacteriolysis
- b. Haemolysis
- c. Passive haemagglutination**
- d. Complement binding
- e. Precipitation

1200. A young man complains about urination disorder. Examination of the external genitals revealed that the urethra was split and urine could flow out of this orifice. What anomaly of the external genitals development is it?

- a. Epispadia**
- b. Paraphimosis
- c. Hermaphroditism
- d. Phimosis
- e. Hypospadia

1201. Two hours after an exam a student had a blood count done and it was revealed that he had leukocytosis without significant leukogram modifications. What is the most probable mechanism of leukocytosis development?

- a. Deceleration of leukocyte lysis
- b. Leukopoiesis intensification
- c. Redistribution of leukocytes in the organism**
- d. Deceleration of leukocyte migration to the tissues
- e. Leukopoiesis intensification and deceleration of leukocyte lysis

1202. A patient was stung by a bee. Examination revealed that his left hand was hot, pink, edematic, there was a big red blister on the site of sting. What is the leading mechanism of edema development?

- a. Injury of vessels caused by the sting
- b. Drop of oncotic pressure in tissue
- c. Drop of osmotic pressure in tissue
- d. Increased vessel permeability**
- e. Reduced vessel filling

1203. A patient caught a cold after which there appeared facial expression disorder. He cannot close his eyes, raise his eyebrows, bare his teeth. What nerve is damaged?

- a. Glossopharyngeal
- b. Vagus
- c. Facial**
- d. Infraorbital
- e. Trigeminal

1204. A newborn child has convulsions that have been observed after prescription of vitamin B6. This most probable cause of this effect is that vitamin B6 is a component of the following enzyme:

- a. Glycogen phosphorylase
- b. Netoglutarate dehydrogenase
- c. Glutamate decarboxylase**
- d. Pyruvate dehydrogenase
- e. Aminolevulinic acid synthase

1205. Bacterioscopic examination of a smear from the pharynx of a diphtheria suspect revealed bacilli with volutin granules. What etiotropic drug should be chosen in this case?

- a. Eubiotic
- b. Diphtheritic antitoxin
- c. Bacteriophage
- d. Interferon
- e. Antidiphtheritic antitoxic serum**

1206. A patient has a decreased vasopressin synthesis that causes polyuria and as a result of it evident organism dehydration. What is the mechanism of polyuria development?

- a. Reduced tubular reabsorption of Na ions
- b. Acceleration of glomerular filtration
- c. Reduced tubular reabsorption of protein
- d. Reduced tubular reabsorption of water**
- e. Reduced glucose reabsorption

1207. A 62 year old patient who previously worked as stoker was admitted to a hospital with complaints about general weakness, abrupt weight loss, hoarse voice, dyspnea, dry cough. Laryngoscopy revealed a tumour in the pharynx that invaded vocal cords and epiglottis. What is the most probable cause of tumour development?

- a. Retroviruses
- b. Polycyclic aromatic hydrocarbons**
- c. Nitrosamines
- d. Ionizing radiation

e. Aromatic amines and amides

1208. Patients who suffer from severe diabetes and don't receive insulin have metabolic acidosis. This is caused by increased concentration of the following metabolites:

- a. Fatty acids
- b. Ketone bodies**
- c. Cholesterol
- d. Unsaturated fatty acids
- e. Triacylglycerols

1209. A 62 year woman complains of frequent pain attacks in the area of her chest and backbone, rib fractures. Her doctor suspected myeloma (plasmacytoma). What of the following laboratory characteristics will be of the greatest diagnostic importance?

- a. Hypoglobulinemia
- b. Hyperalbuminemia
- c. Paraproteinemia**
- d. Hypoproteinemia
- e. Proteinuria

1210. A 2 year old child had acute respiratory viral infection and died from cardiopulmonary decompensation. Autopsy revealed that his right lung was hyperemic; in the 2nd, 6th and 10th segments and on the incision there were airless yellowish foci of irregular form, from several mm up to 1 cm large. Microscopical examination revealed exudate consisting mainly of neutrophils in the given areas of pulmonary tissue in the alveoles, bronchioles and bronchial tubes. What is the most probable diagnosis?

- a. Focal pneumonia**
- b. Interstitial pneumonia
- c. Acute bronchitis
- d. Croupous pneumonia
- e. Pulmonary abscess

1211. Autopsy of a 17 year old girl who died from pulmonary failure revealed a small area of caseous necrosis in the inferior lobe of the right lung, and occurrences of caseous necrosis in the bronchopulmonary, bronchial and bifurcational lymph nodes. What is the most probable postmortem diagnosis?

- a. Hematogenous tuberculosis with predominant lung affection
- b. Tuberculoma
- c. Primary tuberculosis**
- d. Hematogenous progression of primary tuberculosis
- e. Caseous pneumonia under secondary tuberculosis

1212. People adapted to high external temperatures have such peculiarity: profuse sweating isn't accompanied by loss of large volumes of sodium chloride. This is caused by the effect of the following hormone upon the perspiratory glands:

- a. Natriuretic
- b. Tgroxin
- c. Vasopressin
- d. Aldosterone**
- e. Cortisol

1213. An experimental animal that was kept on protein-free diet developed fatty liver infiltration, in particular as a result of deficiency of methylating agents. This is caused by disturbed generation of the following metabolite:

- a. DOPA
- b. Cholesterol
- c. Acetoacetate
- d. Choline**
- e. Linoleic acid

1214. A man weighs 80 kg, after long physical activity his circulating blood volume is reduced down to 5,4 l, hematocrit makes up 50%, whole blood protein is 80 g/l. These blood characteristics are determined first of all by:

- a. Increased diuresis
- b. Increased circulating blood volume
- c. Increased protein concentration in plasma
- d. Water loss with sweat**
- e. Increased number of erythrocytes

1215. Examination of a patient with impaired blood coagulation revealed thrombosis of a branch of inferior mesenteric artery. What bowel segment is damaged?

- a. Ileum
- b. Colon ascendens
- c. Colon sigmoideum**
- d. Caecum
- e. Colon transversum

1216. A 42 year old woman with neuralgia of trifacial nerve complains about periodical reddening of the right part of her face and neck, sense of warmth gush, increased skin sensitivity. These effects can be explained by the following type of arterial hyperemia:

- a. Neuroparalytic
- b. Neurotonic**
- c. Functional
- d. Metabolic
- e. Reactive

1217. A 7 year old child often suffers from streptococcal angina. Doctor suspected development of rheumatism and administered serological examination. The provisional diagnosis will be most probably confirmed by presence of antibodies to the following streptococcal antigen:

- a. M-protein
- b. C-carbohydrate
- c. Erythrogenic toxin
- d. O-streptolysin**
- e. Capsular polysaccharide

1218. Clinical diagnosis of a female patient was gonorrhoea. What examination method can be applied for confirmation of this diagnosis?

- a. Infection of laboratory animals
- b. Microscopy of pathological material**
- c. Immobilization reaction
- d. Hemagglutination reaction
- e. Test with bacteriophage

1219. A patient staggers and walks astraddle. He has hypomyotonia of arm and leg muscles, staccato speech. In what brain section is this affection localized?

- a. Cerebellum**
- b. Caudate nucleus
- c. Putamen
- d. Motor cortex
- e. Red nucleus

1220. A bacteriological laboratory received sputum sample of a patient suffering from tuberculosis. Bacterioscopic examination of smears and detection of tuberculosis bacillus can be realized by one of enrichment methods that involves processing of sputum only with solution of caustic soda. What is this method called?

- a. Filtration
- b. Inactivation
- c. Homogenization**

- d. Neutralization
- e. Flotation

1221. Examination of an ovary specimen stained by hematoxylin-eosine revealed a follicle in which follicular epithelium consisted of 1-2 layers of cubic cells. There was also a bright red membrane around the ovocyte . What follicle is it?

- a. Primordial
- b. Mature
- c. Secondary
- d. Primary**
- e. Atretic

1222. Laboratory examination of a child revealed increased concentration of leucine, valine, isoleucine and their ketoderivatives in blood and urin E. Urine smelt of maple syrup. This disease is characterized by the deficit of the following enzyme:

- a. Dehydrogenase of branched amino acids**
- b. Aminotransferase
- c. Phosphofructokinase
- d. Glucose-6-phosphatase
- e. Phosphofructomutase

1223. Autopsy of a man who died from burn disease revealed brain edema, liver enlargement as well as enlargement of kidneys with wide light-grey cortical layer and plethoric medullary are A. Microscopic examination revealed necrosis of tubules of main segments along with destruction of basal membranes, intersticium edema with leukocytic infiltration and haemorrhages. What is the most probable postmortem diagnosis?

- a. Pyelonephritis
- b. Necrotic nephrosis**
- c. Myeloma kidney
- d. Gouty kidney
- e. Tubulointerstitial nephritis

1224. A couple had a child with Downs diseases E. Mother is 42 years ol D. This disease is most probably caused by the following impairment of prenatal development:

- a. Specific fetopathy
- b. Blastopathy
- c. Embryopathy
- d. Gametopathy**
- e. Non-specific fetopathy

1225. A patient suffering from pheochromocytoma complains of thirst, dry mouth, hunger. Blood test for sugar revealed hyperglycemi A. What type of hyperglycemia is it?

- a. Hypercorticoid
- b. Alimentary
- c. Adrenal**
- d. Somatotropic
- e. Hypoinsulinemic

1226. Examination of a newborn boys genitalia revealed an urethral hiatus that opens on the undersite of his penis. What malformation is it?

- a. Cryptorhidism
- b. Epispadia
- c. Hypospadias**
- d. Hermaphroditism
- e. Monorchism

1227. Blood of a 12 year old boy presents low concentration of uric acid and accumulation of xanthine and hypoxanthin E. This child has genetic defect of the following enzyme:ok

- a. Urease
- b. Ornithine carbamoyltransferase
- c. Xanthine oxidase**
- d. Arginase
- e. Glycerylkinase

1228. Cytogenetic examination of a patient with reproductive dysfunction revealed normal karyotype 46 XY in some cells, but most cells have karyotype of Klinefelters syndrome - 47 XXY. Such cell heterogeneity is called:

- a. Transposition
- b. Mosaicism**
- c. Inversion
- d. Duplication
- e. Monomorphism

1229. A patient got an injury of spinal marrow in a road accident that caused loss of tactile sensation, posture sense, vibration sens E. What conduction tracts are damaged?

- a. Tectospinal tract
- b. Rubrospinal tract
- c. Reticulospinal tract
- d. Anterior spinocerebellar tract
- e. Fascicle of Goll and cuneate fascicle**

1230. A 15 year old girl has pale skin, glossitis, gingivitis. Blood count: erythrocytes - $3,310^{12}/l$, hemoglobin - 70 g/l, colour index - 0,5. Examination of blood smear revealed hypochromia, microcytosis, poikilocytosis. What type of anemia is it?

- a. Thalassemia
- b. Hemolytic
- c. Iron-deficient**
- d. Sickle-cell
- e. B12-folic acid-deficient

1231. Blood group of a 30 year old man was specified before an operation. His blood is Rh-positiv E. Reaction of erythrocyte agglutination was absent with standard sera of $0\alpha\beta$ (I), $A\beta$ (II), $B\beta$ (III) groups. The blood under examination is of the following group:

- a. $B\alpha$ (III)
- b. -
- c. $0\alpha\beta$ (I)**
- d. AB (IV)
- e. $A\beta$ (II)

1232. A female patient underwent liver transplantation. 1,5 month after it her condition became worse because of reaction of transplant rejection. What factor of immune system plays the leading part in this reaction?

- a. B-lymphocytes
- b. Interleukin-1
- c. Natural killers
- d. T-killers**
- e. T-helpers

1233. A patient was admitted to the surgical department with inguinal herni A. During the operation the surgeon performs plastic surgery on posterior wall of inguinal canal. What structure forms this wall?

- a. Transverse fascia**
- b. Aponeurosis of abdominal external oblique muscle
- c. Peritoneum
- d. Loose inferior edge of transverse abdominal muscle
- e. Inguinal ligament

1234. A patient suffers from pulmonary tuberculosis. During treatment neuritis of visual nerve arose. What drug has caused this by-effect?

a. Isoniazid

b. Rifampicin

c. Kanamycin

d. Streptomycin

e. Ethambutol

1235. A patient with chronic cardiac insufficiency has been taking foxglove (Digitalis) preparations for a long time. Due to the violation of intake schedule the woman got symptoms of intoxication. These symptoms result from:

a. Idiosyncrasy

b. Material cumulation

c. Tachyphylaxis

d. Antagonism

e. Sensibilization

1236. A patient had been suffering from profuse diarrhea and vomiting for 2 days. He died from acute dehydration. Autopsy revealed that the intestinal wall was edematous and hyperemic, with multiple hemorrhages in the mucous membrane. Intestine lumen contains whitish fluid resembling rice water. What disease caused death?

a. Enterocolitis

b. Salmonellosis

c. Typhoid fever

d. Cholera

e. Dysentery

1237. A 30 year old man had been suffering from acute respiratory disease and died from cardiopulmonary decompensation. Autopsy revealed fibrinous-hemorrhagic inflammation in the mucous membrane of larynx and trachea, destructive panbronchitis, enlarged lungs that look black due to the multiple abscesses, hemorrhages, necrosis. What is the most probable postmortem diagnosis?

a. Influenza

b. Respiratory syncytial infection

c. Measles

d. Adenoviral infection

e. Parainfluenza

1238. A patient was diagnosed with Bartholin'sitis (inflammation of greater vulvovaginal glands). In which organ of urogenital system are these glands localized?

a. Clitoris

b. Uterus

c. Large lips of pudendum

d. Vagina

e. Small lips of pudendum

1239. Examination of a patient revealed typical presentations of collagenosis. This pathology is characterized by increase of the following urine index:

a. Glucose

b. Hydroxyproline

c. Arginine

d. Mineral salts

e. Ammonium salts

1240. After destruction of CNS structures an animal lost orientative reflexes. What structure was destroyed?

a. Quadrigeminal plate

b. Red nucleus

- c. Black substance
- d. Lateral vestibular nuclei
- e. Medial reticular nuclei

1241. A patient has been suffering from diarrhea for 5 days. On the fifth day colonoscopy revealed that membrane of rectum was inflamed, there were greyish-green films closely adhering to the subjacent tissue. What is the most probable diagnosis?

- a. Salmonellosis
- b. Typhoid fever
- c. Nonspecific ulcerous colitis
- d. Crohn's disease
- e. Dysentery**

1242. A cerebral trauma caused increased ammonia generation. What amino acid participates in the excretion of ammonia from the cerebral tissue?

- a. Lysine
- b. Valine
- c. Glutamic**
- d. Tyrosine
- e. Tryptophan

1243. A patient suffers from diabetes mellitus. After the regular insulin injection his condition grew worse: there appeared anxiety, cold sweat, tremor of limbs, general weakness, dizziness. What preparation can eliminate these symptoms?

- a. Adrenaline hydrochloride**
- b. Butamide
- c. Caffeine
- d. Glibutide
- e. Noradrenaline

1244. Examination of a child who frequently suffers from infectious diseases revealed that IgG concentration in blood serum was 10 times less than normal, IgA and IgM concentration was also significantly reduced. Analysis showed also lack of B-lymphocytes and plasmocytes. What disease are these symptoms typical for?

- a. Di George syndrome
- b. Bruton's disease**
- c. Louis-Bar syndrome
- d. Dysimmunoglobulinemia
- e. Swiss-type agammaglobulinemia

1245. A patient suffering from stenocardia was taking nitroglycerine which caused restoration of blood supply of myocardium and relieved pain in the cardiac area. What intracellular mechanism provides restoration of energy supply of insulted cells?

- a. Reduction of ATP resynthesis
- b. Intensification of RNA generation
- c. Intensification of oxygen transporting into the cell
- d. Intensification of ATP resynthesis**
- e. Increased permeability of membranes

1246. A 66-year-old female patient got intravenous injection of magnesium sulfate solution for the purpose of elimination of hypertensive crisis. But arterial pressure didn't go down and after repeated introduction of the same preparation there appeared sluggishness, slow response, inhibition of consciousness and respiration. What preparation is antagonist of magnesium sulfate and can eliminate symptoms of its overdose?

- a. Sodium chloride
- b. Activated carbon
- c. Calcium chloride**
- d. Potassium chloride

e. Potassium permanganate

1247. A 19 year old woman suffers from primary syphilis. Doctor administered her complex therapy that includes benzylpenicillin sodium salt. What is the mechanism of action of this drug?

a. It blocks synthesis of peptidoglycan of microbial membrane

b. It blocks DNA synthesis

c. It blocks synthesis of cytoplasm proteins

d. It blocks RNA synthesis

e. It blocks thiol enzymes

1248. Students who are taking examinations often have dry mouth. The mechanism that causes this state is the realization of the following reflexes:

a. Unconditioned peripheral

b. Conditioned sympathetic

c. Conditioned parasympathetic

d. Unconditioned parasympathetic

e. Unconditioned sympathetic

1249. A patient is 44 years old. Laboratory examination of his blood revealed that content of proteins in plasma was 40 g/l. What influence will be exerted on the transcapillary water exchange?

a. Exchange will stay unchanged

b. Filtration will be increased, reabsorption - decreased

c. Both filtration and reabsorption will be decreased

d. Both filtration and reabsorption will be increased

e. Filtration will be decreased, reabsorption - increased

1250. A viral infection has damaged cells that form walls of bile capillaries. This stimulated conditions for inflow of bile into the blood of sinusoidal capillaries. What cells are damaged?

a. Hepatocytes

b. Pit-cells

c. Kupffers cells

d. Endotheliocytes

e. Ito cells

1251. A healthy man is in a region with high risk of catching malaria. What drug should be administered for individual chemoprophylaxis of malaria?

a. Sulfalen

b. Metronidazole

c. Chingamin

d. Biseptol

e. Tetracycline

1252. A child is pale, pastose, muscular tissue is badly developed, lymph nodes are enlarged. He often suffers from angina and pharyngitis, blood has signs of lymphocytosis. The child is also predisposed to autoallergic diseases. What type of diathesis can be presumed in this case?

a. Asthenic

b. Gouty

c. Exudative

d. Hemorrhagic

e. Lymphohypoplastic

1253. Autopsy of a 5 year old child revealed in the area of vermis of cerebellum a soft greyish-pink node 2 cm in diameter with areas of haemorrhage. Histologically this tumour consisted of atypical monomorphous small roundish cells with big polymorphous nuclei. What tumour is it?

a. Meningioma

b. Medulloblastoma

c. Oligodendroglioma

d. Glioblastoma

e. Astrocytoma

1254. Surface with an intact toad on it was inclined to the right. Tone of extensor muscles became reflectory higher due to the activation of the following receptors:

- a. Vestibuloreceptors of semicircular ducts
- b. Photoreceptors of retina
- c. Proprioceptors
- d. Mechanoreceptors of foot skin

e. Vestibuloreceptors of utricle and saccule

1255. Lungs of a preterm infant have areas of atelectasis (pulmonary collapse). The main cause is:

- a. Increased viscous resistance
- b. Diminished force of surface tension of lungs
- c. Underdeveloped inspiration muscles
- d. Surfactant excess

e. Surfactant deficiency

1256. A patient got a trauma that caused dysfunction of motor centres regulating activity of head muscles. In what parts of cerebral cortex is the respective centre normally localized?

- a. Angular gyrus
- b. Superior part of precentral gyrus
- c. Supramarginal gyrus

d. Inferior part of precentral gyrus

e. Superior parietal lobule

1257. A patient suffers from stenocardia and takes isosorbide mononitrat E. He was prescribed a complementary drug with disaggregating effect. What drug is it?

- a. Nifedipine
- b. Propranolol

c. Acetylsalicylic acid

- d. Nitroglycerine
- e. Validol

1258. A patient in a transplantation centre underwent heart transplantation. The organ was taken from a donor who died in a road accident. Foreign heart can be rejected as a result of development of transplantation immunity. It is usually prevented by means of:

- a. Chemotherapy
- b. X-ray therapy

c. Immunosuppressors

- d. Enzymes
- e. Ultrasound

1259. A woman was delivered to a hospital for trachea intubation. What of the following drugs should be applied in this case?

a. Metronidazole

b. Dithylinum

- c. Gentamycin sulfate
- d. Atropine sulfate
- e. Nitroglycerine

1260. A patient with skin mycosis has disorder of cellular immunity. The most typical characteristic of it is reduction of the following index:

- a. B-lymphocytes
- b. Plasmocytes
- c. Immunoglobulin E
- d. Immunoglobulin G

e. T-lymphocytes

1261. Examination of a patient suffering from frequent haemorrhages in the inner organs and mucous

membranes revealed proline and lysine being included in collagen fibers. Impairment of their hydroxylation is caused by lack of the following vitamin:

- a. K
- b. E
- c. A
- d. C**
- e. D

1262. A patient complained about being unable to adduct and abduct fingers in the metacarpophalangeal articulations towards and away from the 3rd finger. Which muscles function is impaired?

- a. Extensors
- b. Long flexors of fingers
- c. Lumbrical muscles
- d. Interosseous muscles**
- e. Breviflexors of fingers

1263. A newborn child suffers from milk curdling in stomach, this means that soluble milk proteins (caseins) transform to insoluble proteins (paracaseins) by means of calcium ions and a certain enzyme E. What enzyme takes part in this process?

- a. Pepsin
- b. Lipase
- c. Gastrin
- d. Secretin
- e. Renin**

1264. During preparation of a patient to a heart surgery it was necessary to measure pressure in heart chambers. In one of them pressure varied from 0(what's this?!) mm Hg up to 120 mm Hg within one cardiac cycle. What heart chamber is it?

- a. -
- b. Left atrium
- c. Left ventricle**
- d. Right ventricle
- e. Right atrium

1265. A 50 year old patient underwent resection of tumour of large intestine wall. Microscopically it presents itself as fascicles of divergent collagen fibers of different thickness and form and some monomorphous fusiform cells that are irregularly distributed among the fibers. Cellular atypia is not evident. What tumour is it?

- a. Hard fibroma**
- b. Desmoma
- c. Fibrosarcoma
- d. Soft fibroma
- e. Fibromyoma

1266. During regular examination of schoolchildren it was revealed that a 10 year old girl had asymmetric oval eggs with a larva in the scrape from her perianal folds. What diagnosis should be made?

- a. Ascariasis
- b. Enterobiasis**
- c. Ankylostomiasis
- d. Amebiasis
- e. Trichocephalosis

1267. Examination of a man who had been working hard under higher temperature of the environment revealed abnormal quantity of blood plasma proteins. What phenomenon is the case?

- a. Absolute hyperproteinemia
- b. Dysproteinemia**

c. Absolute hypoproteinemia

d. Paraproteinemia

e. Relative hyperproteinemia

1268. A patient consumed a lot of rich in proteins food that caused increase of rate of proteolytic enzymes of pancreatic juice. It is also accompanied by increase of rate of the following enzyme:

a. Gastricsin

b. Trypsin

c. Enterokinase

d. Pepsin

e. Renin

1269. 6 months after labour a woman had uterine hemorrhage. Gynaecological examination of uterine cavity revealed a dark-red tissue with multiple cavities resembling of a "sponge". Microscopic examination of a tumour revealed in blood lacunae atypical light epithelial Langhans cells and giant cells of syncytiotrophoblast. What tumour is it?

a. Squamous cell nonkeratinous carcinoma

b. Fibromyoma

c. Adenocarcinoma

d. Cystic mole

e. Chorioepithelioma

1270. A patient was diagnosed with paralysis of facial and masticatory muscles. The haematoma is inside the genu of internal capsule. What conduction tract is damaged?

a. Tr. cortico-temporo-parieto-occipito-pontinus

b. Tr. cortico-thalamicus

c. Tr. cortico-fronto-pontinus

d. Tr. cortico-spinalis

e. Tr. cortico-nuclearis

1271. A sportsman needs to improve his sporting results. He was recommended to take a preparation that contains carnitine. What process is activated the most by this compound?

a. Amino acids transporting

b. Calcium ions transporting

c. Glucose transporting

d. Fatty acids transporting

e. Vitamin K transporting

1272. An unconscious young man with signs of morphine poisoning entered admission office. His respiration is shallow and infrequent which is caused by inhibition of respiratory centre. What type of respiratory failure is it?

a. Diffusive

b. Ventilative restrictive

c. Perfusive

d. Ventilative obstructive

e. Ventilative dysregulatory

1273. A patient has delayed conduction of excitement through the atrioventricular node. What changes of ECG will be observed?

a. Prolongation of Q-T interval

b. Prolongation of P-Q interval

c. Prolongation of Q-S interval

d. Negative T wave

e. S-T-segment displacement

1274. Roentgenological examination of skull base bones revealed enlargement of sellar cavity, thinning of anterior clinoid processes, destruction of different parts, destruction of different parts of sella turcica. Such bone destruction might be caused by a tumour of the following endocrinous

gland:

- a. Thymus gland
- b. Thyroid gland
- c. Adrenal glands
- d. Hypophysis**
- e. Epiphysis

1275. A 33 year old man died from uraemia A. Autopsy revealed enlarged kidneys weighing 500,0 each and consisting of multiple cavities 0,5-2 cm in diameter. The cavities were full of light-yellow transparent liqui D. Renal pelvis and ureters had no peculiarities. What renal disease caused uraemia?

- a. Chronic pyelonephritis
- b. Renal tumour
- c. Rapidly progressing glomerulonephritis
- d. Renal tuberculosis
- e. Bilateral polycystic renal disease**

1276. Inflammatory processes cause synthesis of protein of acute phase in an organism. What substances stimulate their synthesis?

- a. Interleukin-1**
- b. Interferons
- c. Biogenic amines
- d. Immunoglobulins
- e. Angiotensin

1277. In order to determine toxigenicity of diphtheria bacilli a strip of filter paper impregnated with antitoxic diphtherial serum was put on the dense nutrient medium. There were also inoculated a microbial culture under examination and a strain that is known to be toxigenic C. If the microbial culture under examination produces exotoxin, this will result in formation of:

- a. Haemolysis zones
- b. Precipitin ring
- c. Precipitin lines**
- d. Zones of diffuse opacification
- e. Zones of lecithovitellinous activity

1278. A patient was admitted to the infectious department. His symptoms: dry skin, decreased skin turgor, rice-water stool. The patient was diagnosed with cholera. What disorder of water-electrolytic balance is most often observed in this disease?

- a. Hyperosmotic hyperhydration
- b. Hypoosmotic hypohydration
- c. Isoosmotic hypohydration**
- d. Hypoosmotic hyperhydration
- e. Hyperosmotic hypohydration

1279. A patient has herpetic rash. What medication should be administered?

- a. Clotrimazole
- b. Acyclovir**
- c. Gentamycin
- d. Biseptol
- e. Benzylpenicillin sodium salt

1280. Inflammation of the tympanic cavity (purulent otitis media) was complicated by inflammation of mammillary process sockets. What wall of tympanic cavity did the pus penetrate into the sockets through?

- a. Medial
- b. Anterior
- c. Lateral
- d. Posterior**
- e. Superior

1281. ECG of a patient shows prolongation of T-wave. This is caused by deceleration in ventricles of:

- a. Relaxation
- b. Repolarization**
- c. Contraction
- d. Depolarization
- e. Depolarization and repolarization

1282. A patient suffers from chronic left-ventricular insufficiency. What medication should be administered?

- a. Etimazole
- b. Pyracetam
- c. Bemegride
- d. Vinpocetine
- e. Digoxin**

1283. A patient suffering from infectious mononucleosis has been taking glucocorticosteroids for two weeks. This resulted in remission but the patient got exacerbation of chronic tonsillitis. This complication is induced by the following effect of glucocorticosteroids:

- a. Antitoxic
- b. Immunosuppressive**
- c. Anti-inflammatory
- d. Anti-shock
- e. Antiallergenic

1284. An alcoholic woman has born a girl with mental and physical developmental lag. Doctors diagnosed the girl with fetal alcohol syndrome. What effect is the cause of the girl's state?

- a. Malignization
- b. Mechanic
- c. Mutagenic
- d. Teratogenic**
- e. Carcinogenic

1285. A patient complained about dizziness, memory impairment, periodical convulsions. It was revealed that these changes were caused by a product of decarboxylation of glutamic acid. Name this product:

- a. ATP
- b. Pyridoxal phosphate
- c. TDP
- d. GABA**
- e. THFA

1286. During an experiment a skeletal muscle is stimulated by a series of electric impulses. What type of muscle contraction will be observed provided that each subsequent impulse comes in the period of shortening of the previous single muscle contraction?

- a. Partial tetanus
- b. Muscle contracture
- c. A series of single contractures
- d. Asynchronous tetanus
- e. Holotetanus**

1287. Vagus branches that innervate heart are being stimulated during an experiment. This caused reduction of heart rate due to the intensification of the following process (through the cell membrane of cardiac pacemaker):

- a. Calcium ion yield
- b. Calcium ion entry
- c. Potassium ion yield**
- d. Potassium ion entry
- e. Calcium and potassium ion yield

1288. Untrained people often have muscle pain after sprints as a result of lactate accumulation. This might be caused by intensification of the following biochemical process:

- a. Glycogenesis
- b. Glycolysis**
- c. Gluconeogenesis
- d. Lipogenesis
- e. Pentose phosphate pathway

1289. A patient complains of frequent diarrheas, especially after consumption of rich food, weight loss. Laboratory examination revealed steatorrhea; his feces were hypocholi C. What might have caused such condition?

- a. Lack of pancreatic lipase
- b. Lack of pancreatic phospholipase
- c. Unbalanced diet
- d. Inflammation of mucous membrane of small intestine
- e. Obturation of biliary tracts**

1290. A 30 year old woman has face edemat A. Examination revealed proteinuria (5,87 g/l), hypoproteinemia, dysproteinemia, hyperlipidemi A. What condition is the set of these symptoms typical for?

- a. Chronic renal failure
- b. Nephritic syndrome
- c. Nephrotic syndrome**
- d. Chronic pyelonephritis
- e. Acute renal failure

1291. A scheme presents an exocrinous gland that has unbranched excretory duct with a terminal part in form of a saccule opening into the duct. How is this gland called according to the morphological classification of exocrinous glands?

- a. Simple unbranched alveolar**
- b. Compound branched alveolar
- c. Compound unbranched alveolar
- d. Simple branched tubular
- e. Compound unbranched alveolar tubular

1292. In course of laparotomy a surgeon revealed gangrenous lesion of descending colon. It was caused by thrombosis of the following artery:

- a. Median colic
- b. Dexter colic
- c. Ileocolic
- d. Superior mesenteric artery
- e. Sinister colic**

1293. Brain tomography revealed a tumour in the region of red nucleus. What part of brain is damaged?

- a. Cerebellum
- b. Pons cerebelli
- c. Interbrain
- d. Medulla oblongata
- e. Midbrain**

1294. A patient has been suffering from elevated temperature and attacks of typical cough for 10 days. Doctor administered inoculation of mucus from the patients nasopharynx on the agar. What microorganism is presumed?

- a. Staphylococcus
- b. Pfeiffers bacillus
- c. Klebsiella
- d. Listeria

e. Pertussis bacillus

1295. A 44 year old woman complains of general weakness, heart pain, significant increase of body weight. Objectively: moon face, hirsutism, AP is 165/100 mm Hg, height - 164 cm, weight - 103 kg; the fat is mostly accumulated on her neck, thoracic girdle, belly. What is the main pathogenetic mechanism of obesity?

- a. Reduced glucagon production
- b. Increased mineralocorticoid production
- c. Reduced production of thyroid hormones

d. Increased production of glucocorticoids

- e. Increased insulin production

1296. A patient in postoperative period was prescribed an anticholinesterase drug for stimulation of intestinal peristalsis and tonus of urinary bladder. What drug is it?

- a. Dichlothiazide

b. Proserin

- c. Propanolol
- d. Reserpine
- e. Mannitol

1297. A patient suffering from initial hypertension has been taking an antihypertensive preparation for a long time. Suddenly he stopped taking this preparation. After this his condition grew worse, this led to development of hypertensive crisis. This by-effect can be classified as:

- a. Tolerance
- b. Cumulation
- c. Sensibilization
- d. Dependence

e. Abstinence syndrome

1298. Hepatitis has led to the development of hepatic failure. Mechanism of edema formation is activated by the impairment of the following liver function:

- a. Cholegenetic

b. Protein-synthetic

- c. Glycogen-synthetic
- d. Antitoxic
- e. Barrier

1299. A patient has acne on his face. Microscopic examination of scrapings from the affected areas revealed living porrect vermiform arthropods 0,2-0,5 mm large with four pairs of short extremities in the front part of their bodies. What is the laboratory diagnosis?

- a. Phthiriasis
- b. Myiasis

c. Demodicosis

- d. Scabies
- e. Pediculosis

1300. A 64 year old woman has impairment of twilight vision (hemeralopia). What vitamin should be recommended in the first place?

- a. Vitamin B6
- b. Vitamin B2

c. Vitamin A

- d. Vitamin C
- e. Vitamin E

1301. A patient has difficulties with hand movement. Examination revealed inflammation of common synovial sheath of flexor muscles. It is known from the patient's anamnesis that he got a stab wound of finger a week ago. Which finger was most probably damaged?

- a. Digitus medius

- b. Digitus anularis
- c. Index
- d. Digitus minimus**
- e. Pollex

1302. A patient with obliterating atherosclerosis underwent sympathectomy of femoral artery in the region of femoral trigon E. What type of arterial hyperemia was induced by the operation?

- a. Metabolic
- b. Neurotonic
- c. Functional
- d. Neuroparalytic**
- e. Reactive

1303. A 47 year old man with myocardium infarction was admitted to the cardiological department. What changes of cellular composition of peripheral blood are induced by necrotic changes in the myocardium?

- a. Monocytosis
- b. Neutrophilic leukocytosis**
- c. Thrombocytopenia
- d. Lymphopenia
- e. Eosinophilic leukocytosis

1304. A 60 year old patient has impaired perception of high-frequency sounds. These changes were caused by damage of the following auditory analyzer structures:

- a. Eustachian tube
- b. Tympanic membrane
- c. Middle ear muscles
- d. Main cochlea membrane near the oval window**
- e. Main cochlea membrane near the helicotrema

1305. Examination of a 42 year old patient revealed a tumour of adenohypophysis. Objectively: the patients weight is 117 kg, he has moon-like hyperemic face, red-blue striae of skin distension on his belly. Osteoporosis and muscle dystrophy are present. AP is 210/140 mm Hg. What is the most probable diagnosis?

- a. Cushings disease**
- b. Conns disease
- c. Cushings syndrome
- d. Essential hypertension
- e. Diabetes mellitus

1306. A histological specimen presents an artery. One of the membranes of its wall has flat cells lying on the basal membran E. What type of cells is it?

- a. Macrophages
- b. Fibroblasts
- c. Endothelium**
- d. Smooth myocytes
- e. Mesothelium

1307. A patient with hip fracture was prescribed a narcotic analgeti C. Its anesthetic action is determined by interaction with the following receptors:

- a. Adrenoreceptors
- b. GABA-ergic receptors
- c. Benzodiazepine receptors
- d. Opiate receptors**
- e. Cholinoreceptors

1308. A 46 year old woman suffering from chololithiasis developed jaundic E. Her urine became dark-yellow and feces became colourless. Blood serum will have the highest concentration of the

following substance:

- a. Biliverdin
- b. Urobilinogen
- c. Mesobilirubin
- d. Conjugated bilirubin**
- e. Unconjugated bilirubin

1309. Normal, actively dividing cells of human red bone marrow are analyzed. What number of cell chromosomes is typical for G1 period?

- a. 48
- b. 45
- c. 47
- d. 46**
- e. 23

1310. A patient is ill with diabetes mellitus accompanied by hyperglycemia on an empty stomach (7,2 millimole/l). The hyperglycemia rate can be retrospectively estimated (over the last 4-8 weeks before the examination) on the ground of the rate of the following blood plasma protein:

- a. Glycated hemoglobin**
- b. Ceruloplasmin
- c. C-reactive protein
- d. Fibrinogen
- e. Albumin

1311. When blood circulation in the damaged tissue is restored, then lactate accumulation comes to a stop and glucose consumption decelerates. These metabolic changes are caused by activation of the following process:

- a. Anaerobic glycolysis
- b. Gluconeogenesis
- c. Glycogen biosynthesis
- d. Aerobic glycolysis**
- e. Lipolysis

1312. During influenza epidemic 40% of pupils who didn't go in for sports were affected by the disease, and among the pupils who regularly did physical exercises this index was only 20%. What adaptive mechanisms determined such a low sickness rate of pupils participating in the sports?

- a. Biochemical adaptation
- b. Cross adaptation**
- c. Genetic adaptation
- d. Specific adaptation
- e. Physiological adaptation

1313. A 65 year old female patient suffers from chronic renal insufficiency accompanied by evident edemata caused by chronic glomerulonephritis. What diuretic should be administered for forced diuresis?

- a. Acetazolamide
- b. Chlorthalidone
- c. Furosemide**
- d. Cyclometazide
- e. Hydrochlorothiazide

1314. A patient suffering from chronic cardiac insufficiency was recommended to undergo a prophylactic course of treatment with a cardiological drug from the group of cardiac glycosides that is to be taken enterally. What drug was recommended?

- a. Cordiamin
- b. Strophanthine
- c. Cordarone
- d. Corglycon**

e. Digoxin

1315. One of sections of central nervous system has layerwise arrangement of neurocytes. Among them there are cells of the following forms: stellate, fusiform, horizontal, pyramidal. What section of central nervous system is this structure typical for?

- a. Spinal cord
- b. Cerebellum
- c. Hypothalamus
- d. Medulla oblongata

e. Cortex of cerebrum

1316. A 4 year old child complained of pain during deglutition, indisposition. Objectively: palatine arches and tonsils are moderately edematic and hyperemic, there are greyish-white films up to 1 mm thick closely adhering to the subjacent tissues. What pathological process are these changes typical for?

- a. Metaplasia
- b. Inflammation
- c. Dystrophy
- d. Organization
- e. Necrosis

1317. A foreign body (a button) closed space of the right superior lobar bronchus. What segments of the right lung wont be supplied with air?

- a. Apical and posterior basal
- b. Superior and inferior lingular
- c. Apical and median basal
- d. Apical, posterior, anterior
- e. Medial and lateral

1318. A patient ill with thrombophlebitis of his lower limbs had chest pain, blood spitting, progressing respiratory insufficiency that led to his death. Autopsy diagnosed multiple lung infarctions. What is the most probable cause of their development?

- a. Thromboembolism of pulmonary artery branches
- b. Thromboembolism of bronchial arteries
- c. Thrombosis of bronchial arteries
- d. Thrombosis of pulmonary artery branches
- e. Thrombosis of pulmonary veins

1319. A full-term newborn child has yellowish skin and mucous membranes. This might be probably caused by temporary deficiency of the following enzyme:

- a. Heme synthetase
- b. Heme oxygenase
- c. UDPglucuronyltransferase
- d. Biliverdin reductase
- e. Uridine transferase

1320. Ultrasonic examination of a patient revealed aneurism in the area of aortic arch that caused alteration of vocal function of larynx. What nerve was constricted?

- a. Recurrent laryngeal
- b. Mandibular
- c. Superior laryngeal
- d. Sublingual
- e. Diaphragmatic

1321. Atria of an experimental animal were superdistended by blood that resulted in decreased reabsorption of Na^+ and water in renal tubules. This can be explained by the influence of the following factor upon kidneys:

- a. Natriuretic hormone

- b. Renin
- c. Angiotensin
- d. Vasopressin
- e. Aldosterone

1322. A patient suffers from hepatocirrhosis. State of antitoxic liver function can be characterized by examination of the following substance excreted by urine:

- a. Hippuric acid**
- b. Ammonium salts
- c. Amino acids
- d. Uric acid
- e. Creatinine

1323. Dietary intake of a 30 year old nursing woman contains 1000 mg of calcium, 1300 mg of phosphorus and 20 mg of iron per day. It is necessary to change content of these mineral substances in the following way:

- a. To increase calcium content
- b. To reduce iron content
- c. To increase phosphorus content**
- d. To increase iron content
- e. To reduce fluorine content

1324. A 25 year old patient was examined by a medical board. Examination revealed pathology of chest. Transverse dimensions were too small and the sternum was strongly protruding. What chest type is it?

- a. Funnel chest
- b. Barrel chest
- c. Cylindrical chest
- d. Flat chest
- e. Keeled chest**

1325. A 50 year old patient has been taking treatment thrice for the last 6 months because of fractures caused by domestic accidents. Microscopical examination of bony tissue revealed foci of lacunar resorption, giant-cell granulomas in the tumour-like formations, cysts. Bony tissue was substituted by fibrous connective tissue. Examination also revealed adenoma of parathyroid gland and hypercalcemia. What is the most probable diagnosis?

- a. Osteopetrosis
- b. Paget's disease
- c. Myelomatosis
- d. Osteomyelitis
- e. Parathyroid osteodystrophy**

1326. A young woman who entered a production department where it strongly smelled of paints and varnishes had a bronchospasm. This reflex was caused by irritation of the following receptors:

- a. Irritant**
- b. Juxtaglomerular
- c. Peripheral chemoreceptors
- d. Pleura receptors
- e. Central chemoreceptors

1327. An isolated muscle fiber is under examination. It was established that the threshold of stimulation force became significantly lower. What is the cause of this phenomenon?

- a. Inactivation of potassium channels of membrane
- b. Activation of potassium channels of membrane
- c. Activation of sodium channels of membrane**
- d. Inactivation of sodium channels of membrane
- e. Block of energy production in the cell

1328. Burned skin surface was treated with a certain preparation. Its antiseptic properties are provided by atomic oxygen that is formed in presence of organic substances. What preparation was applied?

- a. Alcoholic iodine solution
- b. Furacillin
- c. Chlorhexidine bigluconate
- d. Sodium hydrocarbonate

e. Potassium permanganate

1329. Examination of a patient suffering from cancer of urinary bladder revealed high rate of serotonin and hydroxyanthranilic acid. It is caused by excess of the following amino acid in the organism:

- a. Alanine
- b. Tryptophan**
- c. Histidine
- d. Methionine
- e. Tyrosine

1330. A man was intoxicated with mushrooms. They contain muscarine that stimulates muscarinic cholinoreceptors. What symptoms signalize intoxication with inedible mushrooms?

- a. Mydriatic pupils
- b. Myotic pupils**
- c. Bronchi dilatation
- d. Increased heart rate
- e. Rise of arterial pressure

1331. A patient who suffers from insomnia caused by emotional disorder was prescribed a hypnotic drug with tranquillizing effect. What hypnotic was prescribed?

- a. Nitrazepam**
- b. Chloral hydrate
- c. Bromisoval
- d. Phenobarbital
- e. Sodium ethaminal

1332. Examination of a 66 year old patient revealed a lytic tumour in the locus of pathological rib fracture. Histologically this tumour consists of atypical plasmoblasts. Further examination revealed osteoporosis in the bones of vertebral column and pelvis. These changes are typical for:

- a. Neuroblastoma
- b. Tuberculous osteomyelitis
- c. Metastatic lung cancer
- d. Ewing's osteosarcoma

e. Myelomatosis

1333. A 46 year old patient who had been suffering from tuberculosis for 6 years died from massive pulmonary haemorrhage. Autopsy revealed different-sized foci of sclerosis and caseous necrosis in lungs, in the upper part of the right lung there was a cavity 5 cm in diameter with dense grey walls, the cavity contained liquid blood and blood clots. What type of tuberculosis is it?

- a. Acute cavernous
- b. Fibrous focal
- c. Infiltrative

d. Fibrocavernous

- e. Acute focal

1334. During the repeated Widal's agglutination test it was noticed that the ratio of antibody titers and O-antigens *S. typhi* in the patient's serum had increased from 1:100 to 1:400. How would you interpret these results?

- a. The patient is an acute carrier of typhoid microbes
- b. The patient has typhoid fever**

- c. The patient was previously vaccinated against typhoid fever
- d. The patient is a chronic carrier of typhoid microbes
- e. The patient previously had typhoid fever

1335. A patient complained about muscle rigidity, constrained motions, constant tremor of arms. On the grounds of examination his disease was diagnosed as Parkinsons disease E. What drug should be administered?

- a. Levodopa**
- b. Diphenylhydantoin
- c. Phenobarbital
- d. Diazepam
- e. Ethosuximide

1336. Labelled amino acids alanine and tryptophane were injected to a mouse in order to study localization of protein synthesis in its cells. The labelled amino acids will be accumulated near the following organellas:

- a. Cell centre
- b. Smooth endoplasmic reticulum
- c. Ribosomes**
- d. Golgi apparatus
- e. Lysosomes

1337. A 56 year old patient suffering from cardiac insufficiency has edema of feet and shins, edematous skin is pale and col D. What is the leding mechanism of edema pathogenesis?

- a. Drop of oncotic pessure in capillaries
- b. Rise of hydrostatic pressure in venules**
- c. Increase of capillary permeability
- d. Disorder of lymph outflow
- e. Positive water balance

1338. A 50 year old man who was referred to the hospital for treatment of cervical lymphadenitis underwent test for induvidual sensitivity to penicillin. 30 seconds after he went hot all over, AP dropped down to 0 mm Hg that led to cardiac arrest. Resuscitation was unsuccessful. Autopsy results: acute venous plethora of internal organs; histological examination of skin (from the site of injection) revealed degranulation of mast cells (tissue basophils). Degranulation was also revealed in myocardium and lungs. What type of hypersensitivity reaction is it?

- a. -
- b. Immunocomplex-mediated
- c. Complement-mediated cytotoxic
- d. Anaphylactic**
- e. Delayed-type hypersensitivity

1339. During examination of a patient a dentist revealed a lot of "white spots" - zones of enamel demineralization. What microorganisms take part in the development of this process?

- a. Veilonella parvula
- b. Streptococcus pyogenes
- c. Streptococcus mutans**
- d. Staphylococcus epidermidis
- e. Streptococcus salivarius

1340. A patient who has been abusing tobacco smoking for a long time has got cough accompanied by excretion of viscous mucus; weakness after minor physical stress, pale skin. The patient has also lost 12,0 kg of body weight. Endoscopic examination of biosy material his illness was diagnosed as squamous cell carcinom A. Name a pathological process that preceded formation of the tumour:

- a. Metaplasia**
- b. Hypoplasia
- c. Necrosis
- d. Sclerosis

e. Hyperplasia

1341. In course of an experiment thalamocortical tracts of an animal were cut. What type of sensory perception remained intact?

- a. Visual
- b. Auditory
- c. Nociceptive
- d. Exteroreceptive
- e. Olfactory**

1342. Among junior children of an orphanage an outbreak of intestinal infection with signs of colienteritis was registered. In order to identify isolated causative agent it is necessary to:

- a. Study antigenic properties of the causative agent**
- b. To study virulence of the causative agent
- c. To determine sensitivity to antibiotics
- d. To study biochemical properties of the causative agent
- e. To study sensitivity to bacteriophages

1343. Vitamin A together with specific cytochrome receptors penetrates through the nuclear membranes, induces transcription processes that stimulate growth and differentiation of cells. This biological function is realized by the following form of vitamin A:

- a. Trans-retinoic acid**
- b. Cis-retinal
- c. Retinol
- d. Carotin
- e. Trans-retinal

1344. A 4 year old child with hereditary renal lesion has signs of rickets, vitamin D concentration in blood is normal. What is the most probable cause of rickets development?

- a. Increased excretion of calcium
- b. Impaired synthesis of calcitriol**
- c. Hypofunction of parathyroid glands
- d. Lack of calcium in food
- e. Hyperfunction of parathyroid glands

1345. A 35 year old man consulted a dentist about reduced density of dental tissue, high fragility of teeth during eating solid food. This patient suffers the most probably from the deficiency of the following mineral element:

- a. Calcium**
- b. Iron
- c. Magnesium
- d. Potassium
- e. Sodium

1346. A patient working at a pig farm complains about paroxysmal abdominal pain, liquid feces with admixtures of mucus and blood, headache, weakness, fever. Examination of large intestine revealed ulcers from 1 mm up to several cm large, feces contained oval unicellular organisms with cilia. What disease should be suspected?

- a. Toxoplasmosis
- b. Trichomoniasis
- c. Lamblasis
- d. Balantidiasis**
- e. Amebiasis

1347. A 25 year old Palestinian woman complains of weakness, dizziness, dyspnea. In anamnesis: periodically exacerbating anemia. In blood: Hb - 60 g/l, erythrocytes - $2,5 \cdot 10^{12}/l$, reticulocytes - 350/1000, anisocytosis and poikilocytosis of erythrocytes, a lot of target cells and polychromatophils. What type of anemia is it?

- a. Sick cell anemia
- b. Glucose 6-phosphate dehydrogenase-deficient anemia

c. Thalassemia

- d. Minkowsky-Shauffard disease
- e. Addison-Biermer disease

1348. A woman works as railway traffic controller. She suffers from seasonal vasomotor rhinitis and gets treatment in the outpatient setting. She was prescribed an antihistamine that has no effect upon central nervous system. What drug is it?

a. Suprastin

b. Loratadine

- c. Dimedrol
- d. Tavegil
- e. Promethazine

1349. Examination of a patient with pustular skin lesions allowed to isolate a causative agent that forms in the blood agar roundish yellow middle-sized colonies surrounded by haemolysis zone. Smears from the colonies contain irregular-shaped clusters of gram-positive cocci. The culture is oxidase- and catalase-positive, ferments mannitol and synthesizes plasmococculase. What causative agent was isolated?

a. Staphylococcus aureus

- b. Staphylococcus saprophyticus
- c. Streptococcus pyogenes
- d. Staphylococcus epidermidis
- e. Streptococcus agalactiae

1350. A patient complains about impaired evacuatory function of stomach (long-term retention of food in stomach). Examination revealed a tumour of initial part of duodenum. Specify localization of the tumour:

- a. Pars descendens
- b. Pars ascendens
- c. Flexura duodeni inferior

d. Pars superior

e. Pars inferior

1351. Histological examination of a 40 year old man's thymus revealed reduced share of parenchymatous elements, increased share of adipose and loose connective tissue, its enrichment with thymus bodies. The organ's mass was unchanged. What is this phenomenon called?

- a. Hypotrophy
- b. Dystrophy
- c. Atrophy
- d. Accidental involution

e. Age involution

1352. An infectious disease caused contractive activity of muscles that contract and dilate eye pupil (paralytic state). What functional eye system was damaged?

a. Lacrimal apparatus

b. Accommodative

- c. Photosensory
- d. Dioptric
- e. Ancillary

1353. Study of conversion of a food colouring agent revealed that neutralization of this xenobiotic takes place only in one phase - microsomal oxidation. Name a component of this phase:

- a. Cytochrome A
- b. Cytochrome B
- c. Cytochrome C

d. Cytochrome

e. Cytochrome oxidase

1354. Study of fingerprints (dactylography) is used by criminalists for personal identification as well as for diagnostics of genetic abnormalities, particularly Down's disease. What layer of skin determines individuality of fingerprints?

a. Reticular

b. Dermopapillary

c. Basal

d. Clear (stratum lucidum epidermidis)

e. Horny

1355. A 23 year old man has perforation of hard palate. In the area of this perforation there was a compact well-defined formation. Microscopic examination of the resected formation revealed a large focus of caseous necrosis surrounded by granulation tissue with endovasculitis, cellular infiltration composed of lymphocytes, epithelioid cells (mainly plasmacytes). What is the most probable diagnosis?

a. Leprosy

b. Scleroma

c. Tuberculosis

d. Sarcoma

e. Syphilis

1356. A clinic observes a 49 year old patient with significant prolongation of coagulation time, gastrointestinal haemorrhages, subcutaneous hematomas. These symptoms might be explained by the deficiency of the following vitamin:

a. B6

b. H

c. E

d. B1

e. K

1357. A doctor revealed tissue injury on patient's scalp with localized suppurations and diagnosed his disease as myiasis. This infestation is caused by larvae of the following insect:

a. Malarial mosquito

b. Wohlfahrt fly

c. Stable fly (*Stomoxys calcitrans*)

d. Mosquito

e. Kissing bug

1358. A 4 year old child was admitted to the orthopaedic department with shin fracture together with displacement. Bone fragments reposition requires preliminary analgesia. What preparation should be chosen?

a. Morphine hydrochloride

b. Panadol

c. -

d. Analgin

e. Promedol

1359. Emotional stress causes activation of hormone-sensitive triglyceride lipase in the adipocytes. What secondary mediator takes part in this process?

a. Adenosine monophosphate

b. Diacylglycerol

c. Cyclic guanosine monophosphate

d. Ions of Ca^{2+}

e. Cyclic adenosine monophosphate

1360. A patient suffering from periodical attacks caused by inhalation of different flavoring substances was diagnosed with atopic bronchial asthma. IgE level was increased. This is typical for

the following type of reactions:

- a. Cytotoxic reactions
- b. delayed-type hypersensitivity
- c. Anaphylactic reactions**
- d. Immunocomplex reactions
- e. Autoimmune reactions

1361. Researchers of a bacteriological laboratory examine tinned meat for botulinic toxin. For this purpose a group of mice was injected with an extract of the material under examination and antitoxic antitoxin serum of A, B, E types. A control group of mice was injected with the same extract but without antitoxin serum. What serological reaction was applied?

- a. Neutralization**
- b. Complement binding
- c. Double immune diffusion
- d. Precipitation
- e. Opsonocytotoxic

1362. Cardinal symptoms of primary hyperparathyroidism are osteoporosis and renal lesion along with development of urolithiasis. What substance makes up the basis of these calculi in this disease?

- a. Cholesterol
- b. Calcium phosphate**
- c. Bilirubin
- d. Cystine
- e. Uric acid

1363. A 45 year old man consulted a doctor about a plaque-like formation on his neck. Histological examination of a skin biopsy revealed clusters of round and oval tumour cells with a narrow border of basophilic cytoplasm resembling of cells of basal epidermal layer. What tumour is it?

- a. Hydroadenoma
- b. Basal cell carcinoma**
- c. Epidermal cancer
- d. Syringadenoma
- e. Trichoepithelioma

1364. A cell at the stage of mitosis anaphase was stimulated by colchicine that inhibits chromosome separation to the poles. What type of mutation will be caused?

- a. Duplication
- b. Translocation
- c. Deletion
- d. Polyploidy**
- e. Inversion

1365. 48 hours after tuberculin test (Mantoux test) a child had a papule 10 mm in diameter on the spot of tuberculin injection. What hypersensitivity mechanism underlies these changes?

- a. Anaphylaxis
- b. Cellular cytotoxicity**
- c. Antibody-dependent cytotoxicity
- d. Immunocomplex cytotoxicity
- e. Granulomatosis

1366. Introduction of a big dose of histamine to an experimental animal caused abrupt drop of arterial pressure as a result of:

- a. Constriction of resistance vessels
- b. Increase of heart rate
- c. Decrease of heart rate and force
- d. Decrease of heart rate
- e. Dilatation of resistance vessels**

1367. A patient died from acute cardiac insufficiency, among clinical presentations there was gastrointestinal haemorrhage. Examination of mucous membrane of stomach revealed some defects reaching myenteron; their edges and bottom were mostly even and loose, some of them contained dark-red blood. What pathological process was revealed?

- a. Erosions
- b. Inflammation
- c. Thrombosis
- d. Chronic ulcers

e. Acute ulcers

1368. Electronic microphotography of pulmonary alveoles wall presents a big cell. Its cytoplasm has a lot of mitochondria, developed Golgi apparatus, osmiophil lamellated corpuscles. What is the main function of this cell?

- a. It absorbs microorganisms
- b. It purifies the air

c. It produces surfactant

- d. It is a component of blood-air barrier
- e. It warms the air

1369. A patient underwent an operation on account of gall bladder excision that resulted in obstruction of Ca absorption through the bowels wall. What vitamin will stimulate this process?

a. PP

b. D3

- c. B12
- d. C
- e. K

1370. A 48 year old patient complained about intense pain, slight swelling and reddening of skin over the joints, temperature rise up to 38°C. Blood analysis revealed high concentration of urates. This condition might be caused by disturbed metabolism of:

- a. Collagen
- b. Cholesterol

c. Purines

- d. Carbohydrates
- e. Pyrimidines

1371. A 17 year old boy fell seriously ill, the body temperature rose up to 38,5°C, there appeared cough, rhinitis, lacrimation, nasal discharges. What inflammation is it?

- a. Serous
- b. Purulent
- c. Hemorrhagic

d. Catarrhal

e. Fibrinous

1372. It is known that the gene responsible for development of blood groups according to AB0 system has three allele variants. If a man has IV blood group, it can be explained by the following variability form:

- a. Genocopy
- b. Phenotypic
- c. Phenocopy
- d. Mutational

e. Combinative

1373. Characteristic sign of glycogenosis is muscle pain during physical work. Blood examination reveals usually hypoglycemia. This pathology is caused by congenital deficiency of the following enzyme:

a. Alpha amylase

b. Glycogen phosphorylase

- c. Gamma amylase
- d. Lysosomal glycosidase
- e. Glucose 6-phosphate dehydrogenase

1374. A concentrated solution of sodium chloride was intravenously injected to an animal. This caused decreased reabsorption of sodium ions in the renal tubules. It is the result of the following changes of hormonal secretion:

- a. Vasopressin reduction
- b. Reduction of atrial natriuretic factor

c. Aldosterone reduction

- d. Aldosterone increase
- e. Vasopressin increase

1375. An unconscious patient was delivered to the admission ward. Objectively: the patient's skin is cold, pupils are myotic, he has laboured Cheyne-Stokes respiration, arterial pressure is low, urinary bladder is full. What substance has caused intoxication?

a. Narcotic analgetics

- b. Tranquilizers
- c. -
- d. Non-narcotic analgetics
- e. Muscarinic receptor blockers

1376. A 22 year old patient from the West of Ukraine complains of laboured nasal breathing. Morphological examination of biopsy material of nasal mucous membrane revealed lymphoid, epithelioid, plasma cells as well as Mikulicz's cells. What is the most probable diagnosis?

- a. Syphilis
- b. Glanders

c. Rhinoscleroma

- d. Tuberculosis
- e. Leprosy

1377. An isolated cell of human heart automatically generates excitement impulses with frequency of 60 times per minute. This cell was taken from the following heart structure:

- a. Ventricle
- b. Atrium
- c. Atrioventricular node

d. Sinoatrial node

- e. His bundle

1378. Voluntary breath-holding caused increase of respiration depth and frequency. The main factor stimulating these changes of external respiration is:

- a. Increased tension of O₂ in blood
- b. Decreased tension of CO₂ in blood
- c. Decreased tension of O₂ in blood
- d. Decreased concentration of H⁺ in blood

e. Increased tension of CO₂ in blood

1379. A patient has low rate of magnesium ions that are necessary for affixion of ribosomes to the endoplasmic reticulum. It is known that it causes disturbance of protein biosynthesis. At what stage is protein biosynthesis impaired?

- a. Termination

b. Translation

- c. Replication
- d. Amino acid activation
- e. Transcription

1380. A 45 year old patient was admitted to the cardiological department. ECG data: negative P wave overlaps QRS complex, diastolic interval is prolonged after extrasystole. What type of extrasystole is

it?

- a. Bundle-branch
- b. Ventricular
- c. Atrioventricular**
- d. Atrial
- e. Sinus

1381. A 5 year old child is ill with measles. Blood analysis revealed increase of total number of leukocytes up to $13 \times 10^9/l$. Leukogram: basophils - 0, eosinophils - 1, myelocytes - 0, juvenile neutrophils - 0, band neutrophils - 2, segmented neutrophils - 41, lymphocytes - 28, monocytes - 28. Name this phenomenon:

- a. Lymphocytosis
- b. Eosinopenia
- c. Neutropenia
- d. Monocytosis**
- e. Agranulocytosis

1382. Surgical approach to the thyroid gland from the transverse (collar) approach involves opening of interaponeurotic suprasternal space. What anatomic structure localized in this space is dangerous to be damaged?

- a. Inferior thyroid artery
- b. Subclavicular vein
- c. Jugular venous arch**
- d. External jugular vein
- e. Superior thyroid artery

1383. During an operation a patient got injection of muscle relaxant dithylinum. Relaxation of skeletal muscles and inhibition of respiration lasted two hours. This condition was caused by absence of the following enzyme in blood serum:

- a. Catalase
- b. Butyrylcholin esterase**
- c. Glucose 6-phosphatase
- d. Glutathione peroxidase
- e. Acetylcholinesterase

1384. Microscopical examination of a microbial culture revealed fusiform spore-forming microorganisms that get violet-blue Grams stain. What microorganisms were revealed?

- a. Spirochaete
- b. Actinomycete
- c. Clostridia**
- d. Streptococci
- e. Diplococci

1385. A 63 year old male patient who had been suffering from chronic diffuse obstructive disease, pulmonary emphysema, for 15 years died from cardiac insufficiency. Autopsy revealed nutmeg liver cirrhosis, cyanotic induration of kidneys and spleen, ascites, edemata of lower limbs. These changes of internal organs are typical for the following disease:

- a. Chronic left-ventricular insufficiency
- b. General cardiac insufficiency
- c. Acute right-ventricular insufficiency
- d. Acute left-ventricular insufficiency
- e. Chronic right-ventricular insufficiency**

1386. A patient staying in the pulmonological department was diagnosed with pulmonary emphysema accompanied by reduced elasticity of pulmonary tissue. What type of respiration is observed?

- a. Superficial respiration
- b. Periodic respiration
- c. Inspiratory dyspnea

d. Infrequent respiration

e. Expiratory dyspnea

1387. A virological laboratory obtained pathological material (mucous discharges from nasal meatuses) taken from a patient with provisional diagnosis "influenza". What quick test will allow to reveal specific viral antigen in the material under examination?

a. Radioimmunoassay

b. Direct and indirect immunofluorescence test

c. Direct and indirect fluorescence immunoassay

d. Hemagglutination inhibition assay

e. -

1388. A patient ill with neurodermatitis has been taking prednisolone for a long time. Examination revealed high rate of sugar in his blood. This complication is caused by the drug influence upon the following link of carbohydrate metabolism:

a. Inhibition of glycogen synthesis

b. Glycogenogenesis activation

c. Activation of insulin decomposition

d. Intensification of glucose absorption in the bowels

e. Gluconeogenesis activation

1389. Examination of coronary arteries revealed atherosclerotic calcified plaques closing vessel lumen by $\frac{1}{3}$. The muscle has multiple whitish layers of connective tissue. What process was revealed in the myocardium?

a. Postinfarction cardiosclerosis

b. Diffusive cardiosclerosis

c. Myocardium infarction

d. Tiger heart

e. Myocarditis

1390. A 34 year old woman was diagnosed with hereditary microspherocytic hemolytic anemia (Minkowsky-Shauffard disease). What mechanism caused haemolysis of erythrocytes?

a. Membranopathy

b. Hemoglobinopathy

c. Bone marrow hypoplasia

d. Enzymopathy

e. Autoimmune disorder

1391. Examination of a patient revealed hypertrophy and inflammation of lymphoid tissue, edema of mucous membrane between palatine arches (acute tonsillitis). What tonsil is normally situated in this area?

a. -

b. Tonsilla lingualis

c. Tonsilla palatina

d. Tonsilla tubaria

e. Tonsilla pharyngealis

1392. Material taken from a patient with provisional diagnosis "influenza" was referred to a laboratory. For virological examination the hemadsorption reaction was applied. This reaction can be applied for detection of the following viruses:

a. All the simple viruses

b. Viruses containing hemagglutinins

c. Any viruses

d. DNA-genomic viruses

e. All the complex viruses

1393. During hypersensitivity test a patient got subcutaneous injection of an antigen which caused reddening of skin, edema, pain as a result of histamine action. This biogenic amine is generated as a

result of transformation of the following histidine amino acid:

- a. Deamination
- b. Decarboxylation**
- c. Phosphorylation
- d. Isomerization
- e. Methylation

1394. A patient with cholelithiasis fell ill with mechanic jaundic E. Examination revealed that the stone was in the common bile duct. What bile-excreting ducts make up the obturated duct?

- a. Ductus hepaticus communis et ductus cysticus**
- b. Ductus hepaticus communis et ductus choledochus
- c. Ductus hepaticus sinister et ductus cysticus
- d. Ductus hepaticus dexter et ductus cysticus
- e. Ductus hepaticus dexter et sinister

1395. A 25 year old man has spent a long time in the sun under high air humidity. As a result of it his body temperature rose up to 39oC. What pathological process is it?

- a. Hyperthermia**
- b. Hypothermia
- c. Infectious fever
- d. Noninfectious fever
- e. Burn disease

1396. A 70 year old female patient was diagnosed with fracture of left femoral neck accompanied by disruption of ligament of head of femur. The branch of the following artery is damaged:

- a. Obturator**
- b. Internal pudendal
- c. External iliac
- d. Inferior gluteal
- e. Femoral

1397. Examination of a pregnant woman revealed twice as much concentration of fibrinogen in blood plasm. What ESR can this woman have?

- a. 40-50 mm/h**
- b. 10-15 mm/h
- c. 5-10 mm/h
- d. 2-12 mm/h
- e. 0-5 mm/h

1398. A family of students who came from Africa got a child with anemia signs. The child died soon. Examination revealed that the childs erythrocytes have abnormal semilunar shap E. Specify genotypes of the childs parents:

- a. Aa x aa
- b. AA x AA
- c. Aa x Aa**
- d. aa x aa
- e. Aa x AA

1399. According to the model of double DNA helix that was suggested by Watson and Creek, it was established that one of chains would not be lost during replication and the second chain would be synthesized complementary to the first on E. What way of replication is it?

- a. Semiconservative**
- b. Dispersed
- c. Conservative
- d. Identical
- e. Analogous

1400. A patient underwent appendectomy. In the postoperative period he has been taking an antibioti

C. The patient complains about hearing impairment and vestibular disorders. What group of antibiotics has such by-effects?

- a. Penicillins
- b. Cephalosporins
- c. Macrolides
- d. Tetracyclines
- e. Aminoglycosides**

1401. A 2-year-old child with mental and physical retardation has been delivered to a hospital. He presents with frequent vomiting after having meals. There is phenylpyruvic acid in urine. Which metabolism abnormality is the reason for this pathology?

- a. Water-salt metabolism
- b. Carbohydrate metabolism
- c. Lipidic metabolism
- d. Phosphoric calcium metabolism
- e. Amino-acid metabolism**

1402. When measuring power inputs of a man by the method of indirect calorimetry the following results were obtained: 1000 ml oxygen consumption and 800 ml carbon dioxide liberation per minute. The man under examination has the following respiratory coefficient:

- a. 1,25
- b. 0,84
- c. 0,9
- d. 0,8**
- e. 1,0

1403. Microscopical examination of an enlarged cervical lymph node revealed blurring of its structure, absence of lymphoid follicles; all the microscopic fields showed cells with roundish nuclei and thin limbus of basophil cytoplasm. It is known from the clinical data that other groups of lymph nodes are also enlarged as well as spleen and liver. What disease might be suspected?

- a. Myeloid leukosis
- b. Lymphosarcoma
- c. Lymphogranulomatosis
- d. Lymphoid leukosis**
- e. Multiple myeloma

1404. A student failed to answer all the questions of examination paper correctly. As a result he blushed, felt hot and lost confidence. What type of arterial hyperemia has developed in this case?

- a. Postishemic hyperemia
- b. Pathologic hyperemia
- c. Neuroparalytic hyperemia
- d. Metabolic hyperemia
- e. Neurotonic hyperemia**

1405. Heart rate of a 30-year-old man under emotional stress reached 112 bpm. The reason for the heart rate increase is the altered condition of the following conducting system of heart:

- a. Sinoatrial node**
- b. Atrioventricular node
- c. His bundle
- d. Purkinjes fibers
- e. His bundle branches

1406. During examination of a 6-year-old child a doctor revealed greyish films on the pharyngeal tonsils. Their removal provoked moderate haemorrhage. Bacterioscopy revealed gram-positive clublike bacteria. What symptoms will develop in this child within the next few days if no specific treatment is provided?

- a. Papulous skinrash
- b. Toxic lesions of myocard, liver and kidney**

- c. Intermittent fever
- d. Pulmonary edema
- e. Strong paroxysmal cough

1407. A patient with coronary disease and arrhythmia has been administered a drug that blocks potassium channels and prolongs the action potential. What drug is it?

- a. Corglyconum
- b. Nitroglycerin
- c. Lisinopril
- d. Amiodarone**
- e. Dobutamine

1408. A 45-year-old patient was admitted to the cardiological department. ECG data: negative P wave overlaps QRS complex, diastolic interval is prolonged after extrasystole. What type of extrasystole is it?

- a. Ventricular
- b. Atrial
- c. Bundle-branch
- d. Sinus
- e. Atrioventricular**

1409. A patient consulted a doctor about a sensation of imbalance which appeared after a trauma. Which nerve is damaged?

- a. Vagus nerve
- b. Vestibulocochlear nerve**
- c. Trigeminal nerve
- d. Facial nerve
- e. Intermediate nerve

1410. A 25-year-old man has spent a long time in the sun under high air humidity. As a result of it his body temperature rose up to 39°C. What pathological process is it?

- a. Hyperthermia**
- b. Hypothermia
- c. Noninfectious fever
- d. Infectious fever
- e. Burn disease

1411. After an immunoassay a child was diagnosed with immunodeficiency of humoral immunity. What is the reason for the primary immunodeficiency development in the child?

- a. Pathometabolism in mothers organism
- b. Hereditary abnormality of immune system**
- c. Toxic damage of B-lymphocytes
- d. Embryonal development abnormalities
- e. Immune responsiveness and resistance disorders

1412. A patient takes digoxin for cardiac insufficiency. What diuretic may increase digoxin toxicity due to the intensified excretion of K⁺ ions?

- a. Panangine
- b. Spironolactone
- c. Lisinopril
- d. Siliborum
- e. Hydrochlorothiazide**

1413. Before a surgery a blood sample of a 30-year-old man has been typed. Blood is Rh-positive. Standard serums of such groups as 0 α β (I), Aβ (II), Bα (III) didn't activate erythrocyte agglutination reaction. The group of the analyzed blood is:

- a. AB (IV)
- b. Aβ (II)

c. -

d. $O \alpha \beta$ (I)

e. $B\alpha$ (III)

1414. 12 hours after an acute attack of retrosternal pain a patient presented a jump of aspartate aminotransferase activity in blood serum. What pathology is this deviation typical for?

a. Viral hepatitis

b. Myocardium infarction

c. Collagenosis

d. Diabetes insipidus

e. Diabetes mellitus

1415. A male patient has fever and enanthesis. As a result of the examination involving serological tests he has been diagnosed with fasciola hepatica. It was found out that the patient had been infected through raw river water. Which stage of fasciola life cycle is invasive for humans?

a. Ovum

b. Adolescaria

c. Metacercaria

d. Miracidium

e. Cysticercus

1416. A male patient has been diagnosed with gastric ulcer. Bacteriological examination of biopsy material from the affected part of stomach revealed small colonies of gram-negative, oxide reductase-positive flexibacteria that grew on the chocolate agar on the fifth day. Which of the following microorganisms is the most likely causative agent?

a. Mycoplasma hominis

b. Helicobacter pylori

c. Chlamydia trachomatis

d. Campilobacter jejuni

e. Campilobacter fetus

1417. An infant has pylorospasm, weakness, hypodynamia, convulsions as a result of frequent vomiting. What kind of acid-base disbalance is it?

a. Excretory acidosis

b. Excretory alkalosis

c. Exogenous nongaseous acidosis

d. Gaseous alkalosis

e. Metabolic acidosis

1418. Proserin increases skeletal muscle tone when given systematically. Halothane induces relaxation of skeletal muscles and reduces proserin effects. What is the nature of proserin and halothane interaction?

a. Competitive antagonism

b. Noncompetitive antagonism

c. Direct functional antagonism

d. Indirect functional antagonism

e. Independent antagonism

1419. Blood analysis of a patient with jaundice reveals conjugated bilirubinemia, increased concentration of bile acids. There is no stercobilinogen in urine. What type of jaundice is it?

a. Parenchymatous jaundice

b. Hemolytic jaundice

c. Obstructive jaundice

d. Hepatocellular jaundice

e. Cythemolytic jaundice

1420. A man is being measured power inputs on an empty stomach, in the lying position, under conditions of physical and psychic rest at a comfortable temperature. Power inputs will reach the

maximum at:

- a. 10-12 a.m
- b. 5-6 p.m**
- c. 2-3 p.m
- d. 7-8 a.m
- e. 3-4 a.m

1421. A woman suffering from osteochondrosis has acute pain in her humeral articulation that gets worse when she tries to abduct her shoulder. These symptoms might be caused by damage of the following nerve:

- a. Thoracodorsal nerve
- b. Dorsal scapular nerve
- c. Axillary nerve**
- d. Subscapular nerve
- e. Subclavicular nerve

1422. A 26-year-old man is in the torpid shock phase as a result of a car accident. In blood: $3,2 \times 10^9/l$. What is the leading mechanism of leukopenia development?

- a. Redistribution of leukocytes in bloodstream**
- b. Leikopoiesis inhibition
- c. Intensified elimination of leukocytes from the organism
- d. Lysis of leukocytes in the blood-forming organs
- e. Disturbed going out of mature leukocytes from the marrow into the blood

1423. ECG of a 44-year-old patient shows signs of hypertrophy of both ventricles and the right atrium. The patient was diagnosed with the tricuspid valve insufficiency. What pathogenetic variant of cardiac dysfunction is usually observed in case of such insufficiency?

- a. Coronary insufficiency
- b. Primary myocardial insufficiency
- c. Cardiac tamponade
- d. Heart overload by volume**
- e. Heart overload by resistance

1424. A man with a wound of his limb that had been suppurating for a long time died from intoxication. Autopsy revealed extreme emaciation, dehydration, brown atrophy of liver, myocardium, spleen and cross-striated muscles as well as renal amyloidosis. What diagnosis corresponds with the described presentations?

- a. Chroniosepsis**
- b. Septicemia
- c. Chernogubovs syndrome
- d. Septicopyemia
- e. Brucellosis

1425. Examination of a 70-year-old patient revealed noninsulin-dependent diabetes. What drug should be administered?

- a. Parathyroidin
- b. Glibenclamid**
- c. Cortisone
- d. Mercazolilum
- e. Insulin

1426. A 30-year-old male patient with acute pancreatitis has been found to have a disorder of cavitary protein digestion. The reason for such condition can be the hyposynthesis and hyposecretion of the following enzyme:

- a. Tripsin**
- b. Pepsin
- c. Amylase
- d. Dipeptidase

e. Lipase

1427. A female patient consulted a doctor about a sense of epigastric discomfort, nausea and anorexia. A duodenal content analysis revealed lamblia. What drug should be prescribed?

a. Chingamin

b. Acyclovir

c. Metronidazole

d. Rifampicin

e. Isoniazid

1428. A patient consulted a doctor about loss of taste sensitivity on the tongue root. The doctor revealed that it is caused by nerve affection. Which nerve is it?

a. Facial nerve

b. Superlaryngeal nerve

c. Glossopharyngeal

d. Vagus nerve

e. Trigeminal nerve

1429. A 38-year-old patient came to a traumatology centre and complained about an injury of his right hand. Objectively: the patient has a cut wound in the region of the thenar eminence on the right hand; distal phalanx of the I finger cannot be flexed. What muscle was injured?

a. Abductor muscle of thumb

b. Long flexor muscle of thumb

c. Short flexor muscle of thumb

d. Short abductor muscle of thumb

e. Opposer muscle of thumb

1430. Blood count of an athlete is as follows: erythrocytes - $5,5 \times 10^{12}/l$, Hb- 180 g/l, leukocytes - $7 \times 10^9/l$, neutrophils - 64%, basophils - 0,5%, eosinophils - 0,5%, monocytes - 8%, lymphocytes - 27%. First of all, such results indicate the stimulation of:

a. Leukopoiesis

b. Immunogenesis

c. Granulocytopoiesis

d. Erythropoiesis

e. Lymphopoiesis

1431. An older woman has been hospitalised for acute pain and edema of the right hip joint that appered after a fall. Objectively: the hip is adduced inwards, hip joint movements are impaired. The patient is most likely to have a fracture of the following bone or bone part:

a. Femoral neck

b. Ischial bone

c. Condyle of femur

d. Shaft of femur

e. Pubic bone

1432. A 1-year-old baby has been hospitalised for body and limbs lesions. Examination revealed carnitine deficiency in the childs muscles. A biochemical reason for this pathology is the disorder of:

a. Substrate-linked phosphorylation

b. Utilization of lactic acid

c. Regulation of Ca^{2+} rate in mitochondria

d. Oxidative phosphorylation

e. Transport of fatty acids to mitochondria

1433. During anesthetization a patient presented with symptoms of tonus increase of parasympathetic nervous system such as hypersalivation and laryngospasm. What drug could have prevented these undesirable effects?

a. Adrenaline hydrochloride

b. Analgin

c. Neostigmine

d. Atropine sulphate

e. Pyracetam

1434. After inoculation of the material obtained from the pharynx of an angina patient onto the blood-tellurite agar, grey colonies could be observed. They were 4-5 mm in diameter, radially striated (in form of rosettes). Microscopical examination revealed gram-positive bacilli with clavate swollen ends arranged in form of wide-spread fingers. Identify these microorganisms:

a. Diphtheria corynebacteria

b. Streptobacilli

c. Streptococci

d. Diphtheroids

e. Clostridium botulinum

1435. A 19-year-old female patient has had low haemoglobin rate of 90-95 g/l since childhood. Blood count results obtained after hospitalisation are as follows: erythrocytes - $3,2 \cdot 10^{12}/l$, Hb- 85 g/l, colour index - 0,78; leukocytes - $5,6 \cdot 10^9/l$, platelets - $210 \cdot 10^9/l$. Smear examination revealed anisocytosis, poikilocytosis and target cells. Reticulocyte rate is 6%. Iron therapy was ineffective. What blood pathology corresponds with the described clinical presentations?

a. Membranopathy

b. Sickle-cell anemia

c. Thalassemia

d. Enzymopathy

e. Favism

1436. Autopsy of a man with a malignant stomach tumour who had died from cancer intoxication revealed in the posteroinferior lung fields some dense, grayish-red irregular foci protruding above the section surface. Microscopic examination revealed exudate containing a large amount of neutrophils in the lumen and walls of small bronchi and alveoles. Such pulmonary alterations indicate the following disease:

a. Intermittent pneumonia

b. Acute bronchitis

c. Acute purulent bronchopneumonia

d. Croupous pneumonia

e. Acute serous bronchopneumonia

1437. It was revealed that T-lymphocytes were affected by HIV. Virus enzyme - reverse transcriptase (RNA-dependent DNA-polymerase) - catalyzes the synthesis of:

a. DNA on the matrix of virus mRNA

b. DNA on virus ribosomal RNA

c. mRNA on the matrix of virus protein

d. Viral DNA on DNA matrix

e. Virus informational RNA on the matrix of DNA

1438. An injured person was delivered to the hospital with a penetrating wound in the left lateral region of abdomen. What part of the large intestine is most likely damaged?

a. Colon ascendens

b. Colon descendens

c. Rectum

d. Caecum

e. Colon transverses

1439. A surgeon has to find the common hepatic duct during the operative intervention on account of concrements in the gall ducts. The common hepatic duct is located between the leaves of:

a. Round ligament of liver

b. Hepatorenal ligament

c. Hepatogastric ligament

d. Venous ligament

e. Hepatoduodenal ligament

1440. In order to determine toxigenicity of diphtheria bacilli a strip of filter paper impregnated with antitoxic diphtherial serum was put on the dense nutrient medium. There were also inoculated a microbial culture under examination and a strain that is known to be toxigenic. If the microbial culture under examination produces exotoxin, this will result in formation of:

- a. Haemolysis zones
- b. Precipitin ring

c. Precipitin lines

- d. Zones of lecithovitellinous activity
- e. Zones of diffuse opacification

1441. Pyeloureterography X-ray photo showed a renal pelvis with minor calyces only (major calyces were absent). What form of urinary tracts of a kidney was revealed?

- a. Ampullar
- b. -

c. Embryonal

- d. Fetal
- e. Mature

1442. A 35-year-old man developed acute heart failure while running for a long time. What changes in ionic composition can be observed in the cardiac muscle?

a. Accumulation of Na^+ and Ca^{2+} ions in the myocardium cells

- b. Reduction of K^+ and Mg^{2+} ions in the extracellular space
- c. Reduction of Na^+ and Ca^{2+} ions in the extracellular space
- d. Accumulation of K^+ and Mg^{2+} ions in the myocardium cells
- e. Reduction of Na^+ and Ca^{2+} ions in the myocardium cells

1443. A patient has coarctation. What is the reason of such condition?

- a. Adrenaline action
- b. Noradrenaline action
- c. Increased activity of sympathoadrenal system

d. Increased tonus of parasympathetic centres

- e. Increased tonus of sympathetic centres

1444. A patient is 44 years old. Laboratory examination of his blood revealed that content of proteins in plasma was 40 g/l. What influence will be exerted on the transcapillary water metabolism?

- a. Filtration will be decreased, reabsorption - increased
- b. Both filtration and reabsorption will be decreased

c. Filtration will be increased, reabsorption - decreased

- d. Both filtration and reabsorption will be increased
- e. Metabolism will stay unchanged

1445. Ultramicroscopical examination of "dark" hepatocyte population in the cell cytoplasm detected a developed granular endoplasmic reticulum. What function has this organelle in these cells?

- a. Bile production
- b. Carbohydrate synthesis
- c. Deintoxicative function
- d. Calcium ion depositing

e. Synthesis of blood plasma proteins

1446. A sensitive neural ganglion consists of roundish neurocytes with one extension that divides into axon and dendrite at a some distance from the perikaryon. What are these cells called?

- a. Bipolar

b. Pseudounipolar

- c. Multipolar
- d. Unipolar
- e. Apolar

1447. A 55-year-old male patient was hospitalised to a surgical clinic for suspected septicemia. What material should be taken for analysis?

- a. Liquor, serum agar
- b. Lymph node punctate, cysteine agar
- c. Pus, yolk saline agar
- d. Urine, beef-extract broth
- e. Blood, sugar broth**

1448. This drug has a destructive effect on erythrocytic forms of malarial plasmodia and dysenteric amoebae. It is used for treatment and prevention of such diseases as malaria, amebiasis and interstitial disease. What drug is it?

- a. Tetracycline
- b. Erythromycin
- c. Quinine
- d. Emetine hydrochloride
- e. Chingamin**

1449. A disaster fighter at a nuclear power plant developed hemorrhagic syndrome on the background of acute radiation disease. What is the most important factor of syndrome pathogenesis?

- a. Vascular wall damage
- b. Decreased activity of coagulative factors
- c. Increased activity of fibrinolysis factors
- d. Increased activity of anticoagulative system factors
- e. Thrombocytopenia**

1450. A patient with enteritis accompanied by massive diarrhea has low water rate in the extracellular space, high water rate inside the cells and low blood osmolarity. What is such disturbance of water-electrolytic metabolism called?

- a. Hyperosmolar hypohydration
- b. Osmolar hypohydration
- c. Hypo-osmolar hypohydration**
- d. Hyperosmolar hyperhydration
- e. Hypo-osmolar hyperhydration

1451. Some students developed myodynia after continuous physical activity during physical education. The reason for such condition was accumulation of lactic acid in the skeletal muscles. It was generated in the students bodies after activation of the following process:

- a. Lipolysis
- b. Gluconeogenesis
- c. Glycogeny
- d. Glycolysis**
- e. Pentose-phosphate cycle

1452. An adult man presents with systemic arterial pressure drop from 120/70 to 90/50 mm Hg. This resulted in reflex vasoconstriction. Vasoconstriction will be minimal in the following organ:

- a. Liver
- b. Skeletal muscles
- c. Skin
- d. Bowels
- e. Heart**

1453. A three-year-old child has had marked diarrhea for three days. Immune electron microscopy of his excrements revealed bilayer pseudocovered capsid viruses that looked like small spoke wheels. What viruses have been revealed?

- a. Coronaviruses
- b. Rotaviruses**
- c. ECHO viruses
- d. Coxsackie viruses

e. Reoviruses

1454. A patient consulted an urologist about pain during urination. Analysis of his urine taken in the daytime revealed eggs with a characteristic sharp point. It is known from the anamnesis that the patient has recently returned from Australia. What is the most likely diagnosis?

- a. Intestinal schistosomiasis
- b. Japanese schistosomiasis
- c. Urogenital schistosomiasis**
- d. Opisthorchiasis
- e. Dicrocoeliasis

1455. A tooth extraction in a patient with chronic persistent hepatitis was complicated with prolonged hemorrhage. What is the reason for the haemorrhagic syndrome?

- a. Decrease in thrombin production**
- b. Increase in thromboplastin production
- c. Decrease in fibrin production
- d. Increase in fibrinogen synthesis
- e. Fibrinolysis intensification

1456. In course of a conditional experiment the development of mesenchyma cells was completely inhibited. Development of the following muscular tissue will be disturbed:

- a. Cardiac muscular tissue
- b. Epidermal muscular tissue
- c. Skeletal muscular tissue
- d. Neural muscular tissue
- e. Smooth muscular tissue**

1457. A patient with essential hypertension has a high rate of blood renin. Which of antihypertensive drugs should be preferred?

- a. Propranolol
- b. Nifedipine
- c. Prazosinum
- d. Dichlothiazide
- e. Lisinopril**

1458. Autopsy of a 73-year-old man who had been suffering from the coronary heart disease along with cardiac insufficiency for a long time revealed: nutmeg liver, brown induration of lungs, cyanotic induration of kidneys and spleen. What kind of circulation disorder was the cause of such effects?

- a. Acute anaemia
- b. Chronic anaemia
- c. Arterial hyperaemia
- d. General acute venous congestion
- e. General chronic venous congestion**

1459. It was found out that some compounds, for instance fungi toxins and some antibiotics can inhibit activity of RNA-polymerase. What process will be disturbed in a cell in case of inhibition of this enzyme?

- a. Replication
- b. Processing
- c. Translation
- d. Transcription**
- e. Reparation

1460. As a result of activation of the ion channels of the external membrane the rest potential of an excitable cell has greatly increased. What channels were activated?

- a. Sodium and calcium channels
- b. Potassium channels**
- c. Slow calcium channels

- d. Sodium channels
- e. Fast calcium channels

1461. A patient underwent an extraction of a part of a CNS structures by medical indications. As a result of the extraction the patient developed atony, astasia, intention tremor, ataxy and adiadochokinesis. Which part of CNS structure had been extracted?

- a. Basal ganglions
- b. Limbic system
- c. Cerebellum**
- d. Amygdaloid corpus
- e. Hippocamp

1462. Study of conversion of a food colouring agent revealed that neutralization of this xenobiotic takes place only in one phase - microsomal oxydation. Name a component of this phase:

- a. Cytochrome oxidase
- b. Cytochrome C
- c. Cytochrome B
- d. Cytochrome p-450**
- e. Cytochrome A

1463. After a craniocerebral trauma a patient lost the ability to execute learned purposeful movements (apraxia). The injury is most likely localized in the following region of the cerebral cortex:

- a. Gyrus angularis
- b. Gyrus paracentralis
- c. Gyrus parahippocampalis
- d. Gyrus lingualis
- e. Gyrus supramarginalis**

1464. Jaundice treatment involves administration of barbiturates inducing the synthesis of UDP-glucuronyl transferase. A medicinal effect is caused by the production of:

- a. Indirect reacting (unconjugated) bilirubin
- b. Direct reacting (conjugated) bilirubin**
- c. Protoporphyrin
- d. Heme
- e. Biliverdin

1465. A doctor recommends a patient with duodenal ulcer to drink cabbage and potato juice after the therapy course. Which substances contained in these vegetables help to heal and prevent the ulcers?

- a. VitaminB1
- b. Vitamin K
- c. Pantothenic acid
- d. Vitamin C
- e. Vitamin U**

1466. A patient complains of hydruria (7 liters per day) and polydipsia. Examination reveals no disorders of carbohydrate metabolism. These abnormalities might be caused by the dysfunction of the following endocrine gland:

- a. Adrenal cortex
- b. Neurohypophysis**
- c. Adrenal medulla
- d. Adenohypophysis
- e. Islets of Langerhans (pancreatic islets)

1467. In order to accelerate healing of a radiation ulcer a vitamin drug was administered. What drug is it?

- a. Prednisolone
- b. Levamisole
- c. Retabolil

d. Methyluracil

e. Retinol acetate

1468. Which way of heat emission by the bodies of greenhouse workers is the most effective at the temperature of 36°C degrees and relative humidity of 70%?

a. Liquid evaporation

b. Thermal conduction

c. Convection

d. -

e. Heat radiation

1469. A patient with cardiogenic shock, hypotension, asphyxia and edemata was given an injection of non-glycosidic cardiotonic. What drug was injected?

a. Aethimizolum

b. Cordiamin

c. Bemegride

d. Dobutamine

e. Caffeine sodium benzoate

1470. A patient has food poisoning. Laboratory analysis revealed a culture of anaerobic gram-positive spore-forming bacteria. What is the most likely kind of the isolated causative agent?

a. Esherichia coli

b. P. mirabilis

c. Vibrio parahemolyticus

d. Proteus vulgaris

e. C. perfringens

1471. A 70-year-old male patient died from acute coronary insufficiency. He had knee joint swelling, gonycampsis and gonalgia during his lifetime. Pathomorphologic examination of the deformed joints and synovial membranes revealed membrane hyperaemia with multiple perivascular inflammatory infiltrations made by lymphocytes, plasmocytes and macrophagocytes. There was an accumulation of organized fibrin covering some areas of synovium membrane and looking like rice grains in the articular liquid. What is the most likely diagnosis?

a. Periarthritis nodosa

b. Tuberculous arthritis

c. Ankylosing spondylitis

d. Atrophic arthritis

e. Deforming arthrosis

1472. A 49-year-old patient with croupous pneumonia died from pneumococcal septicemia. Autopsy revealed up to 700 ml of turbid greenish-yellow foul-smelling liquid in the left pleural cavity. The pleural leaflets were dull and plethoric. What form of pleural inflammation is it?

a. Empyema

b. Fibrinous inflammation

c. Acute abscess

d. Phlegmon

e. Chronic abscess

1473. A patient complained about dizziness, memory impairment, periodical convulsions. It was revealed that these changes were caused by a product of decarboxylation of glutamic acid. Name this product:

a. Pyridoxal phosphate

b. ATP

c. TDP

d. GABA

e. THFA

1474. A man who is riding the carousel presents with increased heart rate, sweating, nausea. This

condition is caused primarily by the stimulation of the following receptors:

- a. Visual
- b. Vestibular otolithic
- c. Auditory
- d. Proprioceptors
- e. Vestibular ampullar**

1475. A doctor prescribed a cephalosporin antibiotic to the patient after appendectomy for infection prevention. Antimicrobial activity of this group of antibiotics is based upon the disturbance of the following process:

- a. Nucleic acid synthesis
- b. Ribosome protein synthesis
- c. Microbial wall formation**
- d. Energy metabolism
- e. Choline esterase block

1476. Examination of a pregnant woman having Rh-negative blood revealed high level of antierythrocytic antibodies. For its reduction she was implanted with her husband's Rh-positive skin graft. The graft was rejected in two weeks. Its microscopic examination revealed circulatory disturbance, edema and cellular infiltration with lymphocytes, neutrophils and macrophages predominance. What is the most likely pathology?

- a. Interstitial inflammation
- b. Graft immunity**
- c. Granulomatous inflammation
- d. Immediate hypersensitivity
- e. Delayed-type hypersensitivity

1477. A patient has been diagnosed with alkaptonuria. Choose an enzyme whose deficiency can be the reason for this pathology:

- a. Dioxypyphenylalanine decarboxylase
- b. Phenylalanine hydroxylase
- c. Pyruvate dehydrogenase
- d. Glutamate dehydrogenase
- e. Homogentisic acid oxidase**

1478. A patient suffering from stomach ulcer has been treated with an antacid drug almagel. For acute bronchitis treatment he was prescribed the antibiotic methacycline. However within next 5 days the fever didn't fall, cough and sputum nature remained unchanged. A physician came to the conclusion that the drugs were incompatible. What type of drug incompatibility is the case?

- a. Pharmacodynamic
- b. Pharmacokinetic, biotransformation stage
- c. Pharmaceutic
- d. Direct antagonism
- e. Pharmacokinetic, absorption stage**

1479. A patient with acute myocardial infarction has been administered heparin as a part of complex therapy. Some time after heparin injection the patient developed hematuria. What heparin antagonist should be injected in order to manage the complication?

- a. Fibrinogen
- b. Protamine sulfate**
- c. Neodicoumarin
- d. Aminocaproic acid
- e. Vicasol

1480. A pregnant woman was registered in an antenatal clinic and underwent complex examination for a number of infections. Blood serum contained IgM to the rubella virus. What is this result indicative of?

- a. Of recurring infection with rubella virus

- b. Of a chronic process
- c. Of primary infection**
- d. Of exacerbation of a chronic disease
- e. The woman is healthy

1481. Extensive thromboembolic infarction of the left cerebral hemispheres, large septic spleen, immunocomplex glomerulonephritis, ulcers on the edges of the aortic valves, covered with polypous thrombus with colonies of staphylococcus were revealed on autopsy of the young man who died in coma. What disease caused cerebral thromboemboly?

- a. Septicopyemia
- b. Septic bacterial endocarditis**
- c. Septicemia
- d. Acute rheumatic valvulitis
- e. Rheumatic thromboendocarditis

1482. Vomiting matters of a patient suspected of having cholera were delivered to the bacteriological laboratory. The material was used for preparing a "hanging drop" specimen. What type of microscopy will be applied for identification of the causative agent by its mobility?

- a. Fluorescence microscopy
- b. Phase-contrast microscopy**
- c. Immune and electron microscopy
- d. Immersion microscopy
- e. Electron microscopy

1483. While performing an inguinal canal operation on account of hernia a surgeon damaged the canals contents. What exactly was damaged?

- a. Funiculus spermaticus**
- b. Lig. teres uteri
- c. Lig. inguinale
- d. Urachus
- e. -

1484. During an experiment the myotatic reflex has been studied in frogs. After extension in a skeletal muscle its reflectory contraction was absent. The reason for it might be a dysfunction of the following receptors:

- a. Articular
- b. Tactile
- c. Golgi tendon organs
- d. Nociceptors
- e. Muscle spindles**

1485. The liver puncture biopsy of a patient with hepatocellular insufficiency revealed hydropic and ballooning degeneration of hepatocytes, necrosis of certain cells, presence of Kussmaul's bodies. Portal and lobular stroma were infiltrated mostly with lymphocytes and macrophages as well as with a small number of polymorphonuclear lymphocytes. What is the most likely diagnosis?

- a. Alcoholic hepatitis
- b. Chronic persistent hepatitis
- c. Chronic aggressive hepatitis
- d. Acute viral hepatitis**
- e. Autoimmune hepatitis

1486. A male patient has been diagnosed with acute radiation disease. Laboratory examination revealed a considerable reduction of platelet serotonin level. The likely cause of platelet serotonin reduction is the disturbed metabolism of the following substance:

- a. Serine
- b. Tyrosine
- c. Phenylalanine
- d. Histidine

e. 5-oxytryptofane

1487. A patient has pellagra. Interrogation revealed that he had lived mostly on maize for a long time and eaten little meat. This disease had been caused by the deficit of the following substance in the maize:

- a. Histidine
- b. Alanine
- c. Proline
- d. Tyrosine

e. Tryptophan

1488. A patient has an increased pyruvate concentration in blood, most of it is excreted with the urine. What kind of avitaminosis has this patient?

- a. B6
- b. E

c. B1

- d. B2
- e. B3

1489. A liquidator of a breakdown at a nuclear power plant who was irradiated complained about vomiting that occurs all of a sudden. What medication should be prescribed?

a. Metoclopramide

- b. Reserpine
- c. De-Nol
- d. Aeron
- e. Atropine

1490. A man having a hearing loss after a head trauma was delivered to the neurosurgery department. The cause of the hearing loss might be the damage of the following lobe of cerebral cortex:

- a. Parietal

b. Temporal

- c. Occipital
- d. Frontal
- e. Postcentral gyrus

1491. After transfusion of 200 ml of blood a patient presented with body temperature rise up to 37,9°C. Which of the following substances is the most likely cause of temperature rise?

- a. Tumour necrosis factor
- b. Interleukin-3
- c. Interleukin-4

d. Interleukin-1

- e. Interleukin-2

1492. A 46-year-old patient consulted a doctor complaining about joint pain that becomes stronger the day before the weather changes. Blood examination revealed an increased concentration of uric acid. The most probable cause of the disease is the intensified disintegration of the following substance:

a. Adenosine monophosphate

- b. Uridine monophosphate
- c. Cytidine monophosphate
- d. Uridine triphosphate
- e. Thymidine monophosphate

1493. A weightlifter has a disruption of thoracic lymphatic duct as a result of lifting a weight. Choose the most likely site of injury:

- a. In the region of neck
- b. In the region of venous angle

- c. In the posterior mediastinum
- d. In the region of aortic hiatus**
- e. In the region of lumbosacral plexus

1494. A child with a history of frequent angina and pharyngitis has been diagnosed with lymphadenopathy and splenomegaly. His appearance is characterized by pastosity and paleness, muscular tissue is poorly developed. Lymphocytosis is present. What kind of diathesis is it?

- a. Exudative diathesis
- b. Gouty diathesis
- c. Hemorrhagic diathesis
- d. Lymphohypoplastic diathesis**
- e. Asthenic diathesis

1495. A patient with massive burns developed acute renal insufficiency characterized by a significant and rapid deceleration of glomerular filtration. What is the mechanism of its development?

- a. Renal artery embolism
- b. Damage of glomerular filter
- c. Rise of pressure of tubular fluid
- d. Reduction of renal blood flow**
- e. Reduction of functioning nephron number

1496. A 75-year-old-female patient with complaints of visual impairment has been delivered to the ophthalmologic department. Objective examination revealed a brain tumor in area of the left optic tract. The patient has a visual field defect in the following area:

- a. Left and right halves of both eyes retina
- b. Left and right halves of the left eye retina
- c. Right half of both eyes retina
- d. Left half of both eyes retina**
- e. Left and right halves of the right eye retina

1497. A female patient was administered loratadine for allergic cheilitis treatment. What is the mechanism of the drug's action?

- a. It blocks the activity of H1 histamine receptors**
- b. It blocks the adrenergic receptors
- c. It stimulates the activity of monoamine oxidase
- d. It inhibits the activity of Na,K-ATP
- e. It inhibits the activity of choline esterase

1498. During surgical manipulations a patient has been given novocaine injection for anesthesia. 10 minutes later the patient developed paleness, dyspnea, hypotension. What type of allergic reaction is it?

- a. Anaphylactic immune reaction**
- b. Aggregate immune reaction
- c. Cell-mediated immune reaction
- d. Stimulating immune reaction
- e. Cellulotoxic immune reaction

1499. A newborn child was found to have reduced intensity of sucking, frequent vomiting, hypotonia. Urine and blood exhibit increased concentration of citrulline. What metabolic process is disturbed?

- a. Cori cycle
- b. Glycolysis
- c. Ornithine cycle**
- d. Glyconeogenesis
- e. Tricarboxylic acid cycle

1500. A histological specimen of a kidney shows a part of the distal tubule going between the afferent and efferent arteriole. The cells building the tubule wall have dense nuclei; basal membrane is absent. Such structural formation is called:

a. Juxtaglomerular cells

b. Macula densa

c. -

d. Juxtavascular cells

e. Mesangial cells

1501. A 5-year-old child has been diagnosed with acute right distal pneumonia. Sputum inoculation revealed that the causative agent is resistant to penicillin, but it is sensitive to macrolides. What drug should be prescribed?

a. Ampicillin

b. Streptomycin

c. Tetracycline

d. Azithromycin

e. Gentamycin

1502. A victim with a head trauma in the temporal region has been diagnosed with epidural hematoma. What artery is most likely to be damaged?

a. Superficial temporal artery

b. Medial cerebral artery

c. Medial meningeal artery

d. Posterior auricular artery

e. Anterior meningeal artery

1503. Vitamin B1 deficiency causes disturbance of oxidative decarboxylation of α -ketoglutaric acid. This leads to the impaired synthesis of the following coenzyme:

a. Lipoic acid

b. Flavin adenine dinucleotide

c. Thiamine pyrophosphate

d. Nicotinamide adenine dinucleotide

e. Coenzyme A

1504. A patient who has been treated in a neural clinic and has been taking a sedative for a long time got the following complication: cough, rhinitis, epiphora. What drug caused these disturbances?

a. Diazepam

b. Sodium bromide

c. Phenazepam

d. Reserpine

e. Valerian

1505. The secretion of which hypophyseal hormones will be inhibited after taking the oral contraceptives containing sex hormones?

a. Somatotrophic hormone

b. Oxytocin

c. Vasopressin

d. Thyrotrophic hormone

e. Gonadotrophic hormone

1506. A 45-year-old woman has breast cancer. Her left arm has symptoms of lymphatic system insufficiency - limb edema, lymph node enlargement. What form of lymphatic circulation insufficiency is it?

a. Dynamic insufficiency

b. Mechanic insufficiency

c. Resorption insufficiency

d. Combined insufficiency

e. -

1507. A doctor asked a patient to breathe out fully after taking a normal breath. What muscles contract during such exhalation?

- a. Pectoral muscles
- b. Trapezius muscles
- c. Abdominal muscles**
- d. External intercostal muscles
- e. Diaphragm

1508. A female patient presents with endocrine dysfunction of follicular cells of the ovarian follicles resulting from an inflammation. The synthesis of the following hormone will be inhibited:

- a. Follistatin
- b. Follicle stimulating hormone
- c. Progesterone
- d. Lutropin
- e. Estrogen**

1509. The minute blood volume in a patient with transplanted heart has increased as a result of physical activity. What regulative mechanism is responsible for these changes?

- a. Parasympathetic conditioned reflexes
- b. Catecholamines**
- c. Parasympathetic unconditioned reflexes
- d. Sympathetic conditioned reflexes
- e. Sympathetic unconditioned reflexes

1510. An alcoholic has alcoholic psychosis with evident psychomotor agitation. What neuroleptic drug should be administered for emergency care?

- a. Reserpine
- b. Diazepam
- c. Halothane
- d. Aminazine**
- e. Sodium bromide

1511. A 4-year-old child presents with general weakness, sore throat and deglutitive problem. After his examination a doctor suspected diphtheria and sent the material to the bacteriological laboratory. In order to determine the diphtheria causative agent the material should be inoculated into the following differential diagnostic medium:

- a. Endos agar
- b. Ploskyrevs agar
- c. Blood tellurite agar**
- d. Levenshtein-Yessen agar
- e. Sabourauds agar

1512. A 35-year-old patient complains about having severe rhinitis and loss of sense of smell for a week. Objectively: the nasal cavity contains a lot of mucus covering the mucous membrane and blocking olfactory receptors. In what region of the nasal cavity are these receptors located?

- a. Inferior nasal concha
- b. Median nasal concha
- c. Vestibule of nose
- d. Superior nasal concha**
- e. Common nasal meatus

1513. Examination of the anterior abdominal wall of a pregnant woman revealed a tumour-like formation that arose on the spot of a tumour that was removed two years ago. The neoplasm was well-defined, dense, 2x1 cm large. Histological examination revealed that the tumour was composed of differentiated connective tissue with prevailing collagen fibres. What tumour might be suspected?

- a. Desmoid**
- b. Leiomyoma
- c. Fibrosarcoma
- d. Lipoma
- e. Hibernoma

1514. During starvation muscle proteins break up into free amino acids. These compounds will be the most probably involved into the following process:

- a. Gluconeogenesis in muscles
- b. Synthesis of higher fatty acids
- c. Decarboxylation
- d. Glycogenolysis

e. Gluconeogenesis in liver

1515. The greater amount of nitrogen is excreted from the organism in form of urea. Inhibition of urea synthesis and accumulation of ammonia in blood and tissues are induced by the decreased activity of the following liver enzyme:

- a. Urease
- b. Carbamoyl phosphate synthetase**
- c. Amylase
- d. Pepsin
- e. Aspartate aminotransferase

1516. A patient presents with icteritiousness of skin, scleras and mucous membranes. Blood plasma the total bilirubin is increased, stercobilin is increased in feces, urobilin is increased in urine. What type of jaundice is it?

- a. Gilberts disease
- b. Cholestatic
- c. Obturational
- d. Haemolytic**
- e. Parenchymatous

1517. A patient with high-titer antinuclear antibodies died from progressing renal impairment. Autopsy revealed mesangioproliferative glomerulonephritis and abacterial polypous endocarditis. There was periarterial bulbar sclerosis in spleen and productive proliferative vasculitis in skin. What is the most likely diagnosis?

- a. Periarteritis nodosa
- b. Systemic lupus erythematosus**
- c. Nephrotic syndrome
- d. Rheumatism
- e. Dermatomyositis

1518. An electron microphotography of a fragment of proper gastric gland shows a big irregular round-shaped cell. There are a lot of intracellular tubules and mitochondria in the cytoplasm. Specify this cell:

- a. Principal cell
- b. Mucous cell
- c. Parietal cell**
- d. Endocrine cell
- e. Undifferentiated cell

1519. Which muscle contraction will be observed in the upper extremity during holding (but not moving) a load in a certain position?

- a. Excentric
- b. Isometric**
- c. Auxotonic
- d. Isotonic
- e. Concentric

1520. Sex chromosomes of a woman didnt separate and move to the opposite poles of a cell during gametogenesis (meiosis). The ovum was impregnated with a normal spermatozoon. Which chromosomal disease can be found in her child?

- a. Pataus syndrome
- b. Turners syndrome**

- c. Edwards syndrome
- d. Cat cry syndrome
- e. Down's syndrome

1521. Life cycle of a cell includes the process of DNA autoreduplication. As a result of it monochromatid chromosomes turn into bichromatid ones. What period of cell cycle does this phenomenon fall into?

- a. S**
- b. M
- c. G2
- d. G1
- e. Go

1522. A 36-year-old female patient has a history of collagen disease. Urine analysis is likely to reveal an increased concentration of the following metabolite:

- a. Oxyproline**
- b. Urobilinogen
- c. Indican
- d. Creatinine
- e. Urea

1523. The patient with complaints of permanent thirst applied to the doctor. Hyperglycemia, polyuria and increased concentration of 17-ketosteroids in the urine were revealed. What disease is the most likely?

- a. Insulin-dependent diabetes mellitus
- b. Steroid diabetes**
- c. Type I glycogenosis
- d. Addisons disease
- e. Myxoedema

1524. A patient suffering from chronic hyperacidic gastritis takes an antacid drug for heartburn elimination. After its ingestion the patient feels better but at the same time he has a sensation of stomach swelling. Which of the following drugs might be the cause of such side effect?

- a. Sodium hydrocarbonate**
- b. Pepsin
- c. Magnesium oxide
- d. Aluminium hydroxide
- e. Magnesium trisilicate

1525. A patient presents with acne and inflammatory alterations of facial skin. Microscopical investigation of lesion foci has revealed live arthropods sized 0,2-0,5 mm. They have prolate vermiform form and four pairs of thin short limbs located in the middle part of the body. The revealed arthropods cause:

- a. Dermamyiasis
- b. Scabies
- c. Phthiriasis
- d. Pediculosis
- e. Demodicosis**

1526. While examining the oral cavity a stomatologist revealed inflammation of papillae on the border of the median and posterior third of the back of tongue. What papillae are inflamed?

- a. Papillae filiformes
- b. Papillae foliatae
- c. Papillae vallatae**
- d. Papillae conicae
- e. Papillae fungiformes

1527. Acute renal impairment caused death of a bleeding patient. Autopsy revealed enlarged kidneys

with a broad pale pink cortical layer expressively demarcated from dark red renal pyramids. Macroscopic examination revealed lack of epithelial nuclei of convoluted tubules, tubulorrhexis, phlebostasis. The cell nuclei of choroid glomus and straight tubules were present. What pathology is it?

- a. Necronephrosis
- b. Pyelonephritis
- c. Infarction
- d. Nephrosis
- e. Glomerulonephritis

1528. A concentrated solution of sodium chloride was intravenously injected to an animal. This caused decreased reabsorption of sodium ions in the renal tubules. It is the result of the following changes of hormonal secretion:

- a. Aldosterone reduction
- b. Aldosterone increase
- c. Vasopressin reduction
- d. Vasopressin increase
- e. Reduction of atrial natriuretic factor

1529. Microscopic examination of a gram-stained scrape from a patients tongue revealed oval, round, elongated chains of dark-violet gemmating cells. What disease can be caused by this causative agent?

- a. Candidiasis
- b. Staphylococcic infection
- c. Diphtheria
- d. Streptococcic infection
- e. Actinomycosis

1530. Autopsy of a 75-year-old man with a long history of atherosclerosis revealed a grey irregular-shaped focus of loose consistency in the right parietotemporal region of brain. What is the most likely cause of this process?

- a. Thrombosis of the right medial cerebral artery
- b. Thrombosis of the right anterior cerebral artery
- c. Thrombosis of the right posterior cerebral artery
- d. Thrombosis of basilar artery
- e. Thrombosis of tomentum cerebri

1531. A histological specimen shows a blood vessel. Its inner coat is composed by endothelium, subendothelium and internal elastic membrane. The middle coat is enriched with smooth myocytes. Such morphological characteristics are typical for the following vessel:

- a. Muscular-type artery
- b. Capillary
- c. Non-muscular vein
- d. Muscular-type vein
- e. Elastic-type artery

1532. Examination of a 6-month-old child revealed a delay in closure of the occipital fontanelle. When should it normally close?

- a. Until 6 months
- b. Before the child is born
- c. Until 3 months
- d. Until the end of the first year of life
- e. Until the end of the second year of life

1533. Quite often the cause of secondary immunodeficiency is an infection involvement, when the causative agents propagate directly in the cells of immune system and destroy it. The following diseases are characterized by:

- a. Infectious mononucleosis, AIDS

- b. Dysentery, cholera
- c. Q-febris, epidemic typhus
- d. Tuberculosis, mycobacteriosis
- e. Poliomyelitis, type A hepatitis

1534. A 30-year-old patient complains about having abdominal pain and diarrhea for five days; body temperature rise up to 37,5°C along with chills. The day before a patient had been in a forest and drunk from an open water reservoir. Laboratory analyses enabled to make the following diagnosis: amebic dysentery. What is the drug of choice for its treatment?

- a. Emetine hydrochloride
- b. Furazolidonum
- c. Phthalazol
- d. Metronidazole**
- e. Levomycetin

1535. Examination of a 12-year-old boy with developmental lag revealed achondroplasia: disproportional constitution with evident shortening of upper and lower limbs as a result of growth disorder of epiphyseal cartilages of long tubal bones. This disease is:

- a. Congenital
- b. Acquired
- c. Inherited, dominant**
- d. Inherited, recessive
- e. Inherited, sex-linked

1536. A newborn child with pylorostenosis has often repeating vomiting accompanied by apathy, weakness, hypertonicity, sometimes convulsions. What disorder form of acid-base balance is it?

- a. Gaseous acidosis
- b. Gaseous alkalosis
- c. Excretory acidosis
- d. Nongaseous alkalosis**
- e. Metabolic acidosis

1537. A patient has been diagnosed with influenza. His condition became drastically worse after taking antipyretic drugs. His consciousness is confused, AP is 80/50 mm Hg, Ps is 140/m, body temperature dropped down to 35,8°C. What complication developed in this patient?

- a. Hyperthermia
- b. Collapse**
- c. Alkalosis
- d. Acidosis
- e. Hypovolemia

1538. Which of the listed diuretic agents WILL NOT have diuretic effect on a patient with Addisons disease?

- a. Spironolactone**
- b. Furosemide
- c. Triamterene
- d. Hydrochlorothiazide
- e. Ethacrynic acid

1539. Cytogenetic examination of a patient with reproductive dysfunction revealed normal karyotype 46 XY in some cells, but most cells have karyotype of Klinefelters syndrome - 47 XXY. Such cell heterogeneity is called:

- a. Duplication
- b. Inversion
- c. Monomorphism
- d. Mosaicism**
- e. Transposition

1540. An 18-year-old man was delivered to the hospital after a road accident. Examination at the traumatological department revealed multiple injuries of soft tissues of face in the region of the medial eye angle. The injuries caused massive haemorrhage. What arterial anastomosis might have been damaged in this region?

- a. A. subclavia et A. ophthalmica
- b. A. carotis interna et A. ophthalmica
- c. A. carotis interna et A. subclavia
- d. A. carotis externa et A. subclavia
- e. A. carotis externa et A. carotis interna**

1541. Medical examination at the military registration and enlistment office revealed that a 15-year-old boy was high, with eunuchoid body proportions, gynecomastia, female pattern of pubic hair distribution. The boy had also fat deposits on the thighs, no facial hair, high voice, subnormal intelligence quotient. Which karyotype corresponds with this disease?

- a. 47, XXY**
- b. 45, XO
- c. 46, XX
- d. 46, XY
- e. 47, XXX

1542. There is a severe time restriction for peoples staying at a height of over 800 m above the sea level without oxygen bombs. What is the life limiting factor in this case?

- a. Ultraviolet intensity
- b. Partial oxygen pressure**
- c. Temperature
- d. Moisture level
- e. Earth gravity

1543. On an electron micrograph a scientist has identified a structure formed by eight histone proteins and a part of DNA molecule which makes about 1,75 revolutions around the molecules. Which structure has been identified?

- a. Nucleosoma**
- b. Chromatid
- c. Elementary fibril
- d. Chromosome
- e. Half-chromatid

1544. Sanitary bacteriological research on water by the membrane filter method revealed two red colonies on a membrane filter (Endo agar) through which 500 ml of analyzed water were passed. Calculate the coli index and coli titer of the analyzed water:

- a. 250 and 2
- b. 500 and 2
- c. 2 and 500
- d. 4 and 250**
- e. 250 and 4

1545. An aged man had raise of arterial pressure under a stress. It was caused by activation of:

- a. Functions of thyroid gland
- b. Functions of adrenal cortex
- c. Parasympathetic nucleus of vagus
- d. Sympathoadrenal system**
- e. Hypophysis function

1546. A 46-year-old man had a bulging dark macula on skin that caused no discomfort. With time it began to increase in size and became painful. It turned dark brown and there was a nodule on palpation. Histological examination of tissues revealed spindle and polymorphous cells with multiple mitoses. Their cytoplasm contained brown pigment. What tumour is it?

- a. -

- b. Nevus
- c. Hemangioma
- d. Basalioma
- e. Melanoma**

1547. As a result of continuous starvation the glomerular filtration rate has increased by 20%. The most probable cause of the glomerular filtration alteration under the mentioned conditions is:

- a. Increase in the systemic arterial pressure
- b. Decrease in the oncotic pressure of blood plasma**
- c. Increase in the permeability of the renal filter
- d. Increase of the filtration quotient
- e. Increase of the renal blood flow

1548. Surgical approach to the thyroid gland from the transverse (collar) approach involves opening of interaponeurotic suprasternal space. What anatomic structure localized in this space is dangerous to be damaged?

- a. Subclavicular vein
- b. Jugular venous arch**
- c. External jugular vein
- d. Superior thyroid artery
- e. Inferior thyroid artery

1549. A 49-year old female patient has limitation of left limbs arbitrary movements. Muscular tonus of left hand and leg is overstrained and spasmodic, local tendon reflexes are strong, pathological reflexes are presented. What is the most likely development mechanism of hypertension and hyperreflexia?

- a. Reduction of descending inhibitory influence**
- b. Activation of excitatory influence from the focus of stroke
- c. Motoneuron activation induced by stroke
- d. Activation of synaptic transmission
- e. Inhibition of cerebral cortex motoneurons

1550. A patient with marked pneumofibrosis that developed after infiltrating pulmonary tuberculosis has been diagnosed with respiratory failure. What is its pathogenetic type?

- a. Apneustic
- b. Restrictive**
- c. Obstructive
- d. Reflex
- e. Dysregulatory

1551. In response to a change in body position from horizontal to vertical blood circulation system develops reflexory pressor reaction. Which of the following is its compulsory component?

- a. Decrease in the circulating blood volume
- b. Systemic dilatation of the arterial resistive vessels
- c. Systemic constriction of the venous vessels**
- d. Weakening of the pumping ability of heart
- e. Increase in the heart rate

1552. If a man has an attack of bronchospasm it is necessary to reduce the effect of vagus on smooth muscles of bronchi. What membrane cytoceptors should be blocked for this purpose?

- a. alpha-adrenoreceptors
- b. M-cholinoreceptors**
- c. alpha - and beta-adrenoreceptors
- d. N-cholinoreceptors
- e. beta-adrenoreceptors

1553. While studying maximally spiralized chromosomes of human karyotype the process of cell division was stopped in the following phase:

a. Interphase

b. Metaphase

c. Anaphase

d. Prophase

e. Telophase

1554. A worker of a cattle farm fell acutely ill and then died from the progressing intoxication. Autopsy revealed enlarged, hyposthenic spleen of dark-cherry colour when dissected; excessive pulp scraping. At the base and fornix of brain pia maters are edematous, soaked with blood, dark-red ("scarlet hat"). Microscopic examination revealed serous haemorrhagic inflammation of brain tissues and tunics along with destruction of small vessel walls. What is the most likely diagnosis?

a. Brucellosis

b. Anthrax

c. Plaque

d. Tularemia

e. Cholera

1555. Autopsy of a man who died from chronic cardiovascular collapse revealed "tiger heart". Sideways of endocardium a yellowish-white banding can be seen; myocardium is dull, dark-yellow. What process caused this pathology?

a. Hyaline degeneration

b. Carbohydrate degeneration

c. Fatty vascular-stromal degeneration

d. Fatty parenchymatous degeneration

e. Amyloidosis

1556. Blood plasma of a healthy man contains several dozens of proteins. During an illness new proteins can originate, namely the protein of "acute phase". Select such protein from the listed below:

a. Prothrombin

b. Fibrinogen

c. A immunoglobulin

d. C-reactive protein

e. G immunoglobulin

1557. A 28-year-old female patient consulted a gynecologist about sterility. Examination revealed underdeveloped ovaries and uterus, irregular menstrual cycle. Analysis of the sex chromatin revealed 2 Barr's bodies in most somatic cells. What chromosome disease is most likely?

a. Patau syndrome

b. Triple X syndrome

c. Turner syndrome

d. Edwards syndrome

e. Klinefelter syndrome

1558. A child suffers from drug idiosyncrasy. What is the cause of such reaction?

a. Hereditary enzymopathy

b. Exhaustion of substrate interacting with pharmaceutical substance

c. Inhibition of microsomal liver enzymes

d. Accumulation of pharmaceutical substance

e. Associated disease of target organ

1559. A 46-year-old patient suffering from the diffuse toxic goiter underwent resection of the thyroid gland. After the surgery the patient presents with appetite loss, dyspepsia, increased neuromuscular excitement. The body weight remained unchanged. Body temperature is normal. Which of the following has caused such a condition in this patient?

a. Reduced production of parathormone

b. Increased production of calcitonin

c. Increased production of thyroxine

d. Reduced production of thyroxine

e. Increased production of thyroliberin

1560. A child has mental and physical retardation, grave damage of internal connective tissue. Urine analysis reveals keratan sulfates. What metabolic process is disturbed?

a. Glycosaminoglycans

b. Elastin

c. Collagen

d. Fibronectin

e. Hyaluronic acid

1561. Pulmonary examination of a patient who has worked as a stone grinder for 9 years revealed small dense roundish nodules consisting of connective tissue. The nodules were found to have peripheral macrophages. Such pulmonary alterations are indicative of the following disease:

a. Acute pneumonia

b. Silicosis

c. Bronchial asthma

d. Multiple bronchiectasis

e. Chronic bronchitis

1562. A histologic specimen shows an organs parenchyma which is presented by lymphoid tissue making some lymph nodes. The nodes are located diffusively and contain a central artery. What anatomic formation might have such morphological structure?

a. Red bone marrow

b. Thymus

c. Tonsil

d. Lymph node

e. Spleen

1563. A 32-year-old patient consulted a doctor about the absence of lactation after parturition. Such disorder might be explained by the deficit of the following hormone:

a. Somatotropin

b. Thyrocalcitonin

c. Vasopressin

d. Glucagon

e. Prolactin

1564. Medical examination of a 20-year-old woman revealed a dense encapsulated node 1 cm in diameter that was palpated in the mammary gland. The postoperative biopsy revealed connective tissue overgrowth around the mammary ducts and glandular components of different diameter that didnt make lobules and bore no signs of cellular abnormality. What diagnosis will be made?

a. Adenoma

b. Fibrocarcinoma

c. Fibroadenoma

d. Fibroma

e. Metastatic cancer

1565. A patient with tuberculosis died from progressing cardiopulmonary decompensation. Autopsy in the region of the right lung apex revealed a cavity 5 cm in diameter communicating with lumen of a segmental bronchus. On the inside cavity walls are covered with caseous masses with epithelioid and Langhans cells beneath them. What morphological form of tuberculosis is it?

a. Acute cavernous tuberculosis

b. Acute focal tuberculosis

c. Caseous pneumonia

d. Tuberculoma

e. Infiltrative tuberculosis

1566. There are several groups of molecular mechanisms playing important part in pathogenesis of insult to cells which contributes to the pathology development. What processes are stimulated by

proteinic damage mechanisms?

- a. Acidosis
- b. Osmotic membrane distension
- c. Enzyme inhibition**
- d. Lipid peroxidation
- e. Phospholipase activation

1567. During hypersensitivity test a patient got subcutaneous injection of an antigen which caused reddening of skin, edema, pain as a result of histamine action. This biogenic amine is generated as a result of transformation of the following histidine amino acid:

- a. Methylation
- b. Decarboxylation**
- c. Isomerization
- d. Deaminization
- e. Phosphorylation

1568. A patient has been diagnosed with a compression fracture of a lumbar vertebra. As a result he has a considerable increase in curvature of the lumbar lordosis. Which ligament damage can induce such changes in the spine curvature?

- a. Yellow ligament
- b. Posterior longitudinal ligament
- c. Iliolumbar ligament
- d. Interspinous ligament
- e. Anterior longitudinal ligament**

1569. A culture of monkey cells (Vero) and a group of mouse sucklings were infected with an inoculum taken from a child with provisional diagnosis "enterovirus infection". There was no cytopathic effect on the cell culture but mouse sucklings died. What enteric viruses might have caused disease of this child?

- a. Coxsackie B
- b. Unclassified enteric viruses 68-71
- c. ECHO virus
- d. Polioviruses
- e. Coxsackie A**

1570. A patient suffering from myasthenia has been administered proserin. After its administration the patient has got nausea, diarrhea, twitch of tongue and skeletal muscles. What drug would help to eliminate the intoxication?

- a. Isadrine
- b. Physostigmine
- c. Mesatonum
- d. Atropine sulfate**
- e. Pyridostigmine bromide

1571. A man died from an acute infectious disease accompanied by fever, jaundice, haemorrhagic rash on the skin and mucous membranes as well as by acute renal insufficiency. Histological examination of renal tissue (stained by Romanovsky-Giemsa method) revealed some convoluted bacteria looking like C and S letters. What bacteria were revealed?

- a. Leptospira**
- b. Spirilla
- c. Treponema
- d. Borrelia
- e. Campilobacteria

1572. A 10-year-old child had the mantoux tuberculin test administered. 48 hours later a papule up to 8 mm in diameter appeared on the site of the injection. What type of hypersensitivity reaction developed after the tuberculin injection?

- a. Atopic reaction**

b. Type IV hypersensitivity reaction

- c. Seroreaction
- d. Type II hypersensitivity reaction
- e. Arthus phenomenon

1573. Lung ventilation in a person is increased as a result of physical activity. Which of the following indices of the external respiration is much higher than in a state of rest?

- a. Vital capacity of lungs
- b. Expiratory reserve volume

c. Respiratory volume

- d. Inspiratory reserve volume
- e. Total lung capacity

1574. A patient has been given high doses of hydrocortisone for a long time. This caused atrophy of one of the adrenal cortex zones. Which zone is it?

- a. Glomerular and reticular

b. Fascial

- c. Reticular
- d. Glomerular
- e. -

1575. Autopsy of a 1,5-year-old child revealed haemorrhagic skin rash, moderate hyperaemia and edema of nasopharyngeal mucous membrane, small haemorrhages in the mucous membranes and internal organs; dramatic dystrophic alterations in liver and myocardium; acute necrotic nephrosis; massive haemorrhages in the adrenal glands. What disease are these alterations the most typical for?

a. Meningococcal infection

- b. Diphtheria
- c. Measles
- d. Scarlet fever
- e. Epidemic typhus

1576. A 17-year-old girl took a high dose of phenobarbital to commit a suicide. An ambulance doctor cleansed her stomach and gave her an intravenous injection of bemegride and sodium hydrocarbonate solution. What was sodium hydrocarbonate injected for?

- a. For arterial pressure normalization
- b. For bringing the patient to consciousness
- c. For phenobarbital inactivation
- d. For breathing stimulation
- e. For increasing renal excretion of phenobarbital**

1577. A victim of an accident has bleeding from the soft tissues anterior to the mandibular angle. Which vessel should be ligated for the bleeding arrest?

- a. A.carotis interna
- b. A.alveolaris inferior
- c. A.temporalis superficialis

d. A.facialis

- e. A.lingualis

1578. A coprological survey revealed light-colored feces containing drops of neutral fat. The most likely reason for this condition is the disorder of:

- a. Pancreatic juice secretion
- b. Intestinal absorption
- c. Gastric juice acidity

d. Bile inflow into the bowel

- e. Intestinal juice secretion

1579. A 10-year-old girl has a history of repeated acute respiratory viral infection. After recovering she presents with multiple petechial hemorrhages on the sites of friction from clothing rubbing the

skin. What kind of hypovitaminosis has this girl?

- a. B2
- b. C**
- c. A
- d. B6
- e. B1

1580. Researchers isolated 5 isoenzymic forms of lactate dehydrogenase from the human blood serum and studied their properties. What property indicates that the isoenzymic forms were isolated from the same enzyme?

- a. The same physicochemical properties
- b. Catalyzation of the same reaction**
- c. The same electrophoretic mobility
- d. Tissue localization
- e. The same molecular weight

1581. Urine analysis of a 12-year-old boy reveals high concentration of all aliphatic amino acids with the highest excretion of cystine and cysteine. US of kidneys revealed kidney concrements. What is the most likely pathology?

- a. Alkaptonuria
- b. Phenylketonuria
- c. Cystinuria**
- d. Cystitis
- e. Hartnup disease

1582. Tissue inositol triphosphates are generated as a result of the phosphatidylinositol diphosphate hydrolysis and act as secondary agents (mediators) in the mechanism of hormone action. Their effect in cells is directed at:

- a. Protein kinase A inhibition
- b. Phosphodiesterase inhibition
- c. Protein kinase A activation
- d. Adenylate cyclase activation
- e. Calcium ion liberation from cellular depot**

1583. During preparation of a patient to a heart surgery it was necessary to measure pressure in heart chambers. In one of them pressure varied from 0 mm Hg up to 120 mm Hg within one cardiac cycle. What heart chamber is it?

- a. Left atrium
- b. Left ventricle**
- c. Right atrium
- d. -
- e. Right ventricle

1584. A patient working at a pig farm complains about paroxysmal abdominal pain, liquid feces with admixtures of mucus and blood, headache, weakness, fever. Examination of large intestine revealed ulcers from 1 mm up to several cm large, feces contained oval unicellular organisms with cilia. What disease should be suspected?

- a. Toxoplasmosis
- b. Lambliasis
- c. Balantidiasis**
- d. Trichomoniasis
- e. Amebiasis

1585. After a trauma of the upper third of the anterior forearm surface a patient presents with difficult pronation, weakening of palmar flexor muscles and altered skin sensitivity of 1-3 fingers. Which nerve is damaged?

- a. n. medianus**
- b. n. musculocutaneus

- c. n. cutaneus antebrachii medialis
- d. n. ulnaris
- e. n. radialis

1586. A patient died from cardiopulmonary decompensation. Histological examination revealed diffused pulmonary affection along with interstitial edema, infiltration of tissue by lymphocytes, macrophages, plasmocytes; pulmonary fibrosis, panacinar emphysema. What is the most likely diagnosis?

- a. Bronchopneumonia
- b. Chronic bronchitis
- c. Fibrosing alveolitis**
- d. Pulmonary atelectasis
- e. Bronchial asthma

1587. During fighting a man had a cardiac arrest as a result of a hard blow to the upper region of anterior abdominal wall. Which of the described mechanisms might have provoked the cardiac arrest?

- a. Sympathetic conditioned reflexes
- b. Peripheric reflexes
- c. Sympathetic unconditioned reflexes
- d. Parasympathetic unconditioned reflexes**
- e. Parasympathetic conditioned reflexes

1588. A 38-year-old man died in the attempt of lifting weight. He had collaptoid state. Autopsy revealed an extensive aneurism rupture of thoracic aorta. He suffered from visceral syphilis during his lifetime. What pathological process caused weakness of aortic wall, its dilatation and rupture?

- a. Muscle layer atrophy
- b. Vascularization
- c. Vanishing of elastic fibers**
- d. Vanishing of collagen fibers
- e. Intima changes by shagreen leather type

1589. A 38-year-old male patient has been ill with systemic lupus erythematosus for three years. He was diagnosed with diffuse renal affection accompanied by massive edemata and expressive proteinuria. What is the most likely cause of proteinuria development?

- a. Ischemic renal affection
- b. Aseptic renal affection
- c. Urinary tracts inflammation
- d. Urinary bladder inflammation
- e. Autoimmune renal affection**

1590. A newborn develops dyspepsia after the milk feeding. When the milk is substituted by the glucose solution the dyspepsia symptoms disappear. The newborn has the subnormal activity of the following enzyme:

- a. Isomaltase
- b. Lactase**
- c. Maltase
- d. Invertase
- e. Amylase

1591. A female patient consulted a doctor about pain and limited movements in the knee joints. Which of the following nonsteroid anti-inflammatory drugs should be administered taking into consideration that the patient has a history of chronic gastroduodenitis?

- a. Acetylsalicylic acid
- b. Butadiounum
- c. Celecoxib**
- d. Diclofenac sodium
- e. Promedol

1592. An animal has an increased tonus of extensor muscles. This is the result of intensified information transmission to the motoneurons of the spinal cord through the following descending pathways:

- a. Lateral corticospinal
- b. Reticulospinal
- c. Rubrospinal
- d. Medial corticospinal
- e. Vestibulospinal**

1593. One of the parents is suspected of having phenylketonuria recessive gene. What is the risk of giving birth to a child with inborn phenylketonuria?

- a. 50%
- b. 75%
- c. 0%**
- d. 100%
- e. 25%

1594. A patient with coronary disease has been diagnosed with myocardial hypertrophy, tachycardia and a decrease in minute blood volume. What is the leading mechanism of cardiac myocyte damage in this case?

- a. Damage of specific membrane pumps**
- b. Mg^{2+} loss by cardiac myocytes
- c. Increase in α and β adrenoreceptors quantity
- d. Cardiac myocyte dehydration
- e. Ca^{2+} loss by cardiac myocytes

1595. Autopsy of a patient who suffered from croupous pneumonia and died from pneumococcal sepsis revealed 900 ml of turbid greenish-yellow liquid in the right pleural cavity. Pleural leaves are dull, plephoric. Name the clinicopathological form of inflammation in the pleural cavity:

- a. Fibrinous inflammation
- b. Phlegmon
- c. Empyema**
- d. Chronic abscess
- e. Acute abscess

1596. A patient with myocardial infarction was admitted to the cardiological department. For pain relief it was decided to potentiate fentanyl action with a neuroleptic. Which of the following neuroleptics is the most suitable for neuroleptanalgesia?

- a. Sulpiride
- b. Droperidol**
- c. Trifluoperazine
- d. Aminazine
- e. Haloperidol

1597. A 46-year-old female patient has a continuous history of progressive muscular (Duchenne's) dystrophy. Which blood enzyme changes will be of diagnostic value in this case?

- a. Creatine phosphokinase**
- b. Lactate dehydrogenase
- c. Pyruvate dehydrogenase
- d. Glutamate dehydrogenase
- e. Adenylate cyclase

1598. 2 days after labour a woman developed shock along with DIC syndrome that caused her death. Autopsy revealed purulent endomyometritis, regional purulent lymphangitis, lymphadenitis and purulent thrombophlebitis. There were also dystrophic alterations and interstitial inflammation of parenchymal organs. What is the most likely diagnosis?

- a. Tuberculosis of genital organs
- b. Hydatid mole
- c. Septicemia**

- d. Syphilis
- e. Chorioadenoma destruens

1599. Electronic microphotography of pulmonary alveoles wall presents a big cell. Its cytoplasm has a lot of mitochondria, developed Golgi apparatus, osmiophil lamellated corpuscles. What is the main function of this cell?

- a. It absorbs microorganisms
- b. It purifies the air
- c. It warms the air
- d. It produces surfactant**
- e. It is a component of blood-air barrier

1600. A 12-year-old teenager has significantly put off weight within 3 months; glucose concentration rose up to 50 millimole/l. He fell into a coma. What is the main mechanism of its development?

- a. Ketonemic
- b. Lactacidemic
- c. Hyperosmolar**
- d. Hypoglycemic
- e. Hypoxic

1601. To prevent postoperative bleeding a 6-year-old child was administered vicasol that is a synthetic analogue of vitamin K. Name post-translational changes of blood coagulation factors that will be activated by vicasol: ...

- a. Partial proteolysis
- b. Polymerization
- c. Phosphorylation of serine radicals
- d. Glycosylation
- e. Carboxylation of glutamin acid**

1602. A 45 year old man consulted a doctor about a plaque-like formation on his neck. Histological examination of a skin bioptate revealed clusters of round and oval tumour cells with a narrow border of basophilic cytoplasm resembling of cells of basal epidermal layer. What tumour is it?

- a. Epidermal cancer
- b. Syringoadenoma
- c. Basal cell carcinoma**
- d. Hydroadenoma
- e. Trichoepithelioma

1603. A child suffers from drug idiosyncrasy. What is the cause of such reaction?

- a. Associated disease of target organ
- b. Hereditary enzymopathy**
- c. Inhibition of microsomal liver enzymes
- d. Accumulation of pharmaceutical substance
- e. Exhaustion of substrate interacting with pharmaceutical substance

1604. A 50 year old patient underwent resection of tumour of large intestine wall. Microscopically it presents itself as fascicles of divergent collagen fibers of different thickness and form and some monomorphous fusiform cells that are irregularly distributed among the fibers. Cellular atypia is not evident. What tumour is it?

- a. Soft fibroma
- b. Desmoma
- c. Hard fibroma**
- d. Fibromyoma
- e. Fibrosarcoma

1605. Parodontitis is treated with calcium preparations and a hormone that stimulates tooth mineralization and inhibits tissue resorption. What hormone is it?

- a. Thyroxine

- b. Parathormone
- c. Aldosterone
- d. Adrenalin

e. Calcitonin

1606. Examination of patients with periodontitis revealed the interdependence between the rate of affection of periodontal tissues and the amount of lysozymes in saliva and gingival liquid. These results can be obtained during studying the following protection system of an organism:

a. Tolerance

b. Non-specific resistance

- c. Humoral immunity
- d. Autoresponsiveness
- e. Cellular immunity

1607. According to the phenotypic diagnosis a female patient has been provisionally diagnosed with X-chromosome polysomia. This diagnosis can be confirmed by a cytogenetic method. What karyotype will allow to confirm the diagnosis?

a. 47(XXX)

- b. 46(XX)
- c. 48(XXYY)
- d. 48(XXXXY)
- e. 47(XXY)

1608. A 36 year old female patient has a history of collagen disease. Urine analysis is likely to reveal an increased concentration of the following metabolite:

- a. Urobilinogen
- b. Urea

c. Oxyproline

- d. Creatinine
- e. Indican

1609. Osteolaterism is characterized by a decrease in collagen strength caused by much less intensive formation of cross-links in collagen fibrils. This phenomenon is caused by the low activity of the following enzyme:

- a. Lysyl hydroxylase
- b. Monoamino-oxidase
- c. Prolyl hydroxylase

d. Lysyl oxidase

e. Collagenase

1610. A man is being measured power inputs on an empty stomach, in the lying position, under conditions of physical and psychic rest at a comfortable temperature. Power inputs will reach the maximum at:

a. 3-4 a.m

b. 5-6 p.m

- c. 10-12 a.m
- d. 2-3 p.m
- e. 7-8 a.m

1611. Microscopic examination of the enlarged neck gland of a 14 year old girl revealed destruction of the tissue structure of the node, absence of the lymph follicles, sclerotic areas and necrosis foci, cell constitution of the node is polymorphous, lymphocytes, eosinophiles, big atypical cells with multilobular nuclei (Beresovsky-Sternberg cells) and mononuclear cells of the large size are present. What is the most likely diagnosis?

a. Acute lympholeucosis

b. Lymphogranulomatosis

- c. Chronic lympholeucosis
- d. Fungoid mycosis

e. Berkitts lymphoma

1612. An isolated cell of human heart automatically generates excitement impulses with frequency of 60 times per minute. This cell was taken from the following heart structure:

- a. His bundle
- b. Ventricle
- c. Atrioventricular node
- d. Sinoatrial node**
- e. Atrium

1613. A patient with epilepsy and depressive reaction has been administered a drug that reduced epilepsy manifestations and improved the patients psychic condition

- a. Amitriptyline
- b. Ethosuxemide
- c. Phenytoin
- d. Sodium valproate**
- e. Phenobarbital

1614. A 60 year old patient was found to have a dysfunction of main digestive enzyme of saliva. This causes the disturbance of primary hydrolysis of:

- a. Carbohydrates**
- b. Lactose
- c. Cellulose
- d. Fats
- e. Proteins

1615. A 26 year old pregnant woman is under treatment at an in-patient hospital. After a continuous attack of vomiting she was found to have reduced volume of circulating blood. What kind of change in general blood volume is the case?

- a. Oligocythemic hypovolemia
- b. Polycythemic hypovolemia**
- c. Polycythemic hypervolemia
- d. Simple hypovolemia
- e. Oligocythemic hypervolemia

1616. A sportsman was examined after an intensive physical activity. The examination revealed disorder of movement coordination but the force of muscle contractions remained the same. It can be explained by retarded speed of excitement conduction through:

- a. Central synapses**
- b. Neuromuscular synapses
- c. Efferent nerves
- d. Afferent nerves
- e. Conduction tracts

1617. Examination of a child who hasn't got fresh fruit and vegetables during winter revealed numerous subcutaneous hemorrhages, gingivitis, carious cavities in teeth. What vitamin combination should be prescribed in this case?

- a. Calciferol and ascorbic acid
- b. Folic acid and cobalamin
- c. Thiamine and pyridoxine
- d. Ascorbic acid and rutin**
- e. Riboflavin and nicotinamide

1618. A man has a considerable decrease in diuresis as a result of 1,5 l blood loss. The primary cause of such diuresis disorder is the hypersecretion of the following hormone:

- a. Cortisol
- b. Corticotropin
- c. Parathormone

d. Vasopressin

e. Natriuretic

1619. A patient has been diagnosed with alkaptonuria. Choose an enzyme whose deficiency can be the reason for this pathology:

a. Phenylalanine hydroxylase

b. Dioxyphenylalanine decarboxylase

c. Homogentisic acid oxidase

d. Glutamate dehydrogenase

e. Pyruvate dehydrogenase

1620. Examination of duodenal contents revealed some pyriform protozoa with twin nuclei and four pairs of flagella. There were two supporting filaments between the nuclei and a suckorial disc on the ventral side. What representative of protozoa was revealed in this patient?

a. Toxoplasma

b. Intestinal trichomonad

c. Lamblia

d. Leishmania

e. Trypanosome

1621. A 28 year old woman has been diagnosed with extrauterine pregnancy complicated by the fallopian tube rupture. The blood is most likely to penetrate the following peritoneal space:

a. Left mesenteric sinus

b. Intersigmoid sinus

c. Vesicouterine

d. Rectouterine

e. Right mesenteric sinus

1622. An experimental animal that was kept on protein-free diet developed fatty liver infiltration, in particular as a result of deficiency of methylating agents. This is caused by disturbed generation of the following metabolite:

a. Linoleic acid

b. DOPA

c. Choline

d. Cholesterol

e. Acetoacetate

1623. A 20 year old patient complains of morbid thirst and hyperdiuresis (up to 10 l daily). Glucose concentration in blood is normal but it is absent in urine. The patient has been diagnosed with diabetes insipidus. What hormonal drug is the most appropriate for management of this disorder?

a. Vasopressin

b. Cortisol

c. Thyroxine

d. Insulin

e. Oxytocin

1624. Serological diagnostics of infectious diseases is based upon specific interaction with antigens. Specify the serological reaction that underlies adhesion of microorganisms when they are affected by specific antibodies in presence of an electrolyte:

a. Hemadsorption reaction

b. Agglutination reaction

c. Neutralization reaction

d. Precipitation reaction

e. Complement-binding reaction

1625. From the group of children who were eating sweet sappy watermelon two kids developed the signs of poisoning: rapid weakness, dizziness, headache, vomiting, edema, tachycardia, cyanosis of mouth, ears, tips of the fingers cyanosis. High concentration of nitrates was detected. What is the

leading mechanism of the pathogenesis of the poisoning in the two children?

- a. Insufficiency glutathione pyroxidase
- b. Insufficiency of met-Hb-reductase**
- c. Block cytochrome oxidase
- d. Insufficiency of superoxiddismutase
- e. Insufficiency of catalase

1626. A patient presented to a hospital with complaints about quick fatigability and significant muscle weakness. Examination revealed an autoimmune disease that causes functional disorder of receptors in the neuromuscular synapses. This will result in the disturbed activity of the following mediator:

- a. Dopamine
- b. Glycine
- c. Serotonin
- d. Noradrenaline
- e. Acetylcholine**

1627. A patient has a slowly healing fracture. What medicine can be used to accelerate formation of connective tissue matrix?

- a. Cyclophosphan
- b. Cyclosporine
- c. Methyluracil**
- d. Methotrexate
- e. Prednisolone

1628. A 44 year old woman complains of general weakness, heart pain, significant increase of body weight. Objectively: moon face, hirsutism, AP is 165/100 mm Hg, height - 164 cm, weight - 103 kg; the fat is mostly accumulated on her neck, thoracic girdle, belly. What is the main pathogenetic mechanism of obesity?

- a. Increased insulin production
- b. Increased mineralocorticoid production
- c. Reduced production of thyroid hormones
- d. Increased production of glucocorticoids**
- e. Reduced glucagon production

1629. A patient suffering from chronic myeloleukemia has got the following symptoms of anemia: decreased number of erythrocytes and low haemoglobin concentration, oxyphilic and polychromatophilic normocytes, microcytes. What is the leading pathogenetic mechanism of anemia development?

- a. Intravascular hemolysis of erythrocytes
- b. Reduced synthesis of erythropoietin
- c. Substitution of haemoblast**
- d. Chronic haemorrhage
- e. Deficiency of vitamin B12

1630. During examination of a patient a dentist revealed a lot of "white spots" - zones of enamel demineralization. What microorganisms take part in the development of this process?

- a. Staphylococcus epidermidis
- b. Streptococcus mutans**
- c. Streptococcus pyogenes
- d. Veilonella parvula
- e. Streptococcus salivarius

1631. The patient with acute myocardial infarction was given intravenously different solutions during 8 hours with medical dropper 1500 ml and oxygen intranasally. He died because of pulmonary edema. What caused the pulmonary edema?

- a. Inhalation of the oxygen
- b. Allergic reaction
- c. Volume overload of the left ventricular**

- d. Neurogenic reaction
- e. Decreased oncotic pressure due to hemodilution

1632. A patient with a history of chronic glomerulonephritis presents with azotemia, oliguria, hypo- and isosthenuria, proteinuria. What is the leading factor in the pathogenesis of these symptoms development under chronic renal failure?

- a. Intensification of glomerular filtration
- b. Intensification of sodium reabsorption
- c. Mass decrease of active nephrons**
- d. Disturbed permeability of glomerular membranes
- e. Tubular hyposecretion

1633. A 46 year old female patient has a continuous history of progressive muscular (Duchennes) dystrophy. Which blood enzyme changes will be of diagnostic value in this case?

- a. Creatine phosphokinase**
- b. Pyruvate dehydrogenase
- c. Lactate dehydrogenase
- d. Adenylate cyclase
- e. Glutamate dehydrogenase

1634. The contents of vesicles that appeared on the mucous membrane of a patient with variola was sent to a virological laboratory. Which of the listed changes were revealed during the smear microscopy?

- a. Paschen bodies**
- b. Babes-Ernst bodies
- c. Guarnieri bodies
- d. Syncytium
- e. Babes-Negri bodies

1635. A 63 year old male patient who had been suffering from chronic diffuse obstructive disease, pulmonary emphysema, for 15 years died from cardiac insufficiency. Autopsy revealed nutmeg liver cirrhosis, cyanotic induration of kidneys and spleen, ascites, edemata of lower limbs. These changes of internal organs are typical for the following disease:

- a. Acute left-ventricular insufficiency
- b. General cardiac insufficiency
- c. Chronic left-ventricular insufficiency
- d. Chronic right-ventricular insufficiency**
- e. Acute right-ventricular insufficiency

1636. There was a record of some anthrax cases among animals in a countryside. The spread of disease can be prevented by means of immunization. What kind of vaccine should be used?

- a. Diphtheria and tetanus toxoids and pertussis vaccine
- b. STI live vaccine**
- c. BCG vaccine
- d. Salk vaccine
- e. Sabins vaccine

1637. A patient has a right-sided fracture in the region of the frontal third of mandible accompanied by a haematoma in the region of chin. It is caused by the injury of the following artery:

- a. Palatine
- b. Mental**
- c. Facial
- d. Lingual
- e. Inferior labial

1638. One of sections of central nervous system has layerwise arrangement of neurocytes. Among them there are cells of the following forms: stellate, fusiform, horizontal, pyramidal. What section of central nervous system is this structure typical for?

- a. Medulla oblongata
- b. Spinal cord
- c. Hypothalamus
- d. Cortex of cerebrum**
- e. Cerebellum

1639. Life cycle of a cell includes a process of DNA autoreduplication. As a result of this process monochromatid chromosomes become bichromatid. This phenomenon is observed within the following period of the cell cycle:

- a. G0
- b. S**
- c. G1
- d. M
- e. G2

1640. A patient presents with the following motor activity disturbances: tremor, ataxia and asynergia movements, dysarthria. The disturbances are most likely to be localized in:

- a. Cerebellum**
- b. Basal ganglions
- c. Medulla oblongata
- d. Limbic system
- e. Brainstem

1641. As a result of a trauma a patient has damaged anterior roots of spinal cord. What structures have been affected?

- a. Axons of neurons of lateral horns
- b. Central processes of sensitive neurons of spinal ganglions
- c. Dendrites of neurons of spinal ganglions
- d. Axons of motoneurons and axons of neurons of lateral horns**
- e. Peripheral processes of sensitive spinal ganglions

1642. During an operation a patient got injection of muscle relaxant dithylinum. Relaxation of skeletal muscles and inhibition of respiration lasted two hours. This condition was caused by absence of the following enzyme in blood serum:

- a. Acetylcholinesterase
- b. Butyrylcholin esterase**
- c. Glutathione peroxidase
- d. Glucose 6-phosphatase
- e. Catalase

1643. In course of a conditional experiment the development of mesenchyma cells was completely inhibited. Development of the following muscular tissue will be disturbed:

- a. Skeletal muscular tissue
- b. Cardiac muscular tissue
- c. Neural muscular tissue
- d. Smooth muscular tissue**
- e. Epidermal muscular tissue

1644. A patient diagnosed with morphinism has been admitted to the narcological department. A doctor noted a decrease in pharmacological activity of morphine. Repetitive use of a drug may result in tolerance to its effect, and this phenomenon is called:

- a. Addiction**
- b. Tachyphylaxis
- c. Antagonism
- d. Allergy
- e. Cumulation

1645. A 62 year old woman complains of frequent pain attacks in the area of her chest and backbone,

rib fractures. Her doctor suspected myeloma (plasmocytoma). What of the following laboratory characteristics will be of the greatest diagnostic importance?

- a. Hypoproteinemia
- b. Hyperalbuminemia
- c. Hypoglobulinemia
- d. Paraproteinemia**
- e. Proteinuria

1646. As a result of a cold a patient has the abnormal pain and temperature sensitivity of the frontal 2/3 of his tongue. Which nerve must have been damaged?

- a. Accessory
- b. Sublingual
- c. Trigemini**
- d. Vagus
- e. Glossopharyngeal

1647. A doctor asked a patient to breath out fully after taking a normal breath. What muscles contract during such exhalation?

- a. Diaphragm
- b. Trapezius muscles
- c. External intercostal muscles
- d. Pectoral muscles
- e. Abdominal muscles**

1648. Bacterioscopy of nasopharyngeal mucus taken from a 2,5 year old child with nasopharyngitis revealed gram-positive diplococci looking like coffee grains. What organs of the child are most likely to be affected if these microorganisms penetrate the blood?

- a. Lymph nodes
- b. Urogenital tracts
- c. Renal glomeruli
- d. Cardiac valves
- e. Brain tunics**

1649. A patient suffering from stenocardia was taking nitroglycerine which caused restoration of blood supply of myocardium and relieved pain in the cardiac area. What intracellular mechanism provides restoration of energy supply of insulted cells?

- a. Intensification of ATP resynthesis**
- b. Intensification of RNA generation
- c. Reduction of ATP resynthesis
- d. Increased permeability of membranes
- e. Intensification of oxygen transporting into the cell

1650. An electron microphotography of a fragment of proper gastric gland shows a big irregular round-shaped cell. There are a lot of intracellular tubules and mitochondria in the cytoplasm. Specify this cell:

- a. Mucous cell
- b. Endocrine cell
- c. Parietal cell**
- d. Principal cell
- e. Undifferentiated cell

1651. A patient has been diagnosed with transmural myocardial infarction. What drug should be given in order to prevent cardiogenic shock?

- a. Reserpin
- b. Analgin
- c. Promedol**
- d. Phentolamine
- e. Octadine

1652. A 67 year old patient complains of periodic heart ache, dyspnea during light physical activities. ECG reveals extraordinary contractions of heart ventricles. Such arrhythmia is called:

- a. Fibrillation
- b. Extrasystole**
- c. Bradycardia
- d. Flutter
- e. Tachycardia

1653. A 5 year old child has been diagnosed with acute right distal pneumonia. Sputum inoculation revealed that the causative agent is resistant to penicillin, but it is sensitive to macrolides. What drug should be prescribed?

- a. Streptomycin
- b. Tetracycline
- c. Azithromycin**
- d. Ampicillin
- e. Gentamycin

1654. A 5-month-old boy was hospitalized for tonic convulsions. He has a life-time history of this disease. Examination revealed coarse hair, thinned and fragile nails, pale and dry skin. In blood: calcium - 1,5 millimole/l, phosphor - 1,9 millimole/l. These changes are associated with:

- a. Hyperparathyroidism
- b. Hypoparathyroidism**
- c. Hypoaldosteronism
- d. Hypothyroidism
- e. Hyperaldosteronism

1655. A 65 year old patient with chronic heart failure has been taking digitoxin in self-administered dosages for a long time. She was admitted to the hospital for general health aggravation, arrhythmia, nausea, reduced diuresis, insomnia. What is the primary action to be taken?

- a. To withhold digitoxin**
- b. To administer strophanthine intravenously
- c. To give an intravenous injection of calcium gluconate solution
- d. To reduce digitoxin dosage
- e. To administer digoxin

1656. After the second abortion a 23 year old woman has been diagnosed with toxoplasmosis. Which drug should be used for toxoplasmosis treatment?

- a. Mebendazole
- b. Azidothimidine
- c. Itraconazole
- d. Co-trimoxazole**
- e. Acyclovir

1657. A 39 year old man who had been operated for the stomach ulcer died 7 days after the surgery. Autopsy revealed that peritoneal leaves were dull, plephoric, covered with massive yellow-greenish films, the peritoneal cavity contained for about 300 ml of thick yellow-greenish liquid. What pathologic process was revealed in the peritoneal cavity?

- a. Fibrinous haemorrhagic peritonitis
- b. Fibrinous serous peritonitis
- c. Serous peritonitis
- d. Fibrinous suppurative peritonitis**
- e. Peritoneal commissures

1658. A patient has myocardial infarction with thrombosis of the left coronary artery. What pharmacological preparation group should be used to reestablish blood flow?

- a. Fibrinolysis activators**
- b. Glucocorticoids
- c. Angiotensin-converting enzyme inhibitors

- d. Narcotic analgesics
- e. β -adrenergic blockers

1659. Electronic microphotography of pulmonary alveoles wall presents a big cell. Its cytoplasm has a lot of mitochondria, developed Golgi apparatus, osmiophil lamellated corpuscles. What is the main function of this cell?

- a. It warms the air
- b. It is a component of blood-air barrier
- c. It absorbs microorganisms
- d. It purifies the air
- e. It produces surfactant**

1660. Bacterioscopic examination of a smear from the pharynx of a diphtheria suspect revealed bacilli with volutine granules. What etiotropic drug should be chosen in this case?

- a. Diphtheritic anatoxin
- b. Bacteriophage
- c. Eubiotic
- d. Interferon
- e. Antidiphtheritic antitoxic serum**

1661. After implantation of a cardiac valve a young man constantly takes indirect anticoagulants. His state was complicated by hemorrhage. What substance content has decreased in blood?

- a. Heparin
- b. Creatin
- c. Ceruloplasmin
- d. Haptoglobin
- e. Prothrombin**

1662. Emotional stress causes activation of hormon-sensitive triglyceride lipase in the adipocytes. What secondary mediator takes part in this process?

- a. Cyclic guanosine monophosphate
- b. Ions of Ca^{2+}
- c. Adenosine monophosphate
- d. Diacylglycerol
- e. Cyclic adenosine monophosphate**

1663. Having helped to eliminate consequences of a failure at a nuclear power plant, a worker got an irradiation doze of 500 roentgen. He complains of headache, nausea, dizziness. What changes in leukocytes quantity can be expected 10 hours after irradiation?

- a. Agranulocytosis
- b. Lymphocytosis
- c. Neutrophilic leukocytosis**
- d. Leukemia
- e. Leukopenia

1664. A child has an acute renal failure. What biochemical factor found in saliva can confirm this diagnosis?

- a. Decrease in nucleic acid concentration
- b. Decrease in glucose concentration
- c. Increase in concentration of higher fatty acids
- d. Increase in glucose concentration
- e. Increase in urea concentration**

1665. Blood minute volume of a 30 year old woman at rest is 5 l/m. What blood volume is pumped through the pulmonary vessels per minute?

- a. 3,75 l
- b. 1,5 l
- c. 2,0 l

d. 5 l

e. 2,5 l

1666. The temperature of the ambient environment is 38°C and relative air humidity is 50%. What ways of heat emission provide maintaining a constant temperature of the human body?

a. Convection

b. Convection and conduction

c. Radiation

d. Heat conduction

e. Evaporation

1667. While playing a child got a punch in the presternum region. As a result of this trauma an organ located behind the presternum was damaged. Name this organ:

a. Thyroid gland

b. Larynx

c. Pericardium

d. Thymus

e. Heart

1668. An oncological patient had been administered methotrexate. With time target cells of the tumour lost sensitivity to this drug. At the same time the change in gene expression of the following enzyme is observed:

a. Deaminase

b. Thiaminase

c. Pholate decarboxylase

d. Pholate oxidase

e. Dehydropholate reductase

1669. Analysis of sputum taken from a patient with suspected pneumonia revealed rather elongated gram-positive diplococci with somewhat pointed opposite ends. What microorganisms were revealed in the sputum?

a. Staphylococcus aureus

b. Streptococcus pneumoniae

c. Neisseria gonorrhoeae

d. Neisseria meningitidis

e. Klebsiella pneumoniae

1670. A child has abnormal formation of tooth enamel and dentin as a result of low concentration of calcium ions in blood. Such abnormalities might be caused by deficiency of the following hormone:

a. Triiodothyronine

b. Parathormone

c. Thyroxine

d. Somatotrophic hormone

e. Thyrocalcitonin

1671. A patient under test was subjected to a moderate physical stress. His minute blood volume amounted 10 l/min. What blood volume was pumped through his lung vessels every minute?

a. 7 l/min

b. 4 l/min

c. 10 l/min

d. 5 l/min

e. 6 l/min

1672. A 4 year old child presents with general weakness, sore throat and deglutitive problem. After his examination a doctor suspected diphtheria and sent the material to the bacteriological laboratory. In order to determine the diphtheria causative agent the material should be inoculated into the following differential diagnostic medium:

a. Ploskyrevs agar

b. Blood tellurite agar

- c. Sabourauds agar
- d. Endos agar
- e. Levenshtein-Yessen agar

1673. A 50 year old patient has been taking treatment thrice for the last 6 months because of fractures caused by domestic accidents. Microscopical examination of bony tissue revealed foci of lacunar resorption, giant-cell granulomas in the tumour-like formations, cysts. Bony tissue was substituted by fibrous connective tissue. Examination revealed also adenoma of parathyroid gland and hypercalcemia. What is the most probable diagnosis?

- a. Myelomatosis
- b. Osteomyelitis
- c. Osteopetrosis
- d. Pagets disease

e. Parathyroid osteodystrophy

1674. In order to determine toxigenicity of diphtheria bacilli a strip of filter paper impregnated with antitoxic diphtherial serum was put on the dense nutrient medium. There were also inoculated a microbial culture under examination and a strain that is known to be toxigenic. If the microbial culture under examination produces exotoxin, this will result in formation of:

- a. Zones of diffuse opacification
- b. Precipitin ring
- c. Zones of lecithovitellinous activity
- d. Haemolysis zones

e. Precipitin lines

1675. A man with a long-term history of bronchial asthma died from asphyxia. Histological examination of his lungs revealed that the lumens of bronchioles and minor bronchi contained a lot of mucus with some eosinophils. There was also sclerosis of interalveolar septa, dilatation of alveole lumens. What mechanism accounts for the development of hypersensitivity reaction?

- a. Lymphocyte-mediated cytotoxicity

b. Reaginic reaction

- c. Immune complex reaction
- d. Cytotoxic reaction
- e. Granulomatosis

1676. A patient got an injury of spinal marrow in a road accident that caused loss of tactile sensation, posture sense, vibration sense. What conduction tracts are damaged?

- a. Rubrospinal tract

b. Fascicle of Goll and cuneate fascicle

- c. Tectospinal tract
- d. Reticulospinal tract
- e. Anterior spinocerebellar tract

1677. Characteristic sign of glycogenosis is muscle pain during physical work. Blood examination reveals usually hypoglycemia. This pathology is caused by congenital deficiency of the following enzyme:

- a. Lysosomal glycosidase
- b. Alpha amylase

c. Glycogen phosphorylase

- d. Glucose 6-phosphate dehydrogenase
- e. Gamma amylase

1678. A 45 year old male died from disseminated tuberculosis. On autopsy the symptoms of tuberculosis were confirmed by both microscopical and histological analyses. All the affected organs had epithelioid cell granulomas with caseous necrosis in the centre. What kind of hypersensitivity reaction underlies the process of granuloma development?

- a. Immune complex

b. Complement-dependent cytotoxicity

c. Antibody-dependent cytotoxicity

d. Delayed

e. Anaphylactic

1679. Examination of a child who frequently suffers from infectious diseases revealed that IgG concentration in blood serum was 10 times less than normal, IgA and IgM concentration was also significantly reduced. Analysis showed also lack of B-lymphocytes and plasmocytes. What disease are these symptoms typical for?

a. Swiss-type agammaglobulinemia

b. Brutons disease

c. Louis-Bar syndrome

d. Dysimmunoglobulinemia

e. Di George syndrome

1680. Blood test of a patient suffering from atrophic gastritis gave the following results: RBCs - 2,01012/l, Hb- 87 g/l, colour index - 1,3, WBCs - 4,0109/l, thrombocytes - 180109/l. Anaemia might have been caused by the following substance deficiency:

a. Vitamin A

b. Iron

c. Vitamin B12

d. Zinc

e. Vitamin K

1681. Autopsy of a woman with cerebral atherosclerosis revealed in the left cerebral hemisphere a certain focus that is presented by flabby, anhistic, greyish and yellowish tissue with indistinct edges. What pathological process is the case?

a. Ischemic stroke

b. Focal encephalitis

c. Senile encephalopathy

d. Multifocal tumor growth with cystic degeneration

e. Multiple foci of fresh and old cerebral hemorrhage

1682. As a result of damage to certain structures of brainstem an animal lost orientation reflexes. What structures were damaged?

a. Red nuclei

b. Medial nuclei of reticular formation

c. Vestibular nuclei

d. Quadritubercular bodies

e. Black substance

1683. A patient has been diagnosed with acute glomerulonephritis that developed after he had had streptococcal infection. It is most likely that the affection of basal glomerular membrane is caused by an allergic reaction of the following type:

a. Stimulating

b. Immune complex

c. Anaphylactic

d. Delayed

e. Cytotoxic

1684. A patient complains of skin itch, especially between fingers, in the inguinal creases, on the lower abdomen. Examination of these regions revealed there some small vesicles. Laboratory diagnostics allowed to establish that this condition had been caused by a representative of Arthropoda. Specify the disease caused by this arthropod:

a. Pediculosis

b. Scabies

c. Dermatotropic leishmaniasis

d. Myiasis

e. Demodicosis

1685. A female patient consulted a physician about digestive disorder, extended abdominal pain. Examination revealed drastic decrease in hemoglobin concentration. It is known from the anamnesis that while living in the Far East the patient used to eat freshly-salted caviar. Some relatives living with her had the similar condition. What is the most likely diagnosis?

a. Trichiniasis

b. Diphyllbothriasis

c. Echinococcosis

d. Teniasis

e. Ascaridiasis

1686. Autopsy of a 75 year old patient who had been suffering from disseminated atherosclerosis and died under chronic cardiac failure revealed constriction and deformation of coronary arteries, tuberos intima whose section appeared to be white and petrosal. Specify the stage of atherosclerosis morphogenesis:

a. Lipoidosis

b. Atherocalcinosis

c. Atheromatosis

d. Liposclerosis

e. Bilipid

1687. A 70 year old female patient was diagnosed with fracture of left femoral neck accompanied by disruption of ligament of head of femur. The branch of the following artery is damaged:

a. External iliac

b. Inferior gluteal

c. Femoral

d. Internal pudendal

e. Obturator

1688. A patient suffering from chronic hyperacidic gastritis takes an antacid drug for heartburn elimination. After its ingestion the patient feels better but at the same time he has a sensation of stomach swelling. Which of the following drugs might be the cause of such side effect?

a. Sodium hydrocarbonate

b. Aluminium hydroxide

c. Magnesium oxide

d. Pepsin

e. Magnesium trisilicate

1689. Autopsy of a man who had tuberculosis revealed a 3x2 cm large cavity in the superior lobe of the right lung. The cavity was interconnected with a bronchus, its wall was dense and consisted of three layers: the internal layer was pyogenic, the middle layer was made by tuberculous granulation tissue and the external one was made by connective tissue. What is the most likely diagnosis?

a. Acute cavernous tuberculosis

b. Fibrous cavernous tuberculosis

c. Tuberculoma

d. Fibrous focal tuberculosis

e. Acute focal tuberculosis

1690. An elderly patient has chronic constipations induced by large intestine hypotonia. What drug should be administered?

a. Novocaine amide

b. Castor oil

c. Atropine

d. Sodium sulphate

e. Bisacodyl

1691. Atria of an experimental animal were superdistended by blood that resulted in decreased

reabsorption of Na⁺ and water in renal tubules. This can be explained by the influence of the following factor upon kidneys:

- a. Vasopressin
- b. Natriuretic hormone**
- c. Angiotensin
- d. Aldosterone
- e. Renin

1692. As a result of a road accident a 26-year-old man is in the torpid phase of shock. Blood count: leukocytes - 3,2109/l. What is the leading mechanism of leukopenia development?

- a. Leukopoiesis inhibition
- b. Leukocyte redistribution in the bloodstream**
- c. Faulty release of mature leukocytes from the bone marrow into the blood
- d. Increased excretion of the leukocytes from the organism
- e. Leukocyte destruction in the hematopoietic organs

1693. A female patient with a tumour of pancreas has developed mechanic jaundice resulting from compression of a bile-excreting duct. Which duct is compressed?

- a. Ductus choledochus**
- b. Ductus hepaticus sinister
- c. Ductus hepaticus communis
- d. Ductus hepaticus dexter
- e. Ductus cysticus

1694. Microelectrode technique allowed to register a potential following "all-or-none" law and being able of undecremental spreading. Specify this potential:

- a. Excitatory postsynaptic potential
- b. Receptor potential
- c. Inhibitory postsynaptic potential
- d. Action potential**
- e. Rest potential

1695. A nurse accidentally injected a nearly double dose of insulin to a patient with diabetes mellitus. The patient lapsed into a hypoglycemic coma. What drug should be injected in order to help him out of coma?

- a. Noradrenaline
- b. Lidase
- c. Glucose**
- d. Insulin
- e. Somatotropin

1696. After a serious psychoemotional stress a 48 year old patient suddenly developed acute heart ache irradiating to the left arm. Nitroglycerine relieved pain after 10 minutes. What is the leading pathogenetic mechanism of this process development?

- a. Increase in myocardial oxygen consumption
- b. Dilatation of peripheral vessels
- c. Spasm of coronary arteries**
- d. Compression of coronary vessels
- e. Obstruction of coronary vessels

1697. An infant has pylorospasm, weakness, hypodynamia, convulsions as a result of frequent vomiting. What kind of acid-base disbalance is it?

- a. Gaseous alkalosis
- b. Excretory alkalosis**
- c. Exogenous nongaseous acidosis
- d. Excretory acidosis
- e. Metabolic acidosis

1698. A patient who abuses smoking has chronic bronchitis. Biopsy of his primary bronchus revealed multilayer pavement epithelium. What pathological process was revealed in the bronchus?

- a. Dysplasia
- b. Physiological regeneration
- c. Reparative regeneration
- d. Metaplasia**
- e. Hyperplasia

1699. After taking poor-quality food a patient developed repeated episodes of diarrhea. On the next day he presented with decreased arterial pressure, tachycardia, extrasystole. Blood pH is 7,18. These abnormalities were caused by the development of:

- a. Gaseous alkalosis
- b. Nongaseous alkalosis
- c. Gaseous acidosis
- d. Metabolic alkalosis
- e. Nongaseous acidosis**

1700. In an embryo the process of dorsal mesoderm segmentation and somite formation is disturbed. What part of skin will probably have developmental abnormalities?

- a. Perspiratory glands
- b. Sebaceous glands
- c. Hair
- d. Dermis**
- e. Epidermis

1701. After an attack of bronchial asthma a patient had his peripheral blood tested. What changes can be expected?

- a. Thrombocytopenia
- b. Lymphocytosis
- c. Eosinophilia**
- d. Erythrocytosis
- e. Leukopenia

1702. A patient has been diagnosed with a compression fracture of a lumbar vertebra. As a result he has a considerable increase in curvature of the lumbar lordosis. Which ligament damage can induce such changes in the spine curvature?

- a. Iliolumbar ligament
- b. Posterior longitudinal ligament
- c. Anterior longitudinal ligament**
- d. Yellow ligament
- e. Interspinous ligament

1703. Examination of a bronchial tissue sample revealed atrophy of mucous membrane, cystic degeneration of glands, focal metaplastic changes of lining prismatic epithelial cells into multilayer squamous cells; increase in goblet cell number; in some parts of bronchial wall and especially in the mucous membrane there was marked cellular inflammatory infiltration and growth of granulation tissue bulging into the bronchial lumen in form of a polyp. What is the most likely diagnosis?

- a. Interstitial pneumonia
- b. Acute bronchitis
- c. Chronic bronchitis**
- d. Bronchopneumonia
- e. Lobar pneumonia

1704. For relief of hypertensive crisis a doctor administered a patient a drug that apart from antihypertensive effect has also sedative, spasmolytic and anticonvulsive effect. The drug was taken parenterally. When it is taken enterally it acts as a laxative and cholagogue. What drug was administered?

- a. Apressin

- b. No-spa
- c. Reserpine
- d. Dibasolum

e. Magnesium sulfate

1705. A 30 year old woman has subnormal concentration of enzymes in the pancreatic juice. This might be caused by the hyposecretion of the following gastrointestinal hormone:

- a. Somatostatin
- b. Vaso-intestinal peptide
- c. Secretin
- d. Gastro-inhibiting peptide

e. Cholecystokin-in-pancreozymin

1706. A 42 year old patient complains of pain in the epigastral area, vomiting; vomit masses have the colour of "coffee-grounds", the patient has also melena. Anamnesis records gastric ulcer. Blood formula: erythrocytes - 2,81012/l, leukocytes - 8109/l, Hb- 90 g/l. What complication is it?

- a. Penetration
- b. Perforation
- c. Pyloric stenosis
- d. Canceration

e. Haemorrhage

1707. A patient with high-titer antinuclear antibodies died from progressing renal impairment. Autopsy revealed mesangioproliferative glomerulonephritis and abacterial polypous endocarditis. There was periarterial bulbar sclerosis in spleen and productive proliferative vasculitis in skin. What is the most likely diagnosis?

- a. Nephrotic syndrome
- b. Periarthritis nodosa
- c. Rheumatism

d. Systemic lupus erythematosus

e. Dermatomyositis

1708. HIV has gp41 and gp120 on its surface interacts with target cells of an organism. Which of the following human lymphocyte antigens is gp120 complementary bound with?

a. CD 28

b. CD 4

c. CD 19

d. CD 8

e. CD 3

1709. Histologic analysis of uterus mucous membrane revealed twisting glands, serrated and spined, they were extended by stroma growth with proliferation of its cells. Formulate a diagnosis:

a. Cystic mole

b. Glandular hyperplasia of endometrium

c. Placental polyp

d. Leiomyoma

e. Acute endometritis

1710. 46 chromosomes were revealed on karyotype examination of the 5 year old girl. One of the 15th pair of chromosomes is longer than usual due to connected chromosome from the 21 pair. What type of mutation does this girl have?

a. Translocation

b. Insufficiency

c. Deletion

d. Duplication

e. Inversion

1711. Preventive examination of a patient revealed an enlarged lymph node of metastatic origin on

the medial wall of the left axillary crease. Specify the most likely localization of the primary tumour:

- a. Lung
- b. Thyroid gland
- c. Mammary gland**
- d. Stomach
- e. Submandibular salivary gland

1712. 2 days after labour a woman developed shock along with DIC syndrome that caused her death. Autopsy revealed purulent endomyometritis, regional purulent lymphangitis, lymphadenitis and purulent thrombophlebitis. There were also dystrophic alterations and interstitial inflammation of parenchymal organs. What is the most likely diagnosis?

- a. Tuberculosis of genital organs
- b. Hydatid mole
- c. Septicemia**
- d. Chorioadenoma destruens
- e. Syphilis

1713. Blood analysis of a patient with jaundice reveals conjugated bilirubinemia, increased concentration of bile acids. There is no stercobilinogen in urine. What type of jaundice is it?

- a. Obstructive jaundice**
- b. Cythemolytic jaundice
- c. Hepatocellular jaundice
- d. Hemolytic jaundice
- e. Parenchymatous jaundice

1714. A man who is riding the carousel presents with increased heart rate, sweating, nausea. This condition is caused primarily by the stimulation of the following receptors:

- a. Auditory
- b. Vestibular ampullar**
- c. Vestibular otolithic
- d. Visual
- e. Proprioceptors

1715. Vegetative abnormalities in the sleep, heat regulation, all kinds of metabolism, diabetes insipidus are developing in the patient due to growth of the tumour in the III ventricle of brain. Irritation of the nucleus of what part of the brain can cause this symptoms?

- a. Medulla
- b. Cerebral peduncles (crura cerebri)
- c. Mesencephalic tegmentum
- d. Hypothalamus**
- e. Pons cerebelli

1716. A couple has a son with haemophilia. The parents are healthy but the maternal grandfather also has haemophilia. Specify the type of inheritance:

- a. Autosomal dominant
- b. Dominant sex-linked
- c. Recessive autosomal
- d. Semidominance
- e. Recessive sex-linked**

1717. When measuring power inputs of a man by the method of indirect calorimetry the following results were obtained: 1000 ml oxygen consumption and 800 ml carbon dioxide liberation per minute. The man under examination has the following respiratory coefficient:

- a. 0,8**
- b. 0,9
- c. 1,0
- d. 0,84
- e. 1,25

1718. A 66 year old female patient got intravenous injection of magnesium sulfate solution for the purpose of elimination of hypertensive crisis. But arterial pressure didn't go down and after repeated introduction of the same preparation there appeared sluggishness, slow response, inhibition of consciousness and respiration. What preparation is antagonist of magnesium sulfate and can eliminate symptoms of its overdose?

- a. Potassium chloride
- b. Calcium chloride**
- c. Sodium chloride
- d. Activated carbon
- e. Potassium permanganate

1719. A man suffering from a hereditary disease married a healthy woman. They got 5 children, three girls and two boys. All the girls inherited their father's disease. What is the type of the disease inheritance?

- a. Recessive, X-linked
- b. Autosomal recessive
- c. Y-linked
- d. Dominant, X-linked**
- e. Autosomal dominant

1720. During influenza epidemic 40% of pupils who didn't go in for sports were affected by the disease, and among the pupils who regularly did physical exercises this index was only 20%. What adaptive mechanisms determined such a low sickness rate of pupils participating in the sports?

- a. Specific adaptation
- b. Biochemical adaptation
- c. Genetic adaptation
- d. Cross adaptation**
- e. Physiological adaptation

1721. After a tourniquet application a patient was found to have petechial haemorrhages. The reason for it is the dysfunction of the following cells:

- a. Lymphocytes
- b. Monocytes
- c. Platelets**
- d. Eosinophils
- e. Neutrophils

1722. Autopsy of a man who died from ethylene glycol poisoning revealed that his kidneys are a little bit enlarged, edematous; their capsule can be easily removed. Cortical substance is broad and light-grey. Medullary substance is dark-red. What pathology had this man?

- a. Acute tubular-interstitial nephritis
- b. Acute pyelonephritis
- c. Acute glomerulonephritis
- d. Necrotic nephrosis**
- e. Lipoid nephrosis

1723. A 2 year old child with mental and physical retardation has been delivered to a hospital. He presents with frequent vomiting after having meals. There is phenylpyruvic acid in urine. Which metabolism abnormality is the reason for this pathology?

- a. Lipidic metabolism
- b. Water-salt metabolism
- c. Phosphoric calcium metabolism
- d. Amino-acid metabolism**
- e. Carbohydrate metabolism

1724. A month after surgical constriction of rabbit's renal artery the considerable increase of systematic arterial pressure was observed. What of the following regulation mechanisms caused the animal's pressure change?

- a. Adrenaline
- b. Vasopressin
- c. Angiotensin-II**
- d. Noradrenaline
- e. Serotonin

1725. A patient suffering from syphilis has been treated with bismuth preparations. As a result of it some grey spots turned up on the mucous membrane of the oral cavity; nephropathy symptoms were also present. What drug should be used for treatment of bismuth intoxication?

- a. Nalorphine
- b. Naloxone
- c. Bemegride
- d. Methylene blue
- e. Unithiol**

1726. A histological specimen of kidney shows a structure consisting of a glomerulus of fenestrated capillaries and a bilayer epithelial capsule. Specify this structure:

- a. Proximal tubule
- b. Renal corpuscle**
- c. Receiving tube
- d. Henles loop
- e. Distal tubule

1727. Chronic inflammation and transformation of the one-layer ciliated epithelium into multiple-layers flat epithelium was revealed in the thickened mucous membrane of the bronchus biopate of the patient with smoke abuse. Which of the processes is the most likely?

- a. Hyperplasia of the epithelium
- b. Epithelium hypertrophy
- c. Squamous cancer
- d. Leucoplacia
- e. Metaplasia**

1728. After a trauma of soft tissues in the region of the posterior surface of medial condyle of humerus a patient has got a skin prickle of medial forearm surface. Which of the listed nerves is located in the affected region?

- a. N.radialis
- b. N.subscapularis
- c. N.musculocutaneu
- d. N.dorsalis scapularis
- e. N.ulnaris**

1729. Sex chromosomes of a woman didnt separate and move to the opposite poles of a cell during gametogenesis (meiosis). The ovum was impregnated with a normal spermatozoon. Which chromosomal disease can be found in her child?

- a. Patau syndrome
- b. Turners syndrome**
- c. Cat cry syndrome
- d. Edwards syndrome
- e. Downs syndrome

1730. After 4 months of treatment for tuberculosis the patient began complaining of toes and fingers numbness, sensation of creeps. He was diagnosed with polyneuritis. What antituberculous drug might have caused these complications?

- a. Ciprofloxacin
- b. Alcohol iodine solution
- c. Isoniazid**
- d. Rifampicin
- e. Sodium salt of benzylpenicillin

1731. During postembryonal haemopoiesis in the red bone marrow the cells of one of the cellular differons demonstrate a gradual decrease in cytoplasmic basophilia as well as an increase in oxyphilia, the nucleus is being forced out. Such morphological changes are typical for the following haemopoiesis type:

- a. Eosinophil cytopoiesis
- b. Erythropoiesis**
- c. Neutrophil cytopoiesis
- d. Basophil cytopoiesis
- e. Lymphopoiesis

1732. A man got poisoned with mushrooms. They contain muscarine that stimulates muscarinic cholinoreceptors. What symptom is typical for poisoning with inedible mushrooms?

- a. Bronchi dilation
- b. Miosis**
- c. Mydriasis
- d. Arterial pressure rise
- e. Heart rate rise

1733. While under barbituric anaesthesia a 65 year old male patient developed respiratory inhibition. Anesthesiologist made him a 10 ml intravenous injection of 0,5% bemegride solution. The patients condition got better, the pulmonary ventilation volume increased. What phenomenon underlies the interaction of these medivcations?

- a. Direct synergism
- b. Indirect antagonism
- c. Unilateral antagonism
- d. Direct antagonism**
- e. Indirect synergism

1734. The patient with thymoma (thymus gland tumour) has cyanosis, extention of subcutaneous venous net and edema of the soft tissues of face, neck, upper part of the trunk and upper extremities. What venous trunk is pressed with tumour?

- a. Frontal jugular vein
- b. Superior vena cava**
- c. Internal jugular vein
- d. Clavicular vein
- e. External jugular vein

1735. As a result of durative antibiotic therapy a 37 year old patient developed intestinal dysbacteriosis. What type of drugs should be used in order to normalize intestinal microflora?

- a. Vitamins
- b. Sulfanilamides
- c. Autovaccines
- d. Bacteriophages
- e. Eubiotics**

1736. After severe viral hepatitis a 4 year old boy presents with vomiting, occasional loss of consciousness, convulsions. Blood test revealed hyperammonemia. Such condition is caused by a disorder of the following biochemical hepatic process:

- a. Disorder of ammonia neutralization**
- b. Protein synthesis inhibition
- c. Activation of amino acid decarboxylation
- d. Inhibition of transamination enzymes
- e. Disorder of biogenic amines neutralization

1737. A 49 year old woman spent a lot of time standing. As a result of it she got leg edema. What is the most likely cause of the edema?

- a. Decrease in hydrostatic pressure of blood in veins
- b. Increase in hydrostatic pressure of blood in veins**

- c. Decrease in hydrostatic pressure of blood in arteries
- d. Increase in oncotic pressure of blood plasma
- e. Increase in systemic arterial pressure

1738. A patient complains about impaired evacuatory function of stomach (long-term retention of food in stomach). Examination revealed a tumour of initial part of duodenum. Specify localization of the tumour:

- a. Pars descendens
- b. Pars ascendens
- c. Pars inferior
- d. Pars superior**
- e. Flexura duodeni inferior

1739. A boy has fallen down from a tree. Now he finds it difficult to abduct his arm into horizontal position. Which muscle is most likely to be injured?

- a. M.anconeus
- b. M.coracobrachialis
- c. M.deltoideus**
- d. M.supinator
- e. M.triceps brachii

1740. Before the cells can utilize the glucoze, it is first transported from the extracellular space through the plasmatic membrane inside them. This process is stimulated by the following hormone:

- a. Insulin**
- b. Aldosterone
- c. Adrenalin
- d. Thyroxin
- e. Glucagon

1741. Cytogenetic examination of a patient with dysfunction of the reproductive system revealed normal karyotype 46,XY in some cells, but most cells have Klinefelters syndrome karyotype - 47,XXY. Such phenomenon of cell inhomogeneity is called:

- a. Mosaicism**
- b. Transposition
- c. Duplication
- d. Inversion
- e. Heterogeneity

1742. A patient complains about dyspnea provoked by the physical activity. Clinical examination revealed anaemia and presence of the paraprotein in the zone of gamma-globulins. To confirm the myeloma diagnosis it is necessary to determine the following index in the patients urine:

- a. Ceruloplasmin
- b. Bence Jones protein**
- c. Antitrypsin
- d. Haemoglobin
- e. Bilirubin

1743. The immunoblot detected gp120 protein in the blood serum. This protein is typical for the following disease:

- a. Poliomyelitis
- b. HIV-infection**
- c. Syphilis
- d. Tuberculosis
- e. Virus B hepatitis

1744. A 50 year old patient suffers from essential hypertension. After a physical stress he experienced muscle weakness, breathlessness, cyanosis of lips, skin and face. Respiration was accompanied by distinctly heard bubbling rales. What mechanism underlies the development of this

syndrome?

- a. Chronic left-ventricular failure
- b. Chronic right-ventricular failure
- c. Acute left-ventricular failure**
- d. Cardiac tamponade
- e. Collapse

1745. Examination of a 6-month-old child revealed a delay in closure of the occipital fontanelle. When should it normally close?

- a. Until the end of the second year of life
- b. Before the child is born
- c. Until 6 months
- d. Until 3 months**
- e. Until the end of the first year of life

1746. Power inputs of a man were measured. In what state was this man if his power inputs were lower than basal metabolism?

- a. Nervous tension
- b. Rest
- c. Relaxation
- d. Simple work
- e. Sleep**

1747. ECG of a patient shows prolongation of T-wave. This is caused by deceleration in ventricles of:

- a. Relaxation
- b. Contraction
- c. Repolarization**
- d. Depolarization
- e. Depolarization and repolarization

1748. A patient suffers from stenocardia and takes isosorbide mononitrate. He was prescribed a complementary drug with disaggregating effect. What drug is it?

- a. Nitroglycerine
- b. Acetylsalicylic acid**
- c. Nifedipine
- d. Propranolol
- e. Validol

1749. An infectious disease unit admitted a patient with signs of jaundice caused by hepatitis virus. Select an indicator that is specific only for parenchymatous jaundice:

- a. Hyperbilirubinemia
- b. Urobilinuria
- c. Bilirubinuria
- d. Cholaemia
- e. Increase in ALT and AST rate**

1750. Patients with similar complaints applied to the doctor: weakness, pain in the intestines, disorder of GIT. Examination of the faeces revealed that one patient with four nucleus cysts should be hospitalized immediately. For what protozoa are such cysts typical?

- a. *Lambia*
- b. *Balantidium*
- c. Intestinal amoeba
- d. Dysenteric amoeba**
- e. *Trichomonas*

1751. Autopsy of a 17 year old girl who died from pulmonary failure revealed a small area of caseous necrosis in the inferior lobe of the right lung, and occurrences of caseous necrosis in the bronchopulmonary, bronchial and bifurcational lymph nodes. What is the most probable postmortem

diagnosis?

- a. Hematogenous progression of primary tuberculosis
- b. Caseous pneumonia under secondary tuberculosis
- c. Tuberculoma
- d. Primary tuberculosis**
- e. Hematogenous tuberculosis with predominant lung affection

1752. A 71 year old man had been presenting with diarrhea for 10 days. The feces had admixtures of blood and mucus. He was delivered to a hospital in grave condition and died 2 days later. Autopsy of the body revealed the following: diphtheritic colitis with multiple irregularly-shaped ulcers of different depth in both sigmoid colon and rectus. Bacteriological analysis revealed Shigella. What was the main disease?

- a. Typhoid fever
- b. Salmonellosis
- c. Nonspecific ulcerous colitis
- d. Yersiniosis
- e. Dysentery**

1753. A cell at the stage of mitosis anaphase was stimulated by colchicine that inhibits chromosome separation to the poles. What type of mutation will be caused?

- a. Inversion
- b. Polyploidy**
- c. Duplication
- d. Translocation
- e. Deletion

1754. A 63 year old patient with collapse presentations was delivered to the emergency hospital. A physician has chosen noradrenalin against hypotension. What is its mechanism of action?

- a. Activation of α 1-adrenoreceptors**
- b. Activation of serotonin receptors
- c. Activation of dopamine receptors
- d. Block of M-cholinoreceptors
- e. Activation of β -adrenoreceptors

1755. A disaster fighter at a nuclear power plant developed hemorrhagic syndrome on the background of acute radiation disease. What is the most important factor of syndrome pathogenesis?

- a. Decreased activity of coagulative factors
- b. Vascular wall damage
- c. Increased activity of fibrinolysis factors
- d. Thrombocytopenia**
- e. Increased activity of anticoagulative system factors

1756. Examination of a 42 year old patient revealed a tumour of adenohypophysis. Objectively: the patients weight is 117 kg, he has moon-like hyperemic face, red-blue striae of skin distension on his belly. Osteoporosis and muscle dystrophy are present. AP is 210/140 mm Hg. What is the most probable diagnosis?

- a. Cushing's disease**
- b. Essential hypertension
- c. Conn's disease
- d. Cushing's syndrome
- e. Diabetes mellitus

1757. A 56 year old patient suffering from cardiac insufficiency has edema of feet and shins, edematous skin is pale and cold. What is the leading mechanism of edema pathogenesis?

- a. Drop of oncotic pressure in capillaries
- b. Disorder of lymph outflow
- c. Rise of hydrostatic pressure in venules**
- d. Positive water balance

e. Increase of capillary permeability

1758. A bacteriological laboratory received sputum sample of a patient suffering from tuberculosis. Bacterioscopic examination of smears and detection of tuberculosis bacillus can be realized by one of enrichment methods that involves processing of sputum only with solution of caustic soda. What is this method called?

a. Filtration

b. Homogenization

c. Flotation

d. Inactivation

e. Neutralization

1759. Pharmacological effects of antidepressants are based upon blocking (inhibiting) the enzyme that acts as a catalyst for the breakdown of biogenic amines noradrenalin and serotonin in the mitochondria of cephalic neurons. What enzyme takes part in this process?

a. Transaminase

b. Decarboxylase

c. Peptidase

d. Lyase

e. Monoamine oxidase

1760. A child is pale, pastose, muscular tissue is badly developed, lymph nodes are enlarged. He often suffers from angina and pharyngitis, blood has signs of lymphocytosis. The child is also predisposed to autoallergic diseases. What type of diathesis can be presumed in this case?

a. Hemorrhagic

b. Gouty

c. Lymphohypoplastic

d. Exudative

e. Asthenic

1761. A 4 year old child with hereditary renal lesion has signs of rickets, vitamin D concentration in blood is normal. What is the most probable cause of rickets development?

a. Lack of calcium in food

b. Hyperfunction of parathyroid glands

c. Hypofunction of parathyroid glands

d. Increased excretion of calcium

e. Impaired synthesis of calcitriol

1762. In order to prevent massive haemorrhage in the region of oral cavity floor it is required to ligate an artery which is located within Pirogov's triangle. What artery is it?

a. Maxillary artery

b. Superior thyroid artery

c. Facial artery

d. Ascending pharyngeal artery

e. Lingual artery

1763. A male patient has been diagnosed with acute radiation disease. Laboratory examination revealed a considerable reduction of platelet serotonin level. The likely cause of platelet serotonin reduction is the disturbed metabolism of the following substance:

a. Phenylalanine

b. Tyrosine

c. 5-oxytryptofane

d. Histidine

e. Serine

1764. In spite of treatment with cardiotonics and thiazide diuretic a patient suffering from chronic cardiac failure still presents with edemata and faces a risk of ascites. What medication should be administered in order to increase the diuretic effect of the above mentioned drugs?

a. Spironolactone

b. Manithol

c. Clopamide

d. Furosemide

e. Amiloride

1765. Vitamin A together with specific cytochrome receptors penetrates through the nuclear membranes, induces transcription processes that stimulate growth and differentiation of cells. This biological function is realized by the following form of vitamin A:

a. Trans-retinoic acid

b. Cis-retinal

c. Carotin

d. Retinol

e. Trans-retinal

1766. Examination of a patient revealed II grade obesity. It is known that he consumes a lot of sweets and rich food, has sedentary way of life. That's why anabolic metabolism has the priority in his organism. Which of the following pathways is amphibolic?

a. Lipolysis

b. Cycle of tricarboxylic acids

c. Glycolysis

d. Glyconeogenesis

e. Fatty acids oxidation

1767. A 64 year old woman has impairment of twilight vision (hemeralopia). What vitamin should be recommended in the first place?

a. A

b. B6

c. B2

d. E

e. C

1768. In course of an operation surgeon removed a part of a lung that was ventilated by a tertiary bronchus accompanied by branches of pulmonary artery and other vessels. What part of a lung was removed?

a. Pulmonary lobule

b. Superior lobe

c. Inferior lobe

d. Bronchopulmonary segment

e. Middle lobe

1769. It is known that the gene responsible for development of blood groups according to AB0 system has three allele variants. If a man has IV blood group, it can be explained by the following variability form:

a. Mutational

b. Genocopy

c. Combinative

d. Phenocopy

e. Phenotypic

1770. A patient with ischemic heart disease has been administered an anti-anginal drug that reduces the myocardial oxygen consumption and improves blood supply of myocardium. What drug is it?

a. Propranolol

b. Retabolil

c. Validol

d. Promedol

e. Nitroglycerine

1771. A patient underwent appendectomy. In the postoperative period he has been taking an antibiotic. The patient complains about hearing impairment and vestibular disorders. What group of antibiotics has such by-effects?

- a. Macrolides
- b. Penicillins
- c. Aminoglycosides**
- d. Tetracyclines
- e. Cephalosporins

1772. When water affects mucous membrane of the inferior nasal meatuses, this causes "diver reflex" that provokes:

- a. Bronchospasm
- b. Reflectory dyspnea
- c. Cough
- d. Reflectory hyperpnea
- e. Reflectory apnea**

1773. A shepherd who has tended sheep together with dogs consulted a doctor about pain in his right subcostal area, nausea, vomiting. Roentgenoscopy revealed a tumour-like formation. What kind of helminthiasis might be suspected?

- a. Taeniarhynchosis
- b. Taeniasis
- c. Enterobiasis
- d. Ascariasis
- e. Echinococcosis**

1774. A patient with obliterating endarteritis underwent ganglionic sympathectomy. What type of arterial hyperaemia should have developed as a result of the surgery?

- a. Reactive
- b. Functional
- c. Neurotonic
- d. Metabolic
- e. Neuroparalytic**

1775. A man with a stab wound in the region of the quadrilateral foramen consulted a doctor about it. Examination revealed that the injured couldn't abduct his arm from the body. What nerve is most likely damaged?

- a. n. medianus
- b. n. axillaris**
- c. n. radialis
- d. n. subclavius
- e. n. ulnaris

1776. Vomiting matters of a patient suspected of having cholera were delivered to the bacteriological laboratory. The material was used for preparing a "hanging drop" specimen. What type of microscopy will be applied for identification of the causative agent by its mobility?

- a. Immersion microscopy
- b. Phase-contrast microscopy**
- c. Fluorescence microscopy
- d. Immune and electron microscopy
- e. Electron microscopy

1777. Toxic affection of liver results in dysfunction of protein synthesis. It is usually accompanied by the following kind of dysproteinemia:

- a. Absolute hyperproteinemia
- b. Paraproteinemia
- c. Relative hyperproteinemia
- d. Absolute hypoproteinemia**

e. Relative hypoproteinemia

1778. A 60 year old patient has impaired perception of high-frequency sounds. These changes were caused by damage of the following auditory analyzer structures:

- a. Middle ear muscles
- b. Eustachian tube
- c. Main cochlea membrane near the oval window**
- d. Tympanic membrane
- e. Main cochlea membrane near the helicotrema

1779. A patient presents with dysfunction of cerebral cortex accompanied by epileptic seizures. He has been administered a biogenic amine synthesized from glutamate and responsible for central inhibition. What substance is it?

- a. Dopamine
- b. Acetylcholine
- c. Serotonin
- d. Gamma-amino butyric acid**
- e. Histamine

1780. A patient underwent esophagogastroduodenoscopy. Analysis of the biopsy material enabled doctors to diagnose him with helicobacteriosis. What property of the bacteria found in this patient had to be obligatory taken into account during their cultivation?

- a. Microaerophilic ability**
- b. Presence of urease
- c. Presence of six polar flagella
- d. Colonisation of gastral cells
- e. Absence of spores and capsules

1781. After the traumatic tooth extraction a patient is complaining of acute, dull, poorly-localized pain in gingiva, body temperature rise up to 37,5°C. The patient has been diagnosed with alveolitis. Specify the kind of pain in this patient:

- a. Heterotopic
- b. Protopathic**
- c. Visceral
- d. Epicritic
- e. Phantom

1782. Autopsy of a 58 year old man revealed that bicuspid valve was deformed, thickened and unclosed. Microscopically: foci of collagen fibrilla are eosinophilic, react positively to fibrin. The most probably it is:

- a. Hyalinosis
- b. Fibrinoid swelling**
- c. Mucoid swelling
- d. Amyloidosis
- e. Fibrinous inflammation

1783. A patient with diabetes mellitus complicated by angiopathy has been recommended a drug which is a sulphonyl urease derivate of the second generation. It improves microcirculation and is known for its relatively good tolerance. What drug is it?

- a. Adrenalin
- b. Acarbose
- c. Insulin
- d. Glibenclamide**
- e. Glibutidum

1784. Students who are taking examinations often have dry mouth. The mechanism that causes this state is the realization of the following reflexes:

- a. Unconditioned peripheral

- b. Unconditioned sympathetic
- c. Unconditioned parasympathetic
- d. Conditioned parasympathetic
- e. Conditioned sympathetic**

1785. A patient suffers from pulmonary tuberculosis. During treatment neuritis of visual nerve arose. What drug has caused this by-effect?

- a. Ethambutol
- b. Streptomycin
- c. Kanamycin
- d. Isoniazid**
- e. Rifampicin

1786. A surgeon has to find the common hepatic duct during the operative intervention on account of concretions in the gall ducts. The common hepatic duct is located between the leaves of:

- a. Venous ligament
- b. Hepatoduodenal ligament**
- c. Hepatogastric ligament
- d. Round ligament of liver
- e. Hepatorenal ligament

1787. A 10 year old child had the mantoux tuberculin test administered. 48 hours later a papule up to 8 mm in diameter appeared on the site of the injection. What type of hypersensitivity reaction developed after the tuberculin injection?

- a. Type IV hypersensitivity reaction**
- b. Type II hypersensitivity reaction
- c. Atopic reaction
- d. Arthus phenomenon
- e. Seroreaction

1788. During a prophylactic medical examination a 7-year-old boy was diagnosed with daltonism. His parents are healthy and have normal colour vision, but his grandfather on his mothers side has the same abnormality. What is the type of the abnormality inheritance?

- a. Recessive, sex-linked**
- b. Semidominance
- c. Dominant, sex-linked
- d. Autosomal recessive
- e. Autosomal dominant

1789. Acute renal impairment caused death of a bleeding patient. Autopsy revealed enlarged kidneys with a broad pale pink cortical layer expressively demarcated from dark red renal pyramids. Macroscopic examination revealed lack of epithelial nuclei of convoluted tubules, tubulorrhexis, phlebostasis. The cell nuclei of choroid glomus and straight tubules were present. What pathology is it?

- a. Pyelonephritis
- b. Necronephrosis**
- c. Infarction
- d. Nephrosis
- e. Glomerulonephritis

1790. A patient has a trauma of sternocleidomastoid muscle. This caused a decrease in value of the following indicator of external respiration:

- a. Expiratory reserve volume
- b. Functional residual lung capacity
- c. Inspiratory reserve volume**
- d. Residual volume
- e. Respiratory capacity

1791. A patient has been diagnosed with influenza. His condition became drastically worse after taking antipyretic drugs. His consciousness is confused, AP is 80/50 mm Hg, Ps is 140/m, body temperature dropped down to 35,8oC. What complication developed in this patient?

a. Collapse

b. Alkalosis

c. Hyperthermia

d. Acidosis

e. Hypovolemia

1792. A 38 year old man died suddenly. Autopsy revealed myocardial infarction in the posterior wall of the left ventricle. What are the most likely alterations in myocardiocyte structure that can be revealed microscopically in the infarction focus?

a. Calcification

b. Carbohydrate degeneration

c. Karyolysis

d. Protein degeneration

e. Adipose degeneration

1793. Examination of newborns in one of the Ukrainian cities revealed a baby with phenylketonuria. The baby's parents don't suffer from this disease and have two other healthy children. Specify the most likely parents' genotype with phenylketonuria gene:

a. AA x aa

b. aa x aa

c. Aa x aa

d. Aa x Aa

e. Aa x AA

1794. A patient consulted a dentist about itching and burning in the oral cavity; high temperature. The patient was diagnosed with trichomonal gingivostomatitis. What drug should be chosen for his treatment?

a. Ampicillin

b. Nystatin

c. Doxycycline hydrochloride

d. Gentamicin sulfate

e. Metronidazole

1795. As a result of a trauma a patient has developed traumatic shock that led to the following disorders: AP is 140/90 mm Hg, Ps is 120 bpm. The patient is fussy, talkative, pale. Such state relates to the following shock phase:

a. -

b. Terminal

c. Latent period

d. Erectile

e. Torpid

1796. A man was intoxicated with mushrooms. They contain muscarine that stimulates muscarinic cholinoreceptors. What symptoms signalize intoxication with inedible mushrooms?

a. Bronchi dilatation

b. Rise of arterial pressure

c. Mydriatic pupils

d. Myotic pupils

e. Increased heart rate

1797. During cystoscopy mucous membrane of urinary bladder normally makes folds except for a single triangular area with smooth mucosa. This triangle is located in the following part of urinary bladder:

a. Bladder body

b. Bladder apex

c. Bladder isthmus

d. Bladder cervix

e. Bladder floor

1798. After a long training session a sportsman has developed fatigue accompanied by abrupt performance decrement. What link of the reflex arch was the fatigue initiated in?

a. Receptors

b. Efferent conductor

c. Muscles

d. Afferent conductor

e. Nerve centres

1799. A microspecimen of heart shows rectangular cells from 50 to 120 μm large with central position of nucleus, developed myofibrils. The cells are connected by intercalated discs. These cells are responsible for the following function:

a. Regeneratory

b. Function of heart contractions

c. Endocrine

d. Function of impulse conduction

e. Protective

1800. Examination of a 55 year old woman revealed under the skin of submandibular area a movable slowly growing pasty formation with distinct borders 1,0x0,7 cm large. Histological examination revealed lipocytes that form segments of different forms and sizes separated from each other by thin layers of connective tissue with vessels. What is the most probable diagnosis?

a. Liposarcoma

b. Fibroma

c. Angioma

d. Lipoma

e. Fibrosarcoma

1801. A patient has been admitted to the infectious diseases department for malaise, fever up to 38°C, jaundice. A few months ago, the patient underwent blood transfusion. The doctor suspected viral hepatitis B. What are the principal methods of laboratory diagnosis of hepatitis B?

a. Isolation of the virus in chicken embryos

b. Detection of virions in blood by electron microscopy

c. Isolation of the virus in laboratory animals (neutralization reaction)

d. Virus isolation in cell culture and its identification by the cytopathic effects

e. Serological and gene diagnostics

1802. Due to the use of poor-quality measles vaccine for preventive vaccination, a 1-year-old child developed an autoimmune renal injury. The urine was found to contain macromolecular proteins. What process of urine formation was disturbed?

a. Reabsorption and secretion

b. Secretion

c. Secretion and filtration

d. Reabsorption

e. Filtration

1803. A 12-year-old boy has been hospitalized for suspected food poisoning. The fecal samples were inoculated on the Endo agar, which resulted in growth of a large number of colorless colonies. What microorganism is most likely to be EXCLUDED from the list of possible causative agents of the disease?

a. *Yersinia enterocolitica*

b. *Salmonella enteritidis*

c. *Escherichia coli*

d. *Proteus vulgaris*

e. *Pseudomonas aeruginosa*

1804. A patient died from progressive heart failure. Autopsy revealed that the heart was enlarged in diameter, flabby. The muscle section exhibited irregular blood supply. Histological study of myocardium revealed hyperemia, the stroma was found to have lymphohistiocytic infiltrates with degeneration of cardiomyocytes. The revealed morphological changes are indicative of:

- a. Venous plethora
- b. Non-purulent interstitial myocarditis**
- c. Cardiosclerosis
- d. Myocardial infarction
- e. Cardiomyoliposis

1805. A patient underwent biopsy of the soft palate arches for a suspected tumor (macroscopy revealed an ulcer with a dense floor). Study of the biopsy material revealed mucosal necrosis with infiltration of lymphocytes, epithelioid cells, plasma cells, single neutrophils in the submucosa. There were also apparent signs of endovasculitis and perivasculitis. The described changes are typical for:

- a. Necrotizing ulcerative Vincent stomatitis
- b. Ulcerative stomatitis
- c. Primary syphilis**
- d. Aphthous stomatitis
- e. Pharyngeal diphtheria

1806. A patient consulted a physician about chest pain, cough, fever. Roentgenography of lungs revealed eosinophilic infiltrates which were found to contain the larvae. What kind of helminthiasis are these presentations typical for?

- a. Fascioliasis
- b. Echinococcosis
- c. Trichinosis
- d. Cysticercosis
- e. Ascariasis**

1807. A patient underwent a course of treatment for atherosclerosis. Laboratory tests revealed an increase in the anti-atherogenic lipoprotein fraction in the blood plasma. The treatment efficacy is confirmed by the increase in:

- a. IDL
- b. HDL**
- c. LDL
- d. VLDL
- e. Chylomicrons

1808. A patient with biliary dyskinesia and constipations has been prescribed a cholagogue having also a laxative effect. What drug has been administered?

- a. Magnesium sulfate**
- b. Cholosas
- c. Nicodinum
- d. Cholenzyme
- e. Allochol

1809. Glycogen polysaccharide is synthesized from the active form of glucose. The immediate donor of glucose residues during the glycogenesis is:

- a. Glucose-1-phosphate
- b. UDP-glucose**
- c. Glucose-3-phosphate
- d. ADP-glucose
- e. Glucose-6-phosphate

1810. A specimen of a parenchymal organ shows poorly delineated hexagonal lobules surrounding a central vein, and the interlobular connective tissue contains embedded triads (an artery, a vein and an excretory duct). What organ is it?

- a. Thyroid

- b. Spleen
- c. Liver**
- d. Pancreas
- e. Thymus

1811. A man sitting with his eyes closed, undergoes electroencephalography. What rhythm will be recorded on the EEG if there is an audible signal?

- a. Gamma rhythm
- b. Delta rhythm
- c. Beta rhythm**
- d. Theta rhythm
- e. Alpha rhythm

1812. A female patient complains of vision impairment. On examination she was found to have obesity, fasting hyperglycemia. What complication of diabetes can cause vision impairment?

- a. Atherosclerosis
- b. Macroangiopathy
- c. Microangiopathy**
- d. Neuropathy
- e. Glomerulopathy

1813. An attack of tachycardia that occurred in a patient was stopped by pressing on his eyeballs. Which of the following reflexes underlies this phenomenon?

- a. Goltz
- b. Bernards
- c. Hering
- d. Bainbridge
- e. Aschner**

1814. Electrophoretic study of a blood serum sample, taken from the patient with pneumonia, revealed an increase in one of the protein fractions. Specify this fraction:

- a. Albumins
- b. α 2-globulins
- c. β -globulins
- d. γ -globulins**
- e. α 1-globulins

1815. A hospitalized patient bitten by a rabid animal has an avulsive wound of shin. What kind of vaccine must be given to prevent rabies?

- a. Anti-rabies vaccine**
- b. BCG
- c. Td
- d. TABte
- e. DTaP

1816. 6 hours after the myocardial infarction a patient was found to have elevated level of lactate dehydrogenase in blood. What isoenzyme should be expected in this case?

- a. LDH4
- b. LDH3
- c. LDH1**
- d. LDH5
- e. LDH2

1817. A child with suspected tuberculosis was given Mantoux test. After 24 hours the site of the allergen injection got swollen, hyperemic and painful. What are the main components that determine such response of the body?

- a. Plasma cells, T-lymphocytes and lymphokines
- b. Mononuclear cells, T-lymphocytes and lymphokines**

- c. Macrophages, B-lymphocytes and monocytes
- d. B-lymphocytes, IgM
- e. Granulocytes, T-lymphocytes and IgG

1818. As a result of a craniocerebral injury a patient has a decreased skin sensitivity. What area of the cerebral cortex may be damaged?

- a. Frontal cortex
- b. Occipital region
- c. Posterior central gyrus
- d. Cingulate gyrus
- e. Anterior central gyrus

1819. Pterin derivatives (aminopterin and methotrexate) are the inhibitors of dihydrofolate reductase, so that they inhibit the regeneration of tetrahydrofolic acid from dihydrofolate. These drugs inhibit the intermolecular transfer of monocarbon groups, thus suppressing the synthesis of the following polymer:

- a. Homopolysaccharides
- b. Glycosaminoglycans
- c. DNA
- d. Protein
- e. Gangliosides

1820. As a result of an injury a patient cannot extend his arm at the elbow. This may cause abnormal functioning of the following muscle:

- a. Musculus infraspinatus
- b. Musculus triceps brachii
- c. Musculus levator scapulae
- d. Musculus teres major
- e. Musculus subscapularis

1821. A patient with bronchial asthma has developed acute respiratory failure. What kind of respiratory failure occurs in this case??

- a. Obstructive disturbance of alveolar ventilation
- b. Perfusion
- c. Restrictive ventilatory defect
- d. Diffusion
- e. Dysregulation of alveolar ventilation

1822. What condition may develop 15-30 minutes after re-administration of the antigen as a result of the increased level of antibodies, mainly IgE, that are adsorbed on the surface of target cells, namely tissue basophils (mast cells) and blood basophils?

- a. Serum sickness
- b. Delayed-type hypersensitivity
- c. Anaphylaxis
- d. Antibody-dependent cytotoxicity
- e. Immune complex hyperresponsiveness

1823. A male with a lesion of one of the CNS parts has asthenia, muscular dystonia, balance disorder. Which CNS part has been affected?

- a. Red nuclei
- b. Reticular formation
- c. Vestibular nuclei
- d. Black substance
- e. Cerebellum

1824. After the prolonged vomiting a pregnant 26-year-old woman was found to have the reduced volume of circulating blood. What change in the total blood volume can be the case?

- a. Polycythemic hypovolemia

- b. Polycythemic hypervolemia
- c. Oligocythemic hypervolemia
- d. Oligocythemic hypovolemia
- e. Simple hypovolemia

1825. One of the factors that cause obesity is the inhibition of fatty acids oxidation due to:

a. Low level of carnitine

- b. Impaired phospholipid synthesis
- c. Choline deficiency
- d. Excessive consumption of fatty foods
- e. Lack of carbohydrates in the diet

1826. A 60-year-old patient with a long history of atherosclerosis and a previous myocardial infarction developed an attack of retrosternal pain. 3 days later the patient was hospitalized and then died of progressive cardiovascular insufficiency. At autopsy a white fibrous depressed area about 3 cm in diameter with clear boundaries was found in the posterior wall of the left ventricle and interventricular septum. The dissector evaluated these changes as:

- a. Myocardial infarction
- b. Myocardial degeneration

c. Focal cardiosclerosis

- d. Myocardial ischemia
- e. Myocarditis

1827. A specimen of pia mater includes a vessel whose wall doesn't have the tunica media, the tunica externa is adherent to the surrounding tissues, the intima is composed of a basement membrane and endothelium. What vessel is it?

- a. Muscular vein with underdeveloped muscular elements
- b. Artery of mixed type
- c. Arteriole

d. Nonmuscular vein

- e. Muscular artery

1828. In our country, routine preventive vaccinations against poliomyelitis involve using live vaccine that is administered orally. What immunoglobulins are responsible for the development of local post-vaccination immunity in this case?

- a. Serum IgA
- b. IgM
- c. IgE
- d. IgG

e. Secretory IgA

1829. A 26-year-old woman at 40 weeks pregnant has been delivered to the maternity ward. Objectively: the uterine cervix is opened, but the contractions are absent. The doctor has administered her a hormonal drug to stimulate the labor. Name this drug:

a. Oxytocin

- b. Testosterone
- c. Hydrocortisone
- d. ACTH
- e. Estrone

1830. A diseased child has a high fever, sore throat, swelling of submandibular lymph nodes. Objectively: pharyngeal mucosa is edematous, moderately hyperemic, the tonsils are enlarged, covered with grayish membrane tightly adhering to the tissues above. Attempts to remove the membrane produce the bleeding defects. What disease are these presentations typical for?

a. Diphtheria

- b. Meningococcal disease
- c. Scarlet fever
- d. Measles

e. Catarrhal tonsillitis

1831. Administration of doxycycline hydrochloride caused an imbalance of the symbiotic intestinal microflora. Specify the kind of imbalance caused by the antibiotic therapy:

a. Bacteriosis

b. Dysbacteriosis

c. Idiosyncrasy

d. Sensibilization

e. Superimposed infection

1832. The genetic defect of pyruvate carboxylase deficiency is the cause of delayed physical and mental development and early death in children. This defect is characterized by lacticemia, lactaciduria, disorder of a number of metabolic pathways. In particular, the following process is inhibited:

a. Citric acid cycle and gluconeogenesis

b. Glycolysis and glycogenolysis

c. Glycogenesis and glycogenolysis

d. Pentose phosphate pathway and glycolysis

e. Lipolysis and lipogenesis

1833. A patient with extensive myocardial infarction has developed heart failure. What pathogenetic mechanism contributed to the development of heart failure in the patient?

a. Myocardial reperfusion injury

b. Acute cardiac tamponade

c. Reduction in the mass of functioning myocardiocytes

d. Pressure overload

e. Volume overload

1834. A 65-year-old female patient has chronic constipations due to the colon hypotonia. What drug should be chosen in this case?

a. Magnesium sulfate

b. Metoclopramide

c. Castor oil

d. Neostigmine methylsulfate

e. Bisacodyl

1835. A number of diseases can be diagnosed by evaluating activity of blood transaminases. What vitamin is one of cofactors of these enzymes?

a. B8

b. B2

c. B1

d. B5

e. B6

1836. An unconscious patient was taken by ambulance to the hospital. On objective examination the patient was found to have no reflexes, periodical convulsions, irregular breathing. After laboratory examination the patient was diagnosed with hepatic coma. Disorders of the central nervous system develop due to the accumulation of the following metabolite:

a. Urea

b. Ammonia

c. Glutamine

d. Histamine

e. Bilirubin

1837. A 35-year-old male patient has been referred by an andrologist for the genetic counselling for the deviations of physical and mental development. Objectively: the patient is tall, has asthenic constitution, gynecomastia, mental retardation. Microscopy of the oral mucosa cells revealed sex chromatin (single Barr body) in 30% of cells. What is the most likely diagnosis?

a. Klinefelter syndrome

- b. Recklinghausens disease
- c. Cushing pituitary basophilism
- d. Down syndrome
- e. DiGeorge syndrome

1838. A patient who has recently come from an endemic area presents with elevated body temperature, headache, chills, malaise, that is with the symptoms which are typical for a common cold. What laboratory tests are necessary to confirm or to refute the diagnosis of malaria?

- a. Urinalysis
- b. Microscopy of bone marrow punctate
- c. Study of cerebrospinal fluid

d. Microscopy of blood smears

- e. Study of lymph node punctate

1839. A 3-year-old boy with pronounced hemorrhagic syndrome doesn't have antihemophilic globulin A (factor VIII) in the blood plasma. Hemostasis has been impaired at the following stage:

- a. Blood clot retraction
- b. Conversion of prothrombin to thrombin

c. Internal mechanism of prothrombinase activation

- d. External mechanism of prothrombinase activation
- e. Conversion of fibrinogen to fibrin

1840. At the end of the working day a worker of a hot work shop has been delivered to a hospital. The patient complains of a headache, dizziness, nausea, general weakness. Objectively: the patient is conscious, his skin is hyperemic, dry, hot to the touch. Heart rate is of 130/min. Respiration is rapid, superficial. What disorder of thermoregulation is most likely to have occurred in this patient?

- a. Increased heat transfer and heat production
- b. Increased heat production with no changes to the heat transfer

c. Reduced heat transfer

- d. Reduced heat production with no changes to the heat transfer
- e. Increased heat transfer and reduced heat production

1841. A casualty with an injury of the temporal region has been diagnosed with epidural hematoma. Which of the arteries is most likely to be damaged?

- a. Anterior membranous artery
- b. Posterior auricular artery
- c. Superficial temporal artery

d. Medial membranous artery

- e. Medial cerebral artery

1842. A 23-year-old patient has been admitted to a hospital with a craniocerebral injury. The patient is in a grave condition. Respiration is characterized by prolonged convulsive inspiration followed by a short expiration. What kind of respiration is it typical for?

a. Apneustic

- b. Biots
- c. Kussmauls
- d. Gasping breath
- e. Cheyne-Stokes

1843. A pregnant woman underwent ABO blood typing. Red blood cells were agglutinated with standard sera of the I and II blood groups, and were not agglutinated with the III group serum. What is the patient's blood group?

a. B(III)

- b. O(I)
- c. A(II)
- d. -
- e. AB(IV)

1844. Due to the blockage of the common bile duct (which was radiographically confirmed), the biliary flow to the duodenum was stopped. We should expect the impairment of:

- a. Fat emulsification
- b. Salivation inhibition
- c. Protein absorption
- d. Secretion of hydrochloric acid
- e. Carbohydrate hydrolysis

1845. The laboratory for especially dangerous infections conducts microscopic examination of pathological material from a patient with suspected plague. The sample was stained by Burri-Gins technique. What property of the causative agent can be identified by this technique?

- a. Spore formation
- b. Acid resistance
- c. Alkali resistance
- d. Capsule formation
- e. Presence of volutin granules

1846. A patient with suspected dysentery has been admitted to the infectious diseases hospital. Which basic method of laboratory diagnosis must be applied in the first place?

- a. Biological
- b. Microscopic
- c. Serological
- d. Bacteriological
- e. Allergic

1847. Hypertrichosis is the Y-linked character. The father has hypertrichosis, and the mother is healthy. In this family, the probability of having a child with hypertrichosis is:

- a. 0,625
- b. 0,25
- c. 0,5
- d. 1
- e. 0,125

1848. A male patient has been diagnosed with acute post-streptococcal glomerulonephritis. It is most likely that the lesion of the basement membrane of renal corpuscles was caused by the following allergic reaction:

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

1849. A child entering the school for the first time was given Mantoux test in order to determine if there was a need for revaccination. The reaction was negative. What is the meaning of this test result?

- a. No anti-toxic immunity to tuberculosis
- b. No antibodies to the tuberculosis bacteria
- c. Presence of antibodies to the tuberculosis bacteria
- d. No cell-mediated immunity to tuberculosis
- e. Availability of cell-mediated immunity to tuberculosis

1850. To prevent attacks of acute pancreatitis a doctor prescribed the patient trasylol (contrycal, gordox), which is an inhibitor of:

- a. Chymotrypsin
- b. Carboxypeptidase
- c. Trypsin
- d. Elastase
- e. Gastricsin

1851. An animal has an increased tonus of extensor muscles. This is the result of enhanced information transmission to the motoneurons of the spinal cord through the following descending pathways:

- a. Vestibulospinal
- b. Lateral corticospinal
- c. Reticulospinal
- d. Rubrospinal
- e. Medial corticospinal

1852. Students study the stages of gametogenesis. They analyze a cell having a haploid number of chromosomes, and each chromosome consists of two chromatids. The chromosomes are located in the equatorial plane of the cell. Such situation is typical for the following stage of meiosis:

- a. Anaphase of the first division
- b. Metaphase of the first division
- c. Metaphase of the second division
- d. Prophase of the first division
- e. Anaphase of the second division

1853. A 12-year-old patient has been admitted to a hospital for hemarthrosis of the knee joint. From early childhood he suffers from frequent bleedings. Diagnose the boy's disease:

- a. Thrombocytopenic purpura
- b. Hemolytic anemia
- c. B12 (folic acid)-deficiency anemia
- d. Hemorrhagic vasculitis
- e. Hemophilia

1854. In a car accident a man got injured and lost a lot of blood. What changes in peripheral blood are most likely to occur on the 2nd day after the injury?

- a. Significant reticulocytosis
- b. Microplania
- c. Hypochromia
- d. Erythropenia
- e. Anisocytosis

1855. A patient with extensive burns of torso skin exhibits signs of severe intoxication. What stage of the burn disease is this typical for?

- a. Burn toxemia
- b. Burn shock
- c. Burn emaciation
- d. Terminal
- e. Burn infection

1856. A female patient has been diagnosed with cervical erosion, which is a precancerous pathology. What defense mechanism can prevent the development of a tumor?

- a. Increase in natural killer level (NK-cells)
- b. Low-dose immunological tolerance
- c. Simplification of the antigenic structure of tissues
- d. Increase in the activity of lysosomal enzymes
- e. High-dose immunological tolerance

1857. After a trauma of the upper third of the anterior forearm a patient exhibits difficult pronation, weakening of palmar flexor muscles and impaired skin sensitivity of 1-3 fingers. Which nerve has been damaged?

- a. n. cutaneus antebrachii medialis
- b. n. ulnaris
- c. n. medianus
- d. n. radialis
- e. n. musculocutaneus

1858. Amniocentesis revealed two sex chromatin bodies (Barr bodies) in each cell of the sample. What disease is this character typical for?

a. Trisomy X

- b. Klinefelter syndrome
- c. Patau syndrome
- d. Down's syndrome
- e. Turner's syndrome

1859. On allergological examination a patient has been diagnosed with pollinosis. Specific desensitization can be performed by:

- a. Administration of saline
- b. Antihistamines

c. Intermittent administration of allergen

- d. -
- e. Glucocorticoids

1860. Analysis of the family history of children with Van der Woude syndrome revealed that in their families one of the parents had the typical for this syndrome defects (cleft lip and palate, lip pits regardless of gender). What is the type of inheritance of this syndrome?

- a. X-linked dominant
- b. Autosomal recessive

c. Autosomal dominant

- d. X-linked recessive
- e. Multifactorial

1861. A patient with bacterial periodontitis has been administered iontophoresis with the use of iodine solution. Specify the mechanism of therapeutic action of this agent:

a. Changing the surface tension of the bacterial cell membrane

b. Substitution of hydrogen atoms when the protein amino group contains a nitrogen atom

- c. Inhibition of the cell wall formation
- d. Reduction of the nitro group under the effect of nitroreductase
- e. Albumin formation

1862. A male patient is 28 years old. Histological study of a cervical lymph node revealed a change of its pattern due to the proliferation of epithelioid, lymphoid cells and macrophages having nuclei in form of a horseshoe. In the center of some cell clusters there were non-structured light-pink areas with fragments of nuclei. What disease are these changes typical for?

- a. Hodgkins disease
- b. Actinomycosis
- c. Tumor metastasis

d. Tuberculosis

e. Syphilis

1863. Autopsy of a 78-year-old patient revealed that retroperitoneal tissue was soaked with blood, the abdominal aorta had a sacciform protrusion including a defect with irregular edges. The wall of the aorta was here and there of stone-like density. This is the complication of the following disease:

- a. Visceral syphilis
- b. Systemic vasculitis
- c. Essential hypertension
- d. Marfan syndrome

e. Atherosclerosis

1864. A patient with a dislocated shoulder had been admitted to a hospital. With the purpose of skeletal muscle relaxation he was given an injection of relaxant dithylinum acting normally 5-7 minutes. However, the effect of dithylinum in this patient lasted up to 8 hours. What is the most likely cause of the prolonged effect of dithylinum in this patient?

a. Reduced activity of microsomal liver enzymes

b. Genetic deficiency of blood cholinesterase

- c. Potentiation by another drug
- d. Reduced drug excretion
- e. Material accumulation of the drug

1865. A 35-year-old female patient underwent biopsy of the breast nodules. Histological examination revealed enhanced proliferation of the small duct epithelial cells and acini, accompanied by the formation of glandular structures of various shapes and sizes, which were located in the fibrous stroma. What is the most likely diagnosis?

- a. Adenocarcinoma
- b. Mastitis
- c. Cystic breast
- d. Invasive ductal carcinoma
- e. Fibroadenoma**

1866. Analysis of the ECG revealed the missing of several PQRS cycles. The remaining waves and complexes are not changed. Specify the type of arrhythmia:

- a. Sinoatrial block**
- b. Atrioventricular block
- c. Atrial fibrillation
- d. Intra-atrial block
- e. Atrial premature beat

1867. It is required to evaluate the level of tissue excitability. For this purpose one should determine:

- a. Action potential duration
- b. Action potential amplitude
- c. Resting potential
- d. Depolarization threshold**
- e. Critical level of depolarization

1868. Healthy parents with unremarkable family history have the child with multiple developmental defects. Cytogenetic analysis revealed the trisomy 13 in the somatic cells (Patau syndrome). What phenomenon has caused the defects?

- a. Abnormal gametogenesis**
- b. Somatic mutation
- c. Chromosomal mutation
- d. Dominant mutation
- e. Recessive mutation

1869. Human skin has a high breaking strength. It is known that the skin consists of epithelial tissue and two kinds of connective tissue. Which of the following tissues provides the skin strength?

- a. Unformed dense connective tissue**
- b. Loose connective tissue
- c. Stratified squamous epithelium
- d. Transitional epithelium
- e. Single-layer epithelium

1870. A patient with urolithiasis has unbearable spasmodic pain. To prevent pain shock, he has been given an injection of atropine along with a narcotic analgesic having antispasmodic effect. What drug was it?

- a. Ethylmorphine hydrochloride
- b. Nalorphine
- c. Promedol**
- d. Morphine hydrochloride
- e. Tramadol

1871. Deficiency of linoleic and linolenic acids in the body leads to the skin damage, hair loss, delayed wound healing, thrombocytopenia, low resistance to infections. These changes are most likely to be caused by the impaired synthesis of the following substances:

a. Eicosanoids

- b. Interferons
- c. Catecholamines
- d. Interleukins
- e. Corticosteroids

1872. A patient consulted a dentist about limited mouth opening (trismus). He has a history of a stab wound of the lower extremity. What infection may cause these symptoms?

- a. Whooping cough
- b. Wound anaerobic infection
- c. Tularemia

d. Tetanus

- e. Brucellosis

1873. Histological examination of the biopsy material obtained from the lower third of the esophagus of a 57-year-old male with the symptoms of continuous reflux revealed the change of the stratified squamous epithelium to the single-layer columnar glandular epithelium with signs of mucus production. Specify the pathological process in the mucous membrane:

- a. Regeneration
- b. Hypertrophy

c. Metaplasia

- d. Organization
- e. Hyperplasia

1874. Histological examination of the removed skin neoplasm revealed clusters and cords of atypical cells of stratified squamous epithelium, growing into the underlying tissue. What diagnosis can be assumed?

- a. Adenoma
- b. Non-keratinizing squamous cell carcinoma**
- c. Carcinoma in situ
- d. Keratinizing squamous cell carcinoma
- e. Papilloma

1875. After resection of the middle third of the femoral artery obliterated by a thrombus the limb is supplied with blood through the bypasses. What artery plays the main part in the restoration of the blood flow?

a. Deep femoral artery

- b. Superficial epigastric artery
- c. Superficial iliac circumflex artery
- d. External pudendal artery
- e. Descending genicular artery

1876. Microscopy of the coronary artery of a dead 53-year-old patient revealed luminal occlusion due to a fibrous plaque with some lipids. The most likely form of atherosclerosis in this case is:

- a. Atheromatosis
- b. Lipidosis
- c. Ulceration

d. Liposclerosis

- e. Prelipid stage

1877. As a result of a home injury, a patient suffered a significant blood loss, which led to a fall in blood pressure. Rapid blood pressure recovery after the blood loss is provided by the following hormones:

- a. Aldosterone
- b. Cortisol
- c. Adrenaline, vasopressin**
- d. Sex hormones
- e. Oxytocin

1878. A pneumonia patient has been administered acetylcysteine as a part of complex therapy. What principle of therapy was taken into consideration when applying this drug?

- a. Etiotropic
- b. Immunomodulatory
- c. Symptomatic
- d. Antimicrobial
- e. Pathogenetic**

1879. A patient with jaundice has high total bilirubin that is mainly indirect (unconjugated), high concentration of stercobilin in the stool and urine. The level of direct (conjugated) bilirubin in the blood plasma is normal. What kind of jaundice can you think of?

- a. Neonatal jaundice
- b. Hemolytic**
- c. Gilberts disease
- d. Parenchymal (hepatic)
- e. Mechanical

1880. A 35-year-old male developed acute heart failure while running for a long time. What changes in the ionic composition can be observed in the cardiac muscle?

- a. Accumulation of K^+ and Mg^{2+} ions in the myocardium cells
- b. Accumulation of Na^+ and Ca^{2+} ions in the myocardium cells**
- c. Reduction of K^+ and Mg^{2+} ions in the extracellular space
- d. Reduction of Na^+ and Ca^{2+} ions in the myocardium cells
- e. Reduction of Na^+ and Ca^{2+} ions in the extracellular space

1881. Measurements of the arterial pCO_2 and pO_2 during an attack of bronchial asthma revealed hypercapnia and hypoxemia respectively. What kind of hypoxia occurred in this case?

- a. Tissue
- b. Circulatory
- c. Histotoxic
- d. Hemic
- e. Respiratory**

1882. When examining a patient, the doctor revealed a tumor of the bronchus which borders on the aort. Which bronchus is affected?

- a. Right principal
- b. Left upper lobar
- c. Right upper lobar
- d. Middle lobar
- e. Left principal**

1883. A specimen of an onion rootlet includes a cell in which the fully condensed chromosomes are located in the equatorial plane making the monaster. What phase of the mitotic cycle is the cell in?

- a. Late telophase
- b. Early telophase
- c. Metaphase**
- d. Interphase
- e. Prophase

1884. During the fight, a man had a cardiac arrest due to the strong blow to the upper region of the anterior abdominal wall. Which of the following mechanisms has led to the cardiac arrest?

- a. Peripheral reflexes
- b. Parasympathetic unconditioned reflexes**
- c. Sympathetic unconditioned reflexes
- d. Parasympathetic conditioned reflexes
- e. Sympathetic conditioned reflexes

1885. A 50-year-old patient with food poisoning is on a drip of 10% glucose solution. It not only

provides the body with necessary energy, but also performs the function of detoxification by the production of a metabolite that participates in the following conjugation reaction:

a. Glucuronidation

- b. Methylation
- c. Sulfation
- d. Glycosylation
- e. Hydroxylation

1886. Study of the biopsy material of an embryo revealed a zone of developmental abnormality in a somite. The zone was located close to the endoderm and the notochord. What formations may have abnormal development in case of pregnancy continuation?

a. Skeletal tissues

- b. Cardiac striated muscle tissue
- c. Fibrous connective tissue of skin
- d. Skeletal striated muscle tissue
- e. Genito-urinary system

1887. A 50-year-old patient has been administered laevomycetin for the treatment of typhoid fever, but on the next day the patients condition worsened, the temperature rose to 39,60C. The deterioration of the patients condition can be explained by:

- a. Allergic reaction
- b. Secondary infection
- c. Re-infection
- d. Insensitivity of the pathogen to laevomycetin

e. Effects of endotoxins of the causative agent

1888. Examination of an 18-year-old girl revealed the following features: hypoplasia of the ovaries, broad shoulders, narrow pelvis, shortening of the lower extremities, "sphinx neck". Mental development is normal. The girl was diagnosed with Turners syndrome. What kind of chromosome abnormality is it?

a. Monosomy X

- b. Nullisomy X
- c. Trisomy 13
- d. Trisomy 18
- e. Trisomy X

1889. A 26-year-old female patient with bronchitis has been administered a broad spectrum antibiotic as a causal treatment drug. Specify this drug:

- a. BCG vaccine
- b. Ambroxol
- c. Interferon

d. Doxycycline

e. Dexamethasone

1890. A mother had taken synthetic hormones during pregnancy. Her daughter was born with hirsutism formally resembling of adrenal syndrome. Such manifestation of variability is called:

a. Phenocopy

- b. Heterosis
- c. Recombination
- d. Replication
- e. Mutation

1891. It is known that individuals with genetically caused deficiency of glucose-6-phosphate dehydrogenase may develop RBC hemolysis in response to the administration of some antimalarial drugs. Manifestation of adverse reactions to drugs is called:

a. Idiosyncrasy

- b. Tolerance
- c. Allergy

- d. Sensibilization
- e. Tachyphylaxis

1892. A 66-year-old patient with Parkinsons disease shows an improvement in locomotor activity after prolonged use of a certain drug which is converted to dopamine by the decarboxylation. What drug has the patient taken?

- a. Chlorpromazine
- b. Droperidol
- c. Celecoxib
- d. Levodopa**
- e. Naloxone

1893. A surgeon examined the patient and found the injury of the upper third of the kidney. Considering the syntopy of the left kidney, the intactness of the following organ should be checked at the same time:

- a. Descending colon
- b. Transverse colon
- c. Small intestine
- d. Liver
- e. Stomach**

1894. Study of the biopsy material revealed a granuloma consisting of lymphocytes, plasma cells, macrophages with foamy cytoplasm (Mikulicz cells), many hyaline globules. What disease can you think of?

- a. Syphilis
- b. Rhinoscleroma**
- c. Actinomycosis
- d. Leprosy
- e. Tuberculosis

1895. Examination of the removed stomach revealed a deep roundish defect with regular edges at the lesser curvature of the antrum. The defect reached the muscular tunic and was 1,5 cm in diameter. Within the defect floor there was a translucent dense area resembling of a hyaline cartilage. What process had developed in the floor of the stomach defect?

- a. General hyalinosis
- b. Fibrinoid alterations
- c. Local hyalinosis**
- d. Amyloidosis
- e. Mucoid swelling

1896. Thermometry revealed that the temperature of the exposed skin is by 1-1,5° lower than the temperature of the adjacent areas covered with clothing from natural fabrics. The reason for this is that the clothes reduce the heat loss through:

- a. Radiation
- b. -
- c. Convection**
- d. Conduction
- e. Evaporation

1897. By the decarboxylation of glutamate in the CNS an inhibitory mediator is formed. Name it:

- a. GABA**
- b. Asparagine
- c. Serotonin
- d. Glutathione
- e. Histamine

1898. A patient with lobar pneumonia has had body temperature of 39°C with daily temperature fluctuation of no more than 1°C for 9 days. This fever can be characterized by the following

temperature curve:

- a. Remittent
- b. Hectic
- c. Recurrent
- d. Hyperpyretic
- e. Persistent**

1899. A 42-year-old male patient with gout has an increased blood uric acid concentration. In order to reduce the level of uric acid the doctor administered him allopurinol. Allopurinol is the competitive inhibitor of the following enzyme:

- a. Xanthine oxidase**
- b. Guanine deaminase
- c. Adenosine deaminase
- d. Adenine phosphoribosyltransferase
- e. Hypoxanthine-phosphoribosyltransferase

1900. A patient with signs of osteoporosis and urolithiasis has been admitted to the endocrinology department. Blood test revealed hypercalcemia and hypophosphatemia. These changes are associated with abnormal synthesis of the following hormone:

- a. Parathyroid hormone**
- b. Calcitriol
- c. Aldosterone
- d. Calcitonin
- e. Cortisol

1901. Autopsy of the patient revealed bone marrow hyperplasia of tubular and flat bones (pyoid marrow), splenomegaly (6 kg) and hepatomegaly (5 kg), enlargement of all lymph node groups. What disease are the identified changes typical for?

- a. Hodgkins disease
- b. Polycythemia vera
- c. Multiple myeloma
- d. Chronic myelogenous leukemia**
- e. Chronic lymphocytic leukemia

1902. A female patient with bronchial asthma had taken prednisolone tablets (1 tablet 3 times a day) for 2 months. Due to a significant improvement of her condition the patient suddenly stopped taking it. What complication is likely to develop in this case?

- a. Withdrawal syndrome**
- b. Gastrorrhagia
- c. Hypotension
- d. Cushings syndrome
- e. Upper body obesity

1903. To assess the effectiveness of breathing in patients, the indicator of functional residual capacity is used. It includes the following volumes:

- a. Inspiratory reserve volume and tidal volume
- b. Expiratory reserve volume and residual volume**
- c. Inspiratory reserve volume and residual volume
- d. Expiratory reserve volume and tidal volume
- e. Inspiratory reserve volume, tidal volume, residual volume

1904. On examination a patient was found to have medial strabismus, the inward deviation of the eyeball and inability to abduct the eyeball outwards. What nerve is damaged?

- a. Abducent**
- b. Trochlear
- c. Ocular
- d. Oculomotor
- e. Visual

1905. Analysis of the experimental spirogram of a 55-year-old person revealed a decrease in tidal volume and respiratory amplitude compared to the situation of ten years ago. The change in these indicators is caused by:

a. Decreased force of respiratory muscle contraction

- b. Gas composition of the air
- c. Body mass of a person
- d. Height of a person
- e. Physical build of a person

1906. A patient with constant headaches, pain in the occipital region, tinnitus, dizziness has been admitted to the cardiology department. Objectively: AP- 180/110 mm Hg, heart rate - 95/min. Radiographically, there is a stenosis of one of the renal arteries. Hypertensive condition in this patient has been caused by the activation of the following system:

- a. Sympathoadrenal
- b. Immune

c. Renin-angiotensin

- d. Kinin
- e. Hemostatic

1907. A patient complains of pain in the right lateral abdomen. Palpation revealed a dense, immobile, tumor-like formation. A tumor is likely to be found in the following part of the digestive tube:

- a. Caecum
- b. Colon transversum
- c. Colon descendens
- d. Colon sigmoideum

e. Colon ascendens

1908. At the post-mortem examination the stomach of a patient with renal failure was found to have a yellow-brown coating on the thickened mucosa. The coating was firmly adhering to its surface and had significant thickness. Microscopy revealed congestion and necrosis of mucosal and submucosal layers, fibrin presence. What is the most likely diagnosis?

- a. Esogastritis
- b. Gastric abscess

c. Fibrinous gastritis

- d. Croupous gastritis
- e. Corrosive gastritis

1909. Despite the administration of cardiotonics and a thiazide diuretic a patient with chronic heart failure has persistent edemata, there is a risk of ascites. What medication should be administered in order to enhance the diuretic effect of the drugs used?

- a. Amiloride
- b. Furosemide

c. Spironolactone

- d. Clopamide
- e. Manithol

1910. A patient has been administered an anti-inflammatory drug that blocks the action of cyclooxygenase. Specify this anti-inflammatory agent:

- a. Allopurinol
- b. Thiamin
- c. Creatine

d. Aspirin

- e. Analgene

1911. Typical manifestations of food poisoning caused by *C. botulinum* are double vision, abnormal functioning of the swallowing and breathing. These symptoms develop as a result of:

- a. Enterotoxin effects
- b. Activation of adenylate cyclase

c. Pathogen adhesion to the enterocyte receptors

d. Exotoxin effects

e. Enterotoxic shock development

1912. A patient with arthritis and varicose veins has been taking a non-steroidal anti-inflammatory drug for a long time, which caused thrombosis of skin veins. Which of the following drugs might have caused this complication?

a. Celecoxib

b. Ibuprofen

c. Phenylbutazone

d. Indomethacin

e. Aspirin

1913. An 18-year-old male has been diagnosed with Marfan syndrome. Examination revealed a developmental disorder of connective tissue and eye lens structure, abnormalities of the cardiovascular system, arachnodactylia. What genetic phenomenon has caused the development of this disease?

a. Multiple allelism

b. Codominance

c. Complementarity

d. Incomplete dominance

e. Pleiotropy

1914. As a result of a mechanical injury an over 10 cm long portion of a peripheral nerve was damaged. This led to the impairment of the upper limb activity. The patient was offered nerve transplantation. What glial cells will participate in regeneration and provide the trophism of the injured limb?

a. Ependymal cells

b. Protoplasmic cells

c. Schwann cells

d. Microglia

e. Fibrous cells

1915. During ventricular systole, the cardiac muscle does not respond to additional stimulation because it is in the phase of:

a. Absolute refractoriness

b. Hyperexcitability

c. Relational refractoriness

d. There is no correct answer

e. Subnormal excitability

1916. A casualty has a fracture in the region of the inner surface of the left ankle. What is the most likely site for the fracture?

a. Astragalus

b. Lateral malleolus

c. Lower third of the fibula

d. Calcaneus

e. Medial malleolus

1917. A patient with diabetes developed a diabetic coma due to the acid-base imbalance. Specify the kind of this imbalance:

a. Gaseous alkalosis

b. Non-gaseous alkalosis

c. Respiratory acidosis

d. Metabolic alkalosis

e. Metabolic acidosis

1918. It is known that the monoamine oxidase (MAO) enzyme plays an important part in the

metabolism of catecholamine neurotransmitters. In what way does the enzyme inactivate these neurotransmitters (norepinephrine, epinephrine, dopamine)?

a. Hydrolysis

b. Oxidative deamination

c. Addition of an amino group

d. Removal of a methyl group

e. Carboxylation

1919. In course of an experiment there has been an increase in the nerve conduction velocity. This may be caused by an increase in the concentration of the following ions that are present in the solution around the cell:

a. Ca^{2+}

b. K^{+} and Na^{+}

c. Ca^{2+} and Cl^{-}

d. Na^{+}

e. K^{+} and Cl^{-}

1920. ECG of a patient displays an abnormally long R wave (up to 0,18 s). This is caused by a decrease in the conduction velocity of the following heart structures:

a. Left ventricle

b. Atrio-ventricular node

c. Atria

d. Right ventricle

e. Ventricles

1921. For the direct injection of medications into the liver surgeons use the round ligament of liver. This manipulation involves bougienage (lumen dilatation) of the following vessel:

a. V. umbilicalis

b. A. hepatica propria

c. Ductus venosus

d. V. porta

e. A. umbilicalis

1922. 10 days after having quinsy caused by beta-hemolytic streptococcus a 6-year-old child exhibited symptoms of glomerulonephritis. What mechanism of glomerular lesion is most likely in this case?

a. Atopy

b. Anaphylaxis

c. Cellular cytotoxicity

d. Antibody-dependent cell-mediated cytotoxicity

e. Immunocomplex

1923. At autopsy the occipital lobe of brain was found to have a cavity 2,5x1,5 cm large filled with a transparent liquid. The cavity had smooth brownish walls. What process had developed in the brain?

a. Softening of the cerebrocortical grey matter

b. Brain abscess

c. A cyst on the site of the softening of the cerebrocortical grey matter

d. Paracephalia

e. Cyst on the site of a hemorrhage

1924. For the study of serum proteins various physical and physicochemical methods can be used. In particular, serum albumins and globulins can be separated by this method:

a. Spectrography

b. Polarography

c. Dialysis

d. Refractometry

e. Electrophoresis

1925. A 65-year-old male suddenly lost the vision in one eye due to the retinal detachment. The patient underwent enucleation. Histological examination of the removed eye retina and choroid revealed clusters of atypical cells with marked polymorphism of cells and nuclei, with a moderate number of mitoses including the pathological ones. The cell cytoplasm and intercellular medium contained brown pigment giving a positive DOPA reaction. Perls reaction was negative. What is the most likely diagnosis?

- a. Hemorrhage
- b. Pigmented mole
- c. Wilsons disease
- d. Cysticercosis
- e. Melanoma**

1926. The cellular composition of exudate largely depends on the etiological factor of inflammation. What leukocytes are the first to get into the focus of inflammation caused by pyogenic bacteria?

- a. Eosinophilic granulocytes
- b. Neutrophil granulocytes**
- c. Monocytes
- d. Basophils
- e. Myelocytes

1927. A patient consulted a doctor about being unable to abduct his right arm after a past trauma. Examination revealed that the passive movements were not limited. The patient was found to have the atrophy of the deltoid muscle. What nerve is damaged?

- a. Ulnar
- b. Median
- c. Axillary**
- d. Radial
- e. Suprascapular

1928. Bacteriological examination of purulent discharges from the urethra revealed some gram-negative bean-shaped bacteria located in the leukocytes. They can be identified as the causative agent of the following disease:

- a. Syphilis
- b. Trichomoniasis
- c. Chancroid
- d. Gonorrhea**
- e. Venereal lymphogranulomatosis

1929. A 13-year-old teenager underwent X-ray examination of the hip joint. Examination revealed a 3 mm wide radiolucent zone between the head and the shaft of femur. This situation should be evaluated as:

- a. Normal (incomplete process of ossification)**
- b. Fissured fracture of the femoral neck
- c. Dislocation of the femoral head
- d. Radiographic film artifact
- e. Fracture of the femoral neck

1930. Microscopy of the bronchial wall revealed atrophy of the mucosa, metaplastic change from columnar to squamous epithelium, an increase in the number of goblet cells, diffuse infiltration of the bronchial wall with lymphoplasmacytic elements with a large number of neutrophilic granulocytes, pronounced sclerosis. Specify the morphological form of bronchitis:

- a. Chronic bronchitis
- b. Polypoid chronic bronchitis
- c. Acute bronchitis
- d. Acute purulent bronchitis
- e. Chronic purulent bronchitis**

1931. Enzymatic jaundices are accompanied by abnormal activity of UDP-glucuronyl transferase.

What compound is accumulated in blood serum in case of these pathologies?

- a. Conjugated bilirubin
- b. Hydrobilirubin
- c. Unconjugated bilirubin**
- d. Dehydrobilirubin
- e. Choleglobin

1932. A patient diagnosed with focal tuberculosis of the upper lobe of the right lung had been taking isoniazid as a part of combination therapy. After some time, the patient reported of muscle weakness, decreased skin sensitivity, blurred vision, impaired motor coordination. Which vitamin preparation should be used to address these phenomena?

- a. Vitamin B12
- b. Vitamin C
- c. Vitamin A
- d. Vitamin B6**
- e. Vitamin D

1933. A patient has recurrent attacks of epileptic seizures and stays unconscious between them. In order to stop convulsions the drugs of the following group should be used in the first place:

- a. Neuroleptics
- b. Analeptics
- c. Sedatives
- d. Tranquilizers**
- e. Muscle relaxants

1934. A 54-year-old female was brought to the casualty department after a car accident. A traumatologist diagnosed her with multiple fractures of the lower extremities. What kind of embolism is most likely to develop in this case?

- a. Tissue
- b. Air
- c. Thromboembolism
- d. Gaseous
- e. Adipose**

1935. During a surgery with the use of hygronium the patient had an abrupt fall in blood pressure. Blood pressure can be normalized by the representatives of the following drug group:

- a. M-cholinergic agents
- b. alpha-adrenergic agonists**
- c. Ganglionic blockers
- d. alpha-blockers
- e. N-cholinergic agents

1936. A patient with respiratory failure has blood pH of 7,35. p CO₂ test revealed hypercapnia. Urine pH test revealed an increase in the urine acidity. What form of acid-base imbalance is the case?

- a. Compensated respiratory acidosis**
- b. Compensated metabolic acidosis
- c. Compensated respiratory alkalosis
- d. Decompensated respiratory alkalosis
- e. Decompensated metabolic acidosis

1937. A histological specimen of the eyeball shows a biconvex structure connected to the ciliary body by the fibers of the Zinns zonule and covered with a transparent capsule. Name this structure:

- a. Sclera
- b. Cornea
- c. Ciliary body
- d. Vitreous body
- e. Crystalline lens**

1938. A patient complains that at the bare mention of the tragic events that once occurred in his life he experiences tachycardia, dyspnea and an abrupt rise in blood pressure. What structures of the CNS are responsible for these cardiorespiratory reactions in this patient?

- a. Specific thalamic nuclei
- b. Quadrigemina of mesencephalon
- c. Cerebral cortex**
- d. Lateral hypothalamic nuclei
- e. Cerebellum

1939. As a result of an injury of the knee joint a patient shows a drawer sign, that is the anterior and posterior displacement of the tibia relative to the femur. What ligaments are damaged?

- a. Cruciate ligaments**
- b. Oblique popliteal ligament
- c. Collateral ligaments
- d. Interosseous membrane
- e. Arcuate popliteal ligaments

1940. Microscopy of the myocardium of a patient who had died from heart failure revealed foci of fibrinoid necrosis located diffusely in the interstitial stroma, and often around the vessels. Such foci were surrounded by lymphocytes, macrophages, histiocytes. Pericardium was found to have signs of sero-fibrinous pericarditis. What is the most likely diagnosis?

- a. Cardiosclerosis
- b. Cardiomyopathy
- c. Myocardial infarction
- d. -

e. Rheumatic heart disease

1941. The neurosurgical department has admitted a 54-year-old male complaining of no sensitivity in the lower eyelid skin, lateral surface of nose, upper lip. On examination the physician revealed the inflammation of the second branch of the trigeminal nerve. This branch comes out of the skull through the following foramen:

- a. Spinous foramen
- b. Lacerated foramen
- c. Oval foramen
- d. Round foramen**
- e. Superior orbital fissure

1942. A patient who had been continuously taking drugs blocking the production of angiotensin II developed bradycardia and arrhythmia. A likely cause of these disorders is:

- a. Hyperkalemia**
- b. Hypokalemia
- c. Hyponatremia
- d. Hypercalcemia
- e. Hypocalcemia

1943. Diseases of the respiratory system and circulatory disorders impair the transport of oxygen, thus leading to hypoxia. Under these conditions the energy metabolism is carried out by anaerobic glycolysis. As a result, the following substance is generated and accumulated in blood:

- a. Fumaric acid
- b. Citric acid
- c. Lactic acid**
- d. Glutamic acid
- e. Pyruvic acid

1944. A 60-year-old male patient has a 9-year history of diabetes and takes insulin Semilente for the correction of hyperglycemia. 10 days ago he began taking anaprilin for hypertension. One hour after administration of the antihypertensive drug the patient developed hypoglycemic coma. What is the mechanism of hypoglycemia in case of anaprilin use?

- a. Reduction of glucagon half-life
- b. Increase of bioavailability of insulin Semilente

c. Inhibition of glycogenolysis

- d. Increase of insulin Semilente half-life
- e. Decrease in glucose absorption

1945. A smear of sputum from the patient with suspected lobar pneumonia was stained with the use of the following stains and reagents: solution of gentian violet, Lugols solution, 96o alcohol, water magenta. What staining method was applied in this case?

- a. Leffler
- b. Ziehl-Nielsen
- c. Neisser
- d. Romanovsky

e. Gram

1946. Inherited diseases, such as mucopolysaccharidoses, are manifested in metabolic disorders of connective tissue, bone and joint pathologies. The sign of this disease is the excessive urinary excretion of the following substance:

- a. Glucose

b. Glycosaminoglycans

- c. Urea
- d. Amino acids
- e. Lipids

1947. The temperature in a production room is 36°C. Relative air humidity is 80%. Under these conditions the human body transfers heat mainly through:

- a. Radiation
- b. -
- c. Heat conduction
- d. Convection

e. Sweat evaporation

1948. A patient has arterial hypertension. What long-acting drug from the group of calcium channel blockers should be prescribed?

- a. Atenolol

b. Amlodipine

- c. Reserpine
- d. Octadine
- e. Pyrroxanum

1949. A 40-year-old female patient diagnosed with acute pancreatitis has been delivered to the admission department of a regional hospital. What drug should be administered the patient in the first place?

- a. Atropine

b. Contrycal

- c. Pirenzepine
- d. Platyphyllin
- e. Metacin

1950. It has been experimentally proven that the excitation of the motor neurons of flexor muscles is accompanied by the inhibition of the motor neurons of extensor muscles. What type of inhibition underlies this phenomenon?

- a. Inhibition after excitation
- b. Feedback
- c. Pessimial

d. Reciprocal

- e. Lateral

1951. A patient with a pathology of the cardiovascular system developed edemata of the lower extremities. What is the mechanism of cardiac edema development?

- a. Increased hydrostatic pressure at the venous end of the capillary
- b. Reduced osmotic pressure
- c. Increased hydrostatic pressure at the arterial end of the capillary
- d. Lymph efflux disorder
- e. Increased oncotic pressure

1952. A 19-year-old male was found to have an elevated level of potassium in the secondary urine. These changes might have been caused by the increase in the following hormone level:

- a. Adrenaline
- b. Testosterone
- c. Oxytocin
- d. Glucagon
- e. Aldosterone

1953. In order to stimulate breathing in a child born with asphyxia, the doctor gave him a drug injection into the umbilical vein. What drug might have been injected?

- a. Aethimizolum
- b. Corazolum
- c. Sulfocamphocainum
- d. Coffeinum
- e. Cordiaminum

1954. A 40-year-old patient with the progressing staphylococcal purulent periodontitis developed purulent inflammation of bone marrow spaces of the alveolar process, and then of the body of mandible. Microscopy revealed thinning of bone trabeculae, foci of necrosis, bone sequestrs surrounded by the connective tissue capsule. What is the most likely diagnosis?

- a. Chronic fibrous periostitis
- b. Acute osteomyelitis
- c. Purulent abscess
- d. Parodontome
- e. Chronic osteomyelitis

1955. A patient has severe catarrhal symptoms. Material growth on Bordet-Gengou agar showed mercury-drop-like colonies. Examination of the blood smears revealed some small ovoid gram-positive bacilli sized 1-3 microns. What microorganisms were isolated?

- a. Mycobacteria
- b. Meningococcus
- c. Corynebacteria
- d. Brucella
- e. Bordetella

1956. Mother of a boy who had recently returned from a summer camp found some small whitish insects up to 3 mm long on the child's clothing. Specify the parasite:

- a. Phtirus pubis
- b. Pulex irritans
- c. Cimex lectularius
- d. Pediculus humanus humanus
- e. Blattella germanica

1957. A miner consulted a physician about the appearance of body rash followed by a loss of appetite, bloating, duodenal pain, frequent bowel movements, dizziness. Ovosopic probes of feces and duodenal contents revealed some eggs covered with a transparent membrane through which 4-8 germinal cells could be seen. What disease is likely to have occurred in the patient?

- a. Ancylostomiasis
- b. Trichocephaliasis
- c. Hymenolepiasis

- d. Enterobiasis
- e. Strongyloidiasis

1958. Since a patient has had myocardial infarction, atria and ventricles contract independently from each other with a frequency of 60-70 and 35-40 per minute. Specify the type of heart block in this case:

- a. Partial atrioventricular
- b. Intra-atrial
- c. Complete atrioventricular
- d. Sino-atrial
- e. Intraventricular

1959. A male working as a blacksmith has been tested for auditory acuity. The tests revealed 50% hearing loss in the low-frequency range and a near-normal auditory acuity in the high-frequency range. This condition has been caused by the damage to the following structures of the auditory system:

- a. Eardrum
- b. Muscles of the middle ear
- c. Median part of the Cortis organ
- d. Cortis organ - closer to the oval foramen
- e. Cortis organ - closer to helicotrema

1960. A 20-year-old male patient complains of general weakness, rapid fatigability, irritability, decreased performance, bleeding gums, petechiae on the skin. What vitamin deficiency may be a cause of these changes?

- a. Riboflavin
- b. Ascorbic acid
- c. Folic acid
- d. Retinol
- e. Thiamine

1961. A 60-year-old patient with a long history of stenocardia takes coronarodilator agents. He has also been administered acetylsalicylic acid to reduce platelet aggregation. What is the mechanism of antiplatelet action of acetylsalicylic acid?

- a. It reduces the activity of cyclooxygenase
- b. It enhances the activity of platelet adenylate cyclase
- c. It enhances the synthesis of prostacyclin
- d. It has membrane stabilizing effect
- e. It reduces the activity of phosphodiesterase

1962. A 3-year-old child had eaten some strawberries. Soon he developed a rash and itching. What was found in the child's leukogram?

- a. Lymphocytosis
- b. Neutrophilic leukocytosis
- c. Monocytosis
- d. Hypolymphemia
- e. Eosinophilia

1963. Children with Lesch-Nyhan syndrome have a severe form of hyperuricemia accompanied by the formation of tophi, urate calculi in the urinary tracts, as well as serious neuro-psychiatric disorders. The cause of this disease is the reduced activity of the following enzyme:

- a. Carbamoyl phosphate synthetase
- b. Thymidylate synthase
- c. Xanthine oxidase
- d. Dihydrofolate reductase
- e. Hypoxanthine-guanine phosphoribosyltransferase

1964. A patient has been hospitalized for a suspected tumor of the prostate. During the surgery, it

was revealed that the tumor invaded the bladder. Which part of the bladder was affected?

- a. -
- b. Apex
- c. Bottom
- d. Cervix**
- e. Body

1965. Anatomical dead space is the portion of the air that is left in the airways after expiration. The reduction of the anatomical dead space is typical for the following situation:

- a. Breathing through the mouth
- b. Tracheostomy**
- c. Turning the lying patient on his left side
- d. Turning the lying patient on his right side
- e. Forward flexion of head

1966. Some infectious diseases caused by bacteria are treated with sulfanilamides which block the synthesis of bacteria growth factor. What is the mechanism of their action?

- a. They are involved in redox processes
- b. They are allosteric enzymes
- c. They inhibit the absorption of folic acid
- d. They are allosteric enzyme inhibitors
- e. They are antivitamins of para-amino benzoic acid**

1967. Autopsy of a 62-year-old woman revealed a dense well-circumscribed node of 6 cm in diameter in the cranial cavity. The node was attached to the dura mater and histologically consisted of clusters and micro-concentric structures of endothelial cells, psammoma bodies. What kind of tumor was found at autopsy?

- a. Meningioma**
- b. Cancer metastasis
- c. Medulloblastoma
- d. Glioblastoma
- e. Melanoma

1968. Hemoglobin catabolism results in release of iron which is transported to the bone marrow by a certain transfer protein and used again for the synthesis of hemoglobin. Specify this transfer protein:

- a. Albumin
- b. Transferrin (siderophilin)**
- c. Haptoglobin
- d. Ceruloplasmin
- e. Transcobalamin

1969. A 22-year-old woman ate some seafood. 5 hours later the trunk and the distal parts of limbs got covered with small itchy papules which were partially fused together. After one day, the rash disappeared spontaneously. Specify the hypersensitivity mechanism underlying these changes:

- a. Cellular cytotoxicity
- b. Atopy (local anaphylaxis)**
- c. Immune complex hypersensitivity
- d. Systemic anaphylaxis
- e. Antibody-dependent cell-mediated cytotoxicity

1970. Examination of a patient with ischemic heart disease revealed the impaired venous blood flow in the territory of the cardiac vein running in the anterior interventricular sulcus of heart. What vein is it?

- a. V. cordis media
- b. V. obliqua atrii sinistri
- c. V. cordis parva
- d. V. posterior ventriculi sinistri
- e. V. cordis magna**

1971. After a car accident a 23-year-old male presented to the hospital with a cut wound of the anteromedial region of shoulder and arterial bleeding. Which artery was damaged?

a. A. brachialis

b. A. profunda brachii

c. A. axillaris

d. A. subscapularis

e. A. radialis

1972. A 67-year-old male patient consumes eggs, pork fat, butter, milk and meat. Blood test results: cholesterol - 12,3 mmol/l, total lipids - 8,2 g/l, increased low-density lipoprotein fraction (LDL). What type of hyperlipoproteinemia is observed in the patient?

a. Hyperlipoproteinemia type IIb

b. Hyperlipoproteinemia type I

c. Cholesterol, hyperlipoproteinemia

d. Hyperlipoproteinemia type IV

e. Hyperlipoproteinemia type IIa

1973. Alveolar space of the acinus was invaded by some bacteria which interacted with the surfactant. This led to the activation of the cells that are localized in the alveolar walls and on the surface. What cells are these?

a. Alveolocytes type II

b. Alveolocytes type I

c. Clara cells

d. Alveolar macrophages

e. Endothelial cells

1974. During the intravenous transfusion of the saline the patients condition deteriorated dramatically, and the patient died from asphyxiation. Autopsy revealed acute venous congestion of internal organs with the dramatic right heart dilatation. When the right ventricle was punctured underwater, the bubbles escaped. What pathological process occurred in the patient?

a. Adipose embolism

b. Air embolism

c. Tissue embolism

d. Thromboembolism

e. Gaseous embolism

1975. A 46-year-old female is scheduled for a maxillofacial surgery. It is known that the patient is prone to high blood coagulation. What natural anticoagulant can be used to prevent blood clotting?

a. Hirudin

b. Fibrinolysin

c. Sodium citrate

d. None of the above-listed substances

e. Heparin

1976. On the fifth day after the acute blood loss a patient has been diagnosed with hypochromic anemia. What is the main mechanism of hypochromia development?

a. Impaired globin synthesis

b. Increased destruction of red blood cells in the spleen

c. Impaired iron absorption in the intestines

d. Release of immature red blood cells from the bone marrow

e. Increased excretion of body iron

1977. A 30-year-old female exhibits signs of virilism (growth of body hair, balding temples, menstrual disorders). This condition can be caused by the overproduction of the following hormone:

a. Oestriol

b. Relaxin

c. Oxytocin

d. Testosterone

e. Prolactin

1978. A 12-year-old child has a viral infection complicated by obstructive bronchitis. Bronchospasm can be eliminated by inhalations of a drug from the following pharmacological group:

- a. beta2-adrenergic blockers
- b. N-cholinomimetics
- c. M-anticholinergics
- d. beta2-agonists**
- e. Analeptics

1979. A 38-year-old female patient complains of general weakness, cardiac pain, increased appetite, no menstruation. Objectively: the height is 166 cm, weight 108 kg, the patient has moon-shaped face, subcutaneous fat is deposited mainly in the upper body, torso and hips. There are also blood-red streaks. Ps- 62/min, AP- 160/105 mm Hg. Which of the following diseases is the described pattern of obesity most typical for?

- a. Cushing pituitary basophilism**
- b. Myxedema
- c. Alimentary obesity
- d. Insulinoma
- e. Babinski-Frohlich syndrome

1980. Examination of the duodenal contents revealed some pear-shaped protozoa with two nuclei and four pairs of flagella. The organisms had also two axostyles between the nuclei and a ventral adhesive disc. What protozoan representative was found in the patient?

- a. Intestinal trichomonad
- b. Leishmania
- c. Toxoplasma
- d. Lamblia**
- e. Trypanosome

1981. A 25-year-old patient consulted a doctor about dysmenorrhea and infertility. Examination revealed that the patient was 145 cm high and had underdeveloped secondary sex characteristics, alar folds on the neck. Cytological study didnt reveal any Barr bodies in the somatic cells. What diagnosis was made?

- a. Trisomy X syndrome
- b. Morris syndrome
- c. Klinefelter syndrome
- d. -
- e. Turners syndrome**

1982. A specimen shows an organ covered with the connective tissue capsule with trabeculae radiating inward the organ. There is also cortex containing some lymph nodules, and medullary cords made of lymphoid cells. What organ is under study?

- a. Red bone marrow
- b. Tonsils
- c. Spleen
- d. Thymus
- e. Lymph node**

1983. A girl receives antibiotics of the penicillin group for acute bronchitis. On the third day of treatment she developed allergic dermatitis. Which drug should be administered?

- a. Loratadine**
- b. Beclomethasone
- c. Cromolyn sodium
- d. Levamisole
- e. Ephedrine hydrochloride

1984. A 12-year-old patient was found to have blood serum cholesterol at the rate of 25 mmol/l. The

boy has a history of hereditary familial hypercholesterolemia, which is caused by the impaired synthesis of the following protein receptors:

- a. High density lipoproteins
- b. Very low density lipoproteins
- c. Intermediate density lipoproteins
- d. Low density lipoproteins**
- e. Chylomicrons

1985. An experiment proved that UV-irradiated skin cells of patients with xeroderma pigmentosum restore the native structure of DNA slower than the cells of healthy people due to the defect in repair enzyme. What enzyme takes part in this process?

- a. RNA ligase
- b. Primase
- c. DNA gyrase
- d. DNA polymerase
- e. Endonuclease**

1986. A hypertensive patient had been keeping to a salt-free diet and taking antihypertensive drugs together with hydrochlorothiazide for a long time. This resulted in electrolyte imbalance. What disorder of the internal environment occurred in the patient?

- a. Hyperkalemia
- b. Increase in circulating blood volume
- c. Metabolic acidosis
- d. Hypochloremic alkalosis**
- e. Hypermagnesemia

1987. At the stage of translation in the rough endoplasmic reticulum, the ribosome moves along the mRNA. Amino acids are joined together by peptide bonds in a specific sequence, and thus polypeptide synthesis takes place. The sequence of amino acids in a polypeptide corresponds to the sequence of:

- a. tRNA anticodons
- b. tRNA nucleotides
- c. mRNA codons**
- d. rRNA nucleotides
- e. rRNA anticodons

1988. Curariform substances introduced into a human body cause the relaxation of all skeletal muscles. What changes in the neuromuscular synapse cause this phenomenon?

- a. Blockade of N-cholinergic receptors of the synaptic membrane**
- b. Depolarization of the postsynaptic membrane
- c. Blockade of Ca^{2+} channels of the presynaptic membrane
- d. Impaired acetylcholine release
- e. Impaired cholinesterase synthesis

1989. A patient has normally coloured stool including a large amount of free fatty acids. The reason for this is a disturbance of the following process:

- a. Lipase secretion
- b. Fat hydrolysis
- c. Fat absorption**
- d. Choleresis
- e. Biliary excretion

1990. A patient got a gunshot wound of hip which damaged the sciatic nerve. Any impact on the affected limb causes severe, excruciating pain. What mechanism of pain is most likely in this case?

- a. Causalgic**
- b. Reflex
- c. Phantom
- d. Endorphin hypofunction
- e. Enkephalin hypofunction

1991. Negative environmental factors have caused the dysfunction of myosatellite cells. What function of the whole muscle fibre is likely to be changed in this case?

- a. Trophism
- b. Contraction
- c. Contractile thermogenesis
- d. Relaxation
- e. Regeneration**

1992. After the diagnostic tests a 40-year-old male has been referred for the lymphography of the thoracic cavity. The surgeon revealed that the tumor had affected an organ whose lymphatic vessels drain directly into the thoracic duct. Specify this organ:

- a. Esophagus**
- b. Trachea
- c. Pericardium
- d. Left main bronchus
- e. Heart

1993. A hospital has admitted a patient complaining of abdominal bloating, diarrhea, flatulence after eating protein foods. These signs are indicative of the impaired digestion of proteins and their increased degradation. Which of the following compounds is the product of this process?

- a. Cadaverine
- b. Putrescine
- c. Agmatine
- d. Indole**
- e. Bilirubin

1994. In the surgical ward, the dressing material was undergoing sterilization in an autoclave. Through an oversight of a nurse the mode of sterilization was changed and the temperature in the autoclave reached only 100°C instead of the due 120°C. What microorganisms can stay viable under these conditions?

- a. Bacilli and clostridia**
- b. Corynebacteria and mycobacteria
- c. Staphylococci and streptococci
- d. Mold and yeast fungi
- e. Salmonella and klebsiella

1995. During the operation on the small intestine the surgeon revealed an area of the mucous membrane with a single longitudinal fold among the circular folds. Which portion of the small intestine is this structure typical for?

- a. Pars descendens duodeni**
- b. Pars ascendens duodeni
- c. Distal ileum
- d. jejunum
- e. Pars horizontalis duodeni

1996. Workers of a conveyor workshop received recommendations for the effective organization of working time and higher working efficiency. What peculiarity of work in this workshop causes the greatest stress for the workers?

- a. Social inefficiency of labor
- b. Monotony of work**
- c. State of "operating rest"
- d. Increased intellectual component
- e. Increased responsibility

1997. 14 days after quinsy a 15-year-old child presented with morning facial swelling, high blood pressure, "meat slops" urine. Immunohistological study of a renal biopsy sample revealed deposition of immune complexes on the basement membranes of the capillaries and in the glomerular mesangium. What disease developed in the patient?

- a. Necrotizing nephrosis
- b. Acute glomerulonephritis**
- c. Acute pyelonephritis
- d. Lipoid nephrosis
- e. Acute interstitial nephritis

1998. A comatose patient was taken to the hospital. He has a history of diabetes mellitus. Objectively: Kussmaul breathing, low blood pressure, acetone odor of breath. After the emergency treatment the patients condition improved. What drug had been administered to the patient?

- a. Glibenclamide
- b. Adrenaline
- c. Isadrinum
- d. Insulin**
- e. Furosemide

1999. A child cut his leg with a piece of glass while playing and was brought to the clinic for the injection of tetanus toxoid. In order to prevent the development of anaphylactic shock the serum was administered by Bezredka method. What mechanism underlies this method of desensitization of the body?

- a. Binding of IgE fixed to the mast cells**
- b. Binding of IgE receptors to the mast cells
- c. Stimulation of immune tolerance to the antigen
- d. Blocking the mediator synthesis in the mast cells
- e. Stimulation of the synthesis of antigen-specific IgG

2000. Infectious diseases are treated with antibiotics (streptomycin, erythromycin, chloramphenicol). They inhibit the following stage of protein synthesis:

- a. Processing
- b. Translation**
- c. Replication
- d. Splicing
- e. Transcription

2001. The infectious diseases department of a hospital admitted a patient with nausea, liquid stool with mucus and blood streaks, fever, weakness. Dysentery was suspected. What method of laboratory diagnostics should be applied to confirm the diagnosis?

- a. Microscopic
- b. Protozoological
- c. Serological
- d. Mycological
- e. Bacteriological**

2002. Malaria is treated with structural analogs of vitamin B2 (riboflavin). These drugs disrupt the synthesis of the following enzymes in plasmodium:

- a. Aminotransferase
- b. FAD-dependent dehydrogenase**
- c. Peptidase
- d. Cytochrome oxidase
- e. NAD-dependent dehydrogenase

2003. A 6-year-old child with suspected active tuberculous process underwent the diagnostic Mantoux test. What immunobiological preparation was injected?

- a. Tularinum
- b. Td vaccine
- c. BCG vaccine
- d. DTP vaccine
- e. Tuberculin**

2004. In a young man during exercise, the minute oxygen uptake and carbon dioxide emission equalled to 1000 ml. What substrates are oxidized in the cells of his body?

a. Carbohydrates

- b. Fats
- c. Carbohydrates and proteins
- d. Carbohydrates and fats
- e. Proteins

2005. A sportsman spontaneously held breath for 40 seconds, which resulted in an increase in heart rate and systemic arterial pressure. Changes of these indicators are due to activation of the following regulatory mechanisms:

- a. Conditioned parasympathetic reflexes
- b. -
- c. Unconditioned parasympathetic reflexes
- d. Conditioned sympathetic reflexes

e. Unconditioned sympathetic reflexes

2006. A 53-year-old male patient is diagnosed with Paget's disease. The concentration of oxyproline in daily urine is sharply increased, which primarily means intensified disintegration of:

a. Collagen

- b. Albumin
- c. Fibrinogen
- d. Hemoglobin
- e. Keratin

2007. A patient has hoarseness of voice. During laryngoscopy a gray-white larynx tumor with papillary surface has been detected. Microscopic investigation has shown the following: growth of connective tissue covered with multilayer, strongly keratinized pavement epithelium, no cellular atypia. What is the most likely diagnosis?

a. Papilloma

- b. Polyp
- c. Angiofibroma
- d. Angioma
- e. Fibroma

2008. During autopsy approximately 2,0 liters of pus have been found in the abdominal cavity of the corpse. Peritoneum is lustreless and has grayish shade, serous tunic of intestines has grayish-colored coating that is easily removable. Specify the most likely type of peritonitis in the patient:

a. -

b. Fibrinopurulent peritonitis

- c. Serous peritonitis
- d. Hemorrhagic peritonitis
- e. Tuberculous peritonitis

2009. Autopsy of a dead patient revealed bone marrow hyperplasia of tubular and flat bones (pyoid marrow), splenomegaly (6 kg) and hepatomegaly (5 kg), enlargement of all lymph node groups. What disease are the identified changes typical for?

a. Hodgkin's disease

b. Chronic myelogenous leukemia

- c. Multiple myeloma
- d. Chronic lymphocytic leukemia
- e. Polycythemia vera

2010. Autopsy of the dead patient who died from pulmonary edema revealed a large yellow-grey nidus in the myocardium, and a fresh thrombus in the coronary artery. What is the most likely diagnosis?

- a. Myocarditis
- b. Cardiosclerosis

c. Myocardial infarction

- d. Amyloidosis
- e. Cardiomyopathy

2011. An animal experiment is aimed at studying the cardiac cycle. All the heart valves are closed. What phase of the cycle is characterized by this status?

- a. Rapid filling
- b. Reduced filling
- c. Asynchronous contraction
- d. Protodiastolic period

e. Isometric contraction

2012. Cyanide is a poison that causes instant death of the organism. What enzymes found in mitochondria are affected by cyanide?

- a. Cytochrome P-450
- b. Cytochrome oxidase (aa3)**
- c. Cytochrome B5
- d. Flavin enzymes
- e. NAD⁺-dependent dehydrogenase

2013. Increased HDL levels decrease the risk of atherosclerosis. What is the mechanism of HDL anti-atherogenic action?

- a. They remove cholesterol from tissues**
- b. They are involved in the breakdown of cholesterol
- c. They promote absorption of cholesterol in the intestine
- d. They activate the conversion of cholesterol to bile acids
- e. They supply tissues with cholesterol

2014. It has been found out that one of a pesticide components is sodium arsenate that blocks lipoic acid. Which enzyme activity is impaired by this pesticide?

- a. Microsomal oxidation
- b. Glutathione peroxidase
- c. Glutathione reductase
- d. Pyruvate dehydrogenase complex**
- e. Methemoglobin reductase

2015. Stool culture test revealed in a 6-month-old bottle-fed baby the strain of intestinal rod-shaped bacteria of antigen structure O-111. What diagnosis can be made?

- a. Food poisoning
- b. Dysentery-like disease
- c. Gastroenteritis
- d. Choleraform disease

e. Colienteritis

2016. A boy referred to a genetics clinic was found to have 1 drumstick in blood neutrophils. The boy is likely to have the following syndrome:

- a. Edwards'
- b. Trisomy X
- c. Down's
- d. Turner's

e. Klinefelter's

2017. A drycleaner's worker has been found to have hepatic steatosis. This pathology can be caused by the disruption of synthesis of the following substance:

- a. Cholic acid
- b. Phosphatidylcholine**
- c. Urea
- d. Tristearin

e. Phosphatidic acid

2018. Ascarid eggs have been detected during stool analysis. What drug should be prescribed?

- a. Tetracycline
- b. Furazolidone
- c. Nystatin
- d. Chloramphenicol

e. Mebendazole

2019. Bacteriological examination of the urine of the patient with pyelonephritis revealed microorganisms that produced yellow-green pigment and a characteristic odor in meat-peptone agar. What are they called?

a. Pseudomonas

- b. Proteas
- c. Azotobacter
- d. Klebsiella
- e. Escherichia

2020. Feces of a patient contain high amount of undissociated fats and have grayish-white color. Specify the cause of this phenomenon:

- a. Hypoactivation of pepsin by hydrochloric acid
- b. Enteritis
- c. Irritation of intestinal epithelium

d. Obturation of bile duct

e. Hypovitaminosis

2021. A 46-year-old female patient consulted a doctor about pain in the small joints of the upper and lower limbs. The joints are enlarged and shaped like thickened nodes. Serum test revealed an increase in urate concentration. This might be caused by a disorder in metabolism of:

- a. Pyrimidines
- b. Amino acids
- c. Carbohydrates
- d. Lipids

e. Purines

2022. A 26-year-old female consulted a doctor about having stool with white flat moving organisms resembling noodles. Laboratory analysis revealed proglottids with the following characteristics: long, narrow, with a longitudinal channel of the uterus with 17-35 lateral branches on each side. What kind of intestinal parasite was found?

a. *Taeniarhynchus saginatus*

- b. *Hymenolepis nana*
- c. *Echinococcus granulosus*
- d. *Diphyllobothrium latum*
- e. *Taenia solium*

2023. A male patient is 28 years old. Histological study of a cervical lymph node revealed a change of its pattern due to the proliferation of epithelioid, lymphoid cells and macrophages having nuclei in form of a horseshoe. In the center of some cell clusters there were non-structured light-pink areas with fragments of nuclei. What disease are these changes typical for?

- a. Actinomycosis
- b. Hodgkin's disease

c. Tuberculosis

- d. Tumor metastasis
- e. Syphilis

2024. A biochemical urine analysis has been performed for a patient with progressive muscular dystrophy. In the given case muscle disease can be confirmed by the high content of the following substance in urine:

a. Creatine

b. Urea

c. Creatinine

d. Hippuric acid

e. Porphyrin

2025. While examining foot blood supply a doctor checks the pulsation of a large artery running in the separate fibrous channel in front of articulation talocruralis between the tendons of long extensor muscles of hallux and toes. What artery is it?

a. A. tarsea lateralis

b. A. fibularis

c. A. tibialis anterior

d. A. tarsea medialis

e. A. dorsalis pedis

2026. A patient with chronic heart failure with edema has increased level of blood aldosterone. What diuretic would be most effective in this case?

a. Triamterene

b. Hydrochlorothiazide

c. Furosemide

d. Spironolactone

e. Acetazolamide

2027. During autopsy the following has been revealed: the meninges of the upper cerebral hemispheres are extremely plethoric, of yellowgreen color and are soaked with purulent effluent. What kind of meningitis is characterised by such clinical presentations?

a. Grippal meningitis

b. Tuberculous meningitis

c. Meningococcal meningitis

d. Anthrax-induced

e. Epidemic typhus-induced

2028. A 41-year-old male patient has a history of recurrent attacks of heartbeats (paroxysms), profuse sweating, headaches. Examination revealed hypertension, hyperglycemia, increased basal metabolic rate, and tachycardia. These clinical presentations are typical for the following adrenal pathology:

a. Hypofunction of the medulla

b. Hypofunction of the adrenal cortex

c. Primary aldosteronism

d. Hyperfunction of the medulla

e. Hyperfunction of the adrenal cortex

2029. A comminuted fracture of infraglenoid tubercle caused by shoulder joint injury has been detected during X-ray examination of a patient. What muscle tendon attached at this site has been damaged?

a. Long head of m. biceps brachii

b. Lateral head of m. triceps brachii

c. Short head of m. biceps brachii

d. Long head of m. triceps brachii

e. Medial head of m. triceps brachii

2030. A patient has increased thickness of alveolar-capillary membrane caused by a pathologic process. The direct consequence will be reduction of the following value:

a. Respiratory minute volume

b. Oxygen capacity of blood

c. Diffusing lung capacity

d. Alveolar ventilation of lungs

e. Expiratory reserve volume

2031. What drug will be most appropriate for the patient who has chronic gastritis with increased secretion?

- a. Pepsin
- b. Pancreatine
- c. Pirenzepine**
- d. Aprotinin
- e. Chlorphentermine

2032. As a result of careless handling of an iron, a 34-year-old female patient has got acute pain, redness, swelling of her right index finger. A few minutes later, there appeared a blister filled with a transparent liquid of strawyellow color. The described changes are a manifestation of the following pathological process:

- a. Proliferative inflammation
- b. Vacuolar degeneration
- c. Traumatic edema
- d. Alternative inflammation
- e. Exudative inflammation**

2033. A 42-year-old male with a lesion of the ulnar nerve is unable to flex the II and V fingers to the midline. Which muscle function is impaired in this case?

- a. Fidicinales
- b. Dorsal interosseous muscle
- c. Palmar interosseous muscles**
- d. Short palmar muscle
- e. Abductor muscle of little finger

2034. A smear from the tonsillar coating of a patient with suspected diphtheria was found to contain blue bacilli with a thickening at the poles. What method of smear staining was used?

- a. Burri
- b. Gram
- c. Neisser
- d. Leffler**
- e. Hins

2035. A child was born asphyxiated. What drug must be administered to the newborn to stimulate breathing?

- a. Aethimizolum**
- b. Prazosin
- c. Proserine
- d. Atropine
- e. Lobeline

2036. A 40-year-old patient with the progressing staphylococcal purulent periodontitis developed purulent inflammation of bone marrow spaces of the alveolar process, and then of the body of mandible. Microscopy revealed thinning of bone trabeculae, foci of necrosis, bone sequestrs surrounded by the connective tissue capsule. What is the most likely diagnosis?

- a. Purulent abscess
- b. Chronic osteomyelitis**
- c. Parodontome
- d. Acute osteomyelitis
- e. Chronic fibrous periostitis

2037. Human red blood cells do not contain mitochondria. What is the main pathway for ATP production in these cells?

- a. Oxidative phosphorylation
- b. Aerobic glycolysis
- c. Anaerobic glycolysis**
- d. Creatine kinase reaction

e. Cyclase reaction

2038. A 40-year-old female patient has undergone thyroidectomy. Histological study of thyroid gland found the follicles to be of different size and contain foamy colloid, follicle epithelium is high and forms papillae, there is focal lymphocytic infiltration in stroma. Diagnose the thyroid gland disease:

- a. Riedel's thyroiditis
- b. Hashimoto's thyroiditis
- c. Basedow's disease**
- d. De Quervain's disease
- e. Nodular goiter

2039. A 43-year-old-patient has arterial hypertension caused by an increase in cardiac output and general peripheral resistance. Specify the variant of hemodynamic development of arterial hypertension in the given case:

- a. Combined
- b. -
- c. Hyperkinetic
- d. Hypokinetic
- e. Eukinetic**

2040. A patient has been hospitalised with provisional diagnosis of virus B hepatitis. Serological reaction based on complementation of antigen with antibody chemically bound to peroxidase or alkaline phosphatase has been used for disease diagnostics. What is the name of the applied serological reaction?

- a. Bordet-Gengou test
- b. Antigen-binding assay
- c. Radioimmunoassay technique
- d. Immunofluorescence test
- e. Immune-enzyme analysis**

2041. A patient has been hospitalised with provisional diagnosis of botulism. What serological reaction should be used to reveal botulinum toxin?

- a. Bordet-Gengou test
- b. Agglutination reaction
- c. Neutralization reaction**
- d. Precipitation reaction
- e. Immunofluorescence test

2042. Examination of a 52-year-old female patient has revealed a decrease in the amount of red blood cells and an increase in free hemoglobin in the blood plasma (hemoglobinemia). Color index is 0,85. What type of anemia is being observed in the patient?

- a. Acquired hemolytic**
- b. Acute hemorrhagic
- c. Anemia due to diminished erythropoiesis
- d. Chronic hemorrhagic
- e. Hereditary hemolytic

2043. The processes of heat transfer in a naked person at room temperature have been studied. It was revealed that under these conditions the greatest amount of heat is transferred by:

- a. -
- b. Heat radiation**
- c. Convection
- d. Heat conduction
- e. Evaporation

2044. Urine analysis has shown high levels of protein and erythrocytes in urine. This can be caused by the following:

- a. Hydrostatic primary urine pressure in capsule

- b. Oncotic pressure of blood plasma
- c. Effective filter pressure
- d. Hydrostatic blood pressure in glomerular capillaries

e. Renal filter permeability

2045. The development of both immune and allergic reactions is based upon the same mechanisms of the immune system response to an antigen. What is the main difference between the immune and allergic reactions?

a. Development of tissue lesion

- b. Antigen structure
- c. Hereditary predisposition
- d. Routes by which antigens are delivered into the body
- e. Amount of released antigen

2046. After a craniocerebral injury a patient is unable to recognize objects by touch. What part of brain has been damaged?

- a. Precentral gyrus
- b. Cerebellum
- c. Occipital lobe
- d. Temporal lobe

e. Postcentral gyrus

2047. A patient complaining of rapid pulse, dyspnea and bluish color of mucosa has been admitted to the cardiological department. The objective symptoms are as follows: edema of lower extremities, ascites. Which of the given medicines should be prescribed for intravenous administration to improve the patient's general state?

a. Drotaverine

b. Corglyconum

- c. Adrenalin hydrochloride
- d. Cordiamin
- e. Digitoxin

2048. As a result of a continuous chronic encephalopathy, a patient has developed spontaneous motions and a disorder of torso muscle tone. These are the symptoms of the disorder of the following conduction tract:

- a. Tractus corticospinalis
- b. Tractus spinothalamicus
- c. Tractus tectospinalis

d. Tractus rubrospinalis

e. Tractus corticonuclearis

2049. A 10-year-old child has painful swallowing, neck edema, temperature rise up to 39, 0°C, the whole body is covered with bright-red petechial rash. Back of the throat and tonsils are hyperemic, the tongue is crimson-colored. Tonsillar surface is covered with isolated grayish-colored necrosis nidi. What disease is it?

- a. Diphtheria
- b. Meningococcal nasopharyngitis

c. Scarlet fever

- d. Influenza
- e. Measles

2050. In a patient elevation of body temperature takes turns with drops down to normal levels during the day. The rise in temperature is observed periodically once in four days. Specify the type of temperature curve:

a. Febris internuttens

- b. Febris reccurens
- c. Febris remitens
- d. Febris hectica

e. Febris continua

2051. As a result of a craniocerebral injury, a patient has a decreased skin sensitivity. What area of the cerebral cortex is likely to be damaged?

- a. Frontal cortex
- b. Anterior central gyrus
- c. Occipital region
- d. Cingulate gyrus
- e. Posterior central gyrus**

2052. Diabetic nephropathy with uremia has developed in a patient with pancreatic diabetes. The velocity of glomerular filtration is 9 ml/min. What mechanism of a decrease in glomerular filtration velocity and chronic renal failure development is most likely in the case of this patient?

- a. Obstruction of nephron tubules with hyaline casts
- b. Decrease in systemic arterial pressure
- c. Reduction of active nephron mass**
- d. Tissue acidosis
- e. Arteriolar spasm

2053. A 40-year-old patient has ulcer perforation in the posterior wall of stomach. What anatomical structure will blood and stomach content leak to?

- a. Bursa praegastrica
- b. Left lateral channel (canalis lateralis sinister)
- c. Bursa hepatica
- d. Bursa omentalis**
- e. Right lateral channel (canalis lateralis dexter)

2054. A patient is diagnosed with hereditary coagulopathy that is characterised by factor VIII deficiency. Specify the phase of blood clotting during which coagulation will be disrupted in the given case:

- a. -
- b. Thromboplastin formation**
- c. Fibrin formation
- d. Thrombin formation
- e. Clot retraction

2055. Angiocardiology of a 60-year-old male patient revealed constriction of a vessel located in the left coronary sulcus of the heart. What is the pathological vessel called?

- a. Ramus interventricularis anterior
- b. Ramus circumflexus**
- c. A. coronaria dextra
- d. Ramus interventricularis posterior
- e. V. cordis parva

2056. Those organisms which in the process of evolution failed to develop protection from H₂O₂ can exist only in anaerobic conditions. Which of the following enzymes can break hydrogen peroxide down?

- a. Oxygenase and catalase
- b. Flavin-dependent oxidase
- c. Oxygenase and hydroxylase
- d. Cytochrome oxidase, cytochrome B5
- e. Peroxidase and catalase**

2057. A patient complains of pain in the right lateral abdomen. Palpation revealed a dense, immobile, tumorlike formation. A tumor is likely to be found in the following part of the digestive tube:

- a. Caecum
- b. Colon ascendens**
- c. Colon descendens

- d. Colon transversum
- e. Colon sigmoideum

2058. A patient complaining of pain in the left shoulder-blade region has been diagnosed with myocardial infarction. What kind of pain does the patient have?

- a. Radiating**
- b. Phantom
- c. Epicritic
- d. Protopathic
- e. Visceral

2059. A patient has a critical impairment of protein, fat and hydrocarbon digestion. Most likely it has been caused by low secretion of the following digestive juice:

- a. Intestinal juice
- b. Pancreatic juice**
- c. Gastric juice
- d. Saliva
- e. Bile

2060. A female patient has facial neuritis that has caused mimetic paralysis and hearing impairment. Hearing impairment results from the paralysis of the following muscle:

- a. Anterior auricular muscle
- b. Posterior auricular muscle
- c. Nasal muscle
- d. Stapedius muscle**
- e. Superior auricular muscle

2061. A 22-year-old female student consulted a physician about fever up to 38°C, weakness, sore throat. Objectively: there is white coating of the tongue. What histological structures of the tongue are involved in the formation of this coating?

- a. Epithelium of the filiform papillae**
- b. Epithelium of the fungiform papillae
- c. Connective-tissue base of all the lingual papillae
- d. Epithelium of the circumvallate papillae
- e. Epithelium of the foliate papillae

2062. A patient has a traumatic injury of sternocleidomastoid muscle. This has resulted in a decrease in the following value:

- a. Respiratory volume
- b. Expiratory reserve volume
- c. Inspiratory reserve volume**
- d. Residual volume
- e. Functional residual lung capacity

2063. The receptors under study provide transfer of information to the cortex without thalamic involvement. Specify these receptors:

- a. Tactile
- b. Visual
- c. Auditory
- d. Olfactory**
- e. Gustatory

2064. Prolonged fasting causes hypoglycemia which is amplified by alcohol consumption, as the following process is inhibited:

- a. Lipolysis
- b. Proteolysis
- c. Glycolysis
- d. Glycogenolysis

e. Gluconeogenesis

2065. A 39-year-old female patient with a history of diabetes was hospitalized in a precomatose state for diabetic ketoacidosis. This condition had been caused by an increase in the following metabolite level:

a. Aspartate

b. Acetoacetate

c. Alpha-ketoglutarate

d. Citrate

e. Malonate

2066. A 37-year-old female patient complains of headache, vertigo, troubled sleep, numbness of limbs. For the last 6 years she has been working at the gas-discharge lamp-producing factory in the lead-processing shop. Blood test findings: low hemoglobin and RBC level, serum iron concentration exceeds the norm by several times. Specify the type of anemia:

a. Minkowsky-Shauffard disease

b. Iron-deficiency anemia

c. Iron refractory anemia

d. Hypoplastic anemia

e. Metaplastic anemia

2067. During an animal experiment, surgical damage of certain brain structures has caused deep prolonged sleep. What structure is most likely to cause such condition, if damaged?

a. Red nuclei

b. Basal ganglion

c. Reticular formation

d. Hippocampus

e. Cerebral cortex

2068. A patient takes cholagogues. What other process besides biliary excretion will be stimulated?

a. Gastric juice secretion

b. Gastric motor activity

c. Water absorption

d. Intestinal motility

e. Pancreatic juice secretion

2069. A 3-year-old child with meningeal symptoms died. Postmortem macroscopy of the pia matter revealed miliary nodules which were microscopically represented by a focus of caseous necrosis with masses of epithelioid and lymphoid cells with some crescent-shaped large cells inbetween having peripheral nuclei. Specify the type of meningitis in the child:

a. Tuberculous

b. Brucellar

c. Meningococcal

d. Grippal

e. Syphilitic

2070. A patient with homogentisuria has signs of arthritis, ochronosis. In this case, the pain in the joints is associated with the deposition of:

a. Phosphates

b. Urates

c. Homogentisates

d. Oxalates

e. Carbonates

2071. A patient with hereditary hyperammonemia due to a disorder of ornithine cycle has developed secondary orotaciduria. The increased synthesis of orotic acid is caused by an increase in the following metabolite of ornithine cycle:

a. Urea

- b. Argininosuccinate
- c. Citrulline
- d. Ornithine

e. Carbamoyl phosphate

2072. Amniocentesis revealed two sex chromatin bodies (Barr bodies) in each cell of the sample. What disease is this character typical for?

a. Trisomy X

- b. Turner's syndrome
- c. Patau syndrome
- d. Down's syndrome
- e. Klinefelter syndrome

2073. A 49-year-old male patient with acute pancreatitis was likely to develop pancreatic necrosis, while active pancreatic proteases were absorbed into the blood stream and tissue proteins broke up. What protective factors of the body can inhibit these processes?

a. α 2-macroglobulin, α 1-antitrypsin

- b. Cryoglobulin, interferon
- c. Hemopexin, haptoglobin
- d. Ceruloplasmin, transferrin
- e. Immunoglobulin

2074. A 16-year-old female patient has fainted after quickly changing her body position from horizontal to vertical one. Which process from the ones listed below has caused the loss of consciousness in the first place?

- a. Decreasing oncotic pressure of blood plasma
- b. Increasing arterial pressure
- c. Increasing venous return
- d. Increasing central venous pressure

e. Decreasing venous return

2075. A 53-year-old male patient complains of acute pain in the right hypochondrium. Objective examination revealed scleral icterus. Laboratory tests revealed increased ALT activity, and stercobilin was not detected in the stool. What disease is characterized by these symptoms?

a. Chronic gastritis

b. Cholelithiasis

- c. Hepatitis
- d. Hemolytic jaundice
- e. Chronic colitis

2076. A child patient has dry cough. What non-narcotic antitussive drug will relieve the patient's condition?

- a. Codeine phosphate
- b. Potassium iodide
- c. Althaea officinalis root extract

d. Glaucine hydrochloride

e. Morphine hydrochloride

2077. A patient complains of acute pain attacks in the right lumbar region. During examination the nephrolithic obturation of the right ureter in the region between its abdominal and pelvic segments has been detected. What anatomical boundary exists between those two segments?

- a. Linea transversa
- b. Linea inguinalis
- c. Linea semilunaris
- d. Linea arcuata

e. Linea terminalis

2078. When measuring total muscle action potential it was revealed that it was subject to the

power-law relationship. The reason for this is that individual muscle fibers differ in:

- a. Critical level of depolarization
- b. Depolarization threshold**
- c. Conduction velocity
- d. Diameter
- e. Resting potential

2079. A patient has insufficient blood supply to the kidneys, which has caused the development of pressor effect due to the constriction of arterial resistance vessels. This is the result of the vessels being greatly affected by the following substance:

- a. Norepinephrine
- b. Angiotensin II**
- c. Renin
- d. Angiotensinogen
- e. Catecholamines

2080. A patient is diagnosed with iron deficiency sideroachrestic anemia, progression of which is characterised by skin hyperpigmentation, pigmentary cirrhosis, heart and pancreas affection. Iron level in the blood serum is increased. What disorder of iron metabolism causes this disease?

- a. Failure to assimilate iron leading to iron accumulation in tissues**
- b. Disorder of iron absorption in bowels
- c. -
- d. Increased iron assimilation by body
- e. Excessive iron intake with food

2081. In a village, a case of anthrax had been registered. Medical services began epidemiologically indicated specific prophylaxis of population against anthrax. What preparation was used for this purpose?

- a. Live vaccine**
- b. Chemical vaccine
- c. Anatoxin
- d. Genetically engineered vaccine
- e. Inactivated vaccine

2082. Experimental stimulation of the sympathetic nerve branches that innervate the heart caused an increase in force of heart contractions because the membrane of typical cardiomyocytes permitted an increase in:

- a. Calcium and potassium ion exit
- b. Calcium ion entry**
- c. Potassium ion exit
- d. Calcium ion exit
- e. Potassium ion entry

2083. According to the results of glucose tolerance test, the patient has no disorder of carbohydrate tolerance. Despite that, glucose is detected in the patients's urine (5 mmol/l). The patient has been diagnosed with renal diabetes. What renal changes cause glucosuria in this case?

- a. Exceeded glucose reabsorption threshold
- b. Increased activity of glucose reabsorption enzymes
- c. Decreased activity of glucose reabsorption enzymes**
- d. Increased glucose secretion
- e. Increased glucose filtration

2084. As a result of past encephalitis, a male patient has developed an increase in cerebrospinal fluid pressure in the right lateral ventricle. What can be the cause of this condition?

- a. Atresia of tubus medullaris
- b. Closure of left interventricular foramen
- c. Closure of right interventricular foramen**
- d. Atresia of sylvian aqueduct

e. Atresia of the fourth ventricle foramina

2085. Parents of 5-year-old child report him to have frequent colds that develop into pneumonias, presence of purulent rashes on the skin. Laboratory tests have revealed the following: absence of immunoglobulins of any type, and naked cells are absent from the lymph nodes punctate. What kind of immune disorder is it?

- a. Hypoplastic anemia
- b. Autosomal recessive agammaglobulinaemia (Swiss type)
- c. X-linked hypogammaglobulinemia (Bruton type agammaglobulinemia)
- d. Agranulocytosis
- e. Louis-Barr syndrome

2086. A 3-year-old child has continuous fever, lymph nodes are enlarged, the amount of lymphocytes in blood is significantly increased. Enzyme-linked immunosorbent assay (ELISA) revealed antigen of Epstein-Barr virus. What diagnosis can be made based on the information given above?

- a. Burkitt's lymphoma
- b. Generalized infection caused by herpes-zoster
- c. Cytomegalovirus infection
- d. Infectious mononucleosis
- e. Herpetic lymphadenopathy

2087. Amicroslide contains the preparation of a gland composed of several secretory sacculle-shaped parts that open in the common excretory duct. What gland is it?

- a. Simple unbranched alveolar gland
- b. Compound branched alveolar gland
- c. Simple branched alveolar gland
- d. Compound unbranched alveolar gland
- e. Simple branched tubular gland

2088. A patient intending to undergo a gender reassignment surgery has been admitted to a specialised clinic. In the course of examination both male and female gonads have been revealed, with male structure of external genitals. What kind of genital maldevelopment has the patient?

- a. Female pseudohermaphroditism
- b. Male pseudohermaphroditism
- c. True hermaphroditism
- d. Accessory ovary
- e. Ectopia of testis

2089. An 18-year-old male has been diagnosed with Marfan syndrome. Examination revealed a developmental disorder of connective tissue and eye lens structure, abnormalities of the cardiovascular system, arachnodactyly. What genetic phenomenon has caused the development of this disease?

- a. Complementarity
- b. Multiple allelism
- c. Incomplete dominance
- d. Pleiotropy
- e. Codominance

2090. In case of alkaptonuria, homogentisic acid is excreted in urine in large amounts. The development of this disease is associated with a disorder of metabolism of the following amino acid:

- a. Phenylalanine
- b. Methionine
- c. Asparagine
- d. Tyrosine
- e. Alanine

2091. A male patient complains of skin insensitivity of inferior eyelid, external lateral surface of nose and upper lip. A doctor in the course of examination has revealed inflammation of the second branch

of trigeminal nerve. What cranial foramen does this branch go through?

a. Oval

b. Supraorbital

c. Superior orbital fissure

d. Lacerum

e. Spinosum

2092. An patient with insomnia induced by allergic rash and itch has been prescribed the drug that has antihistamine and hypnotic effect. Specify this drug:

a. Benadryl

b. Prednisolone

c. Analgin

d. Acetylsalicylic acid

e. Loratadine

2093. In a cat with decerebrate rigidity the muscle tone is to be decreased. This can be achieved by:

a. Stimulation of the otolithic vestibular receptors

b. Stimulation of the vestibulocochlear nerve

c. Stimulation of the ampullar vestibular receptors

d. Destruction of the vestibular nuclei of Deiters

e. Stimulation of the vestibular nuclei of Deiters

2094. When studying the signs of pulmonary ventilation, reduction of forced expiratory volume has been detected. What is the likely cause of this phenomenon?

a. Increase of functional residual lung capacity

b. Obstructive pulmonary disease

c. Increase of inspiratory reserve volume

d. Increase of respiratory volume

e. Increase of pulmonary residual volume

2095. X-ray examination of a patient allowed to diagnose a tumor in the superior lobe of the right lung. There is a probability of metastases spread to the following lymph nodes:

a. Deep lateral cervical

b. Sternal

c. Anterior mediastinum

d. Inferior mediastinum

e. Axillary

2096. A 55-year-old patient with a characteristic rash, fever, dizziness has been admitted to a hospital. He has been provisionally diagnosed with typhus. No similar cases have been reported. In his youth (15 years old) the patient suffered typhus in a boarding school. What disease is it?

a. Measles

b. Typhoid fever

c. Brill's disease

d. Rubella

e. Cholera

2097. A young woman suddenly developed fever up to 39°C accompanied by a strong headache. Examination revealed marked nuchal rigidity. Spinal puncture was performed. Gram-stained smear of cerebrospinal fluid contained many neutrophils and Gram-positive diplococci. What bacteria could be the cause of this disease?

a. Haemophilus influenzae

b. Streptococcus pneumoniae

c. Neisseria meningitidis

d. Staphylococcus aureus

e. Pseudomonas aeruginosa

2098. In the course of an experiment adenohipophysis of an animal has been removed. The resulting

atrophy of thyroid gland and adrenal cortex has been caused by deficiency of the following hormone:

- a. Somatotropin
- b. Thyroid hormones
- c. Tropic hormones**
- d. Cortisol
- e. Thyroxin

2099. Degenerative changes in posterior and lateral columns of spinal cord (funicular myelosis) caused by methylmalonic acid accumulation occur in patients with B12-deficiency anemia. This results in synthesis disruption of the following substance:

- a. Acetylcholine
- b. Dopamine
- c. Serotonin
- d. Myelin**
- e. Norepinephrine

2100. A patient with suspected tumor of lung had been admitted to the oncological department. Examination revealed localised pathology in the inferior lobe of the left lung. How many bronchopulmonary segments does this lobe have?

- a. 4
- b. 6
- c. 5**
- d. 3
- e. 2

2101. During local anesthetization the patient has gone into anaphylactic shock. What drug must be administered to the patient?

- a. Atropine sulfate
- b. Diazepam
- c. Epinephrine hydrochloride**
- d. Propranolol
- e. Nitroglycerin

2102. As a result of an injury, the integrity of the anterior spinal cord root was broken. Specify the neurons and their processes that had been damaged:

- a. Motor neuron dendrites
- b. Dendrites of sensory neurons
- c. Dendrites of association neurons
- d. Axons of motor neurons**
- e. Axons of sensory neurons

2103. A patient who had been taking diclofenac sodium for arthritis of mandibular joint developed an acute condition of gastric ulcer. Such side effect of this medicine is caused by inhibition of the following enzyme:

- a. Monoamine oxidase
- b. Cyclooxygenase-1 (COX-1)**
- c. Lipoxygenase
- d. Cyclooxygenase-2 (COX-2)
- e. Phosphodiesterase

2104. In one of Polessye regions there was an outbreak of helminthiasis manifested by cramps and facial edema. The developed preventive measures in particular included ban for eating infested pork even after heat processing. What helminthiasis was the case?

- a. Echinococcosis
- b. Alveococcosis
- c. Taeniarhynchosis
- d. Teniasis
- e. Trichinosis**

2105. A female patient sought medical genetic consultation. Physical examination revealed pterygium colli deformity (webbed neck), broad chest, underdeveloped breasts. Study of buccal epithelium cells revealed no X-chromatin in the nuclei. This indicates that the patient has the following syndrome:

- a. Patau's
- b. Klinefelter's
- c. Turner's**
- d. Down's
- e. Edwards'

2106. During blood transfusion a patient has developed intravascular erythrocyte hemolysis. What kind of hypersensitivity does the patient have?

- a. I type (anaphylactic)
- b. IV type (cellular cytotoxicity)
- c. IV type (granulomatosis)
- d. II type (antibody-dependent)**
- e. III type (immune complex)

2107. Patients with erythropoietic porphyria (Gunther's disease) have teeth that fluoresce with bright red color when subjected to ultraviolet radiation; their skin is light-sensitive, urine is red-colored. What enzyme can cause this disease, when it is deficient?

- a. Ferrochelatase
- b. Uroporphyrinogen III cosynthase**
- c. Delta-aminolevulinate synthase
- d. Uroporphyrinogen I synthase
- e. Uroporphyrinogen decarboxylase

2108. During the air and bone conduction tests it was revealed that in the left ear the tones were louder by bone conduction. This might be associated with the disease of:

- a. Left middle ear**
- b. Left inner ear
- c. Right external ear
- d. Right inner ear
- e. Right middle ear

2109. In course of invasive abdominal surgery a surgeon has to locate the origin of the mesenteric root. Where is it normally localized?

- a. Duodenojejunal flexure**
- b. Left flexure of colon
- c. Right mesenteric sinus
- d. Sigmoid colon
- e. Right flexure of colon

2110. A 55-year-old male had been delivered to the resuscitation unit unconscious. Relatives reported him to have mistakenly drunk an alcoholic solution of unknown origin. On examination the patient was diagnosed with methanol intoxication. What antidote should be used in this case?

- a. Protamine sulfate
- b. Acetylcysteine
- c. Teturamum
- d. Naloxone
- e. Ethanol**

2111. Due to the use of poor quality measles vaccine for preventive vaccination, a 1-year-old child has developed an autoimmune renal injury. The urine was found to contain macromolecular proteins. What process of urine formation has been disturbed?

- a. Reabsorption
- b. Reabsorption and secretion
- c. Secretion and filtration
- d. Filtration**

e. Secretion

2112. As a result of a road accident a 37- year-old female victim developed urinary incontinence. What segments of the spinal cord had been damaged?

- a. L1 ? L2
- b. Th1 ? Th5
- c. S2 ? S4
- d. Th2 ? Th5
- e. Th1 ? L1

2113. An 8-week-pregnant woman with acute respiratory disease and temperature rise up to 39, 0°C has called in a doctor. The doctor insisted on her avoiding taking paracetamol, because in this period of pregnancy there is a risk of its:

- a. Fetotoxicity
- b. Embryotoxicity
- c. Teratogenicity
- d. Hepatotoxicity
- e. Allergenicity

2114. A pneumonia patient has been administered acetylcysteine as a part of complex therapy. What principle of therapy has been taken into consideration when applying this drug?

- a. Etiotropic
- b. Symptomatic
- c. Pathogenetic
- d. Antimicrobial
- e. Immunomodulatory

2115. A 26-year-old female patient with bronchitis has been administered a broad spectrum antibiotic as a causal treatment drug. Specify this drug:

- a. BCG vaccine
- b. Interferon
- c. Doxycycline
- d. Ambroxol
- e. Dexamethasone

2116. When defining blood group according to the AB0 system, using salt solutions of monoclonal antibodies, agglutination didn't occur with any of the solutions. What blood group is it?

- a. B (III)
- b. A (II)
- c. 0 (I)
- d. AB (IV)
- e. -

2117. Examination of a 56-year-old female patient with a history of type 1 diabetes revealed a disorder of protein metabolism that is manifested by aminoacidemia in the laboratory blood test values, and clinically by the delayed wound healing and decreased synthesis of antibodies. Which of the following mechanisms causes the development of aminoacidemia?

- a. Increase in the oncotic pressure in the blood plasma
- b. Increase in low-density lipoprotein level
- c. Albuminosis
- d. Decrease in the concentration of amino acids in blood
- e. Increased proteolysis

2118. Symptoms of pellagra (vitamin PP deficiency) is particularly pronounced in patients with low protein diet, because nicotinamide precursor in humans is one of the essential amino acids, namely:

- a. Threonine
- b. Histidine
- c. Lysine

d. Tryptophan

e. Arginine

2119. A 68-year-old patient consults a cardiologist, complaining of high arterial blood pressure, pain in the heart region, intermittent pulse. Prescribe the β_1 -adrenoreceptor blocker for the treatment of the described pathology:

- a. Fenoterol
- b. Benzylpenicillin
- c. Morphine hydrochloride
- d. Nootropil

e. Metoprolol

2120. A female suffered rubella during pregnancy. The child was born with developmental abnormalities, namely cleft lip and palate. The child's genotype is normal. These malformations are a manifestation of:

- a. Chromosomal mutation
- b. Aneuploidy
- c. Polyploidy
- d. Combinative variability

e. Modification variability

2121. An electron micrograph shows a cell-to-cell adhesion consisting, in each cell, of an attachment plaque. The intercellular space is filled with electron-dense substance including transmembrane fibrillar structures. Specify this adhesion:

a. Desmosome

- b. Tight junction
- c. Adherens junction
- d. Nexus
- e. Synapse

2122. For biochemical diagnostics of myocardial infarction it is necessary to measure activity of a number of enzymes and their isoenzymes. What enzymatic test is considered to be the best to prove or disprove the diagnosis of infarction in the early period after the chest pain is detected?

- a. LDH2 lactate dehydrogenase isoenzyme
- b. Aspartate aminotransferase cytoplasmic isoenzyme
- c. Creatine kinase isoenzyme CK-MM
- d. LDH1 lactate dehydrogenase isoenzyme

e. Creatine kinase isoenzyme CK-MB

2123. A patient complains of pain in the heart area during acute attack of gastric ulcer. What vegetative reflex can cause this painful feeling?

a. Motor-visceral reflex

b. Viscerovisceral reflex

- c. Visceromotor reflex
- d. Viscerodermal reflex
- e. Dermatovisceral reflex

2124. A patient is diagnosed with acute morphine hydrochloride intoxication. Prescribe an oxidizing agent for gastric lavage:

a. Potassium permanganate

- b. Sulfocamphocainum (Procaine + Sulfocamphoric acid)
- c. Chlorhexidine (bi)gluconate
- d. Cerigel
- e. Chloramine

2125. In the course of puncture biopsy of transplanted kidney the following has been revealed: diffuse infiltration of stroma by lymphocytes and plasmocytes and necrotic arteritis. What pathological process has developed in the transplant?

a. Immune rejection

- b. Glomerulonephritis
- c. Pyelonephritis
- d. Tubular necrosis
- e. Ischemic kidney failure

2126. During cell division, DNA replication occurs by a signal from the cytoplasm, and a certain portion of the DNA helix unwinds and splits into two individual strains. What enzyme facilitates this process?

a. Helicase

- b. Ligase
- c. DNA polymerase
- d. Restrictase
- e. RNA polymerase

2127. A female patient, having visited the factory premises with lots of dust in the air for the first time, has got cough and burning pain in the throat. What respiratory receptors, when irritated, cause this kind of reaction?

a. Irritant receptors

- b. Stretch receptors of lungs
- c. Thermoreceptors
- d. Proprioceptors of respiratory muscles
- e. Juxta-capillary (J) receptors

2128. Since a patient has had myocardial infarction, his atria and ventricles contract independently from each other with a frequency of 60-70 and 35- 40 per minute. Specify the type of heart block in this case:

- a. Partial atrioventricular
- b. Intra-atrial
- c. Intraventricular

d. Complete atrioventricular

- e. Sino-atrial

2129. A 35-year-old female patient has been hospitalised with acute intoxication caused by salts of high-density metals (lead, most probably). As a part of complex therapy the antidote that contains two active sulfhydryl groups has been prescribed. Specify this antidote:

- a. Calcium chloride

b. Dimercaprol

- c. Mannitol
- d. Metamizole
- e. Nalorphine hydrochloride

2130. A 60-year-old male patient has type II diabetes. A doctor has prescribed him synthetic hypoglycemic longacting drug that is sulfonylurea derivative. What drug is it?

- a. Actrapid (soluble insulin)
- b. Acarbose
- c. Butamide
- d. Metformin

e. Glibenclamide

2131. A patient has been given atropine sulfate for rapid relief of spastic colon symptoms. The use of this drug is contraindicated during the following disease:

- a. Bradycardia
- b. Bronchial asthma

c. Glaucoma

- d. Hypotension
- e. Gastric ulcer

2132. As an example of specific human parasites one can name Plasmodium falciparum, human pinworm and some others. The source of parasite invasion is always a human. Such specific human parasites cause the diseases that are called:

a. Multifactorial diseases

b. Anthroponoses

c. Anthroozoonoses

d. Zoonoses

e. Infections

2133. In an experiment a dog had been conditioned to salivate at the sight of food and a flash of light. After conditioning the reflex, the light was then paired with the bell. The dog didn't start to salivate. What type of inhibition was observed?

a. External

b. Extinctive

c. Protective

d. Persistent

e. Differential

2134. A newborn baby has numerous hemorrhages. Blood coagulation tests reveal increased prothrombin time. The child is most likely to have a disorder of the following biochemical process:

a. Conversion of methylmalonyl CoA to succinyl CoA

b. Conversion of homocysteine to methionine

c. Production of gammacarboxyglutamate

d. Degradation of glutathione

e. Hydroxylation of proline

2135. A 63-year-old male patient with bladder atony had been prescribed a medication, which he had been arbitrarily taking at a higher dose. The patient developed hyponatremia, salivation, diarrhea, muscle spasms. The prescribed drug relates to the following group:

a. Ganglionic blockers

b. Cholinomimetics

c. Adrenergic blockers

d. Cholinesterase reactivators

e. Tocolytics

2136. A 67-year-old male patient consumes eggs, pork fat, butter, milk and meat. Blood test results: cholesterol - 12,3 mmol/l, total lipids - 8,2 g/l, increased low-density lipoprotein fraction (LDL). What type of hyperlipoproteinemia is observed in the patient?

a. Hyperlipoproteinemia type I

b. Hyperlipoproteinemia type IV

c. Cholesterol, hyperlipoproteinemia

d. Hyperlipoproteinemia type IIa

e. Hyperlipoproteinemia type IIb

2137. Tissue sampling of a 37-year-old male patient with chronic renal disease has revealed the following: sclerosis, lymphocytic and plasmocytic infiltration of renal pelvis and calices walls, dystrophy and atrophy of tubules. Remaining tubules are enlarged and stretched with colloid masses, epithelium is flattened out ("scutiform" or "shield-shaped" kidney). What is the most likely diagnosis?

a. Nephrosclerosis

b. Chronic pyelonephritis

c. Acute pyelonephritis

d. Tubular interstitial nephritis

e. Glomerulonephritis

2138. During the histological study of cortical shaft, basophilic cells with developed synthesis organelles can be seen on the bone surface under the layer of fibers. These cells take part in bone tissue regeneration. What shaft layer are they located in?

a. Osteon layer

b. Bone

c. Periosteum

d. Outer lamellae of compact bone tissue

e. Inner lamellae of compact bone tissue

2139. Autopsy of a 50-year-old male who had tuberculosis revealed a dense gray-white nidus in form of a nodule 2 cm in diameter in the subpleural portion of the upper right lobe. The pleura in this region was thickened, in the pleural cavity there was a small amount of serous hemorrhagic fluid. Histological study of the region revealed some glandular structures with signs of cellular atypia and abnormal mitoses, which were found within the fibrous connective tissue. What other pathology had developed in the lungs?

a. Squamous cell carcinoma

b. Fibrosarcoma

c. Fibroma

d. Adenocarcinoma

e. Adenoma

2140. In course of an experiment there has been an increase in the nerve conduction velocity. This may be caused by an increase in the concentration of the following ions that are present in the solution around the cell:

a. Na⁺

b. K⁺ and Na⁺

c. Ca²⁺

d. Ca²⁺ and Cl⁻

e. K⁺ and Cl⁻

2141. Hepatitis B is diagnosed through laboratory tests that determine the presence of HBA-DNA in blood serum of the patient. What reference method is applied for this purpose?

a. Hybridization signal amplification method

b. Hybridization method

c. Polymerase chain reaction

d. Ligase chain reaction method

e. ELISA diagnostic method

2142. On the 24th day since the onset of disease, a male patient diagnosed with typhoid fever and undergoing treatment in an infectious diseases hospital has suddenly developed clinical presentations of acute abdomen leading to the death of the patient. During autopsy peritonitis has been revealed, with numerous ulcers covering the colon mucosa and reaching as deep as muscular and, in places, serous tunic. The ulcers have smooth edges and even floor. The intestinal wall is perforated. What stage of typhoid fever has the lethal complication arisen at?

a. Dirty ulcer

b. Regeneration

c. Medullary swelling

d. Necrosis

e. Clean ulcer

2143. An HIV-positive patient's cause of death is acute pulmonary insufficiency resulting from pneumonia. Pathohistological investigation of lungs has revealed interstitial pneumonia, alveolocyte desquamation and their metamorphoses: alveolocyte enlargement, large intranuclear inclusions surrounded by lightly colored areas. Transformed cells resemble owl's eye. Name the pneumonia causative agent:

a. Pneumococcus

b. Candida fungi

c. Toxoplasma

d. Cytomegalovirus

e. Influenza virus

2144. The organisms to be identified have a nucleus surrounded by a nuclear membrane. Genetic

material is concentrated predominantly in the chromosomes which consist of DNA strands and protein molecules. These cells divide mitotically. Identify these organisms:

- a. Eukaryotes
- b. Prokaryotes
- c. Bacteria
- d. Viruses
- e. Bacteriophages

2145. A 37-year-old male patient developed pseudoarthrosis after a closed fracture of the femur. Specify the type of regeneration in the patient:

- a. -
- b. Pathological hypo-regeneration
- c. Reparative
- d. Pathological hyper-regeneration
- e. Physiological

2146. Nucleolar organizers of the 13-15, 21, 22 human chromosomes contain about 200 cluster genes that synthesize RNA. These regions of chromosomes bear the information on the following type of RNA:

- a. snRNA
- b. tRNA + rRNA
- c. tRNA
- d. mRNA
- e. rRNA

2147. The resuscitation unit has admitted a patient in grave condition. It is known that he had mistakenly taken sodium fluoride which blocks cytochrome oxidase. What type of hypoxia developed in the patient?

- a. Tissue
- b. Cardiovascular
- c. Respiratory
- d. Hypoxic
- e. Hemic

2148. Steatosis is caused by the accumulation of triacylglycerols in hepatocytes. One of the mechanisms of this disease development is a decrease in the utilization of VLDL neutral fat. What lipotropics prevent the development of steatosis?

- a. Valine, B3, B2
- b. Isoleucine, B1, B2
- c. Arginine, B2, B3
- d. Alanine, B1, PP
- e. Methionine, B6, B12

2149. A 2-year-old boy is diagnosed with Down syndrome. What chromosomal changes may be the cause of this disease?

- a. Trisomy 21
- b. Trisomy X
- c. Monosomy X
- d. Trisomy 18
- e. Trisomy 13

2150. A patient who has recently arrived from an endemic area presents with elevated body temperature, headache, chills, malaise, that is with the symptoms which are typical for a common cold. What laboratory tests are necessary to prove or to disprove the diagnosis of malaria?

- a. Urinalysis
- b. Study of lymph node punctate
- c. Microscopy of blood smears
- d. Study of cerebrospinal fluid

e. Microscopy of bone marrow punctate

2151. A patient has severe blood loss caused by an injury. What kind of dehydration will be observed in this particular case?

- a. Hyposmolar
- b. Normosmolar
- c. -
- d. Iso-osmolar**
- e. Hyperosmolar

2152. A 30-year-old patient has dyspnea fits, mostly at night. He has been diagnosed with bronchial asthma. What type of allergic reaction according to the Gell-Coombs classification is most likely in this case?

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

2153. Decarboxylation of glutamate induces production of gamma-aminobutyric acid (GABA) neurotransmitter. After breakdown, GABA is converted into a metabolite of the citric acid cycle, that is:

- a. Succinate**
- b. Malate
- c. Oxaloacetate
- d. Fumarate
- e. Citric acid

2154. An outbreak of an intestinal infection occurred in a kindergarten on the eve of New Year holidays. Bacteriological examination of patients' faeces didn't reveal any pathogenic bacteria. Electronmicroscopy revealed roundish structures with clear outer edges and a thick core resembling a wheel. Specify the most likely causative agent of this infection:

- a. Adenovirus
- b. E.coli
- c. P.vulgaris
- d. Rotavirus**
- e. Coxsacki-virus

2155. A smear of streptobacillus preparation stained by Ozheshko method has been studied microscopically with oil immersion. What structural feature of the bacteria has been studied?

- a. Capsule
- b. Inclusions
- c. Structure of cell wall
- d. Spores**
- e. Flagella

2156. After a road accident a victim has tachycardia, arterial blood pressure 130/90 mm Hg, tachypnoe, the skin is pale and dry, excitation of central nervous system is observed. What shock stage is the patient most likely in?

- a. Agony
- b. Erectile**
- c. Torpid
- d. Terminal
- e. Preshock (compensation stage)

2157. Autopsy has revealed shrunken kidneys weighing 50 mg, with finegrained surface and uniformly thinned substance. Microscopic investigation has shown the thickening of arteriole walls due to accumulation of homogeneous anhistic pink-coloured masses in them. Glomerules were

undersized, sclerotic, with atrophied tubules. What disease are these changes characteristic of?

- a. Pyelonephritis with kidney shrinkage
- b. Acute glomerulonephritis
- c. Membranous nephropathy
- d. Essential hypertension**
- e. Renal amyloidosis

2158. A fixed-run taxi passenger has a sudden and expressed attack of tachycardia. A doctor travelling by the same taxi has managed to slow down his heart rate by pressing upon the eyeballs and thus causing the following reflex:

- a. Dagnini-Aschner reflex**
- b. Holtz's reflex
- c. Frank-Starling mechanism
- d. Hering-Breuer reflex
- e. Bainbridge reflex

2159. Histological examination of biopsy samples taken from the thickened edges of a gastric ulcer revealed small clusters of small, markedly atypical hyperchromatic epithelial cells that were localized in the overdeveloped stroma. Specify the tumor:

- a. Adenocarcinoma
- b. Medullary carcinoma
- c. Scirrhus undifferentiated carcinoma**
- d. Undifferentiated sarcoma
- e. Adenoma

2160. A 10-year-old child was found to have a congenital hypoplasia of the left kidney. Ultrasound examination revealed that the right kidney was markedly enlarged and had regular shape. No functional disorders were revealed. Specify the process that developed in the right kidney:

- a. Metaplasia
- b. Vicarious hypertrophy**
- c. Hypertrophic growth
- d. Working hypertrophy
- e. Pseudohypertrophy

2161. In allergic diseases, a dramatic increase in basophilic leukocyte number in patients' blood is observed. This phenomenon is due to the following basophil function:

- a. Immunoglobulin synthesis
- b. Phagocytosis of microorganisms and small particles
- c. Participation of heparin and histamine in metabolism**
- d. Phagocytosis of immune complexes
- e. Participation in blood clotting

2162. A 47-year-old male patient developed intestinal colic against the background of essential hypertension. In this situation it would be most efficient to arrest the colic by using drugs of the following group:

- a. Sympathomimetics
- b. Anticholinesterase agents
- c. Myotropic antispasmodics**
- d. M-cholinomimetics
- e. Adrenomimetics

2163. A patient has been admitted to the contagious isolation ward with signs of jaundice caused by hepatitis virus. Which of the symptoms given below is strictly specific for hepatocellular jaundice?

- a. Hyperbilirubinemia
- b. Cholemia
- c. Urobilinuria
- d. Increase of ALT, AST level**
- e. Bilirubinuria

2164. An underage patient has signs of achondroplasia (dwarfism). It is known that this is a monogenic disease and the gene that is responsible for the development of such abnormalities is a dominant one. The development of that child's brother is normal. Specify the genotype of the healthy child:

- a. AABB
- b. aa**
- c. Aa
- d. AA
- e. AaBb

2165. A patient has acute bronchitis. The fever up to 38, 5°C had lasted for a week, presently there is a decrease in temperature down to 37, 0°C. Specify the leading mechanism in the 3rd stage of fever:

- a. Peripheral vasodilation**
- b. Development of chill
- c. Increased respiratory rate
- d. Increased diuresis
- e. Increased heat production

2166. A 35-year-old female patient has undergone biopsy of the breast nodules. Histological examination has revealed enhanced proliferation of the small duct and acini epithelial cells, accompanied by the formation of glandular structures of various shapes and sizes, which were located in the fibrous stroma. What is the most likely diagnosis?

- a. Adenocarcinoma
- b. Invasive ductal carcinoma
- c. Mastitis
- d. Fibroadenoma**
- e. Cystic breast

2167. At a bacteriological laboratory animal skins are analyzed by means of Ascoli precipitation test. What is detected if the reaction is positive?

- a. Anaerobic infection toxin
- b. Yersinia surface antigen
- c. Plague agent
- d. Anthrax agent antigens**
- e. Brucellosis agent

2168. Examination of the duodenal contents revealed some pear-shaped protozoa with two nuclei and four pairs of flagella. The organisms had also two axostyles between the nuclei and a ventral adhesive disc. What protozoan representative was found in the patient?

- a. Toxoplasma
- b. Intestinal trichomonad
- c. Trypanosome
- d. Lamblia**
- e. Leishmania

2169. A 36-year-old female patient has a history of B2-hypovitaminosis. The most likely cause of specific symptoms (epithelial, mucosal, cutaneous, corneal lesions) is the deficiency of:

- a. Flavin coenzymes**
- b. Cytochrome oxidase
- c. Cytochrome C
- d. Cytochrome B
- e. Cytochrome A1

2170. A 54-year-old female was brought to the casualty department after a car accident. A traumatologist diagnosed her with multiple fractures of the lower extremities. What kind of embolism is most likely to develop in this case?

- a. Gaseous
- b. Air**

- c. Tissue
- d. Thromboembolism

e. Fat

2171. A blood drop has been put into a test tube with 0,3% solution of NaCl. What will happen to erythrocytes?

- a. Shrinkage
- b. Any changes will be observed
- c. Biological haemolysis

d. Osmotic haemolysis

e. Mechanical haemolysis

2172. There are cortical and medullary substances separated by connective tissue layer in the endocrine gland specimen. Parenchyma cells make up three zones in cortical substance, with rounded masses in the superficial zone, parallel chords in the middle one, reticular structure of cell chords in the deep one. What gland is it?

- a. Epiphysis
- b. Hypothalamus
- c. Thyroid gland
- d. Pituitary gland

e. Adrenal gland

2173. Histological specimen of a 10-day human embryo represents 2 contacting sacs (amniotic and yolk sacs). Specify the structure that separates the amniotic cavity from the yolk sac:

- a. Amniotic stalk
- b. Roof of the yolk sac
- c. Extraembryonic mesoderm

d. Embryonic shield

e. Floor of the amniotic sac

2174. An electron micrograph shows a cell of neural origin. The terminal portion of the cell dendrite has cylindrical shape and consists of 1000 closed membrane disks. What cell is represented by the micrograph?

- a. Neuron of the cerebral cortex
- b. Neuron of the anterior horns of the spinal cord
- c. Cone receptor cell
- d. Spinal node neuron

e. Rod receptor cell

2175. Disruption of nerve fiber myelinogenesis causes neurological disorders and mental retardation. These symptoms are typical for hereditary and acquired alterations in the metabolism of:

- a. Neutral fats
- b. Cholesterol
- c. Phosphatidic acid

d. Sphingolipids

e. Higher fatty acids

2176. A patient underwent surgical removal of a cavitory liver lesion 2 cm in diameter. It was revealed that the cavity wall was formed by dense fibrous connective tissue; the cavity contained muddy, thick, yellowishgreenish fluid with an unpleasant odor. Microscopically, the fluid consisted mainly of polymorphonuclear leukocytes. What pathological process are these morphological changes typical for?

- a. Empyema
- b. -
- c. Acute abscess
- d. Phlegmon

e. Chronic abscess

2177. A patient complains of photoreception disorder and frequent acute viral diseases. He has been prescribed a vitamin that affects photoreception processes by producing rhodopsin, the photosensitive pigment. What vitamin is it?

- a. Tocopherol acetate
- b. Cyanocobalamin
- c. Thiamine
- d. Retinol acetate**
- e. Pyridoxine hydrochloride

2178. A 7-year-old boy got ill with diphtheria. On the third day he died of asphyxiation. At autopsy the mucosa of the larynx, trachea and bronchi had thickened, edematous, lustreless appearance and was covered with gray films which could be easily removed. Specify the type of laryngeal inflammation:

- a. Croupous**
- b. Purulent
- c. Intermediate
- d. Catarrhal
- e. Diphtheritic

2179. A child has a history of hepatomegaly, hypoglycemia, seizures, especially on an empty stomach and in stressful situations. The child is diagnosed with Gierke disease. This disease is caused by the genetic defect of the following enzyme:

- a. Phosphoglucomutase
- b. Amyloid-1,6-glycosidase
- c. Glucose-6-phosphatase**
- d. Glycogen phosphorylase
- e. Glucokinase

2180. A public utility specialist went down into a sewer well without protection and after a while lost consciousness. Ambulance doctors diagnosed him with hydrogen sulfide intoxication. What type of hypoxia developed?

- a. Circulatory
- b. Respiratory
- c. Overload
- d. Tissue
- e. Hemic**

2181. A child with a normal karyotype is diagnosed with cleft lip and hard palate, defects of the cardiovascular system, microcephaly. The child's mother suffered rubella during pregnancy. This pathology in the child may be an example of:

- a. Monosomy
- b. -
- c. Trisomy
- d. Phenocopy
- e. Genocopy**

2182. A 28-year-old patient undergoing treatment in the pulmonological department has been diagnosed with pulmonary emphysema caused by splitting of alveolar septum by tissular tripsin. The disease is caused by the congenital deficiency of the following protein:

- a. Transferrin
- b. α 1-proteinase inhibitor**
- c. Cryoglobulin
- d. α 2-macroglobulin
- e. Haptoglobin

2183. A patient with signs of osteoporosis and urolithiasis has been admitted to the endocrinology department. Blood test has revealed hypercalcemia and hypophosphatemia. These changes are associated with abnormal synthesis of the following hormone:

- a. Parathyroid hormone**

- b. Cortisol
- c. Calcitriol
- d. Aldosterone
- e. Calcitonin

2184. During a surgery for femoral hernia a surgeon operates within the boundaries of femoral trigone. What structure makes up its upper margin?

- a. Fascia lata
- b. Lig.inguinale**
- c. Lig.lacunare
- d. Arcus iliopectineus
- e. Lig. pectinale

2185. A 19-year-old victim has been delivered to the casualty department with a cut wound of the trapezius muscle. Which of the cervical fasciae forms a sheath for this muscle?

- a. Investing layer of cervical fascia**
- b. Visceral part of the pretracheal layer of cervical fascia
- c. Carotid sheath of cervical fascia
- d. Prevertebral layer of cervical fascia
- e. Muscular part of the pretracheal layer of cervical fascia

2186. A patient with acne has been prescribed doxycycline hydrochloride. What recommendations should be given to the patient, while he is taking this drug?

- a. Avoid long stay in the sun**
- b. Take before meal
- c. Do not take with vitamins
- d. The course of treatment should not exceed 1 day
- e. Take with large quantity of liquid, preferably milk

2187. A 30-year-old patient with a past history of virus B hepatitis complains of prolonged nosebleeds. What drug will be most efficient in remedying this condition?

- a. Vicasolum**
- b. Folic acid
- c. Asparcam
- d. Dipiridamol
- e. Fraxiparine

2188. A patient has arterial hypertension. What long-acting drug from the group of calcium channel blockers should be prescribed?

- a. Amlodipine**
- b. Pyrroxanum
- c. Reserpine
- d. Atenolol
- e. Octadine

2189. A patient has been diagnosed with ARVI. Blood serum contains immunoglobulin M. What is the stage of infection in this case?

- a. Carriage
- b. Acute**
- c. Incubation
- d. Prodromal
- e. Convalescence

2190. In a dysentery patient undergoing treatment in the contagious isolation ward, a significant increase in packed cell volume has been observed (60%). What other value will be affected by this change?

- a. Increasing erythrocyte sedimentation rate (ESR)
- b. Increasing blood viscosity**

- c. Leukopenia
- d. Increasing volume of blood circulation
- e. Thrombocytopenia

2191. A patient complains of palpitation after stress. The pulse is 104 bpm, P-Q is 0,12 seconds, there are no changes of QRS complex. What type of arrhythmia does the patient have?

- a. Ciliary arrhythmia
- b. Extrasystole
- c. Sinus bradycardia
- d. Sinus arrhythmia
- e. Sinus tachycardia**

2192. A 30-year-old patient has undergone keratoplasty in the transplantation center, cornea has been taken from a donor, who died in a road accident. What kind of transplantation was performed?

- a. Xenotransplantation
- b. Autotransplantation
- c. Allotransplantation**
- d. Explantation
- e. Heterotransplantation

2193. A 29-year-old male with a knife wound of neck presents with bleeding. During the initial dissection of the wound the surgeon revealed the injury of a vessel found along the lateral edge of the sternocleidomastoid muscle. Specify this vessel:

- a. V. jugularis externa**
- b. A. carotis externa
- c. V. jugularis interna
- d. A. carotis interna
- e. V. jugularis anterior

2194. A histologic specimen represents an organ with walls comprised of mucous, submucous, fibrocartilaginous and adventitial membranes. Epithelium is multirowed and ciliated, muscular layer of mucous membrane is absent, submucous membrane contains serous-mucous glands, hyaline cartilage forms open circles. What organ has the described morphological features?

- a. Tertiary bronchi (segmental bronchi)
- b. Terminal bronchiole
- c. Larynx
- d. Trachea**
- e. Secondary bronchi (lobar bronchi)

2195. In cancer patients who have been continuously receiving methotrexate, the target cells of tumor with time become insensitive to this drug. In this case, gene amplification of the following enzyme is observed:

- a. Thiaminase
- b. Thioredoxin reductase
- c. -
- d. Dihydrofolate reductase**
- e. Deaminase

2196. Pancreas is known as a mixed gland. Endocrine functions include production of insulin by beta cells. This hormone affects the metabolism of carbohydrates. What is its effect upon the activity of glycogen phosphorylase (GP) and glycogen synthase (GS)?

- a. It activates both GP and GS
- b. It activates GP and inhibits GS
- c. It does not affect the activity of GP and GS
- d. It inhibits GP and activates GS**
- e. It inhibits both GP and GS

2197. A patient has the oxyhemoglobin dissociation curve shifted to the left. What blood changes

induce this condition?

- a. Acidosis, hypocapnia, temperature rise
- b. -
- c. Acidosis, hypercapnia, temperature rise
- d. Acidosis, hypercapnia, temperature drop
- e. Alkalosis, hypocapnia, temperature drop**

2198. Administration of doxycycline hydrochloride caused an imbalance of the symbiotic intestinal microflora. Specify the kind of imbalance caused by the antibiotic therapy:

- a. Superimposed infection
- b. Bacteriosis
- c. Sensibilization
- d. Idiosyncrasy
- e. Dysbacteriosis**

2199. A patient with signs of emotional lability that result in troubled sleep has been prescribed nitrazepam. Specify the sleep-inducing mechanism of this drug:

- a. Inhibition of stimulating amino acids
- b. Blockade of opiate receptors
- c. GABA-ergic system activation**
- d. H1-histamine receptors stimulation
- e. Suppression of serotonergic neurotransmission

2200. A patient has been found to have a marked dilatation of saphenous veins in the region of anterior abdominal wall around the navel. This is symptomatic of pressure increase in the following vessel:

- a. V. cava superior
- b. V. mesenterica inferior
- c. V. mesenterica superior
- d. V. portae hepatis**
- e. V. cava inferior

2201. Characteristic sign of glycogenosis is muscle pain during physical work. Blood examination usually reveals hypoglycemia. This pathology is caused by congenital deficiency of the following enzyme:

- a. Lysosomal glycosidase
- b. Glycogen phosphorylase**
- c. Alpha-amylase
- d. Glucose 6-phosphate dehydrogenase
- e. Gamma-amylase

2202. Histologic specimen of a kidney demonstrates cells closely adjoined to the renal corpuscle in the distal convoluted tubule. Their basement membrane is extremely thin and has no folds. These cells sense the changes in sodium content of urine and influence renin secretion occurring in juxtaglomerular cells. Name these cells:

- a. Juxtaglomerular cells
- b. Podocytes
- c. Glomerular capillary endothelial cells
- d. Macula densa cells**
- e. Mesangial cells

2203. A 46-year-old female patient has continuous history of progressive muscular (Duchenne's) dystrophy. Which blood enzyme changes will be of diagnostic value in this case?

- a. Adenylate cyclase
- b. Creatine phosphokinase**
- c. Pyruvate dehydrogenase
- d. Lactate dehydrogenase
- e. Glutamate dehydrogenase

2204. A laboratory experiment on a dog was used to study central parts of auditory system. One of the mesencephalon structures was destroyed. The dog has lost the orienting response to auditory signals. What structure was destroyed?

- a. Superior colliculi of corpora quadrigemina
- b. Reticular formation nuclei
- c. Red nucleus
- d. Inferior colliculi of corpora quadrigemina**
- e. Substantia nigra

2205. A patient has decreased concentration of magnesium ions that are required for ribosomes connection to granular endoplasmic reticulum. This condition is known to disrupt the process of protein biosynthesis. Disruption occurs at the following stage:

- a. Replication
- b. Transcription
- c. Translation**
- d. Amino acids activation
- e. Processing

2206. A 6-year-old child with suspected active tuberculous process has undergone diagnostic Mantoux test. What immunobiological preparation was injected?

- a. DTP vaccine
- b. BCG vaccine
- c. Tuberculin**
- d. Tularinum
- e. Td vaccine

2207. During postembryonal haemopoiesis in red bone marrow the cells of one of the cellular differons demonstrate gradual decrease in cytoplasmic basophilia as well as increase in oxyphilia, the nucleus is being forced out. Such morphological changes are typical for the following haemopoiesis type:

- a. Lymphopoiesis
- b. Eosinophil cytopoiesis
- c. Basophil cytopoiesis
- d. Erythropoiesis**
- e. Neutrophil cytopoiesis

2208. When taking exams students often have dry mouth. The mechanism that causes this state results from the following reflexes:

- a. Unconditioned parasympathetic
- b. Unconditioned sympathetic
- c. Unconditioned peripheral
- d. Conditioned sympathetic**
- e. Conditioned parasympathetic

2209. A 67-year-old patient with clinical diagnosis of chronic bronchitis, pneumosclerosis, and cardiopulmonary decompensation has the biopsy material taken from the suspicious area in his right bronchus mucosa. Cellular and tissue atypism along with pearly bodies can be histologically detected. What pathologic process is characterized by the described histological changes?

- a. Squamous cell metaplasia of bronchial mucosa
- b. Squamous cell carcinoma of bronchus with keratinization**
- c. Bronchiectasis
- d. Polypoid chronic bronchitis
- e. Acute bronchitis

2210. A microspecimen of heart shows rectangular cells from 50 to 120 micrometers large with central position of nucleus and developed myofibrils. The cells are connected by intercalated discs. These cells are responsible for the following function:

- a. Function of heart contractions**

- b. Endocrine
- c. Regenerative
- d. Protective
- e. Function of impulse conduction

2211. Untrained people often have muscle pain after sprints as a result of lactate accumulation. This can be caused by intensification of the following biochemical process:

- a. Glycolysis**
- b. Pentose phosphate pathway
- c. Glycogenesis
- d. Lipogenesis
- e. Gluconeogenesis

2212. Poisoning caused by botulinum toxin that prevents calcium ions from entering axon nerve endings of motoneurons is life-threatening because it can lead to:

- a. Vomiting
- b. Diarrhea
- c. Cardiac arrest
- d. Vasotonic disorder
- e. Respiratory arrest**

2213. Increased HDL levels decrease the risk of atherosclerosis. What is the mechanism of HDL anti-atherogenic action?

- a. They promote absorption of cholesterol in the intestine
- b. They remove cholesterol from tissues**
- c. They are involved in the breakdown of cholesterol
- d. They supply tissues with cholesterol
- e. They activate the conversion of cholesterol to bile acids

2214. It has been found out that one of a pesticide components is sodium arsenate that blocks lipoic acid. Which enzyme activity is impaired by this pesticide?

- a. Methemoglobin reductase
- b. Microsomal oxidation
- c. Pyruvate dehydrogenase complex**
- d. Glutathione peroxidase
- e. Glutathione reductase

2215. A 35-year-old man with peptic ulcer disease has undergone antrectomy. After the surgery secretion of the following gastrointestinal hormone will be disrupted the most:

- a. Cholecystokinin
- b. Neurotensin
- c. Histamine
- d. Secretin
- e. Gastrin**

2216. Atretic bodies and developed yellow body can be observed along with follicles of various orders in an ovary specimen. What stage of ovarian and menstrual cycle is characterized by the described ovary condition?

- a. Menstrual
- b. Regeneration
- c. Follicle growth
- d. Premenstrual**
- e. Postmenstrual

2217. A 16-year-old adolescent is diagnosed with hereditary UDP (uridine diphosphate) glucuronyltransferase deficiency. Laboratory tests revealed hyperbilirubinemia caused mostly by increased blood content of the following substance:

- a. Unconjugated bilirubin**

- b. Urobilinogen
- c. Biliverdine
- d. Stercobilinogen
- e. Conjugated bilirubin

2218. Prior to glucose utilization in cells it is transported inside cells from extracellular space through plasmatic membrane. This process is stimulated by the following hormone:

- a. Glucagon
- b. Aldosterone
- c. Adrenalin
- d. Insulin**
- e. Thyroxin

2219. After implantation of a cardiac valve a young man systematically takes indirect anticoagulants. His state was complicated by hemorrhage. What substance content has decreased in blood?

- a. Haptoglobin
- b. Creatin
- c. Ceruloplasmin
- d. Prothrombin**
- e. Heparin

2220. A 12-year-old patient has white nonpigmented spots on the skin. The spots appeared after the patient became 10 years old, and they constantly grow. This spots appeared due to the lack of the following skin cells:

- a. Adipocytes
- b. Plasmocytes
- c. Labrocytes
- d. Melanocytes**
- e. Fibrocytes

2221. A group of Ukrainian tourists returning from Samarqand was bringing with them gerbils. During examination in customs office ulcers were detected on the skin of the animals. What protozoa is the most likely to cause the disease in the animals, if mosquitos are the carriers?

- a. Toxoplasma gondii
- b. Leishmania tropica major**
- c. Plasmodium falciparum
- d. Balantidium coli
- e. Trypanosoma cruzi

2222. A 5-year-old child has been diagnosed with acute right distal pneumonia. Sputum inoculation revealed that the causative agent is resistant to penicillin and sensitive to macrolides. What drug should be prescribed?

- a. Tetracycline
- b. Streptomycin
- c. Ampicillin
- d. Azithromycin**
- e. Gentamycin

2223. To an emergency ward a 7-year-old child was delivered in the condition of allergic shock caused by a bee sting. High concentration of histamine is observed in blood. Production of this amine is the result of the following reaction:

- a. Decarboxylation**
- b. Dehydrogenation
- c. Reduction
- d. Deamination
- e. Hydroxylation

2224. A 65-year-old man suffering from gout complains of pain in his kidneys. Ultrasonic examination

revealed kidney stones. A certain substance in increased concentration can cause kidney stones formation. Name this substance:

- a. Bilirubin
- b. Cholesterol
- c. Uric acid**
- d. Urea
- e. Cystine

2225. Sex chromatin was detected during examination of a man's buccal epithelium. It is characteristic of the following chromosome disease:

- a. Down's disease
- b. Triple X syndrome
- c. Hypophosphatemic rickets
- d. Klinefelter's syndrome**
- e. Turner's syndrome

2226. Pure culture of microorganisms was obtained from pharynx of a child with suspected diphtheria. Morphologic, tinctorial, cultural, and biochemical properties of the microorganisms were studied and revealed to be characteristic of diphtheria agents. What investigation should be additionally performed to make a conclusion, that these microorganisms are pathogenic diphtheria bacilli?

- a. Determine proteolytic properties
- b. Determine cystinase activity
- c. Determine amylolytic activity
- d. Determine toxigenic properties**
- e. Determine urease activity

2227. Autopsy of a man who had tuberculosis revealed a 3x2 cm large cavity in the superior lobe of the right lung. The cavity was interconnected with a bronchus, its wall was dense and consisted of three layers: the internal layer was pyogenic, the middle layer was made of tuberculous granulation tissue and the external one was made of connective tissue. What is the most likely diagnosis?

- a. Fibrous focal tuberculosis
- b. Acute focal tuberculosis
- c. Acute cavernous tuberculosis
- d. Fibrous cavernous tuberculosis**
- e. Tuberculoma

2228. A 7-year-old child has acute onset of disease: temperature rise up to 38°C, rhinitis, cough, lacrimation, and large-spot rash on the skin. Pharyngeal mucosa is edematous, hyperemic, with whitish spots in the buccal area. What kind of inflammation causes the changes in the buccal mucosa?

- a. Suppurative inflammation
- b. Hemorrhagic inflammation
- c. Serous inflammation
- d. Catarrhal inflammation**
- e. Fibrinous inflammation

2229. Analysis of sputum taken from a patient with suspected pneumonia revealed slightly elongated gram-positive diplococci with pointed opposite ends. What microorganisms were revealed in the sputum?

- a. Staphylococcus aureus
- b. Neisseria meningitidis
- c. Neisseria gonorrhoeae
- d. Streptococcus pneumoniae**
- e. Klebsiella pneumoniae

2230. Serological diagnostics of infectious diseases is based upon specific interaction with antigens. Specify the serological reaction that underlies adhesion of microorganisms when they are affected by

specific antibodies in presence of an electrolyte:

- a. Hemadsorption reaction
- b. Neutralization reaction
- c. Precipitation reaction
- d. Complement-binding reaction
- e. Agglutination reaction**

2231. A 4-year-old child was admitted to an orthopaedic department with displaced shin fracture. Bone fragments reposition requires analgesia. What drug should be chosen?

- a. Promedol**
- b. Morphine hydrochloride
- c. -
- d. Panadol
- e. Analgin

2232. Doctors make mostly radial incisions during mammary gland surgery. What particulars of anatomical organization make such surgical technique preferable?

- a. Lobe bases radiate from nipples
- b. Vertical position of gland lobes
- c. -
- d. Lobe apices converge towards nipples**
- e. Transversal position of gland lobes

2233. A 41-year-old man has a history of recurrent attacks of heartbeats (paroxysms), profuse sweating, headaches. Examination revealed hypertension, hyperglycemia, increased basal metabolic rate, and tachycardia. These clinical presentations are typical for the following adrenal pathology:

- a. Hyperfunction of the medulla**
- b. Hyperfunction of the adrenal cortex
- c. Primary aldosteronism
- d. Hypofunction of the adrenal cortex
- e. Hypofunction of the medulla

2234. A 12-year-old child has developed nephritic syndrome (proteinuria, hematuria, cylindruria) 2 weeks after the case of tonsillitis, which is a sign of affected glomerular basement membrane in the kidneys. What mechanism is the most likely to cause the basement membrane damage?

- a. Cytotoxic
- b. Immune complex**
- c. Antibody-mediated
- d. Granulomatous
- e. Reaginic

2235. Several minutes after a dentist administered novocaine for local anaesthesia of a patient's tooth, the following symptoms sharply developed in the patient: fatigue, skin itching. Objectively the following can be observed: skin hyperemia, tachycardia, BP dropped down to 70/40 mm Hg. What kind of allergic reaction is this pathology?

- a. Cell-mediated immune reaction
- b. Immune complex
- c. Cytotoxic
- d. Stimulating
- e. Anaphylactic**

2236. A patient with probable liver abscess was delivered to a surgical department. The patient for a long time had been on an assignment in an African country and had recurrent cases of acute gastrointestinal disturbance. What protozoan disease can it be?

- a. Leishmaniasis
- b. Trypanosomiasis
- c. Amebiasis**
- d. Malaria

e. Toxoplasmosis

2237. Work in a mine is known to cause inhalation of large amounts of coal dust. Inhaled coal dust can be detected in the following pulmonary cells:

- a. Pericapillary cells
- b. Alveolar macrophages**
- c. Secretory epithelial cells
- d. Respiratory epithelial cells
- e. Capillary endothelial cells

2238. Electrical activity of neurons is being measured. They fire prior to and at the beginning of inhalation. Where are these neurons situated?

- a. Spinal cord
- b. Cerebral cortex
- c. Diencephalon
- d. Mesencephalon
- e. Medulla oblongata**

2239. Electrocardiogram analysis demonstrates that cardiac cycle of a human equals 1 second. It means that heart rate per minute equals:

- a. 70
- b. 50
- c. 60**
- d. 80
- e. 100

2240. Glomerular filtration of a person, who has been starving for a long time, has increased by 20%. The most likely cause of filtration changes in the given conditions is:

- a. Increase of renal plasma flow
- b. Decrease of blood plasma oncotic pressure**
- c. Increase of renal filter permeability
- d. Increase of systemic blood pressure
- e. Increase of filtration factor

2241. Cells of healthy liver actively synthesize glycogen and proteins. What organelles are the most developed in them?

- a. Cell center
- b. Mitochondria
- c. Peroxisomes
- d. Granular and agranular endoplasmic reticulum**
- e. Lysosomes

2242. Atria of an experimental animal were superdistended with blood, which resulted in decreased reabsorption of Na^+ and water in renal tubules. This can be explained by the influence of the following factor on kidneys:

- a. Aldosterone
- b. Angiotensin
- c. Vasopressin
- d. Natriuretic hormone**
- e. Renin

2243. A patient with hypertensive crisis has increased content of angiotensin II in blood. Angiotensin pressor effect is based on:

- a. Vasopressin production stimulation
- b. Activation of kinin-kallikrein system
- c. Activation of biogenic amine synthesis
- d. Prostaglandin hyperproduction
- e. Contraction of arteriole muscles**

2244. A 43-year-old-patient has arterial hypertension caused by increase in cardiac output and general peripheral resistance. Specify the variant of hemodynamic development of arterial hypertension in the given case:

- a. Hypokinetic
- b. Hyperkinetic
- c. Eukinetic**
- d. Combined
- e. -

2245. A patient has been hospitalised with provisional diagnosis of virus B hepatitis. Serological reaction based on complementation of antigen with antibody chemically bound to peroxidase or alkaline phosphatase has been used for disease diagnostics. Name this serological reaction:

- a. Bordet-Gengou test
- b. Antigen-binding assay
- c. Radioimmunoassay technique
- d. Immunofluorescence test
- e. Immune-enzyme analysis**

2246. A surgeon has to find the common hepatic duct during operative intervention for treatment of concrements in the gall ducts. The common hepatic duct is located between the leaves of:

- a. Venous ligament
- b. Hepatoduodenal ligament**
- c. Hepatorenal ligament
- d. Hepatogastric ligament
- e. Round ligament of liver

2247. It is known that the gene responsible for development of blood groups according to AB0 system has three allele variants. Existence of the IV blood group can be explained by the following variability form:

- a. Genocopy
- b. Phenocopy
- c. Mutational
- d. Phenotypic
- e. Combinative**

2248. When measuring power inputs of a person by the method of indirect calorimetry the following results were obtained: oxygen consumption is 1000 ml and carbon dioxide production is 800 ml per minute. The person under examination has the following respiratory coefficient:

- a. 1,25
- b. 0,84
- c. 1,0
- d. 0,8**
- e. 0,9

2249. On examination of a newborn boy's external genitalia a fissure in the urethra opening on the inferior surface of his penis is detected. What maldevelopment is it?

- a. Monorchism
- b. Cryptorchidism
- c. Hermaphroditism
- d. Epispadia
- e. Hypospadias**

2250. Poisoning caused by mercury (II) chloride (corrosive sublimate) occurred in the result of safety rules violation. In 2 days the patient's diurnal diuresis became 620 ml. The patient developed headache, vomiting, convulsions, dyspnea; moist crackles are observed in the lungs. Name this pathology:

- a. Glomerulonephritis
- b. Pyelonephritis

- c. Chronic renal failure
- d. Uremic coma

e. Acute renal failure

2251. For people adapted to high external temperatures profuse sweating is not accompanied by loss of large volumes of sodium chloride. This is caused by the effect the following hormone has on the perspiratory glands:

a. Aldosterone

- b. Cortisol
- c. Natriuretic
- d. Thyroxin
- e. Vasopressin

2252. Along with normal hemoglobin types there can be pathological ones in the organism of an adult. Name one of them:

- a. HbA2
- b. HbO2
- c. HbF
- d. HbA1

e. HbS

2253. Emotional stress causes activation of hormon-sensitive triglyceride lipase in the adipocytes. What secondary mediator takes part in this process?

- a. Adenosine monophosphate
- b. Cyclic guanosine monophosphate

c. Cyclic adenosine monophosphate

- d. Diacylglycerol
- e. Ions of Fe²⁺

2254. A patient has been diagnosed with alkaptonuria. Choose an enzyme that can cause this pathology when deficient:

a. Dioxyphenylalanine decarboxylase

b. Homogentisic acid oxidase

- c. Glutamate dehydrogenase
- d. Phenylalanine hydroxylase
- e. Pyruvate dehydrogenase

2255. As a result of a continuous chronic encephalopathy a patient has developed spontaneous motions and disorder of torso muscle tone. These are the symptoms of the disorder of the following conduction tract:

- a. Tractus corticospinalis
- b. Tractus spinothalamicus
- c. Tractus tectospinalis

d. Tractus rubrospinalis

e. Tractus corticonuclearis

2256. A child is 10 years old. The following presentations have developed: sharp pain during swallowing, swollen neck, body temperature rise up to 39,0°C, bright-red finely papular rash all over the body. Pharynx and tonsils are sharply hyperemic ("flaming pharynx"), "crimson tongue". On the tonsils surface there are isolated greyish necrosis focuses. What disease it might be?

- a. Meningococcal nasopharyngitis
- b. Influenza
- c. Measles

d. Scarlet fever

e. Diphtheria

2257. A patient suffers from intermittent fevers and normalizations of body temperature that occur during the day. The temperature rise is observed regularly every fourth day. Specify the type of

temperature curve:

- a. Febris continua
- b. Febris hectica
- c. Febris remittens
- d. Febris intermittens**
- e. Febris recurrens

2258. A woman with the III (B), Rh– blood group gave birth to a child with the II (A) blood group. The child is diagnosed with hemolytic disease of newborn caused by rhesus incompatibility. What blood group and Rh can the father have?

- a. III (B), Rh+
- b. I (O), Rh+
- c. II (A), Rh+**
- d. I (O), Rh–
- e. II (A), Rh–

2259. A patient is diagnosed with hereditary coagulopathy that is characterised by factor VIII deficiency. Specify the phase of blood clotting during which coagulation will be disrupted in the given case:

- a. Thrombin formation
- b. Clot retraction
- c. –
- d. Thromboplastin formation**
- e. Fibrin formation

2260. Angiocardiology of a 60-year-old man revealed constriction of the vessel located in the left coronary sulcus of his heart. Name this pathological vessel:

- a. Ramus interventricularis anterior
- b. Ramus circumflexus**
- c. A. coronaria dextra
- d. Ramus interventricularis posterior
- e. V. cordis parva

2261. A patient complains of pain in the right lateral abdomen. Palpation revealed a dense, immobile, tumor-like formation. The tumor is likely to be found in the following part of the digestive tube:

- a. Colon descendens
- b. Colon transversum
- c. Colon ascendens**
- d. Colon sigmoideum
- e. Caecum

2262. During regular check-up a child is detected with interrupted mineralization of the bones. What vitamin deficiency can be the cause?

- a. Cobalamin
- b. Calciferol**
- c. Tocopherol
- d. Riboflavin
- e. Folic acid

2263. During histological analysis of the lymph node situated in the posterior neck triangle of an 18-year-old patient a morphologist detected a cluster of cells including the following: isolated multinucleate Reed-Sternberg cells, large and small Hodgkin's cells and numerous lymphocytes, isolated plasma cells, eosinophils. What disease has developed in the patient?

- a. Lymphogranulomatosis**
- b. Burkitt's lymphoma
- c. Chronic lymphocytic leukemia
- d. Lymphocytic lymphoma
- e. Nodular lymphoma

2264. An infant has pylorospasm, weakness, hypodynamia, convulsions as a result of frequent vomiting. What kind of acid-base disbalance is it?

- a. Excretory acidosis
- b. Exogenous nongaseous acidosis
- c. Gaseous alkalosis
- d. Excretory alkalosis**
- e. Metabolic acidosis

2265. A 39-year-old man who had been operated for the stomach ulcer died 7 days after the surgery. Autopsy revealed that peritoneal leaves were dull, plephoric, covered with massive yellow-greenish films, the peritoneal cavity contained about 300 ml of thick yellow-greenish liquid. What pathologic process was revealed in the peritoneal cavity?

- a. Fibrinous haemorrhagic peritonitis
- b. Fibrinous suppurative peritonitis**
- c. Fibrinous serous peritonitis
- d. Serous peritonitis
- e. Peritoneal commissures

2266. Monoamine oxidase inhibitors are widely used as psychopharmacological drugs. They change the level of nearly all neurotransmitters in synapses, with the following neurotransmitter being the exception:

- a. Acetylcholine**
- b. Adrenaline
- c. Serotonin
- d. Dopamine
- e. Noradrenaline

2267. A patient with urolithiasis has developed severe pain attacks. For pain shock prevention he was administered an antispasmodic narcotic analgesic along with atropine. Name this drug:

- a. Promedol**
- b. Tramadol
- c. Morphine hydrochloride
- d. Ethylmorphine hydrochloride
- e. Nalorphine

2268. A patient with acute myocardial infarction has been administered heparin as a part of complex therapy. Some time after heparin injection the patient developed hematuria. What heparin antagonist should be injected to remove the complication?

- a. Neodicumarin
- b. Fibrinogen
- c. Vicasol
- d. Aminocaproic acid
- e. Protamine sulfate**

2269. A 37-year-old woman complains of headache, vertigo, troubled sleep, numbness of limbs. For the last 6 years she has been working at a gas-discharge lamp-producing factory in a lead-processing shop. Blood test findings: low hemoglobin and RBC level, serum iron concentration exceeds the norm by several times. Specify the type of anemia:

- a. Minkowsky-Shauffard disease
- b. Iron-deficiency anemia
- c. Iron refractory anemia**
- d. Hypoplastic anemia
- e. Metaplastic anemia

2270. Despite the administration of cardiotonics and thiazide diuretic a patient with chronic heart failure has persistent edemas and the risk of ascites arose. What medication should be administered to enhance the diuretic effect of the administered drugs?

- a. Amiloride

b. Furosemide

c. Spironolactone

d. Clopamide

e. Manithol

2271. Acute renal impairment caused death of a patient with hemorrhage. Autopsy revealed enlarged kidneys with broad palepink cortical layer expressively demarcated from dark-red renal pyramids. Macroscopic examination revealed lack of epithelial nuclei of convoluted tubules, tubulorrhexis, phlebostasis. The cell nuclei of choroid glomus and straight tubules were present. What pathology is it?

a. Nephrosis

b. Necronephrosis

c. Glomerulonephritis

d. Infarction

e. Pyelonephritis

2272. A 3-year-old child with meningeal symptoms died. Postmortem macroscopy of the pia matter revealed miliary nodules which were microscopically represented by a focus of caseous necrosis with masses of epithelioid and lymphoid cells with large cells containing crescent-shaped peripheral nuclei situated between them. Specify the type of meningitis in the child:

a. Syphilitic

b. Grippal

c. Meningococcal

d. Tuberculous

e. Brucellar

2273. A 66-year-old woman had intravenous injection of magnesium sulfate solution to stop hypertensive crisis. However her arterial pressure did not decrease and after repeated introduction of the same preparation she developed sluggishness, slow response to stimuli; the patient is unconsciousness and her respiration is inhibited. What preparation is antagonist of magnesium sulfate and can remove the symptoms of its overdose?

a. Potassium permanganate

b. Calcium chloride

c. Sodium chloride

d. Potassium chloride

e. Activated carbon

2274. A patient working at a pig farm complains of paroxysmal abdominal pain, liquid feces with mucus and blood, headache, weakness, fever. Examination of large intestine revealed ulcers from 1 mm up to several cm in diameter, feces contained oval unicellular organisms with cilia. What disease can be suspected?

a. Amebiasis

b. Lambliasis

c. Trichomoniasis

d. Balantidiasis

e. Toxoplasmosis

2275. An unconscious patient was delivered by ambulance to the hospital. On objective examination the patient was found to present no reflexes, periodical convulsions, irregular breathing. After laboratory examination the patient was diagnosed with hepatic coma. Disorders of the central nervous system develop due to accumulation of the following metabolite:

a. Urea

b. Bilirubin

c. Histamine

d. Ammonia

e. Glutamine

2276. When playing a child received a hit to the presternum region. As a result of this trauma an

organ located behind the presternum was damaged. Name this organ:

- a. Heart
- b. Thyroid gland
- c. Thymus**
- d. Pericardium
- e. Larynx

2277. A child suffers from dry cough. What non-narcotic antitussive drug will relieve the patient's condition?

- a. Althaea officinalis root extract
- b. Glaucine hydrochloride**
- c. Morphine hydrochloride
- d. Codeine phosphate
- e. Potassium iodide

2278. A patient complains of acute pain attacks in the right lumbar region. During examination a nephrolithic obturation of the right ureter in the region between its abdominal and pelvic segments has been detected. What anatomical boundary exists between those two segments?

- a. Linea inguinalis
- b. Linea terminalis**
- c. Linea arcuata
- d. Linea semilunaris
- e. Linea transversa

2279. A patient has insufficient blood supply to the kidneys, which has caused the development of pressor effect due to constriction of arterial resistance vessels. This condition results from the vessels being strongly affected by the following substance:

- a. Angiotensinogen
- b. Catecholamines
- c. Norepinephrine
- d. Angiotensin II**
- e. Renin

2280. In a village a case of anthrax has been registered. Medical services began epidemiologically indicated specific prophylaxis of population against anthrax. What preparation was used for this purpose?

- a. Anatoxin
- b. Live vaccine**
- c. Chemical vaccine
- d. Inactivated vaccine
- e. Genetically engineered vaccine

2281. Experimental stimulation of the sympathetic nerve branches that innervate the heart caused an increase in the force of heart contractions because the membrane of typical cardiomyocytes permitted an increase in:

- a. Potassium ion entry
- b. Calcium and potassium ion exit
- c. Calcium ion exit
- d. Potassium ion exit
- e. Calcium ion entry**

2282. According to the results of glucose tolerance test a patient has no disorder of carbohydrate tolerance. Despite that glucose is detected in the patients's urine (5 mmol/l). The patient has been diagnosed with renal diabetes. What renal changes cause glucosuria in this case?

- a. Increased glucose filtration
- b. Decreased activity of glucose reabsorption enzymes**
- c. Exceeded glucose reabsorption threshold
- d. Increased activity of glucose reabsorption enzymes

e. Increased glucose secretion

2283. Alveolar space of acinus was invaded by bacteria that interacted with the surfactant. This led to the activation of the cells that are localized in the alveolar walls and on the surface. Name these cells:

- a. Alveolocytes type I
- b. Clara cells
- c. Alveolocytes type II
- d. Alveolar macrophages**
- e. Endothelial cells

2284. Parents of a 5-year-old boy report him to have frequent colds that develop into pneumonias, presence of purulent rashes on the skin. Laboratory tests have revealed the following: absence of immunoglobulins of any type, and naked cells are absent from the lymph nodes punctate. What kind of immune disorder is it?

- a. Louis-Barr syndrome
- b. X-linked hypogammaglobulinemia (Bruton type agammaglobulinemia)**
- c. Hypoplastic anemia
- d. Autosomal recessive agammaglobulinaemia (Swiss type)
- e. Agranulocytosis

2285. Examination of a 42-year-old patient revealed a tumour of adenohypophysis. Objectively: the patient's weight is 117 kg, he has moon-like hyperemic face, redblue striae of skin distension on his belly. Osteoporosis and muscle dystrophy are present. AP is 210/140 mm Hg. What is the most probable diagnosis?

- a. Diabetes mellitus
- b. Essential hypertension
- c. Cushing's syndrome
- d. Conn's disease
- e. Cushing's disease**

2286. 2 days after labour a woman developed shock along with DIC syndrome that caused her death. Autopsy revealed purulent endomyometritis, regional purulent lymphangitis, lymphadenitis and purulent thrombophlebitis. There were also dystrophic alterations and interstitial inflammation of parenchymal organs. What is the most likely diagnosis?

- a. Chorioadenoma destruens
- b. Hydatid mole
- c. Syphilis
- d. Tuberculosis of genital organs
- e. Septicemia**

2287. In case of alkaptonuria, homogentisic acid is excreted in urine in large amounts. The development of this disease is associated with metabolic disorder of the following amino acid:

- a. Alanine
- b. Phenylalanine
- c. Tyrosine**
- d. Methionine
- e. Asparagine

2288. When blood circulation in the damaged tissue is restored, lactate accumulation stops and glucose consumption decelerates. These metabolic changes are caused by activation of the following process:

- a. Gluconeogenesis
- b. Glycogen biosynthesis
- c. Anaerobic glycolysis
- d. Lipolysis
- e. Aerobic glycolysis**

2289. A doctor examined a patient, studied the blood analyses, and reached a conclusion, that

peripheral immunogenesis organs are affected. What organs are the most likely to be affected?

- a. Thymus
- b. Red bone marrow
- c. Yellow bone marrow
- d. Tonsils**
- e. Kidneys

2290. A doctor asked a patient to make a deep exhalation after a normal inhalation. What muscles contract during such exhalation?

- a. External intercostal muscles
- b. Trapezius muscles
- c. Pectoral muscles
- d. Abdominal muscles**
- e. Diaphragm

2291. A 4-year-old child with hereditary renal lesion has signs of rickets; vitamin D concentration in blood is normal. What is the most probable cause of rickets development?

- a. Hypofunction of parathyroid glands
- b. Lack of calcium in food
- c. Increased excretion of calcium
- d. Hyperfunction of parathyroid glands
- e. Impaired synthesis of calcitriol**

2292. In a cat with decerebrate rigidity the muscle tone is to be decreased. This can be achieved by:

- a. Stimulation of the otolithic vestibular receptors
- b. Stimulation of the vestibulocochlear nerve
- c. Stimulation of the ampullar vestibular receptors
- d. Destruction of the vestibular nuclei of Deiters**
- e. Stimulation of the vestibular nuclei of Deiters

2293. Autopsy of a 5-year-old child revealed in the area of vermis of cerebellum a soft greyish-pink node 2 cm in diameter with blurred margins and areas of haemorrhage. Histologically this tumour consisted of atypical monomorphous small round cells with large polymorphous nuclei. What tumour is it?

- a. Oligodendroglioma
- b. Medulloblastoma**
- c. Glioblastoma
- d. Meningioma
- e. Astrocytoma

2294. Surface with an intact toad on it was inclined to the right. Tone of extensor muscles became reflexory higher due to the activation of the following receptors:

- a. Proprioceptors
- b. Vestibuloreceptors of utricle and saccule**
- c. Mechanoreceptors of foot skin
- d. Vestibuloreceptors of semicircular ducts
- e. Photoreceptors of retina

2295. A patient with high-titer antinuclear antibodies died from progressing renal impairment. Autopsy revealed mesangioproliferative glomerulonephritis and abacterial polypous endocarditis. Periarterial bulbar sclerosis was detected in spleen and productive proliferative vasculitis in skin. What is the most likely diagnosis?

- a. Systemic lupus erythematosus**
- b. Rheumatism
- c. Periarthritis nodosa
- d. Dermatomyositis
- e. Nephrotic syndrome

2296. When studying the signs of pulmonary ventilation, reduction of forced expiratory volume has been detected. What is the likely cause of this phenomenon?

a. Obstructive pulmonary disease

- b. Increase of inspiratory reserve volume
- c. Increase of functional residual lung capacity
- d. Increase of pulmonary residual volume
- e. Increase of respiratory volume

2297. A specimen of a parenchymal organ shows poorly delineated hexagonal lobules surrounding a central vein, and the interlobular connective tissue contains embedded triads (an artery, a vein and an excretory duct). What organ is it?

- a. Spleen
- b. Thyroid
- c. Pancreas
- d. Thymus

e. Liver

2298. A patient had a trauma that caused dysfunction of motor centres regulating activity of head muscles. In what parts of cerebral cortex can the respective centre normally be located?

- a. Superior parietal lobule
- b. Angular gyrus
- c. Superior part of precentral gyrus
- d. Supramarginal gyrus

e. Inferior part of precentral gyrus

2299. During intravenous saline transfusion a patient's condition deteriorated drastically, and the patient died from asphyxiation. Autopsy revealed acute venous congestion of internal organs with sharp right heart dilatation. When the right ventricle was punctured underwater, the bubbles escaped. What pathological process occurred in the patient?

- a. Adipose embolism
- b. Gaseous embolism

c. Air embolism

- d. Tissue embolism
- e. Thromboembolism

2300. Diseases of respiratory system and circulatory disorders impair the transport of oxygen, thus causing hypoxia. Under these conditions the energy metabolism is carried out by anaerobic glycolysis. As a result, the following substance is generated and accumulated in blood:

a. Fumaric acid

b. Lactic acid

- c. Glutamic acid
- d. Pyruvic acid
- e. Citric acid

2301. Examination of a 6-month-old child revealed a delay in closure of the occipital fontanelle. When should it normally close?

a. Before the end of the second year of life

b. Before 3 months

- c. Before 6 months
- d. Before the child is born
- e. Before the end of the first year of life

2302. Sex chromosomes of a woman didn't separate and move to the opposite poles of a cell during gametogenesis (meiosis). The ovum was impregnated with a normal spermatozoon. Which chromosomal disease can be found in her child?

- a. Down's syndrome
- b. Edwards' syndrome
- c. Cat cry syndrome

d. Turner's syndrome

e. Patau's syndrome

2303. A patient was prescribed loratadine to treat allergic cheilitis. What is the mechanism of action of this drug?

a. Suppresses activity of $\text{Na}^+/\text{K}^+-\text{ATPase}$

b. Suppresses activity of choline esterase

c. Blockade of adrenergic receptors

d. Increases activity of monoamine oxidase

e. Blockade of H1-histamine receptors

2304. During introduction of local anesthesia a patient has gone into anaphylactic shock. What drug must be administered to the patient?

a. Propranolol

b. Nitroglycerin

c. Diazepam

d. Atropine sulfate

e. Epinephrine hydrochloride

2305. A patient has been diagnosed with influenza. His condition drastically worsened after taking antipyretic drugs. He is unconscious, AP is 80/50 mm Hg, Ps is 140/m, body temperature dropped down to 35, 8°C. What complication developed in this patient?

a. Hypovolemia

b. Hyperthermia

c. Collapse

d. Acidosis

e. Alkalosis

2306. An alcoholic has alcoholic psychosis with evident psychomotor agitation. What neuroleptic drug should be administered for emergency aid?

a. Reserpine

b. Halothane

c. Diazepam

d. Sodium bromide

e. Aminazine

2307. During blood transfusion a patient has developed intravascular erythrocyte hemolysis. What kind of hypersensitivity does the patient have?

a. IV type (cellular cytotoxicity)

b. IV type (granulomatosis)

c. I type (anaphylactic)

d. III type (immune complex)

e. II type (antibody-dependent)

2308. In the course of an experiment thalamocortical tracts of an animal were cut. What type of sensory perception remained intact?

a. Nociceptive

b. Olfactory

c. Exteroreceptive

d. Auditory

e. Visual

2309. A 4-year-old child presents with general weakness, sore throat and deglutitive problem. After his examination a doctor suspected diphtheria and sent the material to a bacteriological laboratory. To determine the diphtheria causative agent the material should be inoculated into the following differential diagnostic medium:

a. Blood tellurite agar

b. Ploskyrev's agar

- c. Levenshtein-Yessen agar
- d. Sabouraud's agar
- e. Endo's agar

2310. When treating a patient with chronic cardiac failure a doctor detected bradycardia and deterioration of the patient's general state. Such condition is caused by cumulative effect of a drug. Which drug of those listed below has cumulative action?

- a. Hydrochlorothiazide
- b. Diphenhydramine (Dimedrol)
- c. Digoxin**
- d. Isosorbide
- e. Retinol acetate

2311. A doctor was addressed by a 30-year-old man. There is a probability of the patient being HIV-positive. To clarify the diagnosis the doctor proposed to perform polymerase chain reaction. The basic process in this kind of investigation is:

- a. Genomic mutation
- b. Chromosome mutation
- c. Transcription
- d. Genetic recombination
- e. Gene amplification**

2312. Due to the use of poor-quality measles vaccine for preventive vaccination, a 1-year-old child developed an autoimmune renal injury. The urine was found to contain macromolecular proteins. What process of urine formation was disturbed?

- a. Reabsorption
- b. Reabsorption and secretion
- c. Secretion and filtration
- d. Filtration**
- e. Secretion

2313. A 65-year-old man suddenly lost vision in one eye due to the retinal detachment. The patient underwent enucleation. Histological examination of the removed eye retina and choroid revealed clusters of atypical cells with marked polymorphism of cells and nuclei, with a moderate number of mitoses including the pathological ones. The cell cytoplasm and intercellular medium contained brown pigment resulting in positive DOPA reaction. Perls' reaction was negative. What is the most likely diagnosis?

- a. Hemorrhage
- b. Pigmented mole
- c. Melanoma**
- d. Cysticercosis
- e. Wilson's disease

2314. During determining the blood group according to the ABO system with salt solutions of monoclonal antibodies agglutination did not occur with any of the solutions. What blood group is it?

- a. AB (IV)
- b. -
- c. A (II)
- d. B (III)
- e. 0 (I)**

2315. One of the factors that cause obesity is inhibition of fatty acids oxidation due to:

- a. Low level of carnitine**
- b. Excessive consumption of fatty foods
- c. Lack of carbohydrates in the diet
- d. Choline deficiency
- e. Impaired phospholipid synthesis

2316. During ventricular systole the cardiac muscle does not respond to additional stimulation because it is in the phase of:

- a. Relational refractoriness
- b. Subnormal excitability
- c. There is no correct answer
- d. Absolute refractoriness**
- e. Hyperexcitability

2317. A patient is diagnosed with acute morphine hydrochloride intoxication. Prescribe the oxidizing agent for gastric lavage:

- a. Chlorhexidine (bi)gluconate
- b. Potassium permanganate**
- c. Sulfocamphocainum (Procaine + Sulfocamphoric acid)
- d. Chloramine
- e. Cerigel

2318. During cell division DNA replication occurs after a signal is received from the cytoplasm, then a certain portion of the DNA helix unwinds and splits into two individual strains. What enzyme facilitates this process?

- a. Restrictase
- b. DNA polymerase
- c. RNA polymerase
- d. Ligase
- e. Helicase**

2319. A patient has been given atropine sulfate for rapid relief of spastic colon symptoms. The use of this drug is contraindicated during the following disease:

- a. Bronchial asthma
- b. Hypotension
- c. Gastric ulcer
- d. Glaucoma**
- e. Bradycardia

2320. As an example of specific human parasites one can name Plasmodium falciparum, human pinworm and some others. The source of parasite invasion in these cases is always a human. Such specific human parasites cause the diseases that are called:

- a. Zoonoses
- b. Infections
- c. Multifactorial diseases
- d. Anthroponoses**
- e. Anthroponozoonoses

2321. In the course of an experiment there has been increase in nerve conduction velocity. This may be caused by increase in concentration of the following ions that are present in the solution around the cell:

- a. K^+ and Na^+
- b. K^+ and Cl^-
- c. Na^+**
- d. Ca^{2+} and Cl^-
- e. Ca^{2+}

2322. An HIV-positive patient's cause of death is acute pulmonary insufficiency resulting from pneumonia. Pathohistological investigation of lungs has revealed interstitial pneumonia, alveolocyte desquamation and metamorphoses: alveolocyte enlargement, large intranuclear inclusions surrounded by lightly-coloured areas. Transformed cells resemble owl's eye. Name the causative agent of pneumonia:

- a. Cytomegalovirus**
- b. Influenza virus

- c. Toxoplasma
- d. Candida fungi
- e. Pneumococcus

2323. The organisms to be identified have a nucleus surrounded by a nuclear membrane. Genetic material is concentrated predominantly in the chromosomes that consist of DNA strands and protein molecules. These cells divide mitotically. Identify these organisms:

- a. Prokaryotes
- b. Bacteriophages
- c. Eukaryotes**
- d. Viruses
- e. Bacteria

2324. A 2-year-old boy is diagnosed with Down syndrome. What chromosomal changes may be the cause of this disease?

- a. Trisomy 13
- b. Trisomy 18
- c. Monosomy X
- d. Trisomy 21**
- e. Trisomy X

2325. After a road accident a victim has tachycardia, arterial blood pressure 130/90 mm Hg, tachypnoe, the skin is pale and dry, excitation of central nervous system is observed. What shock stage is the patient most likely in?

- a. Erectile**
- b. Torpid
- c. Agony
- d. Preshock (compensation stage)
- e. Terminal

2326. As a result of a mechanical injury an over 10 cm long portion of a peripheral nerve was damaged. This caused an impairment of the upper limb activity. The patient was offered nerve transplantation. What glial cells will participate in regeneration and provide the trophism of the injured limb?

- a. Schwann cells**
- b. Protoplasmic cells
- c. Ependymal cells
- d. Microglia
- e. Fibrous cells

2327. A 47-year-old man developed intestinal colic against the background of essential hypertension. In this situation it would be most efficient to arrest the colic by administering drugs of the following group:

- a. Adrenomimetics
- b. Myotropic antispasmodics**
- c. Sympathomimetics
- d. Anticholinesterase agents
- e. M-cholinomimetics

2328. Microscopy of a female patient's swabs made from vaginal secretion revealed gramnegative bean-shaped diplococci. What provisional diagnosis can be made?

- a. Clamidosis
- b. Syphilis
- c. Gonorrhoea**
- d. Mycoplasmosis
- e. Toxoplasmosis

2329. A 54-year-old woman was brought to a casualty department after a car accident. A

traumatologist diagnosed her with multiple fractures of the lower extremities. What kind of embolism is most likely to develop in this case?

- a. Thromboembolism
- b. Tissue
- c. Adipose**
- d. Gaseous
- e. Air

2330. A therapist has an appointment with a 40-year-old patient complaining of recurrent pain attacks in his hallux joints and their swelling. Urine analysis revealed its marked acidity and pink colour. What substances can cause such changes in the urine?

- a. Uric acid salt**
- b. Ammonium salts
- c. Magnesium sulfate
- d. Calcium phosphate
- e. Chlorides

2331. A 30-year-old man with diabetes mellitus type I was hospitalised. The patient is comatose. Laboratory tests revealed hyperglycemia and ketonemia. What metabolic disorder can be detected in this patient?

- a. Respiratory acidosis
- b. Metabolic alkalosis
- c. Metabolic acidosis**
- d. Respiratory alkalosis
- e. Normal acid-base balance

2332. A 15-year-old patient has fasting plasma glucose level 4,8 mmol/l, one hour after glucose challenge it becomes 9,0 mmol/l, in 2 hours it is 7,0 mmol/l, in 3 hours it is 4,8 mmol/l. Such parameters are characteristic of:

- a. Diabetes mellitus type 1
- b. Healthy person
- c. Cushing's disease
- d. Subclinical diabetes mellitus**
- e. Diabetes mellitus type 2

2333. A patient has undergone surgical removal of a cavitory liver lesion 2 cm in diameter. It was revealed that the cavity wall was formed by dense fibrous connective tissue; the cavity contained murky thick yellowish-green fluid with an unpleasant odor. Microscopically the fluid consisted mainly of polymorphonuclear leukocytes. What pathological process are these morphological changes typical for?

- a. Acute abscess
- b. Empyema
- c. -
- d. Chronic abscess**
- e. Phlegmon

2334. A patient consulted a physician about chest pain, cough, fever. Roentgenography of lungs revealed eosinophilic infiltrates which were found to contain the larvae. What kind of helminthiasis are these presentations typical for?

- a. Fascioliasis
- b. Echinococcosis
- c. Ascariasis**
- d. Cysticercosis
- e. Trichinosis

2335. During appendectomy a patient had the a. appendicularis ligated. This vessel branches from the following artery:

- a. A. mesenterica inferior

b. A. Ileocolica

c. A. colica media

d. A. colica dextra

e. A. sigmoidea

2336. A 28-year-old patient undergoing treatment in a pulmonological department has been diagnosed with pulmonary emphysema caused by splitting of alveolar septum by tissular tripsin. The disease is caused by the congenital deficiency of the following protein:

a. Transferrin

b. ?1-proteinase inhibitor

c. Cryoglobulin

d. ?2-macroglobulin

e. Haptoglobin

2337. A patient, who has been suffering for a long time from intestine disbacteriosis, has increased hemorrhaging caused by disruption of posttranslationalmodification of blood-coagulation factors II, VII, IX, and X in the liver. What vitamin deficiency is the cause of this condition?

a. C

b.

c. B12

d. B_9

e. K

2338. During a surgery for femoral hernia a surgeon operates within the boundaries of femoral trigone. What structure makes up its upper margin?

a. Arcus iliopectineus

b. Lig. pectinale

c. Fascia lata

d. Lig. inguinale

e. Lig. lacunare

2339. An obstetrician-gynecologist measures pelvis size of a pregnant woman. A caliper was used to measure the distance between the two iliac crests. What measurement of large pelvis was made?

a. Distantia spinarum

b. Distantia throchanterica

c. Distantia cristarum

d. Conjugata vera

e. Conjugata anatomica

2340. A patient has arterial hypertension. What long-acting drug from the group of calcium channel blockers should be prescribed?

a. Reserpine

b. Amlodipine

c. Pyrroxanum

d. Octadine

e. Atenolol

2341. A patient has been diagnosed with URTI. Blood serum contains immunoglobulin M. What stage of infection is it?

a. Incubation

b. Prodromal

c. Acute

d. Reconvalescence

e. Carriage

2342. A43-year-old patient suffers fromacute pancreatitis with disrupted common bile duct patency. What condition can develop in this case?

a. Hemolytic jaundice

- b. Hepatic coma
- c. Portal hypertension

d. Mechanical jaundice

- e. Hepatocellular jaundice

2343. A patient has a tumor of the eyesocket tissues behind the eyeball. Disruption of accommodation and pupil constriction is observed. What anatomical structure is damaged?

- a. N. opticus
- b. N. trochlearis
- c. N. nasociliaris
- d. N. lacrimalis

e. Ganglion ciliare

2344. Lymphocytes and other cells of our body synthesize universal antiviral agents as a response to viral invasion. Name these protein factors:

- a. Interleukin -4
- b. Tumor necrosis factor
- c. Interleukin -2
- d. Cytokines

e. Interferon

2345. A patient consulted a dentist about restricted mouth opening (trismus). Anamnesis states a stab wound of the lower extremity. What infection may cause these symptoms?

- a. Tularemia

b. Tetanus

- c. Whooping cough
- d. Brucellosis
- e. Wound anaerobic infection

2346. A patient has damaged spinal cord white matter in the middle area of the posterior white column, disrupted proprioceptive sensibility of the lower limb joints and muscles. What fibers are affected?

- a. Fasciculus cuneatus

b. Fasciculus gracilis

- c. Tr. spinocerebellaris anterior
- d. Tr. spinothalamicus lateralis
- e. Tr. spinocerebellaris posterior

2347. In an elderly person the change in heart force and vessels physical properties were detected; they can be clearly observed on graphic recording of carotid pulse waves. What method was applied?

a. Sphygmography

- b. Rheography
- c. Phlebography
- d. Myography
- e. Plethysmography

2348. A patient has developed paroxysmal ventricular tachycardia against the background of cardiac infarction. What antiarrhythmic drug should be chosen to avoid lowering cardiac output?

a. Lidocaine hydrochloride

- b. Verapamil
- c. Potassium chloride
- d. Propranolol
- e. Procainamide

2349. Electrocardiogram of a young man reveals deviation of his electrical axis of heart to the left. This phenomenon can be caused by:

- a. Dilation of the left atrium

b. Hypersthenic body type

- c. Dilation of the right atrium
- d. Asthenic body type
- e. Dilation of the right ventricle

2350. A 6-year-old child suffers from delayed growth, disrupted ossification processes, decalcification of the teeth. What can be the cause?

- a. Vitamin D deficiency**
- b. Insulin deficiency
- c. Vitamin C deficiency
- d. Hyperthyroidism
- e. Decreased glucagon production

2351. A 30-year-old patient's blood test revealed the following: erythrocyte count is $6 \times 10^{12}/l$, hemoglobin is 10,55 ммоль/l. Vaquez's disease was diagnosed. Name the leading part of pathogenesis:

- a. B12-deficiency
- b. Iron-deficiency
- c. Neoplastic erythroid hyperplasia**
- d. Hypoxia
- e. Acidosis

2352. A 25-year-old patient complains of increasing pain in his leg muscles occurring during walking and forcing him to make frequent stops. Objectively: skin of legs is pale, no hair-covering, toenails are with trophic changes, no pulsation of pedal arteries. The most probable cause of these changes is:

- a. Ischemia**
- b. Arterial hyperemia
- c. Embolism
- d. -
- e. Venous hyperemia

2353. This year influenza epidemic is characterised by patients' body temperature varying from 36, 9°C to 37, 9°C. Such fever is called:

- a. Hyperpyretic
- b. High
- c. Subfebrile**
- d. Apyretic
- e. Moderate

2354. A woman complains of visual impairment. Examination revealed obesity in the patient and her fasting plasma glucose level is hyperglycemic. What diabetes complication can cause visual impairment/blindness?

- a. Microangiopathy**
- b. Atherosclerosis
- c. Glomerulopathy
- d. Neuropathy
- e. Macroangiopathy

2355. Prolonged treatment of hypothyroidism has caused general dystrophy, dental caries, tachycardia, tremor of extremities. What drug is the cause of these side effects?

- a. Parathyroidinum
- b. Humulin (Human insulin)
- c. L-thyroxin**
- d. Thyrocalcitonin
- e. Prednisolone

2356. A 3-year-old child has eaten some strawberries. Soon he developed a rash and itching. What was found in the child's leukogram?

- a. Neutrophilic leukocytosis

b. Hypolymphemia

c. Eosinophilia

d. Monocytosis

e. Lymphocytosis

2357. A patient has been found to have a marked dilatation of the saphenous veins in the region of anterior abdominal wall around the navel. This is symptomatic of pressure increase in the following vessel:

a. V. mesenterica superior

b. V. portae hepatis

c. V. cava inferior

d. V. cava superior

e. V. mesenterica inferior

2358. Cholesterol content in blood serum of a 12-year-old boy is 25 mmol/l. Anamnesis states hereditary familial hypercholesterolemia caused by synthesis disruption of receptor-related proteins for:

a. High-density lipoproteins

b. Very low-density lipoproteins

c. Middle-density lipoproteins

d. Low-density lipoproteins

e. Chylomicrons

2359. Obesity is a common disease. The aim of its treatment is to lower content of neutral fats in the body. What hormone-sensitive enzyme is the most important for intracellular lipolysis?

a. Diacylglycerol lipase

b. Monoacylglycerol lipase

c. Protein kinase

d. Adenylate kinase

e. Triacylglycerol lipase

2360. A 40-year-old woman was diagnosed with glomerulonephritis based on her clinical symptoms and the results of urine analysis. Anamnesis states chronic tonsillitis. What microorganisms are the most likely cause for her kidney damage?

a. Streptococci

b. Escherichia

c. Meningococci

d. Mycoplasma

e. Staphylococci

2361. A man is suffering from diarrhea. In summer he spent his vacation in the south at the sea coast. Bacteria with the following properties were detected in his feces: gram-negative curved mobile monotrichous bacilli that do not produce spores or capsules. They are undemanding to nutrient medium but require alkaline reaction (pH 8,5-9,5). Described are the agents of the following enteric infection:

a. Colenteritis

b. Pseudotuberculosis

c. Shigellosis

d. Typhoid fever

e. Cholera

2362. A patient is diagnosed with chronic atrophic gastritis attended by deficiency of Castle's intrinsic factor. What type of anemia does the patient have?

a. B12-deficiency anemia

b. Hemolytic anemia

c. Protein-deficiency anemia

d. Iron-deficiency anemia

e. Iron refractory anemia

2363. A pregnant woman was detected with IgM to rubella virus. An obstetriciangynecologist recommended therapeutic abortion due to the high risk of teratogenic affection of the fetus. Detection of IgM was of great importance as it is these specific immunoglobulins that:

- a. Penetrate placental barrier
- b. Are associated with anaphylactic reactions
- c. Are the main factor of antiviral protection
- d. Indicate recent infection**
- e. Have the largest molecular weight

2364. A patient is diagnosed with cardiac infarction. Blood test for cardiospecific enzymes activity was performed. Which of the enzymes has three isoforms?

- a. Pyruvate kinase
- b. Creatine kinase**
- c. Aspartate transaminase
- d. Lactate dehydrogenase
- e. Alanine transaminase

2365. A 50-year-old man, who has been suffering from chronic hepatic failure for several years, has developed ascites. What is the main mechanism of this disorder development?

- a. Increased pressure in portal vein system**
- b. Increased content of low-density and very low-density lipoproteins in blood
- c. Increase of blood oncotic pressure
- d. Neurotoxins appearing in blood
- e. Decrease of albumin and globulin synthesis in liver

2366. A 30-year-old man has sustained an injury to his thorax in a traffic incident, which caused disruption of his external respiration. What type of ventilatory difficulty can be observed in the given case?

- a. Restrictive pulmonary ventilatory impairment
- b. Impaired ventilation regulation dysfunction
- c. Cardiovascular collapse
- d. Restrictive extrapulmonary ventilatory impairment**
- e. Obstructive ventilatory impairment

2367. A 53-year-old man suffering from diabetes mellitus has developed a painful conical induration, bluish-red with yellow center, on the skin of his neck. Such changes are characteristic of:

- a. Furuncle**
- b. Carbuncle
- c. Empyema
- d. Phlegmon
- e. Abscess

2368. Biochemical analysis of an infant's erythrocytes revealed evident glutathione peroxidase deficiency and low concentration of reduced glutathione. What pathological condition can develop in this infant?

- a. Sicklemia
- b. Iron-deficiency anemia
- c. Pernicious anemia
- d. Megaloblastic anemia
- e. Hemolytic anemia**

2369. In winter a 3-year-old child has sharp rise of body temperature up to 40°C. Hemorrhagic rash is observed on the skin and mucosa. Bean-shaped gramnegative microorganisms situated in pairs are detected in the blood. What provisional diagnosis can be made?

- a. Meningococcosis**
- b. Scarlet fever
- c. Diphtheria
- d. Influenza

e. Gonorrhea

2370. Microelectrode analysis of nerve fiber bioelectrical activity revealed, that its membrane potential equals 90 mV. Its initial rest potential was 85 mV. What process occurs in this case?

a. Hyperpolarization

b. Repolarization

c. Supernormality

d. Overshoot

e. Depolarization

2371. Parkinson's disease is caused by disruption of dopamine synthesis. What brain structure synthesizes this neurotransmitter?

a. Corpora quadrigemina

b. Globus pallidus

c. Substantia nigra

d. Red nucleus

e. Hypothalamus

2372. Determining a patient's blood group with monoclonal test-reagents revealed positive agglutination reaction to anti-A and anti-B reagents, and negative reaction to anti-D. What blood group does this patient have?

a. I (0) Rh+

b. IV (AB) Rh-

c. III (B) Rh-

d. II (A) Rh+

e. IV (AB) Rh+

2373. A patient visited a dentist to extract a tooth. After the tooth had been extracted, bleeding from the tooth socket continued for 15 minutes. Anamnesis states that the patient suffers from active chronic hepatitis. What phenomenon can extend the time of hemorrhage?

a. Increased activity of anticoagulation system

b. Decrease of albumine content in blood

c. Thrombocytopenia

d. Hypocalcemia

e. Decrease of fibrinogen content in blood

2374. Name the halogen-containing antiseptic with fungicidal properties, which is used to treat dermatomycosis:

a. Methylene blue

b. Formalin solution

c. Iodine solution

d. Brilliant green

e. Boric acid solution

2375. Due to severe pain syndrome a patient was prescribed a narcotic analgesic. Name this drug:

a. Dimethyl sulfoxide

b. Indometacin

c. Metamizole (Analgin)

d. Nimesulide

e. Morphine

2376. During pathomorphological kidney investigation of a patient, who for a long time had been suffering from osteomyelitis and died from progressing renal failure, the following was revealed: deposits of homogeneous eosinophilic masses in glomerular mesangium, arterial and arteriolar walls, and stroma, which became red when stained with Congo red. What pathological process is this?

a. Hyalinosis

b. Amyloidosis

c. Calcinosis

- d. Muroid swelling
- e. Carbohydrate degeneration

2377. A microslide presents a tissue with spherical cells, each of them containing a large fat drop covered with thin cytoplasm layer in its center. Nucleus is compressed and situated at the cell periphery. What tissue is it?

- a. Pigmented tissue
- b. Reticular tissue
- c. Brown adipose tissue
- d. Mucous tissue
- e. White adipose tissue**

2378. To treat rheumatoid arthritis a 65-year-old woman was prescribed an immunosuppressive hormonal drug as a part of her complex therapy. Name this drug:

- a. Fercovenum
- b. Prednisolone**
- c. Chloropyramine (Suprastin)
- d. Thymus cytomedins (Thymalin)
- e. Riboflavin

2379. An experiment was aimed at testing flexor reflex in a spinal frog, which was initiated by simultaneous stimulation with isolated pre-threshold electrical impulses. The frequency of those impulses was such, that the reflex occurred. What process in the nerve centers can be observed during this experiment?

- a. Temporal summation**
- b. Presynaptic summation
- c. Threshold summation
- d. Postsynaptic summation
- e. Spatial summation

2380. A patient diagnosed with acute dysentery has been treated for 3 days in an infectious diseases hospital. On admission there were complaints of high temperature, stomachache and fluid excrements with mucus as often as 8-10 times a day. What sample should be taken for analysis?

- a. Feces**
- b. Bile
- c. Blood
- d. Liquor
- e. Urine

2381. An 18-year-old woman has body disproportion, wing-like folds on the skin of her neck, underdeveloped ovaries, nuclei of her buccal epithelium cells have no Barr bodies. Dermatoglyphics method revealed that her adt angle is 66° . What provisional diagnosis can be made in this case?

- a. Edwards' syndrome
- b. Turner's syndrome**
- c. Klinefelter's syndrome
- d. Cri du chat (cat cry) syndrome
- e. Patau's syndrome

2382. A 27-year-old patient with injury to the neck has lost approximately 30% of the blood volume. The patient's condition is severe: blood pressure is 60/40 mmHg, heart rate is 140/min., respiratory rate is 30/min., conscious. Characterize the condition of the patient's circulatory system:

- a. Cardiogenic shock
- b. Coma
- c. Arterial hypertension
- d. Hypovolemic shock**
- e. Collapse

2383. A soldier with explosion-caused trauma was delivered to a hospital. Examination revealed his

tympanic membrane to be intact. What defense reflex prevented the tympanic membrane from rupturing?

- a. Relaxation of m. stapedius
- b. Contraction of m. tensor tympani**
- c. Contraction of m. auricularis anterior
- d. Relaxation of m. tensor tympani
- e. Relaxation of m. auricularis anterior

2384. A person with the fourth blood group (genotype IAIB) has in erythrocytes both antigen A controlled by allele IA and antigen B controlled by allele IB. This phenomenon is an example of the following gene interaction:

- a. Polymericity
- b. Epistasis
- c. Complementarity
- d. Semidominance
- e. Codominance**

2385. During narcosis a patient developed a risk of cerebral edema. What drug should be administered in this case?

- a. Furosemide**
- b. Phenazepam
- c. Sodium bromide
- d. Triamterene
- e. Dopamine

2386. During surgery performed in abdominal cavity a surgeon located ligament of liver stretching from anterior abdominal wall (navel) to inferior surface of liver. What ligament is it?

- a. Coronary ligament of the liver
- b. Falciform ligament of the liver
- c. Round ligament of the liver**
- d. Venous ligament of the liver
- e. Triangular ligament of the liver

2387. A 9-year-old boy has acute onset of disease: sore throat, body temperature rise up to 39, 5°C; on the second day diffuse skin rash was detected all over his skin except for nasolabial triangle. On examination of oral cavity: crimson tongue, "flaming pharynx", necrotic tonsillitis. What diagnosis is the most likely?

- a. Meningococemia
- b. Scarlet fever**
- c. Diphtheria
- d. Measles
- e. Influenza

2388. A 49-year-old man complains of pain in his metatarsophalangeal joints and joint deformation. In blood hyperuricemia can be observed. X-ray has revealed metatarsophalangeal joint space narrowing, erosion, periarticular calcification of the both joints, osteoporosis. Microscopy has revealed inflammatory granulomatous reaction surrounding necrotizing masses in the area of the first metatarsophalangeal joint. Choose the most likely diagnosis:

- a. Rheumatoid arthritis
- b. Pyrophosphate arthropathy
- c. Gout (podagra)**
- d. Hyperparathyroidism
- e. Urolithiasis

2389. Granulomas containing lymphocytes and macrophages were detected during analysis of skin biopsy material. Among macrophages there are large cells with fat inclusions, which contain microorganisms in spheric packages (Virchow's cells). The following disease is based on the described type of hypersensitivity:

a. Leprosy

- b. Tuberculosis
- c. Epidemic typhus
- d. Rhinoscleroma
- e. Syphilis

2390. A patient with suspected necrosis of the upper abdominal cavity organs was delivered to a surgical department. This condition is associated with acute circulatory disturbance of the following vessel:

- a. A. mesenterica inferior
- b. A. iliaca communis
- c. A. renalis

d. Tuncus coeliacus

- e. A. mesenterica superior

2391. Name the drug that inhibits excretory function of pancreas during treatment of acute pancreatitis:

- a. Allochol
- b. Pancreatin (Mezym forte)
- c. Festal

d. Contrykal (Aprotinin)

- e. Panzynorm

2392. An 18-year-old patient has developed candidiasis after the case of pneumonia treated with β -lactam antibiotic. What antimycotic agent should be prescribed?

- a. Streptomycin
- b. Phthalylsulfathiazole
- c. Trimethoprim/sulfamethoxazole (Biseptol)

d. Fluconazole

- e. Ampicillin

2393. During autopsy of a 9-month-old girl's body, who died due to severe pneumonia complicated with sepsis, lack of thymus is observed. In the lymph nodes the lymphoid follicles and cortical substance are absent; follicles of spleen are reduced in size with no light zones and plasma cells. What is the cause of such structural changes?

a. Thymus agenesis

- b. Thymus hypoplasia
- c. Thymus aplasia
- d. Thymus atrophy
- e. Accidental involution of thymus

2394. A patient with femoral neck fracture, who for a long time had to remain in bed in a forced (supine) position, has developed dark-brown lesions along the backbone; soft tissues are swollen, in the areas of maceration there is a foul-smelling liquid. Name the clinicopathologic type of necrosis:

- a. Infarction
- b. Coagulation necrosis
- c. Dry gangrene

d. Bedsore

- e. Sequestrum

2395. A woman poisoned with unknown substance was hospitalised in a toxicological department. What group of drugs can be administered to decrease absorption and introduction of the poison to her body?

a. Adsorbents

- b. Antioxidants
- c. Cholinesterase inhibitors
- d. Organic nitrates
- e. Neuroleptics

2396. A patient after disrupted cerebral circulation has developed paralysis. Choose the anticholinesterase drug to be prescribed in this case:

- a. Cordiamin
- b. Methacin
- c. Hexamethonium (Benzohexonium)
- d. Proserin**
- e. Aceclidine

2397. A 50-year-old woman is being treated for shingles in a neurology unit. What reactivated virus causes this disease?

- a. Herpes simplex virus type 1
- b. Measles virus
- c. Cytomegalovirus
- d. Varicella zoster virus (chickenpox virus)**
- e. Herpes simplex virus type 2

2398. During examination of a patient a doctor should use anatomical division of anterior abdominal wall into regions for more precise diagnostics. How many such regions can abdomen be divided into?

- a. 5
- b. 4
- c. 8
- d. 6
- e. 9**

2399. A 35-year-old man has been delivered into a surgical ward with a suppurating wound in the neck, anterior to trachea (previsceral space). If a surgical operation is not performed urgently, there is a risk of infection spreading to:

- a. Thoracic cavity - middle mediastinum
- b. Retrovisceral space
- c. Interaponeurotic suprasternal space
- d. Thoracic cavity - anterior mediastinum**
- e. Thoracic cavity - posterior mediastinum

2400. Characteristic sign of glycogenosis is muscle pain during physical work. Blood examination usually reveals hypoglycemia. This pathology is caused by congenital deficiency of the following enzyme:

- a. Glycogen phosphorylase**
- b. α -amylase
- c. Lysosomal glycosidase
- d. γ -amylase
- e. Glucose 6-phosphate dehydrogenase

2401. Histologic specimen of a kidney demonstrates cells closely adjoined to the renal corpuscle in the distal convoluted tubule. Their basement membrane is extremely thin and has no folds. These cells sense the changes in sodium content of urine and influence renin secretion occurring in juxtaglomerular cells. Name these cells:

- a. Macula densa cells**
- b. Mesangial cells
- c. Glomerular capillary endothelial cells
- d. Podocytes
- e. Juxtaglomerular cells

2402. Bacteriological analysis of tap water has resulted in the following: total bacterial count in 1,0 ml of water is 80, coli index is 3. What would be the conclusion?

- a. The water is extremely polluted
- b. The water is safe for consumption**
- c. The water quality is extremely doubtful
- d. The water quality is doubtful

e. The water is polluted

2403. The process of metabolism in the human body produces active forms of oxygen, including superoxide anion radical O_2^- . This anion is inactivated by the following enzyme:

- a. Glutathione peroxidase
- b. Glutathione reductase
- c. Catalase
- d. Peroxidase

e. Superoxide dismutase

2404. What kind of muscle contraction occurs in an upper limb during an attempt to lift a load beyond one's strength?

- a. Single
- b. Isometric**
- c. Auxotonic
- d. Isotonic
- e. Phasic

2405. A patient suffers from high fever, apnoea, pain in the thorax on the right. Pleurocentesis yielded 700 ml of yellowgreen viscous liquid. Make the diagnosis:

- a. Hemorrhagic pleurisy
- b. Pleural carcinomatosis
- c. Bronchial pneumonia
- d. Serous pleurisy

e. Pleural empyema

2406. A patient suffers from disrupted patency of the airways at the level of small and medium-sized bronchial tubes. What changes of acid-base balance can occur in the patient?

- a. Respiratory alkalosis
- b. Metabolic alkalosis
- c. Acid-base balance remains unchanged

d. Respiratory acidosis

e. Metabolic acidosis

2407. Upon toxic damage of hepatic cells resulting in disruption of liver function the patient developed edemas. What changes of blood plasma are the main cause of edema development?

- a. Decrease of albumin content**
- b. Decrease of fibrinogen content
- c. Decrease of globulin content
- d. Increase of albumin content
- e. Increase of globulin content

2408. A 6-year-old child with suspected active tuberculous process has undergone diagnostic Mantoux test. What immunobiological preparation was injected?

- a. BCG vaccine
- b. Tularinum
- c. Td vaccine

d. Tuberculin

e. DTP vaccine

2409. A 15-year-old boy has been diagnosed with acute viral hepatitis. What blood value should be determined to confirm acute affection of hepatic cells?

- a. Protein fraction content
- b. Aminotransferase activity (AST, ALT)**
- c. Erythrocytes sedimentation rate (ESR)
- d. Unconjugated and conjugated bilirubin content
- e. Cholesterol content

2410. A 53-year-old man is diagnosed with Paget's disease. Concentration of oxyproline in daily urine

is sharply increased, which primarily means intensified disintegration of:

- a. Keratin
- b. Hemoglobin
- c. Fibrinogen
- d. Collagen**
- e. Albumin

2411. A patient has hoarseness of voice. During laryngoscopy a gray-white larynx tumor with papillary surface has been detected. Microscopic investigation has shown the following: growth of connective tissue covered with multilayer, strongly keratinized pavement epithelium, no cellular atypia. What is the most likely diagnosis?

- a. Angiofibroma
- b. Papilloma**
- c. Polyp
- d. Fibroma
- e. Angioma

2412. During autopsy approximately 2,0 liters of pus have been found in the abdominal cavity of the body. Peritoneum is dull and of grayish shade, serous tunic of intestines has grayish-colored coating that is easily removable. Specify the most likely type of peritonitis in the patient:

- a. Tuberculous peritonitis
- b. -
- c. Hemorrhagic peritonitis
- d. Serous peritonitis
- e. Fibrinopurulent peritonitis**

2413. Autopsy of a body revealed bone marrow hyperplasia of tubular and flat bones (pyoid marrow), splenomegaly (6 kg) and hepatomegaly (5 kg), enlargement of all lymph node groups. What disease are the identified changes typical of?

- a. Polycythemia vera
- b. Hodgkin's disease
- c. Chronic lymphocytic leukemia
- d. Multiple myeloma
- e. Chronic myelogenous leukemia**

2414. A bacteriological laboratory has been investigating a sample of homemade dried fish that was the cause of severe food poisoning. Microscopy of the culture inoculated in Kitt-Tarozzi medium revealed microorganisms resembling a tennis racket. What diagnosis can be made?

- a. Cholera
- b. Salmonellosis
- c. Botulism**
- d. Dysentery
- e. Typhoid fever

2415. An infant has been diagnosed with microcephaly. Doctors suspect that this brain disorder developed due to the fact that the mother had been taking actinomycin D during her pregnancy. What germinal layers have been affected by this teratogen?

- a. Ectoderm**
- b. Mesoderm
- c. All germinal layers
- d. Entoderm and mesoderm
- e. Entoderm

2416. A patient demonstrates sharp decrease of pulmonary surfactant activity. This condition can result in:

- a. Alveolar tendency to recede**
- b. Decreased work of expiratory muscles
- c. Hyperoxemia

- d. Increased pulmonary ventilation
- e. Decreased airways resistance

2417. A patient is diagnosed with diabetic coma. Blood sugar is 18,44 mmol/l. What glucose-regulating drug should be prescribed in the given case?

- a. Rapid-acting insulin**
- b. Long-acting insulin
- c. Sulfonylurea derivative
- d. Biguanide
- e. Intermediate-acting insulin

2418. Initial inoculation of water in 1% peptone water resulted in growth of a thin film on the medium surface in 6 hours. Such cultural properties are characteristic of causative agent of the following disease:

- a. Cholera**
- b. Tuberculosis
- c. Pseudotuberculosis
- d. Dysentery
- e. Plague

2419. An infant born prematurely 2 days ago presents with yellow coloring of skin and mucosa. Such a condition in the infant is caused by temporary deficiency of the following enzyme:

- a. Heme synthetase
- b. Biliverdine reductase
- c. Aminolevulinate synthase
- d. Heme oxygenase
- e. UDP-glucuronyl transferase**

2420. It has been determined that one of a pesticide components is sodium arsenate that blocks lipoic acid. Enzyme activity can be impaired by this pesticide. Name this enzyme:

- a. Microsomal oxidation
- b. Glutathione peroxidase
- c. Glutathione reductase
- d. Pyruvate dehydrogenase complex**
- e. Methemoglobin reductase

2421. A 50-year-old woman diagnosed with cardiac infarction has been delivered into an intensive care ward. What enzyme will be the most active during the first two days?

- a. Alanine aminotransferase
- b. LDH4
- c. LDH5
- d. Aspartate aminotransferase**
- e. Alanine aminopeptidase

2422. Stool culture test of a 6-month-old bottlefed baby revealed a strain of intestinal rod-shaped bacteria of antigen structure 0-111. What diagnosis can be made?

- a. Dysentery-like disease
- b. Colienteritis**
- c. Choleraform disease
- d. Gastroenteritis
- e. Food poisoning

2423. Parents of a sick 5-year-old girl visited a genetic consultation. Karyotype investigation revealed 46 chromosomes. One chromosome of the 15th pair was abnormally long, having a part of the chromosome belonging to the 21st pair attached to it. What mutation occurred in this girl?

- a. Deficiency
- b. Duplication
- c. Deletion

d. Inversion

e. Translocation

2424. A patient consulted a doctor with complaints of dyspnea occurring after physical exertion. Physical examination revealed anemia, paraprotein was detected among gamma globulins. What value should be determined in the patient's urine to confirm the diagnosis of myeloma?

a. Bilirubin

b. Ceruloplasmin

c. Antitrypsin

d. Bence Jones protein

e. Hemoglobin

2425. A patient complaining of dizziness, thirst, difficult swallowing, and impaired vision of close objects has addressed a doctor. Objectively: respiratory rate is increased, pupils are dilated, general agitation, talkativeness, though the speech is indistinct. BP is 110/70 mm Hg, heart rate is 110/min. Given symptoms can indicate overdosage of the following drug:

a. Caffeine

b. Atropine

c. Ephedrine

d. Morphine

e. Aminazine

2426. A dry-cleaner's worker has been found to have hepatic steatosis. This pathology can be caused by disruption of synthesis of the following substance:

a. Tristearin

b. Phosphatidic acid

c. Cholic acid

d. Phosphatidylcholine

e. Urea

2427. A 60-year-old patient with a long history of atherosclerosis and a previous myocardial infarction developed an attack of retrosternal pain. 3 days later the patient was hospitalized and then died of progressive cardiovascular insufficiency. During autopsy a white fibrous depressed area about 3 cm in diameter with clear margins was found within the area of posterior wall of the left ventricle and interventricular septum. The dissector considered these changes to be:

a. Myocardial degeneration

b. Focal cardiosclerosis

c. Myocardial infarction

d. Myocardial ischemia

e. Myocarditis

2428. A patient with hypertension has developed headache, tinnitus, vomiting, high BP up to 220/160 mm Hg. On examination: facial asymmetry on the right, volitional mobility is absent, increased tendon reflexes and muscle tone of extremities on the right. What motor disorder of nervous system occurred in this case?

a. Paraplegia

b. Hyperkinesis

c. Monoplegia

d. Hemiplegia

e. Tetraplegia

2429. A 7-year-old child in the state of allergic shock caused by a bee sting has been delivered into an emergency ward. High concentration of histamine was observed in blood. Production of this amine was the result of the following reaction:

a. Decarboxylation

b. Dehydrogenation

c. Reduction

d. Deamination

e. Hydroxylation

2430. A 26-year-old woman consulted a doctor about having stool with white flat moving organisms resembling noodles. Laboratory analysis revealed proglottids with the following characteristics: long, narrow, with a longitudinal channel of the uterus with 17-35 lateral branches on each side. What kind of intestinal parasite was found?

- a. *Taenia solium*
- b. *Diphyllobothrium latum*
- c. *Echinococcus granulosus*
- d. ***Taeniarhynchus saginatus***
- e. *Hymenolepis nana*

2431. A man is 28 years old. Histological investigation of the cervical lymph node revealed a change of its pattern due to proliferation of epithelioid, lymphoid cells and macrophages with horseshoe-shaped nuclei. In the center of some cell clusters there were non-structured light-pink areas with fragments of nuclei. What disease are these changes typical of?

- a. Actinomycosis
- b. Hodgkin's disease
- c. **Tuberculosis**
- d. Tumor metastasis
- e. Syphilis

2432. Sex chromatin was detected during examination of a man's buccal epithelium. It is characteristic of the following chromosome disease:

- a. **Klinefelter's syndrome**
- b. Turner's syndrome
- c. Hypophosphatemic rickets
- d. Triple X syndrome
- e. Down's disease

2433. A patient, having suffered a thermal burn, developed painful boils filled with turbid liquid in the skin. What morphological type of inflammation has developed in the patient?

- a. Granulomatous
- b. Diphtheritic
- c. Proliferative
- d. Croupous
- e. **Serous**

2434. Autopsy of a man with tuberculosis revealed a 3x2 cm large cavity in the superior lobe of the right lung. The cavity was interconnected with a bronchus, its wall was dense and consisted of three layers: the internal layer was pyogenic, the middle layer was made of tuberculous granulation tissue and the external one was made of connective tissue. What is the most likely diagnosis?

- a. **Fibrous cavernous tuberculosis**
- b. Tuberculoma
- c. Acute cavernous tuberculosis
- d. Acute focal tuberculosis
- e. Fibrous focal tuberculosis

2435. A 7-year-old child has acute onset of disease: temperature rise up to 38°C, rhinitis, cough, lacrimation, and large-spot rash on the skin. Pharyngeal mucosa is edematous, hyperemic, with whitish spots in the buccal area. What kind of inflammation caused the changes in the buccal mucosa?

- a. Hemorrhagic inflammation
- b. Serous inflammation
- c. Suppurative inflammation
- d. Fibrinous inflammation
- e. **Catarrhal inflammation**

2436. After a traffic accident a 36-year-old patient has developed muscle paralysis of the extremities

on the right, lost pain and thermal sensitivity on the left, and partially lost tactile sensitivity on both sides. What part of the brain is the most likely to be damaged?

- a. Posterior horn of the spinal cord
- b. Right-hand side of the spinal cord**
- c. Left-hand side of the spinal cord
- d. Motor cortex on the left
- e. Anterior horn of the spinal cord

2437. A 4-year-old child has been admitted to an orthopaedic department with displaced shin fracture. Bone fragments reposition requires analgesia. What drug should be chosen?

- a. Promedol**
- b. Morphine hydrochloride
- c. -
- d. Panadol
- e. Analgin

2438. While examining foot blood supply a doctor checks the pulsation of a large artery running in the separate fibrous channel in front of articulation talocruralis between the tendons of long extensor muscles of hallux and toes. What artery is it?

- a. A. tarsea lateralis
- b. A. fibularis
- c. A. tibialis anterior
- d. A. tarsea medialis
- e. A. dorsalis pedis**

2439. Representatives of a certain human population can be characterized by elongated body, height variability, decreased volume of muscle mass, increased length of limbs, decreased size and volume of rib cage, increased perspiration, decreased indices of base metabolism and fat synthesis. What type of adaptive evolution is it?

- a. Intermediate
- b. Mountain
- c. Arctic
- d. Moderate
- e. Tropical**

2440. A 59-year-old woman has been hospitalized in a surgical ward due to exacerbation of chronic osteomyelitis of the left shin. Blood test: leukocytes - $15,0 \times 10^9/l$. Leukogram: myelocytes - 0%, metamyelocytes - 8%, stab neutrophils - 28%, segmented neutrophils - 32%, lymphocytes - 29%, monocytes - 3%. Such blood count would be called:

- a. Right shift
- b. Degenerative left shift
- c. Regenerative-degenerative left shift
- d. Regenerative left shift**
- e. Hyperregenerative left shift

2441. A 41-year-old man has a history of recurrent attacks of heartbeats (paroxysms), profuse sweating, headaches. Examination revealed hypertension, hyperglycemia, increased basal metabolic rate, and tachycardia. These clinical presentations are typical of the following adrenal pathology:

- a. Hypofunction of the adrenal cortex
- b. Primary aldosteronism
- c. Hypofunction of the medulla
- d. Hyperfunction of the adrenal cortex
- e. Hyperfunction of the medulla**

2442. During autopsy of a man, who died of acute transmural cardiac infarction, the following has been detected on the pericardium surface: fibrous whitish-brown deposit connecting parietal and visceral pericardial layers. What kind of inflammation occurred in the pericardium?

- a. Diphtheritic

- b. Suppurative
- c. Granulomatous
- d. Croupous**
- e. Serous

2443. A 12-year-old child developed nephritic syndrome (proteinuria, hematuria, cylindruria) 2 weeks after a case of tonsillitis, which is a sign of affected glomerular basement membrane in the kidneys. What mechanism is the most likely to cause the basement membrane damage?

- a. Granulomatous
- b. Reaginic
- c. Cytotoxic
- d. Immune complex**
- e. Antibody-mediated

2444. A man arrived into a traumatological department with a trauma of the right shoulder. Examination revealed a displaced humeral shaft fracture on the right in the middle one-third of the humerus; the patient cannot extend the fingers of his right hand. What nerve is damaged?

- a. Median
- b. Ulnar
- c. Radial**
- d. Musculocutaneous
- e. Axillary

2445. Work in a mine is known to cause inhalation of large amounts of coal dust. Inhaled coal dust can be detected in the following pulmonary cells:

- a. Secretory epithelial cells
- b. Respiratory epithelial cells
- c. Alveolar macrophages**
- d. Capillary endothelial cells
- e. Pericapillary cells

2446. What drug will be the most appropriate for a patient suffering from chronic gastritis with increased secretion?

- a. Pepsin
- b. Pancreatine
- c. Pirenzepine**
- d. Aprotinin
- e. Chlorphentermine

2447. A 63-year-old man, who has been suffering from chronic fibrous-cavernous pulmonary tuberculosis for 24 years, has been delivered to a nephrology department with uremia. Intravital diagnostic test for amyloid in the kidneys was positive. What amyloidosis is it in this case?

- a. Localized (focal)
- b. Primary systemic
- c. Secondary systemic**
- d. Hereditary (genetic)
- e. Senile

2448. Cells of a healthy liver actively synthesize glycogen and proteins. What organelles are the most developed in them?

- a. Lysosomes
- b. Cell center
- c. Granular and agranular endoplasmic reticulum**
- d. Mitochondria
- e. Peroxisomes

2449. Immune-enzyme assay has detected HBs antigen in blood serum. What disease is it characteristic of?

- a. Viral hepatitis type A
- b. Tuberculosis
- c. Syphilis
- d. Viral hepatitis type B**
- e. AIDS

2450. A patient has been diagnosed with gonorrhea. As fluoroquinolones are the drugs of choice for treatment of gonorrhea the patient should be prescribed:

- a. Sulfacarbamide (Urosulfanum)
- b. Cefazolin
- c. Furazolidone
- d. Fluorouracil
- e. Ciprofloxacin**

2451. Autopsy of a Middle-Eastern woman, who had been suffering from wasting fever for a long time, revealed enlarged blackened liver and spleen. Bone marrow was hyperplastic and black-colored as well. Cerebral cortex was smoky grey. What disease is it characteristic of?

- a. Sepsis
- b. Hepatitis
- c. AIDS
- d. Epidemic typhus
- e. Malaria**

2452. Human red blood cells contain no mitochondria. What is the main pathway for ATP production in these cells?

- a. Oxidative phosphorylation
- b. Aerobic glycolysis
- c. Anaerobic glycolysis**
- d. Creatine kinase reaction
- e. Cyclase reaction

2453. Atria of an experimental animal were superdistended with blood, which resulted in decreased reabsorption of Na^+ and water in renal tubules. This can be explained by the influence of the following factor on kidneys:

- a. Renin
- b. Aldosterone
- c. Natriuretic hormone**
- d. Angiotensin
- e. Vasopressin

2454. A woman gave birth to a stillborn baby with numerous malformations. What protozoan disease could cause intrauterine death?

- a. Lambliasis
- b. Toxoplasmosis**
- c. Malaria
- d. Leishmaniasis
- e. Amebiasis

2455. A 42-year-old patient complains of pain in the epigastral area, vomiting; vomit masses have the color of coffee-grounds; the patient suffers from melena. Anamnesis records gastric ulcer disease. Blood formula: erythrocytes - $2,8 \times 10^{12}/\text{l}$, leukocytes - $8 \times 10^9/\text{l}$, Hb- 90 g/l. What complication is it?

- a. Penetration
- b. Canceration
- c. Pyloric stenosis
- d. Hemorrhage**
- e. Perforation

2456. A patient has been hospitalised with provisional diagnosis of virus B hepatitis. Serological

reaction based on complementation of antigen with antibody chemically bound to peroxidase or alkaline phosphatase was used for disease diagnostics. What is the name of the applied serological reaction?

- a. Antigen-binding assay
- b. Immune-enzyme analysis**
- c. Immunofluorescence test
- d. Radioimmunoassay
- e. Bordet-Gengou test

2457. A patient with insulin-dependent diabetes mellitus has been administered insulin. After a certain period of time the patient developed fatigue, irritability, excessive sweating. What is the main mechanism of such presentations developing?

- a. Increased ketogenesis
- b. Increased glycogenolysis
- c. Carbohydrate starvation of the brain**
- d. Increased lipogenesis
- e. Decreased glyconeogenesis

2458. Examination of a 52-year-old woman has revealed a decrease in the amount of red blood cells and an increase in free hemoglobin in the blood plasma (hemoglobinemia). Color index is 0,85. What type of anemia is being observed in the patient?

- a. Hereditary hemolytic
- b. Chronic hemorrhagic
- c. Anemia due to diminished erythropoiesis
- d. Acquired hemolytic**
- e. Acute hemorrhagic

2459. Poisoning caused by mercury (II) chloride (corrosive sublimate) occurred in the result of safety rules violation. In 2 days the patient's diurnal diuresis was 620 ml. The patient developed headache, vomiting, convulsions, dyspnea; moist crackles were observed in the lungs. Name this pathology:

- a. Uremic coma
- b. Chronic renal failure
- c. Acute renal failure**
- d. Glomerulonephritis
- e. Pyelonephritis

2460. For people adapted to high external temperatures profuse sweating is not accompanied by loss of large volumes of sodium chloride. This is caused by the effect the following hormone has on perspiratory glands:

- a. Aldosterone**
- b. Cortisol
- c. Natriuretic
- d. Tgyroxin
- e. Vasopressin

2461. The processes of heat transfer in a naked person at room temperature have been studied. It was revealed that under these conditions the greatest amount of heat is transferred by:

- a. Heat conduction
- b. Evaporation
- c. -
- d. Heat radiation**
- e. Convection

2462. Due to destruction of certain structures of the brainstem an animal has lost its orientation reflexes in response to strong light stimuli. What structures were destroyed?

- a. Vestibular nuclei
- b. Substantia nigra
- c. Posterior quadrigeminal bodies

d. Red nuclei

e. Anterior quadrigeminal bodies

2463. Along with normal hemoglobin types there can be pathological ones in the organism of an adult. Name one of them:

a. HbF

b. HbA2

c. HbO2

d. HbS

e. HbA1

2464. Development of both immune and allergic reactions is based upon the same mechanisms of immune system response to an antigen. What is the main difference between immune and allergic reactions?

a. Routes by which antigens are delivered into the body

b. Hereditary predisposition

c. Amount of released antigen

d. Antigen structure

e. Development of tissue lesion

2465. Histologic preparation stained with orcein demonstrates from 40 to 60 fenestrated elastic membranes within the middle coat of vessel. Name this vessel:

a. Mixed type artery

b. Muscular artery

c. Elastic artery

d. Muscular vein

e. Nonmuscular vein

2466. Angiocardiology of a 60-year-old man revealed constriction of a vessel located in the left coronary sulcus of the heart. Name this pathological vessel:

a. Ramus interventricularis posterior

b. V. cordis parva

c. Ramus interventricularis anterior

d. Ramus circumflexus

e. A. coronaria dextra

2467. A comatose patient was taken to the hospital. He has a history of diabetes mellitus. Objectively: Kussmaul breathing, low blood pressure, acetone odor of breath. After the emergency treatment the patient's condition improved. What drug had been administered?

a. Insulin

b. Isadrinum

c. Furosemide

d. Glibenclamide

e. Adrenaline

2468. A patient complains of pain in the right lateral abdomen. Palpation revealed a dense, immobile, tumor-like formation. The tumor is likely to be found in the following part of the digestive tube:

a. Caecum

b. Colon ascendens

c. Colon descendens

d. Colon transversum

e. Colon sigmoideum

2469. A patient hospitalized due to mercury intoxication presents with the following processes in the kidneys: focal necrotic changes of tubules of major renal regions, edema, leukocyte infiltration and hemorrhages in the interstitial tissue, venous congestion. What condition developed in the patient?

a. Acute pyelonephritis

b. Chronic pyelonephritis

c. Acute glomerulonephritis

d. Chronic renal failure

e. Acute necrotic nephrosis

2470. According to phenotypic diagnosis a female patient has been provisionally diagnosed with X-chromosome polysomia. This diagnosis can be confirmed by cytogenetic method. What karyotype will confirm the diagnosis?

a. 47(XXX)

b. 48(XXYY)

c. 46(XX)

d. 47(XXY)

e. 48(XXXYY)

2471. An unconscious young man in the state of morphine intoxication has been delivered into an admission room. The patient's respiration is slow and shallow due to suppression of the respiratory center. What kind of respiratory failure occurred in this case?

a. Ventilatory restriction

b. Ventilatory obstruction

c. Ventilatory disregulation

d. Perfusion

e. Diffusion

2472. On histological examination of uterine mucosa the following is detected: sinuous glands, serratiform and corkscrew-shaped elongated growths of stroma with cell proliferation. Make the diagnosis:

a. Acute endometritis

b. Vesicular mole

c. Placental polyp

d. Glandular endometrial hyperplasia

e. Leiomyoma

2473. 10 minutes after the beginning of heavy physical work a person demonstrates increase of erythrocyte number in blood from $4,0 \times 10^{12}/l$ to $4,5 \times 10^{12}/l$. What is the cause of this phenomenon?

a. Water loss

b. Erythrocytes exit from depot

c. Erythropoiesis activation

d. Suppression of erythrocyte destruction

e. Increase of cardiac output

2474. A patient has a traumatic injury of sternocleidomastoid muscle. This has resulted in a decrease of the following value:

a. Inspiratory reserve volume

b. Respiratory volume

c. Functional residual lung capacity

d. Residual volume

e. Expiratory reserve volume

2475. Autopsy of a 40-year-old woman, who died of cerebral hemorrhage during hypertensive crisis, revealed: upperbody obesity, hypertrichosis, hirsutism, stretchmarks on the skin of thighs and abdomen. Pituitary basophil adenoma is detected in the anterior lobe. What diagnosis is the most likely?

a. Hypothalamic obesity

b. Cushing's disease

c. Alimentary obesity

d. Essential hypertension

e. Simmonds' disease

2476. A specimen shows an organ covered with the connective tissue capsule with radiating trabeculae. There is also cortex containing lymph nodules, and medullary cords made of lymphoid cells. What organ is under study?

- a. Tonsils
- b. Lymph node**
- c. Spleen
- d. Thymus
- e. Red bone marrow

2477. After a craniocerebral injury a patient has lost the ability to recognize shapes of objects by touch (stereognosis). What area of cerebral cortex normally contains the relevant center?

- a. Superior parietal lobule**
- b. Supramarginal gyrus
- c. Angular gyrus
- d. Postcentral gyrus
- e. Inferior parietal lobule

2478. Monoamine oxidase inhibitors are widely used as psychopharmacological drugs. They change the level of nearly all neurotransmitters in synapses, with the following neurotransmitter being the exception:

- a. Adrenaline
- b. Noradrenaline
- c. Acetylcholine**
- d. Dopamine
- e. Serotonin

2479. A worker of an agricultural enterprise had been suffering from an acute disease with aggravating intoxication signs, which resulted in his death. On autopsy: the spleen is enlarged, flaccid, dark cherry-red in the section, yields excessive pulp scrape. Soft meninges of fornix and base of the brain are edematous and saturated with blood ("cardinal's cap"). Microscopically: serous hemorrhagic inflammation of meninges and cerebral tissues. Make the diagnosis:

- a. Anthrax**
- b. Plague
- c. Brucellosis
- d. Cholera
- e. Tularemia

2480. Autopsy of an 8-month-old boy, who died of severe pneumonia complicated with sepsis, revealed absence of thymus. Lymph nodes have no lymphoid follicles and cortical substance. In the spleen the follicles are decreased in size and have no light centers. What is the cause of such changes?

- a. Thymus agenesis**
- b. Thymus atrophy
- c. Accidental thymic involution
- d. Thymus hypoplasia
- e. Thymus aplasia

2481. A patient has been delivered into a surgical ward with an incised wound of the anterior surface of the shoulder in its lower one-third. Flexing function was disrupted in the shoulder and elbow joints, which is caused by the damage to the:

- a. Coracobrachial muscle
- b. Biceps muscle of the arm**
- c. Anconeus muscle
- d. Triceps muscle of the arm
- e. Deltoid muscle

2482. A 40-year-old patient suffers from bronchial asthma and prolonged tachycardia. Choose the optimal drug for rapid relief of bronchial spasm in the given case:

a. Isoprenaline (Isadrinum)

b. Salbutamol

c. Ephedrine hydrochloride

d. Adrenalin hydrochloride

e. Orciprenaline

2483. A patient suffers from acute cardiopulmonary failure with pulmonary edema. What diuretic should be prescribed in the given case?

a. Acetazolamide (Diacarb)

b. Furosemide

c. Spironolactone

d. Triamterene

e. Hydrochlorothiazide (Dichlothiazidum)

2484. A patient with acute myocardial infarction has been administered heparin as a part of complex therapy. Some time after heparin injection the patient developed hematuria. What heparin antagonist should be injected to remove the complication?

a. Neodicumarin

b. Fibrinogen

c. Vicasol

d. Aminocaproic acid

e. Protamine sulfate

2485. The key reaction of fatty acid synthesis is production of malonyl-CoA. What metabolite is the source of malonyl-CoA synthesis?

a. Acyl-CoA

b. Succinyl-CoA

c. Acetyl-CoA

d. Malonate

e. Citrate

2486. A family of healthy students, who have arrived from Africa, gave birth to a child with signs of anemia. The child has died shortly after. Examination has revealed that the child's erythrocytes are abnormally crescent-shaped. The disease is characterized by autosomal recessive inheritance. Determine the genotype of the child's parents:

a. Aa x aa

b. aa x aa

c. Aa x AA

d. Aa x Aa

e. AA x AA

2487. At a certain stage of cell cycle chromosomes reach cellular poles, undergo despiralization; nuclear membranes are being formed around them; nucleolus is restored. What stage of mitosis is it?

a. Prophase

b. Metaphase

c. Anaphase

d. Telophase

e. Prometaphase

2488. Cardiac arrest occurred in a patient during a surgery of the small intestine. What regulatory mechanisms resulted in the cardiac arrest in this case?

a. Metasympathetic reflexes

b. Unconditioned parasympathetic reflexes

c. Conditioned parasympathetic reflexes

d. Unconditioned sympathetic reflexes

e. Conditioned sympathetic reflexes

2489. Vestibular receptors of semicircular canals of an animal have been destroyed. What reflexes

will disappear as a result?

- a. Body-righting reflex
- b. Primary orienting reflex
- c. Statokinetic reflex during movements with linear acceleration
- d. Head-righting reflex

e. Statokinetic reflex during movements with angular acceleration

2490. A patient working at a pig farm complains of paroxysmal abdominal pain, liquid feces with mucus and blood, headache, weakness, fever. Examination of large intestine revealed ulcers from 1 mm up to several cm in diameter, feces contained oval unicellular organisms with cilia. What disease can be suspected?

- a. Lambliasis
- b. Trichomoniasis
- c. Amebiasis
- d. Toxoplasmosis

e. Balantidiasis

2491. Blood group of a 30-year-old man has been determined before a surgery. The blood was Rhesus-positive. Agglutination did not occur with standard O (I), A (II), and B (III) serums. The blood belongs to the following group:

- a. -
- b. O (I)**
- c. B (III)
- d. A (II)
- e. AB (IV)

2492. Histological specimen of a hemopoietic organ shows clusters of node- and bandshaped lymphocytes that along with stroma elements compose cortical and medullar substances. Name this organ:

- a. Palatine tonsil

b. Lymph node

- c. Red bone marrow
- d. Spleen
- e. Thymus

2493. It is known that in catecholamine metabolism a special role belongs to monoamine oxidase (MAO). This enzyme inactivates mediators (noadrenalin, adrenalin, dopamine) by:

- a. Removing methyl groups
- b. Adjoining amino groups

c. Oxidative deamination

- d. Carboxylation
- e. Hydrolysis

2494. Cellular composition of exudate largely depends on the etiological factor of inflammation. What leukocytes are the first to be involved in the focus of inflammation caused by pyogenic bacteria?

- a. Basophils

b. Neutrophil granulocytes

- c. Myelocytes
- d. Monocytes
- e. Eosinophilic granulocytes

2495. A surgeon has detected inflammation of the Meckel's diverticulum in a patient. During surgical invasion it can be located in the:

- a. Duodenum
- b. Sigmoid colon
- c. Jejunum
- d. Colon

e. Ileum

2496. A patient complains of acute pain attacks in the right lumbar region. During examination the nephrolithic obturation of the right ureter in the region between its abdominal and pelvic segments was detected. What anatomical boundary exists between those two segments?

- a. Linea transversa
- b. Linea inguinalis
- c. Linea semilunaris
- d. Linea arcuata

e. Linea terminalis

2497. A patient died of cancerous cachexia with primary localization of cancer in the stomach. Autopsy revealed acutely enlarged liver with uneven surface and numerous protruding nodes; the nodes had clear margins in the section, rounded shape, gray-pink color, varying density, sometimes contained necrotic foci. Histologically: there are atypical cells in the nodes. What pathologic process occurred in the liver?

- a. Hepatic cancer
- b. Cancer metastases**
- c. Regenerative nodes
- d. Abscesses
- e. Infarction

2498. A patient has insufficient blood supply to the kidneys, which caused the development of pressor effect due to the constriction of arterial resistance vessels. This is the result of the vessels being greatly affected by the following substance:

- a. Catecholamines
- b. Norepinephrine
- c. Angiotensinogen
- d. Renin

e. Angiotensin II

2499. Experimental stimulation of sympathetic nerve branches that innervate heart caused an increase in force of heart contractions because membrane of typical cardiomyocytes permitted an increase in:

- a. Calcium ion entry**
- b. Potassium ion exit
- c. Calcium and potassium ion exit
- d. Potassium ion entry
- e. Calcium ion exit

2500. Parents of a 5-year-old child report him to have frequent colds that develop into pneumonias, presence of purulent rashes on the skin. Laboratory tests have revealed the following: absence of immunoglobulins of any type; naked cells are absent from the lymph nodes punctate. What kind of immune disorder is it?

- a. Hypoplastic anemia
- b. Autosomal recessive agammaglobulinaemia (Swiss type)
- c. X-linked hypogammaglobulinemia (Bruton type agammaglobulinemia)**
- d. Agranulocytosis
- e. Louis-Barr syndrome

2501. A microslide contains the specimen of a gland composed of several secretory saccule-shaped parts that open in the common excretory duct. What gland is it?

- a. Simple unbranched alveolar gland
- b. Compound branched alveolar gland
- c. Simple branched alveolar gland**
- d. Compound unbranched alveolar gland
- e. Simple branched tubular gland

2502. Microelectrode technique allowed to register a potential following "all-or-none" law and capable of undecremental spreading. Specify this potential:

a. Action potential

- b. Rest potential
- c. Receptor potential
- d. Inhibitory postsynaptic potential
- e. Excitatory postsynaptic potential

2503. Examination of a patient revealed hypertrophy and inflammation of lymphoid tissue, edema of mucous membrane between palatine arches (acute tonsillitis). What tonsil is normally situated in this area?

- a. Tonsilla lingualis
- b. -
- c. Tonsilla pharyngealis
- d. Tonsilla tubaria

e. Tonsilla palatina

2504. Histological specimen of an ovary demonstrates a spherical structure composed of large glandular cells containing lutein. What hormone is produced by the cells of this structure?

- a. Estrogens
- b. Corticosterone
- c. Aldosterone

d. Progesterone

- e. Testosterone

2505. A patient, who has been subsisting exclusively on polished rice, has developed polyneuritis due to thiamine deficiency. What substance is an indicator of such avitaminosis, when it is excreted with urine?

a. Pyruvic acid

- b. Methylmalonic acid
- c. Phenyl pyruvate
- d. Uric acid
- e. Malate

2506. When blood circulation in the damaged tissue is restored, lactate accumulation stops and glucose consumption decelerates. These metabolic changes are caused by activation of the following process:

a. Aerobic glycolysis

- b. Lipolysis
- c. Glycogen biosynthesis
- d. Gluconeogenesis
- e. Anaerobic glycolysis

2507. A 67-year-old patient complains of periodic heartache, dyspnea during light physical activities. ECG reveals extraordinary contractions of heart ventricles. Such arrhythmia is called:

- a. Bradycardia
- b. Flutter
- c. Fibrillation

d. Extrasystole

- e. Tachycardia

2508. In investigation of serum proteins various physical and physicochemical methods can be used. In particular, serum albumins and globulins can be separated by the method of:

a. Electrophoresis

- b. Dialysis
- c. Refractometry
- d. Spectrography
- e. Polarography

2509. Pupil dilation occurs when a person steps from a light room into a dark one. What reflex causes

such a reaction?

- a. Metasympathetic reflex
- b. Sympathetic conditioned reflex
- c. Sympathetic unconditioned reflex**
- d. Parasympathetic unconditioned reflex
- e. Parasympathetic conditioned reflex

2510. Cells of a person working in the Chornobyl Exclusion Zone have undergone a mutation in DNA molecule. However, with time the damaged interval of DNA molecule has been restored to its initial structure with a specific enzyme. In this case the following occurred:

- a. Transcription
- b. Replication
- c. Repair**
- d. Reverse transcription
- e. Translation

2511. Autopsy of a 5-year-old child revealed in the area of the vermis of cerebellum a soft grayish-pink node 2 cm in diameter with blurred margins and areas of haemorrhage. Histologically this tumour consisted of atypical monomorphous small round cells with large polymorphous nuclei. What tumour is it?

- a. Glioblastoma
- b. Meningioma
- c. Medulloblastoma**
- d. Astrocytoma
- e. Oligodendroglioma

2512. When studying the signs of pulmonary ventilation, reduction of forced expiratory volume has been detected. What is the likely cause of this phenomenon?

- a. Increase of pulmonary residual volume
- b. Increase of functional residual lung capacity
- c. Increase of respiratory volume
- d. Increase of inspiratory reserve volume
- e. Obstructive pulmonary disease**

2513. A specimen of a parenchymal organ shows poorly delineated hexagonal lobules surrounding a central vein, and the interlobular connective tissue contains embedded triads (an artery, a vein and an excretory duct). What organ is it?

- a. Thymus
- b. Pancreas
- c. Liver**
- d. Spleen
- e. Thyroid

2514. A patient had a trauma that caused dysfunction of motor centers regulating activity of head muscles. In what parts of cerebral cortex can these centers normally be located?

- a. Superior parietal lobule
- b. Angular gyrus
- c. Superior part of precentral gyrus
- d. Supramarginal gyrus
- e. Inferior part of precentral gyrus**

2515. At the post-mortem examination the stomach of a patient with renal failure was found to have a yellow-brown coating on the thickened mucosa. The coating was firmly adhering to its surface and had significant thickness. Microscopy revealed congestion and necrosis of mucosal and submucosal layers, fibrin presence. What is the most likely diagnosis?

- a. Fibrinous gastritis**
- b. Gastric abscess
- c. Corrosive gastritis

- d. Esogastritis
- e. Croupous gastritis

2516. A 60-year-old man suffering from chronic hepatitis frequently observes nasal and gingival hemorrhages, spontaneous hemorrhagic rashes on the skin and mucosa. Such presentations result from:

- a. Increased blood content of macroglobulins and cryoglobulins
- b. Decreased blood content of cholinesterase
- c. Increased blood content of aminotransferases
- d. Decreased synthesis of serum albumins
- e. Decreased synthesis of prothrombin and fibrinogen**

2517. Leading symptoms of primary hyperparathyroidism are osteoporosis and renal damage resulting in urolithiasis development. What substances are the basis of uroliths in such cases?

- a. Bilirubin
- b. Cholesterol
- c. Uric acid
- d. Cystine
- e. Calcium phosphate**

2518. An oncology department has admitted a patient with suspected pulmonary tumor. On examination a pathology localized within the lower lobe of the right lung was detected. How many bronchopulmonary segments are there in this lobe?

- a. 5**
- b. 4
- c. 2
- d. 3
- e. 6

2519. A 45-year-old woman suffers from arterial hypertension with high blood concentration of angiotensin II. What antihypertensive drug is the most recommended in the given case?

- a. Prazosin
- b. Reserpine
- c. Verapamil
- d. Lisinopril**
- e. Metoprolol

2520. An alcoholic suffers from alcoholic psychosis with evident psychomotor agitation. What neuroleptic drug should be administered for emergency aid?

- a. Reserpine
- b. Halothane
- c. Diazepam
- d. Sodium bromide
- e. Aminazine**

2521. In one of Polessia regions there was an outbreak of helminthiasis manifested by cramps and facial edemas. The developed preventive measures in particular included ban for eating infested pork even after heat processing. What helminthiasis was the case?

- a. Alveococcosis
- b. Trichinosis**
- c. Teniasis
- d. Taeniarhynchosis
- e. Echinococcosis

2522. A patient demonstrates functional loss of nasal halves of the retinas. What area of visual pathways is affected?

- a. Right optic nerve
- b. Optic chiasm**

- c. Right optic tract
- d. Left optic tract
- e. Left optic nerve

2523. A 26-year-old woman with bronchitis has been administered a broad spectrum antibiotic as a causal treatment drug. Specify this drug:

- a. Interferon
- b. Ambroxol
- c. Dexamethasone
- d. Doxycycline**
- e. BCG vaccine

2524. A 16-year-old young man suffering from seasonal allergic rhinitis has been prescribed a highly active second generation H1 blocker, which can be characterized by absence of marked sedative action. Name this drug:

- a. Loratadine**
- b. Chloropyramine (Suprastin)
- c. Erythromycin
- d. Indometacin
- e. Pipolphen

2525. Examination of a 56-year-old woman with a history of type 1 diabetes mellitus revealed a disorder of protein metabolism that is manifested by aminoacidemia in the laboratory blood test values, and clinically by the delayed wound healing and decreased synthesis of antibodies. Which of the following mechanisms causes the development of aminoacidemia?

- a. Increase in low-density lipoprotein level
- b. Increased proteolysis**
- c. Decrease in the concentration of amino acids in blood
- d. Albuminosis
- e. Increase in the oncotic pressure in the blood plasma

2526. A patient with injury sustained to a part of the central nervous system demonstrates disrupted coordination and movement amplitude, muscle tremor during volitional movements, poor muscle tone. What part of the central nervous system was injured?

- a. Olfactory bulb
- b. Medulla oblongata
- c. Cerebellum**
- d. Mesencephalon
- e. Prosencephalon

2527. A 36-year-old patient has been administered a depolarizing muscle relaxant during a surgery. Name this drug:

- a. Diazepam
- b. Aminazine
- c. Proserin
- d. Pipecuronium bromide (Arduan)
- e. Dithylinum**

2528. A man has suffered multiple bone fractures of his lower extremities during a traffic accident. During transportation to a hospital his condition was further aggravated: blood pressure decreased, there were signs of pulmonary artery embolism. What kind of embolism is the most likely in the given case?

- a. Fat embolism**
- b. Gas embolism
- c. Thromboembolism
- d. Tissue embolism
- e. Air embolism

2529. UN volunteers have arrived in Nigeria to assist the locals in aftermath of earthquakes. What drug should they prescribe for individual chemoprophylaxis of malaria?

- a. Pyrantel
- b. Primaquine
- c. Interferon (Laferon)
- d. Chingamin**
- e. Pyrimethamine (Chloridinum)

2530. After an extended treatment with sulfanamides a patient has developed macrocytic anemia. Production of active forms of the following vitamin is disrupted in such a condition:

- a. Pyridoxine
- b. Cyanocobalamin
- c. Thiamine
- d. Riboflavin
- e. Folic acid**

2531. A woman resting in the countryside has been stung by a bee. Immediately after she developed pain in the stung area. In a few minutes there developed a vesicle, erythema and intense itch; later - urticaria and expiratory dyspnea. What factors resulted in the patient developing expiratory dyspnea?

- a. Histamine**
- b. Lysosomal enzymes
- c. Adrenaline
- d. Noradrenaline
- e. Hageman's factor

2532. Autopsy of a 28-year-old patient, who had been suffering from rheumatism and died of heart failure, revealed pancarditis. Histological investigation of myocardium of the left ventricle posterior wall and interventricular septum detected perivascular cellular focal infiltrates composed of macrophages and creating palisade structures surrounding areas of fibrinoid necrosis. Determine the type of myocarditis:

- a. Diffuse interstitial exudative
- b. Diffuse interstitial productive
- c. Granulomatous**
- d. Focal interstitial exudative
- e. -

2533. When ascending to the top of Elbrus, a mountain climber experiences oxygen starvation, dyspnea, palpitations, and numbness of the extremities. What kind of hypoxia has developed in the mountain climber?

- a. Tissue
- b. Cardiac
- c. Circulatory
- d. Hemic
- e. Hypoxic**

2534. A 2-year-old boy is diagnosed with Down syndrome. What chromosomal changes can cause this disease?

- a. Monosomy X
- b. Trisomy 21**
- c. Trisomy X
- d. Trisomy 13
- e. Trisomy 18

2535. A 62-year-old patient has been hospitalized due to massive cerebral hemorrhage. Blood pressure is 70/30 mm Hg, heart rate is 120/min., respiratory rate is 4/min., unconscious, no response to external stimuli. Such condition can be determined as:

- a. Collapse
- b. Shock**

c. Coma

d. Stress

e. Agony

2536. A 3-year-old girl with mental retardation has been diagnosed with sphingomyelin lipidosis (Niemann-Pick disease). In this condition synthesis of the following substance is disrupted:

a. Sphingomyelinase

b. Sphingosine

c. Gangliosides

d. Ceramides

e. Glycosyltransferase

2537. What condition may develop 15-30 minutes after re-administration of an antigen as a result of the increased level of antibodies, mainly IgE, that are adsorbed on the surface of target cells, namely tissue basophils (mast cells) and blood basophils?

a. Delayed-type hypersensitivity

b. Antibody-dependent cytotoxicity

c. Anaphylaxis

d. Immune complex hyperresponsiveness

e. Serum sickness

2538. Local anesthetics (novocaine, lidocaine and others) decreases pain sensitivity of tissues by blocking Na^+ and K^+ ions from permeating membranes of nerve fibers and endings. Such mechanism of drug action is called:

a. Receptor

b. Antienzyme

c. Direct chemical

d. Membrane ionic

e. Enzyme

2539. After a road accident a victim has tachycardia, arterial blood pressure 130/90 mm Hg, tachypnoea, the skin is pale and dry, excitation of central nervous system is observed. What shock stage is the patient most likely in?

a. Torpid

b. Terminal

c. Erectile

d. Preshock (compensation stage)

e. Agony

2540. A woman complaining of sharp pain in her lower abdomen has been delivered into an admission room. A gynecologist on examination makes a provisional diagnosis of extrauterine pregnancy. What anatomical structure should be punctated to confirm diagnosis?

a. Rectouterine pouch

b. Recto-vesical pouch

c. Intersigmoidal recess

d. Retropubic space

e. Utriculosaccular chamber

2541. A passenger of a fixed-run taxi has a sudden and expressed attack of tachycardia. A doctor travelling by the same taxi has managed to slow down his heart rate by pressing upon the eyeballs and thus causing the following reflex:

a. Dagnini-Aschner reflex

b. Holtz's reflex

c. Frank-Starling mechanism

d. Hering-Breuer reflex

e. Bainbridge reflex

2542. A 47-year-old man developed intestinal colic against the background of essential hypertension.

In this situation it would be the most efficient to arrest the colic by administering drugs of the following group:

- a. Sympathomimetics
- b. Anticholinesterase agents
- c. Myotropic antispasmodics**
- d. M-cholinomimetics
- e. Adrenomimetics

2543. A therapist has an appointment with a 40-year-old patient complaining of recurrent pain attacks in his hallux joints and their swelling. Urine analysis revealed its marked acidity and pink color. What substances can cause such changes in urine?

- a. Chlorides
- b. Calcium phosphate
- c. Magnesium sulfate
- d. Uric acid salt**
- e. Ammonium salts

2544. Exophthalmus observed during thyrotoxicosis is caused by accumulation of highly water-binding substances within the retrobulbar tissues. Name these substances:

- a. Glycosaminoglycans**
- b. ATP
- c. Phospholipids
- d. Kreatine
- e. Cholesterol

2545. A patient presents with dry peeling skin, frequent cases of acute respiratory diseases, xerophthalmia. What vitamin preparation should be prescribed in this case?

- a. Retinol acetate**
- b. Cyanocobalamin
- c. Ergocalciferol
- d. Menadione (Vikasolum)
- e. Thiamine

2546. Parenchyma of an organ is composed of pseudounipolar neurons localized under the capsule of connective tissue. Central place belongs to nerve fibers. Name this organ:

- a. Nerve trunk
- b. Spinal cord
- c. Sympathetic ganglion
- d. Intramural ganglion
- e. Spinal ganglion**

2547. A patient consulted a physician about chest pain, cough, fever. Roentgenography of lungs revealed eosinophilic infiltrates that were found to contain larvae. What kind of helminthiasis are these presentations typical of?

- a. Trichinosis
- b. Ascariasis**
- c. Fascioliasis
- d. Echinococcosis
- e. Cysticercosis

2548. During appendectomy a patient had the a. appendicularis ligated. This vessel branches from the following artery:

- a. A. ileocolica**
- b. A. colica media
- c. A. mesenterica inferior
- d. A. sigmoidea
- e. A. colica dextra

2549. A patient with signs of osteoporosis and urolithiasis has been admitted to an endocrinology department. Blood test revealed hypercalcemia and hypophosphatemia. These changes are associated with abnormal synthesis of the following hormone:

- a. Aldosterone
- b. Calcitriol
- c. Calcitonin
- d. Cortisol
- e. Parathyroid hormone**

2550. Prescription of penicillin G sodium salt has caused development of neurotoxic effects (hallucinations, convulsions). Such reaction is the result of antagonism with the following neurotransmitter:

- a. Acetylcholine
- b. GABA**
- c. Serotonin
- d. Dopamine
- e. Adenosine

2551. A 30-year-old woman exhibits signs of virilism (growth of body hair, balding temples, menstrual disorders). This condition can be caused by overproduction of the following hormone:

- a. Oestriol
- b. Oxytocin
- c. Prolactin
- d. Testosterone**
- e. Relaxin

2552. During a surgery for femoral hernia a surgeon operates within the boundaries of femoral trigone. What structure makes up its upper margin?

- a. Lig. inguinale**
- b. Lig. lacunare
- c. Fascia lata
- d. Lig. pectinale
- e. Arcus iliopectineus

2553. Activation of a number of hemostatic factors occurs through their joining with calcium ions. What structural component allows for adjoining of calcium ions?

- a. Gamma-aminobutyric acid
- b. Hydroxyproline
- c. Monoamine-dicarboxylic acids
- d. Gamma-carboxyglutamic acid**
- e. Gamma-oxybutyric acid

2554. A patient has arterial hypertension. What long-acting calcium channel blocker should be prescribed?

- a. Reserpine
- b. Amlodipine**
- c. Pyrroxanum
- d. Octadine
- e. Atenolol

2555. Material obtained from a patient contains several types of microorganisms (staphylococci and streptococci) causative of the patient's disease. Name this type of infection:

- a. Reinfection
- b. Superinfection
- c. Mixed infection**
- d. Consecutive infection
- e. Coinfection

2556. A laboratory has been investigating virulence of a diphtheria agent. In the process of the experiment the infection was introduced intraperitoneally into test animals. The dosage of bacteria resulting in 95% mortality of test animals was found. What unit of virulence measurement was determined?

- a. DLM
- b. LD50
- c. LD5
- d. ID
- e. DCL

2557. A patient complains of palpitations after stress. Pulse is 104/min., P-Q=0,12 seconds, there are no changes in QRS complex. What type of arrhythmia does the patient have?

- a. Sinus tachycardia
- b. Sinus arrhythmia
- c. Extrasystole
- d. Ciliary arrhythmia
- e. Sinus bradycardia

2558. A patient consulted a dentist about restricted mouth opening (trismus). He has a history of a stab wound of the lower extremity. What infection can cause these symptoms?

- a. Brucellosis
- b. Wound anaerobic infection
- c. Tularemia
- d. Tetanus
- e. Whooping cough

2559. Patient's systolic blood pressure is 90 mm Hg, diastolic - 70 mm Hg. Such blood pressure is caused by decrease of the following factor:

- a. Pumping ability of the right heart
- b. Total peripheral resistance
- c. Vascular tone
- d. Pumping ability of the left heart
- e. Aortic compliance

2560. A 29-year-old man with a knife wound of the neck presents with bleeding. During the initial d-bridement of the wound a surgeon revealed the injury of a vessel situated along the lateral edge of the sternocleidomastoid muscle. Specify this vessel:

- a. V. jugularis interna
- b. V. jugularis externa
- c. A. carotis externa
- d. V. jugularis anterior
- e. A. carotis interna

2561. A 6-year-old child suffers from delayed growth, disrupted ossification processes, decalcification of the teeth. What can be the cause?

- a. Vitamin D deficiency
- b. Insulin deficiency
- c. Vitamin C deficiency
- d. Hyperthyroidism
- e. Decreased glucagon production

2562. A patient addressed a hospital with complaints of lost sensitivity of the skin of the little finger. What nerve is the most likely to be damaged?

- a. Medial cutaneous nerve of the forearm
- b. Ulnar
- c. Radial
- d. Median
- e. Musculocutaneous

2563. A 30-year-old patient's blood test has revealed the following: erythrocyte count is $6 \times 10^{12}/l$, hemoglobin is 10,55 mmol/l. Vaquez's disease was diagnosed. Name the leading part of pathogenesis:

- a. Iron-deficiency
- b. Hypoxia
- c. Acidosis
- d. Neoplastic erythroid hyperplasia**
- e. B12-deficiency

2564. Pancreas is known as a mixed gland. Endocrine functions include production of insulin by beta cells. This hormone affects metabolism of carbohydrates. What is its effect on the activity of glycogen phosphorylase (GP) and glycogen synthase (GS)?

- a. It inhibits GP and activates GS**
- b. It inhibits both GP and GS
- c. It does not affect the activity of GP and GS
- d. It activates GP and inhibits GS
- e. It activates both GP and GS

2565. This year influenza epidemic is characterised by patients' body temperature varying from 36, 9°C to 37, 9°C. Such fever is called:

- a. Moderate
- b. Subfebrile**
- c. Hyperpyretic
- d. High
- e. Apyretic

2566. Fructosuria is known to be connected with inherited deficiency of fructose 1- phosphate aldolase. What product of fructose metabolism will accumulate in the organism resulting in toxic action?

- a. Fructose 6-phosphate
- b. Fructose 1-phosphate**
- c. Glucose 6-phosphate
- d. Glucose 1-phosphate
- e. Fructose 1,6-biphosphate

2567. A woman complains of visual impairment. Examination revealed obesity in the patient and her fasting plasma glucose level is hyperglycemic. What diabetes complication can cause visual impairment/blindness?

- a. Neuropathy
- b. Glomerulopathy
- c. Macroangiopathy
- d. Atherosclerosis
- e. Microangiopathy**

2568. Administration of doxycycline hydrochloride has caused an imbalance of the symbiotic intestinal microflora. Specify the kind of imbalance caused by the antibiotic therapy:

- a. Dysbacteriosis**
- b. Idiosyncrasy
- c. Bacteriosis
- d. Superimposed infection
- e. Sensibilization

2569. Cholesterol content in blood serum of a 12-year-old boy is 25 mmol/l. Anamnesis states hereditary familial hypercholesterolemia caused by synthesis disruption of receptor-related proteins for:

- a. Low-density lipoproteins**
- b. Chylomicrons
- c. Middle-density lipoproteins

- d. Very low-density lipoproteins
- e. High-density lipoproteins

2570. During recording of a spirogram a patient calmly exhaled. How do we call the volume of air remaining in the lungs?

- a. Tidal volume
- b. Vital capacity of lungs
- c. Pulmonary residual volume
- d. Expiratory reserve volume
- e. Functional residual capacity**

2571. A 40-year-old woman was diagnosed with glomerulonephritis based on her clinical symptoms and the results of urine analysis. Anamnesis states chronic tonsillitis. What microorganisms are the most likely cause for the kidney damage in this case?

- a. Streptococci**
- b. Escherichia
- c. Meningococci
- d. Mycoplasma
- e. Staphylococci

2572. A man is suffering from diarrhea. In summer he spent his vacation in the south at the sea coast. Bacteria with the following properties were detected in his feces: gramnegative curved mobile monotrichous bacilli that do not produce spores or capsules. Bacilli are undemanding to nutrient medium but require alkaline reaction (pH 8,5- 9,5). Described are the agents of the following enteric infection:

- a. Cholera**
- b. Typhoid fever
- c. Pseudotuberculosis
- d. Colienteritis
- e. Shigellosis

2573. An athlete (long-distance runner) during a contest developed a case of acute cardiac insufficiency. This pathology resulted from:

- a. Disrupted coronary circulation
- b. Pericardium pathology
- c. Cardiac pressure overload
- d. Cardiac volume overload**
- e. Direct damage to myocardium

2574. Parkinson's disease is caused by disruption of dopamine synthesis. What brain structure synthesizes this neurotransmitter?

- a. Red nucleus
- b. Hypothalamus
- c. Globus pallidus
- d. Corpora quadrigemina
- e. Substantia nigra**

2575. Name the halogen-containing antiseptic with fungicidal properties, which is used to treat dermatomycosis:

- a. Iodine solution**
- b. Methylene blue
- c. Boric acid solution
- d. Brilliant green
- e. Formalin solution

2576. During pathomorphological renal investigation of a patient, who for a long time had been suffering from osteomyelitis and died of progressing renal failure, the following was revealed: deposits of homogeneous eosinophilic masses in glomerular mesangium, arterial and arteriolar walls,

and stroma, which colored red when stained with Congo red. What pathological process is this?

- a. Muroid swelling
- b. Carbohydrate degeneration
- c. Hyalinosis
- d. Amyloidosis**
- e. Calcinosis

2577. During experiment a dog has developed conditioned digestive reflex in response to a sound stimulus. This conditioned reflex will not be exhibited anymore after the extirpation of the following areas of the cerebral hemispheres:

- a. Temporal lobe on both sides**
- b. Parietal lobe on both sides
- c. Occipital lobe on both sides
- d. Temporal lobe on one side
- e. Occipital lobe on one side

2578. Coenzyme A participates in numerous important metabolic reactions. It is a derivative of the following vitamin:

- a. Ubiquinone
- b. Pantothenic acid**
- c. Niacin
- d. Thiamine
- e. Calciferol

2579. A patient diagnosed with acute dysentery has been treated for 3 days in an infectious diseases hospital. On admission there were complaints of high temperature, stomachache and fluid excrements with mucus up to 8-10 times a day. What sample should be taken for analysis?

- a. Liquor
- b. Blood
- c. Urine
- d. Bile
- e. Feces**

2580. A patient with arthritis has been prescribed an anti-inflammatory selective COX-2 inhibitor. Select this drug among those given below:

- a. Indometacin
- b. Metamizole (Analgin)
- c. Phenylbutazone (Butadion)
- d. Dimethylsulfoxide (Dimexid)
- e. Celecoxib**

2581. A patient with diabetes mellitus suffers from persistently nonhealing surgical wound, which is a sign of disrupted tissue trophism. What is the cause of such disorder?

- a. Anemia
- b. Disruption of protein metabolism regulation**
- c. Ketonemia
- d. Hypoglycemia
- e. Increased lipid catabolism

2582. A patient with signs of intestinal infection (vomiting, diarrhea, abdominal pain) has been presenting with increasing symptoms of intoxication for three days. Papular rash appeared on the uncovered skin areas and spread to the torso. A doctor suspected pseudotuberculosis. What laboratory test allows confirming this diagnosis within the first week from the onset of disease?

- a. Bacteriological**
- b. Serological
- c. Biological
- d. Allergic
- e. Microscopic

2583. A microslide demonstrates an organ with its wall consisting of three membranes. The innermembrane has tubular glands and undergoes cyclic changes. Name this organ:

- a. Ureter
- b. Urinary bladder
- c. Esophagus
- d. Vagina
- e. Uterus**

2584. A patient with femoral neck fracture, who for a long time had to remain in bed in a forced (supine) position, has developed dark-brown lesions along the backbone; soft tissues are swollen, in the areas of maceration there is a foul-smelling liquid. Name the clinicopathologic type of necrosis:

- a. Sequestrum
- b. Infarction
- c. Bedsore**
- d. Coagulation necrosis
- e. Dry gangrene

2585. A patient is 20 years old, an athlete. He addressed a doctor with complaints of fatigue, fever up to 38°C - 40°C. Objectively: the liver and spleen are enlarged, lymph nodes on palpation are slightly enlarged, dense, painless. Blood test: Hb- 100 g/l; erythrocytes - $2,9 \times 10^{12}/l$; leukocytes - $4,4 \times 10^9/l$. Leukogram: 68% of blast cells. Cytochemical investigation of blast cells revealed negative reactions to glycogen, peroxidase, non-specific esterase, lipids. Name this disease:

- a. Acute monoblastic leukemia
- b. Acute myeloid leukemia
- c. Acute undifferentiated leukemia**
- d. Acute lymphoblastic leukemia
- e. Acute megakaryoblastic leukemia

2586. Impression smear of mucosa biopsy material has been obtained from a patient with peptic ulcer disease of the stomach. Gram-negative arcuate bent microorganisms were detected, urease activity test was positive. What microorganisms were detected in the patient?

- a. Helicobacter**
- b. Spirilla
- c. Treponema
- d. Leptospira
- e. Spirochete

2587. 30 minutes after drinking mango juice a child suddenly developed a local swelling in the area of the soft palate, which impeded swallowing and, eventually, respiration. Mucosa of the swollen area was hyperemic and painless. Blood test revealed moderate eosinophilia. Body temperature was normal. Anamnesis states that the elder sister of the child has been suffering from bronchial asthma attacks. What kind of edema has developed in the child?

- a. Alimentary
- b. Hepatic
- c. Inflammatory
- d. Cardiac
- e. Allergic**

2588. During examination of a patient a doctor should use anatomical division of anterior abdominal wall into regions for more precise diagnostics. How many regions can abdomen be divided into?

- a. 4
- b. 9**
- c. 6
- d. 8
- e. 5

2589. A child has a wound located posterior to the mastoid process. Bright red blood flows from the wound. Damaged are the branches of the following artery:

a. A. occipitalis

b. A. maxillaris

c. A. carotis interna

d. A. carotis externa

e. A. temporalis superior

2590. When investigating human saliva it is necessary to assess its hydrolytic properties. What substance should be used as a substrate in the process?

a. Fiber

b. Amino acids

c. Proteins

d. Fats

e. Starch

2591. A 35-year-old man has been delivered into a surgical ward with a suppurating wound in the neck, anterior to the trachea (previsceral space). If a surgical operation is not performed urgently, there is a risk of infection spreading to the:

a. Thoracic cavity - posterior mediastinum

b. Thoracic cavity - middle mediastinum

c. Thoracic cavity - anterior mediastinum

d. Retrovisceral space

e. Interaponeurotic suprasternal space

2592. In the life cycle of a cell during mitosis a natural change in the amount of genetic material occurs. The DNA doubles at the following stage:

a. Anaphase

b. Telophase

c. Prophase

d. Metaphase

e. Interphase

2593. A woman with seasonal vasomotor rhinitis, who works as a train dispatcher and is an outpatient, should be prescribed an antihistaminic drug that does not suppress central nervous system. Name this drug:

a. Tavegil (Clemastine)

b. Loratadine

c. Diprazine (Promethazine)

d. Dimedrol (Diphenhydramine)

e. Suprastin (Chloropyramine)

2594. During sanitary and bacteriological testing of water with the membrane filter technique there were revealed two red colonies on the membrane filter (Endo medium) through which 500 ml of water was filtered. Calculate the coli index and coli titer of this water:

a. 250 and 4

b. 2 and 500

c. 4 and 250

d. 500 and 2

e. 250 and 2

2595. Protective function of saliva is based on several mechanisms, including the presence of enzyme that has bactericidal action and causes lysis of complex capsular polysaccharides of staphylococci and streptococci. Name this enzyme:

a. Beta-glucuronidase

b. Lysozyme

c. Oligo-1,6-glucosidase

d. Alpha-amylase

e. Collagenase

2596. The patient's pyramids of the medulla oblongata are damaged by tumor growth. As a result the conduction of nervous impulses will be impaired in the following pathway:

- a. Tr. corticopontinus
- b. Tr. corticonuclearis
- c. Tr. corticospinalis**
- d. Tr. dentatorubralis
- e. Tr. spinocerebellaris

2597. A patient complains of pain in the upper umbilical region. On palpation there is a mobile painful intestine. What intestine is being palpated by the doctor?

- a. Duodenum
- b. Jejunum
- c. Transverse colon**
- d. Ileum
- e. Sigmoid colon

2598. After inoculation of investigated material (feces) on 1% alkaline peptone water and 8-hour-long incubation in the thermostat under 37°C there is growth of pale bluish film observed. Such cultural properties are characteristic of the agent of the following disease:

- a. Plague
- b. Paratyphoid A fever
- c. Dysentery
- d. Cholera**
- e. Typhoid fever

2599. Histological investigation of the uterine scrape of the 45-year-old woman with disturbed ovarian menstrual cycle revealed increased number of endometrial glands, some of which are serrated, while others are dilated and cyst-like. Make the diagnosis:

- a. Atypical endometrial hyperplasia
- b. Placental polyp
- c. Endometrial cystic glandular hyperplasia**
- d. Glandular endometrial polyp
- e. Endometrial adenocarcinoma

2600. A pregnant woman with several miscarriages in anamnesis is prescribed a therapy that includes vitamin preparations. What vitamin facilitates carrying of a pregnancy?

- a. Folic acid
- b. Pyridoxal phosphate
- c. Rutin
- d. Alpha-tocopherol**
- e. Cyanocobalamin

2601. A patient has decreased concentration of magnesium ions that are required for ribosomes connection to granular endoplasmic reticulum. This condition is known to disturb the process of protein biosynthesis. Disturbance occurs at the following stage:

- a. Processing
- b. Translation**
- c. Replication
- d. Transcription
- e. Amino acids activation

2602. A patient with chronic heart failure presents with increased blood viscosity. Capillaroscopy detected damage to the vessel walls of the microcirculation system. What disorder is possible in the given case?

- a. Blood "sludge" phenomenon**
- b. Embolism
- c. Venous hyperemia
- d. Arterial hyperemia

e. Thrombosis

2603. A 3-year-old boy with pronounced hemorrhagic syndrome has no antihemophilic globulin A (factor VIII) in the blood plasma. Hemostasis has been impaired at the following stage:

- a. Conversion of fibrinogen to fibrin
- b. Blood clot retraction
- c. External mechanism of prothrombinase activation
- d. Conversion of prothrombin to thrombin
- e. Internal mechanism of prothrombinase activation

2604. Paronychia of the patient's little finger was complicated with phlegmon of the hand and forearm. In this case the suppuration had spread through the:

- a. Vagina synovialis communis mm. flexorum
- b. Canalis carpalis
- c. Interfascial compartments
- d. Vagina tendinis m. flexor carpi radialis
- e. Vagina tendinis m. flexor pollicis longi

2605. During cholecystectomy besides a. cystica another artery was pulled into the ligature. Ligation of this artery resulted in right-sided necrosis of the liver which led to the death of the patient. What artery was mistakenly ligated along with a. cystica?

- a. Ramus sinister a. hepatica propria
- b. A. pancreato-duodenalis sup
- c. A. hepatica communis
- d. A. gastro-duodenalis
- e. Ramus dexter a. hepatica propria

2606. During treatment with bismuth preparations a patient with syphilis developed gray spots on his oral mucosa and nephropathy symptoms. What drug is used as an antidote to bismuth preparations poisoning?

- a. Unithiol
- b. Bemegride
- c. Methylene blue
- d. Naloxone
- e. Nalorphine

2607. A patient with periodontitis of the lower molar came to the doctor. It was determined that the inflammatory process spread to the lymph nodes. What lymph nodes were the first to be affected by the inflammatory process?

- a. Submental
- b. Facial
- c. Lateral cervical
- d. Anterior cervical
- e. Submandibular

2608. A 63-year-old man suffers from esophageal carcinoma, presents with metastases into the mediastinal lymph nodes and cancerous cachexia. What pathogenetic stage of neoplastic process is observed in the patient?

- a. Transformation
- b. Promotion
- c. Progression
- d. Initiation
- e. -

2609. A person is in a room with air temperature of 38°C and relative air humidity of 50%. What type of heat transfer ensures maintenance of constant body core temperature under these conditions?

- a. Conduction and convection
- b. Radiation

c. Evaporation

d. Convection

e. -

2610. A shepherd, who tended to the flock of sheep with his dogs, gradually developed pain in the chest and bloody expectorations. X-ray revealed spheric helminth larvae in the patient's lungs. Specify the helminth that could be the causative agent of this disease:

a. Hymenolepis nana

b. Fasciola hepatica

c. Taenia solium

d. Echinococcus

e. Diphylobotrium latum

2611. A 67-year-old patient with clinical diagnosis of chronic bronchitis, pneumosclerosis, and cardiopulmonary decompensation has the biopsy material taken from the suspicious area in his right bronchus mucosa. Cellular and tissue atypism along with pearly bodies can be histologically detected. What pathologic process is characterized by the described histological changes?

a. Polypoid chronic bronchitis

b. Acute bronchitis

c. Squamous cell metaplasia of bronchial mucosa

d. Squamous cell carcinoma of bronchus with keratinization

e. Bronchiectasis

2612. A child with point mutation presents with absence of glucose 6-phosphatase, hypoglycemia, and hepatomegaly. What pathology are these signs characteristic of?

a. Cori's disease (Glycogen storage disease type III)

b. Parkinson's disease

c. McArdle's disease (Glycogen storage disease type V)

d. Von Gierke's disease (Glycogen storage disease type I)

e. Addison's disease (Primary adrenal insufficiency)

2613. At the 2-3 day after the gastric resection the patient's intestinal peristalsis failed to restore. What should the patient be prescribed to stimulate the function of his gastrointestinal tract?

a. Platyphyllin

b. Atropine

c. Dithyline (Suxamethonium chloride)

d. Proserin

e. Cyclodol (Trihexyphenidyl)

2614. Examination of the patient with traumatic brain injury revealed that he has lost the ability to discern the movement of an object on the skin. What part of the cerebral cortex is damaged?

a. Posterior central gyrus

b. Parietal lobe

c. Anterior central gyrus

d. Frontal lobe

e. Occipital lobe

2615. Blood test of the patient revealed albumine content of 20 g/l and increased activity of lactate dehydrogenase isoenzyme 5 (LDH5). These results indicate disorder of the following organ:

a. Liver

b. Heart

c. Spleen

d. Lungs

e. Kidneys

2616. Section shows significant enlargement of the patient's right kidney. There is a nephrolith at the place of incision. Renal pelvic lumen is distended with accumulating urine. Renal parenchyma is acutely thinned out. What is the most correct diagnosis?

a. Nephroblastoma

b. Hydronephrosis

c. Hydroureteronephrosis

d. Pyelectasis

e. Renal cyst

2617. A patient demonstrates sharp decrease of pulmonary surfactant activity. This condition can result in:

a. Increased pulmonary ventilation

b. Hyperoxemia

c. Decreased airways resistance

d. Decreased work of expiratory muscles

e. Alveolar tendency to recede

2618. After a case of cold the patient developed a lacrimation disorder. This disorder was caused by functional disturbance of the following autonomic ganglion:

a. Sublingual

b. Pterygopalatine

c. Otic

d. Ciliary

e. Submandibular

2619. A patient is diagnosed with diabetic coma. Blood sugar is 18,44 mmol/l. What glucose-regulating drug should be prescribed in the given case?

a. Sulfonylurea derivative

b. Rapid-acting insulin

c. Long-acting insulin

d. Intermediate-acting insulin

e. Biguanide

2620. A man came into the admission room with complaints of edemas, rapid heart rate, dyspnea, and cyanotic mucosal tunics. He was diagnosed with chronic heart failure. What drug should be prescribed to improve the patient's general state?

a. Papaverine hydrochloride

b. Cordiamin

c. Nitroglycerine

d. Digoxin

e. Mesaton (Phenylephrine)

2621. Exposure to colchicine resulted in metaphase plate of a human containing 23 chromosomes more than it is normal. Name this mutation:

a. Aneuploidy

b. Inversion

c. Translocation

d. Polyploidy

e. Polyteny

2622. A 30-year-old man complains of suffocation, heaviness in the chest on the right, general weakness. Body temperature is 38,9°C. Objectively the right side of the chest lags behind the left side during respiration. Pleurocentesis yielded exudate. What is the leading factor of exudation in the patient?

a. Hypoproteinemia

b. Increased blood pressure

c. Increased permeability of the vessel wall

d. Erythrocyte aggregation

e. Decreased resorption of pleural fluid

2623. A 46-year-old woman suffering from cholelithiasis developed jaundice. Her urine became dark

yellow, while feces are lightcolored. What substance will be the most increased in concentration in the blood serum in this case?

- a. Conjugated bilirubin
- b. Biliverdine
- c. Urobilinogen
- d. Mesobilirubin
- e. Unconjugated bilirubin

2624. A traumatology unit received a patient with crushed muscular tissue. What biochemical indicator of urine will be raised in this case?

- a. Mineral salts
- b. Uric acid
- c. Total lipids
- d. Glucose
- e. Creatinine

2625. A 30-year-old woman first developed pain, swelling, and skin redness in the area of joints about a year ago. Provisional diagnosis is rheumatoid arthritis. One of the likely causes of this disease is change in the structure of the following connective tissue protein:

- a. Collagen
- b. Myosin
- c. Troponin
- d. Ovalbumin
- e. Mucin

2626. A 15-year-old teenager complains of lack of air, general weakness, palpitations. Heart rate is 130/min., BP is 100/60 mm Hg. ECG: QRS complex has normal shape and duration. The number of P waves and ventricular complexes is equal, T wave merges with P wave. What type of cardiac arrhythmia is observed in the teenager?

- a. Atrial thrill
- b. Paroxysmal atrial tachycardia
- c. Sinus extrasystole
- d. Atrial fibrillation
- e. Sinus tachycardia

2627. A patient complaining of dizziness, thirst, difficult swallowing, and impaired vision of close objects has addressed a doctor. Objectively: respiratory rate is increased, pupils are dilated, general agitation, talkativeness, though the speech is indistinct. BP is 110/70 mm Hg, heart rate is 110/min. Given symptoms can indicate overdosage of the following drug:

- a. Aminazine
- b. Caffeine
- c. Morphine
- d. Ephedrine
- e. Atropine

2628. On autopsy of a 40-year-old woman, who had been suffering from rheumatoid arthritis, her liver is found to be dense and enlarged. On dissection its tissue is red-brown colored, with enlarged follicles resembling semi-transparent grayish-white granules. What is the most likely pathological process?

- a. Porphyry spleen
- b. Sago spleen
- c. Lardaceous spleen
- d. Sugar-coated spleen
- e. Splenic hyalinoses

2629. On autopsy the dissector determined that the lungs are enlarged, pale, soft, do not deflate, crunch when cut. Microscopically there are dilated alveolar ducts, alveolar septa are thin, and signs of intracapillary sclerosis are observed. What pulmonary disorder are these presentations characteristic

of?

- a. Emphysema
- b. Pneumothorax
- c. Pneumonia
- d. Atelectasis
- e. Pneumosclerosis

2630. During removal of the hyperplastic thyroid gland of a 47-year-old woman, the parathyroid gland was damaged. One month after the surgery the patient developed signs of hypoparathyroidism: frequent convulsions, hyperreflexia, laryngospasm. What is the most likely cause of the patient's condition?

- a. Hyperchlorhydria
- b. Hyponatremia
- c. Hypocalcemia
- d. Hypophosphatemia
- e. Hyperkalemia

2631. On examination the patient presents with hirsutism, moon-shaped face, stretch marks on the abdomen. BP is 190/100 mm Hg, blood glucose is 17,6 mmol/l. What pathology is such clinical presentation characteristic of?

- a. Adrenocortical hyperfunction
- b. Hypothyroidism
- c. Hyperfunction of the insular apparatus
- d. Gonadal hypofunction
- e. Hyperthyroidism

2632. Histological specimen of the ovary shows large hollow structures. Primary oocyte within these structures is surrounded with transparent membrane and radiating crown and is situated in the cumulus oophorus, the wall is made of follicular cell layer and theca. What ovarian structure can be characterized by these morphological features?

- a. Mature (tertiary) follicle
- b. Primary follicle
- c. Corpus atreticum
- d. Corpus luteum
- e. Primordial follicle

2633. Histological specimen demonstrates a parenchymal organ with cortical and medullary substances. The cortical substance is composed of bands of epithelial cells with capillary blood vessels between them. The bands form three zones. The medullary substance consists of chromaffin cells and venous sinusoids. What organ can be characterized by these morphological features?

- a. Thymus
- b. Thyroid gland
- c. Kidney
- d. Lymph node
- e. Adrenal gland

2634. A child with suspected colienteritis was delivered to the infectious diseases hospital. Colibacillus was obtained from the child's feces. How to determine whether this bacillus is of pathogenic variety?

- a. Based on its biochemical properties
- b. Microscopy of stained smears
- c. Based on the nature of its growth in Endo medium
- d. Agglutination reaction with serum O
- e. By means of bacteriophage typing

2635. A patient undergoes right-sided pneumonectomy due to lung cancer. Name the anatomical structures of the right lung radix (downward order):

- a. Veins, bronchus, artery

b. Bronchus, artery, veins

- c. Artery, veins, bronchus
- d. Artery, bronchus, veins
- e. Veins, artery, bronchus

2636. In a township there was registered an outbreak of hepatitis, which was attributed to water supply. What hepatitis virus could be the cause of the outbreak in this township?

- a. Hepatitis C virus
- b. Hepatitis G virus
- c. Hepatitis B virus

d. Hepatitis E virus

- e. Hepatitis D virus

2637. A 64-year-old woman presents with disturbed fine motor function of her fingers, marked muscle rigidity, and tremor. The neurologist diagnosed her with Parkinson's disease. What brain structures are damaged resulting in this disease?

- a. Cerebellum
- b. Reticular formation
- c. Thalamus
- d. Red nuclei

e. Substantia nigra

2638. Due to prolonged taking of a drug the patient can develop osteoporosis, gastric mucosal erosions, hypokalemia, sodium and water retention, and decreased blood content of corticotropine. Specify this drug:

- a. Reserpine

b. Prednisolone

- c. Digoxin
- d. Hydrochlorothiazide
- e. Indometacin

2639. Nitrogen is being excreted from the body mainly as urea. When activity of a certain enzyme in the liver is low, it results in inhibition of urea synthesis and nitrogen accumulation in blood and tissues. Name this enzyme:

- a. Urease
- b. Aspartate aminotransferase

c. Carbamoyl phosphate synthetase

- d. Amylase
- e. Pepsin

2640. After pancreatic surgery the patient developed hemorrhagic syndrome with disturbed 3rd stage of blood clotting. What will be the most likely mechanism of the hemostatic disorder?

a. Fibrinolysis activation

- b. Decrease of fibrinogen synthesis
- c. Fibrin-stabilizing factor deficiency
- d. Qualitative abnormalities of fibrinogenesis
- e. Decrease of prothrombin synthesis

2641. A patient with jaundice has high total bilirubin that is mainly indirect (unconjugated), high concentration of stercobilin in the feces and urine. The level of direct (conjugated) bilirubin in the blood plasma is normal. What type of jaundice can be suspected?

- a. Mechanical
- b. Parenchymal (hepatic)

c. Hemolytic

- d. Neonatal
- e. Gilbert's disease

2642. Histological specimen shows organ parenchyma to consist of lymphoid tissue that forms lymph

nodules; the nodules are located diffusely and have a central artery. What anatomical structure has such morphological characteristics?

- a. Lymph node
- b. Tonsil
- c. Spleen**
- d. Thymus
- e. Red bone marrow

2643. During fibergastroscopy of a patient with ulcer disease of the stomach, the mucosal biopsy material is taken from the area of an ulcer. Impression smear is prepared from the biopsy material and stained by Gram method; the rest of the biopsy material is tested for urease activity. Microscopy of the impression smear revealed gram-negative spiral-shaped microorganisms, urease activity test is positive. What bacteria were detected?

- a. *Shigella flexneri*
- b. *Spirilla minor*
- c. *Helicobacter pylori***
- d. *Treponema pallidum*
- e. *Campylobacter jejuni*

2644. A patient suffering from gout was prescribed allopurinol. What pharmacological property of allopurinol provides therapeutic effect in this case?

- a. Acceleration of nitrogen-containing substances excretion
- b. Deceleration of pyrimidine nucleotides salvage
- c. Acceleration of nucleic acids synthesis
- d. Competitive inhibition of xanthine oxidase**
- e. Acceleration of pyrimidine nucleotides catabolism

2645. A woman, who has been suffering from marked hypertension for 15 years, has lately developed dyspnea, palpitations, slightly decreased systolic pressure, while diastolic pressure remains the same. What is the main mechanism of heart failure development in this case?

- a. Dysregulation of cardiac function
- b. Cardiac overload due to increased vascular resistance**
- c. Damage to the myocardium
- d. Cardiac overload due to increased blood volume
- e. Disorder of impulse conduction in the myocardium

2646. Old burial ground for animal refuse, which has not been in use for the last 50 years, is planned to be given for housing development. However, the soil analysis detected viable spores of a causative agent of an extremely dangerous disease. What microorganism is the most likely to remain in the soil for such a long period of time?

- a. *Brucella abortus*
- b. *Francisella tularensis*
- c. *Bacillus anthracis***
- d. *Yersinia pestis*
- e. *Mycobacterium bovis*

2647. Blood of the patients with diabetes mellitus shows increased content of free fatty acids. Name the most likely cause of this:

- a. Accumulation of palmitoyl-CoA in cytosol
- b. Activation of apoA1, apoA2, and apoA4 apolipoprotein synthesis
- c. Decreased activity of plasma phosphatidylcholine-cholesterolacyltransferase
- d. Increased activity of adipose triglyceride lipase**
- e. Activation of ketone bodies utilization

2648. During autopsy of a man, who had been suffering from mitral stenosis, the lungs are revealed to be dense and brown-colored. What pathologic process had occurred in the lungs?

- a. Lipofuscinosis
- b. Hemosiderosis**

- c. Jaundice
- d. Hemochromatosis
- e. Hemomelanosis

2649. Examination of the coronary arteries revealed atherosclerotic plaques with calcinosis that close the arterial opening by 1/3. In the muscle there are numerous whitish layers of connective tissue. Name the process detected in the myocardium:

- a. Tiger heart
- b. Myocarditis
- c. Myocardial infarction
- d. Diffuse cardiosclerosis**
- e. Postinfarction cardiosclerosis

2650. T-lymphocytes are determined to be affected with HIV. In this case viral enzyme reverse transcriptase (RNA-dependent DNA-polymerase) catalyzes the synthesis of:

- a. DNA based on the viral RNA matrix**
- b. Viral protein based on the viral RNA matrix
- c. Informational RNA based on the viral protein matrix
- d. Viral DNA based on the DNA matrix
- e. Viral RNA based on the DNA matrix

2651. A woman with dense area in her mammary gland came to a surgeon. To minimize the trauma to the mammary gland lobule during the operation the surgeon should make the incision:

- a. Radially**
- b. Transversely
- c. -
- d. Arcuately
- e. Vertically

2652. Electrical activity of neurons is being measured. They fire prior to and at the beginning of inhalation. Where are these neurons situated?

- a. Mesencephalon
- b. Diencephalon
- c. Medulla oblongata**
- d. Spinal cord
- e. Cerebral cortex

2653. Investigation of an isolated cardiac myocyte determined that it does not generate excitation impulses automatically, which means this cardiac myocyte was obtained from the following cardiac structure:

- a. Purkinje's fibers
- b. Ventricles**
- c. Atrioventricular node
- d. Sinoatrial node
- e. His' bundle

2654. To lose some weight a woman has been limiting the amount of products in her diet. 3 months later she developed edemas and her diuresis increased. What dietary component deficiency is the cause of this?

- a. Vitamins
- b. Minerals
- c. Fats
- d. Carbohydrates
- e. Proteins**

2655. The patients with organic brain disorder can take the following drug to improve their memory:

- a. Diazepam
- b. Caffeine

- c. Nitrazepam
- d. Medazepam
- e. Piracetam

2656. A 40-year-old man developed skin redness and swelling in the neck area, where eventually a small abscess appeared. On section the focus is dense and yellowgreen colored. In the purulent masses there are white granules. Histologically there are fungal druses, plasma and xanthome cells, and macrophages detected. Specify the most correct etiological name of this pathological process:

- a. Furuncle
- b. Syphilis
- c. Leprosy
- d. Actinomycosis
- e. Carbuncle

2657. In preparation for business trip abroad the doctor was prescribed a histoschizontocidal antimalarial drug as a personal means of disease prevention. What drug was given to the doctor?

- a. Doxycycline
- b. Biseptol (Co-trimoxazole)
- c. Chingamin
- d. Mefloquine
- e. Quinine

2658. A patient, who has been suffering from bronchial asthma for a long time, developed acute respiratory failure. What is the main mechanism of pathology development in this case?

- a. Pulmonary enzyme system disturbance
- b. Decreased elasticity of the pulmonary tissue
- c. Restrictive disorders of pulmonary ventilation
- d. Pulmonary blood supply disturbance
- e. Obstructive disorders of pulmonary ventilation

2659. A 40-year-old woman has undergone thyroidectomy. Histological study of thyroid gland found the follicles to be of different size and contain foamy colloid, follicle epithelium is high and forms papillae, there is focal lymphocytic infiltration in the stroma. Diagnose the thyroid gland disease:

- a. De Quervain's disease
- b. Nodular goiter
- c. Hashimoto's thyroiditis
- d. Riedel's thyroiditis
- e. Basedow's disease

2660. A patient has been hospitalized with provisional diagnosis of virus B hepatitis. Serological reaction based on complementation of antigen with antibody chemically bound to peroxidase or alkaline phosphatase has been used for disease diagnostics. What is the name of the applied serological reaction?

- a. Radioimmunoassay technique
- b. Complement fixation test
- c. Immobilization test
- d. Enzyme-linked immunosorbent assay
- e. Immunofluorescence test

2661. Due to blood loss the circulating blood volume of a patient decreased. How will it affect the blood pressure in this patient?

- a. Only systolic pressure will decrease
- b. Systolic pressure will decrease, while diastolic will increase
- c. Diastolic pressure will decrease, while systolic will increase
- d. Systolic and diastolic pressure will decrease
- e. Only diastolic pressure will decrease

2662. A bacteriological laboratory tests canned meat for botulinum toxin. Extract of the tested

material and ABE botulinum antitoxin serum was introduced into the test group of mice; the control group of mice received the extract without antitoxin serum. What serological reaction was used?

- a. Precipitation
- b. Opsonophagocytic
- c. Double immunodiffusion
- d. Neutralization**
- e. Complement binding

2663. A 50-year-old man is diagnosed with ischemic heart disease and cardiosclerosis with hypertensive syndrome. What drug should be prescribed in this case?

- a. Potassium chloride
- b. Metoprolol**
- c. Corglycon
- d. Acetylsalicylic acid
- e. Strophanthine

2664. Poisoning caused by mercury (II) chloride (corrosive sublimate) occurred in the result of safety rules violation. In 2 days the patient's diurnal diuresis became 620 ml. The patient developed headache, vomiting, convulsions, dyspnea; moist crackles are observed in the lungs. Name this pathology:

- a. Pyelonephritis
- b. Acute renal failure**
- c. Uremic coma
- d. Chronic renal failure
- e. Glomerulonephritis

2665. Autopsy of a 9-year-old child shows numerous irregular defects of varying depth with uneven margins and gray-white films tightly attached to the underlying tissue on the rectal mucosa of the body. What disease can be suspected?

- a. Dysentery**
- b. Cholera
- c. Amebiasis
- d. Typhoid fever
- e. Salmonellosis

2666. A man presents with glomerular filtration rate of 180 ml/min., while norm is 125 ± 25 ml/min. The likely cause of it is the decreased:

- a. Permeability of the renal filter
- b. Plasma oncotic pressure**
- c. Hydrostatic blood pressure in the glomerular capillaries
- d. Effective filtration pressure
- e. Renal blood flow

2667. A young man came to a hospital with complaints of disturbed urination. Examination of his external genitalia revealed the urethra to be split on the top, with urine flowing out of this opening. What type of external genitalia maldevelopment is observed in this case?

- a. Epispadia**
- b. Hermaphroditism
- c. Hypospadias
- d. Paraphimosis
- e. Phimosis

2668. A 10-year-old child had cut his leg with a glass shard, when playing, and was delivered to the outpatient department to receive antitetanus serum. To prevent development of anaphylactic shock the serum was introduced by Bezredka method. This method of organism hyposensitization is based on the following mechanism:

- a. Binding of mast cell-fixed IgE**
- b. Stimulation of immune tolerance to antigen

- c. Stabilization of mast cell membranes
- d. Stimulation of antigen-specific IgG2
- e. Blocking of mast cell mediators synthesis

2669. A 38-year-old man, who has been suffering from systemic lupus erythematosus for 3 years, developed diffuse renal lesions accompanied by massive edemas, marked proteinuria, hyperlipidemia, and dysproteinemia. What is the most likely mechanism of proteinuria development in this case?

- a. Increased blood proteins
- b. Morbid affection of the urinary tracts
- c. Inflammatory damage to the nephrons
- d. Ischemic damage to the tubules

e. Autoimmune damage to the nephrons

2670. During experiment a part of the brain was extracted, which resulted in asynergy and dysmetria development in the test animal. What part of the brain was extracted in the animal?

a. Reticulum

b. Cerebellum

- c. Parietal lobe
- d. Frontal lobe
- e. Mesencephalon

2671. A woman with polyarticular rheumatoid arthritis was prescribed a non-steroidal antiinflammatory drug - diclofenac sodium. After the patient has been taking it for some time, her concomitant disease exacerbated, which forced the doctor to cancel the prescription of this drug. What concomitant disease could necessitate cancellation of this drug prescription?

- a. Essential hypertension
- b. Bronchial asthma
- c. Ischemic heart disease
- d. Diabetes mellitus

e. Ulcer disease

2672. Histologic preparation stained with orcein demonstrates from 40 to 60 fenestrated elastic membranes within the middle coat of the vessel. Name this vessel:

- a. Mixed type artery
- b. Muscular artery

c. Elastic artery

- d. Muscular vein
- e. Nonmuscular vein

2673. A woman with the III (B), Rh (-) blood group gave birth to a child with the II (A) blood group. The child is diagnosed with hemolytic disease of newborn caused by rhesus incompatibility. What blood group and Rh are likely in the father?

a. II (A), Rh (+)

- b. III (B), Rh (+)
- c. II (A), Rh (-)
- d. I (0), Rh (-)
- e. I (0), Rh (+)

2674. A 40-year-old woman with Cushing's disease presents with steroid diabetes. On biochemical examination she has hyperglycemia and hypochloremia. What process activates in the first place in such patients?

- a. Glycogenolysis
- b. Glucose transportation into a cell
- c. Glycolysis

d. Gluconeogenesis

- e. Glucose reabsorption

2675. A 40-year-old prisoner died of tuberculosis in the corrective labor camp. Autopsy of the body revealed deformation and diminishing of both lung apices; in the both upper lobes there are multiple cavities with dense walls 2-3 mm thick; in the lower lung lobes there are disseminated foci of caseous necrosis varying from 5 mm to 2 cm in diameter. Diagnose the type of tuberculosis:

- a. Primary tuberculosis, primary affect development
- b. Secondary cirrhotic tuberculosis
- c. Secondary fibrous-focal tuberculosis
- d. Hematogenous macrofocal pulmonary tuberculosis
- e. Secondary fibro-cavitary tuberculosis**

2676. A 7-year-old boy died of acute posthemorrhagic anemia caused by profuse hemorrhage in the gastrointestinal tract. Postmortem study revealed the following: macroscopically there were acutely enlarged various groups of the lymph nodes, thymomegaly, hepatosplenomegaly, and bright red bone marrow; microscopically there was hypercellular bone marrow with monomorphic infiltrations composed of blasts and diffuse-focal tumor infiltrations in the liver, spleen, lymph nodes, brain substance and tunics. Make the diagnosis:

- a. Acute undifferentiated leukemia
- b. Acute myeloblastic leukemia
- c. Acute lymphoblastic leukemia**
- d. Acute monoblastic leukemia
- e. Acute plasmablastic leukemia

2677. Autopsy of a man, who served on a nuclear submarine, revealed the following pathologies: bone marrow atrophy (panmyelophthisis), anemia, leukopenia, thrombocytopenia, lymphocytes disintegration in the lymph nodes, spleen, gastrointestinal lymphatic system, and hemorrhages into the adrenal glands. What disease had developed in this case?

- a. Vibration disease
- b. Acute radiation sickness**
- c. Acute leukemia
- d. Decompression sickness
- e. Acute anemia

2678. After sensitization a test animal received subcutaneously a dose of antigen. At the site of injection a fibrinous inflammation developed with alteration of vessel walls, basal substance, and fibrous structures of connective tissue. The inflammation took form of mucoid and fibrinoid degeneration, fibrinoid necrosis. What immune response occurred in the test animal?

- a. Normergic reaction
- b. Granulomatosis
- c. Delayed hypersensitivity
- d. Transplantation immune reaction
- e. Immediate hypersensitivity**

2679. Preoperative examination revealed prothrombin deficiency in the blood of the patient. What drug should be preliminarily prescribed to mitigate blood loss in the patient during the surgery?

- a. Vicasol (Menadione)**
- b. Aminocaproic acid
- c. Contrykal (Aprotinin)
- d. Phenylin (Phenindione)
- e. Thrombin

2680. A patient complaining of pain in the left shoulder-blade region has been diagnosed with myocardial infarction. What kind of pain does the patient have?

- a. Protopathic
- b. Epicritic
- c. Visceral
- d. Phantom
- e. Radiating**

2681. During regular check-up a child is determined to have interrupted mineralization of the bones. What vitamin deficiency can be the cause?

- a. Folic acid
- b. Cobalamin
- c. Riboflavin
- d. Tocopherol
- e. Calciferol**

2682. On examination the patient was determined to have strong, balanced, inert type of higher nervous activity according to Pavlov's classification. What temperament according to Hippocrates is it?

- a. Choleric
- b. Sanguine
- c. Phlegmatic**
- d. Melancholic
- e. -

2683. A specimen shows an organ covered with connective tissue capsule with trabeculae radiating inward the organ. The organ's cortex contains lymph nodules; there are medullary cords made of lymphoid cells. What organ is under study?

- a. Tonsils
- b. Lymph node**
- c. Spleen
- d. Thymus
- e. Red bone marrow

2684. Brain autopsy revealed an edema, hyperemia, and small hemorrhages in the medulla oblongata. Microscopically chromatolysis, hydropia and nerve cell necrosis are observed; within the cytoplasm of hippocampal nerve cells there are eosinophilic structures (Negri bodies) detected. What diagnosis corresponds with the described morphological signs?

- a. Rabies**
- b. Encephalitis
- c. Brucellosis
- d. Encephalomyelitis
- e. Meningococcal meningitis

2685. A married couple came for a genetic counseling. The husband suffers from insulin-independent diabetes mellitus, while the wife is healthy. What is the probability of their child developing insulin-independent diabetes mellitus?

- a. The same as in the population
- b. 100%
- c. 50%
- d. Higher than in the population**
- e. Lower than in the population

2686. A 46-year-old patient suffering from ulcer disease of the stomach is diagnosed with rheumatoid arthritis. What antiinflammatory drug would be the most advisable in this case?

- a. Paracetamol
- b. Celecoxib**
- c. Analgin (Metamizole)
- d. Prednisolone
- e. Promedol (Trimeperidine)

2687. Electron micrograph of the kidney shows fenestrated endothelium lying on the basement membrane; the external surface of the membrane has adjacent dendritic epithelial cells. What do these structures form in the kidney?

- a. Proximal nephron
- b. Filtration barrier**

- c. Distal nephron
- d. Juxtaglomerular apparatus
- e. Henle's loop

2688. A worker of an agricultural enterprise had been suffering from an acute disease with aggravating intoxication signs, which resulted in his death. On autopsy: the spleen is enlarged, flaccid, dark cherry-red on section, yields excessive pulp scrape. Soft meninges of the fornix and base of the brain are edematous and saturated with blood ("cardinal's cap"). Microscopically: serous hemorrhagic inflammation of meninges and cerebral tissues. Make the diagnosis:

- a. Brucellosis
- b. Anthrax**
- c. Plague
- d. Tularemia
- e. Cholera

2689. A woman suffers from tonsillitis complicated with retropharyngeal abscess that is localized in the spatium retroviscerale. In this case the suppurative process can spread to the:

- a. Spatium interscalenum
- b. Mediastinum posterius**
- c. Mediastinum anterius
- d. Spatium interaponeuroticum suprasternale
- e. Spatium pretracheale

2690. A patient with chronic bronchitis was prescribed a drug with mucolytic action. Name this drug:

- a. Magnesium sulfate
- b. Paracetamol
- c. Anaprilin (Propranolol)
- d. Atropine sulfate
- e. Ambroxol**

2691. A patient suffers from acute cardiopulmonary failure with pulmonary edema. What diuretic should be prescribed in the given case?

- a. Diacarb (Acetazolamide)
- b. Furosemide**
- c. Spironolactone
- d. Triamterene
- e. Dichlothiazidum (Hydrochlorothiazide)

2692. Therapeutics unit of a hospital received a man suffering from ulcer disease of the stomach with hyperacidity. Which of the listed group of drugs must be used as a part of the complex therapy of this patient?

- a. Histamine H1-receptor antagonists
- b. Histamine H2-receptor antagonists**
- c. Nonsteroidal antiinflammatory drugs
- d. Calcium channel blockers
- e. Steroidal antiinflammatory drugs

2693. A 45-year-old woman gave birth to a boy with cleft maxilla (cleft lip and palate). On additional examination there are significant disturbances of the boy's nervous, cardiovascular, and visual systems. Karyotype investigation allowed diagnosing the patient with trisomy 13. What syndrome is present in the boy?

- a. Klinefelter
- b. Down
- c. Patau**
- d. Turner
- e. DiGeorge

2694. Pathologic material (mucosal excretion from the nasal passages) obtained from a patient

provisionally diagnosed with influenza was delivered to the virological laboratory. What quick test allows detecting specific viral antigen in the investigated material?

- a. Reverse indirect haemagglutination (RIHA)
- b. Radioimmunoassay (RIA)
- c. Direct and indirect enzyme-linked immunosorbent assay (ELISA)
- d. Hemagglutination inhibition assay (HAI)
- e. Direct and indirect immunofluorescence (IF)**

2695. A 5-year-old child is diagnosed with Bruton syndrome (X-linked agammaglobulinemia) that manifests itself in severe clinical course of bacterial infections and absence of B lymphocytes and plasma cells. What changes of immunoglobulin content can be observed in blood serum of the child with immunodeficiency?

- a. No changes
- b. Decreased IgA, IgM**
- c. Decreased IgD, IgE
- d. Increased IgA, IgM
- e. Increased IgD, IgE

2696. A 37-year-old man, who was working in a caisson, after being lifted to the surface suddenly developed signs of acute cerebral circulation disturbance and loss of consciousness. Several days later he died. On autopsy in the left cerebral hemisphere there was detected a gray soft irregular focus 5x6x3,5 cm in size. What process had occurred in the brain?

- a. Hemorrhagic infarction
- b. Cyst
- c. Tumor
- d. Ischemic stroke**
- e. Abscess

2697. A short-term physical load resulted in reflex increase of heart rate and systemic arterial pressure in a person. What receptor activation was the most contributory to inducing the pressor reflex?

- a. Vascular volume receptors
- b. Vascular chemoreceptors
- c. Proprioceptors of the working muscles**
- d. Vascular baroreceptors
- e. Hypothalamic thermoreceptors

2698. During experiment a skeletal muscle is being stimulated with a series of electrical impulses. What type of muscular contraction will develop, if each following impulse occurs within the relaxation period after the previous single contraction of the muscle?

- a. Series of single contractions
- b. Smooth tetanus
- c. Incomplete tetanus**
- d. Muscle contracture
- e. Asynchronous tetanus

2699. Depression and emotional disturbances result from the lack of noradrenaline, serotonin, and other biogenic amines in the brain. Their content in the synapses can be increased through administration of antidepressants that inhibit the following enzyme:

- a. Monoamine oxidase**
- b. L-amino acids oxidase
- c. Phenylalanine 4-monooxygenase
- d. D-amino acid oxidase
- e. Diamine oxidase

2700. A 2-year-old child presents with acute psychomotor retardation, vision and hearing impairment, sharp enlargement of the liver and spleen. The child is diagnosed with hereditary Niemann-Pick disease. What genetic defect is the cause of this disease?

- a. Acid lipase deficiency
- b. Xanthine oxidase deficiency
- c. Glucose 6-phosphatase deficiency
- d. Amylo-1,6-glucosidase deficiency

e. Sphingomyelinase deficiency

2701. Clinical presentations of a woman allowed provisionally diagnosing her with X polysomy. Cytogenetic method is applied to clarify the diagnosis. The diagnosis will be confirmed if the patient's karyotype is:

- a. 47, XXX**
- b. 48, XXYY
- c. 46, XX
- d. 47, XXY
- e. 48, XXXY

2702. During dehelmintization there was a 3,5-meter-long tapeworm produced from the patient's intestine. There are 4 suckers and hooks on the tapeworm's scolex. Mature segments of the tapeworm are immobile and have up to 12 uterine branches. What disease is it?

- a. Diphyllbothriasis
- b. Opisthorchiasis
- c. Echinococcosis
- d. Beef tapeworm infection

e. Teniasis

2703. A patient presents with steatorrhea. This disorder can be linked to disturbed supply of the intestine with the following substances:

- a. Carbohydrates
- b. Chymotrypsin
- c. Amylase

d. Bile acids

e. Tripsin

2704. Cytochrome oxidase is a hemeprotein that is an end component of the mitochondrial respiratory chain. What reaction is catalyzed with this enzyme?

- a. Cytochrome splicing
- b. Adenosine triphosphate synthesis
- c. Cytochrome synthesis
- d. Transfer of reduced equivalents to ubiquinone

e. Transfer of reduced equivalents to molecular oxygen

2705. A 16-year-old girl fainted when she tried to quickly change her position from horizontal to vertical. What caused the loss of consciousness in the girl?

- a. Decreased oncotic plasma pressure
- b. Increased arterial pressure
- c. Increased venous return
- d. Increased central venous pressure

e. Decreased venous return

2706. An unconscious patient was delivered by ambulance to the hospital. On objective examination the patient was found to have no reflexes, periodical convulsions, irregular breathing. After laboratory examination the patient was diagnosed with hepatic coma. Disorders of the central nervous system develop due to the accumulation of the following metabolite:

- a. Bilirubin
- b. Histamine
- c. Urea
- d. Glutamine

e. Ammonia

2707. A patient complains of acute pain attacks in the right lumbar region. During examination the nephrolithic obturation of the right ureter in the region between its abdominal and pelvic segments has been detected. What anatomical boundary exists between those two segments?

- a. Linea arcuata
- b. Linea semilunaris
- c. Linea terminalis**
- d. Linea transversa
- e. Linea inguinalis

2708. After mushroom poisoning the patient developed signs of acute hepatic failure leading to his death. On autopsy the liver is diminished, flaccid; the capsule is wrinkled; the tissue is ochre-yellow on section. Microscopically: fatty degeneration of hepatocytes, necrotic central segments of the hepatic lobes. These changes are characteristic of:

- a. Fatty hepatosis
- b. Acute productive hepatitis
- c. Hepatolenticular degeneration
- d. Massive progressive necrosis**
- e. Acute exudative hepatitis

2709. Blood test of an athlete shows the following: erythrocytes - $5,5 \times 10^{12}/l$, hemoglobin - 180 g/l, leukocytes - $7 \times 10^9/l$, neutrophils - 64%, basophils - 0,5%, eosinophils - 0,5%, monocytes - 8%, lymphocytes - 27%. These values primarily indicate the stimulation of:

- a. Immunogenesis
- b. Erythropoiesis**
- c. Lymphopoiesis
- d. Leukopoiesis
- e. Granulocytopoiesis

2710. Experimental stimulation of the sympathetic nerve branches that innervate the heart caused an increase in the force of heart contractions because the membrane of typical cardiomyocytes permitted an increase in:

- a. Calcium and potassium ion exit
- b. Calcium ion entry**
- c. Potassium ion exit
- d. Calcium ion exit
- e. Potassium ion entry

2711. As a result of past encephalitis, a man has developed an increase in cerebrospinal fluid pressure in the right lateral ventricle. What can be the cause of this condition?

- a. Closure of the right interventricular foramen**
- b. Atresia of the tubus medullaris
- c. Atresia of the fourth ventricle foramina
- d. Atresia of the sylvian aqueduct
- e. Closure of the left interventricular foramen

2712. A patient with pneumonia has body temperature of $39,2^{\circ}\text{C}$. What cells are the main producers of endogenous pyrogen that had caused such temperature rise?

- a. Fibroblasts
- b. Monocytes**
- c. Neutrophils
- d. Eosinophils
- e. Endotheliocytes

2713. A patient is diagnosed with compression fracture of the lumbar vertebra. The patient presents with acutely increased lumbar lordosis. What ligament was damaged in this patient resulting in such deformation of vertebral column curvature?

- a. Iliolumbar ligament
- b. Interspinal ligament**

c. Posterior longitudinal ligament

d. Yellow ligament

e. Anterior longitudinal ligament

2714. Gram-positive spore-forming bacilli were extracted in anoxic environment from the patient's wound contaminated with soil. Cultivation on a blood-glucose agar resulted in growth of the colonies surrounded with hemolysis zone. What agent was extracted from the wound?

a. Staphylococcus aureus

b. Escherichia coli

c. Pseudomonas aeruginosa

d. Clostridium perfringens

e. Clostridium botulinum

2715. The patient's ECG shows that in the second standard lead from the extremities the P waves are positive, their amplitude is 0,1 mV (norm is 0,05-0,25 mV), duration 0,1 seconds (norm is 0,07-0,10 seconds). It can be concluded that the following process occurs normally in the cardiac atria:

a. Relaxation

b. Depolarization

c. Activation

d. Repolarization

e. Contraction

2716. Autopsy of a patient, who died of bilateral bronchopneumonia, shows in the left lung lower lobe a cavity 5 cm in diameter, filled with liquid yellowish-white substance. What complication of the patient's pneumonia had developed?

a. Granuloma

b. Gangrene

c. Abscess

d. Sequestrum

e. Tuberculoma

2717. A patient, who has been subsisting exclusively on polished rice, has developed polyneuritis due to thiamine deficiency. What substance is an indicator of such avitaminosis, when it is excreted with urine?

a. Phenyl pyruvate

b. Pyruvic acid

c. Methylmalonic acid

d. Malate

e. Uric acid

2718. It is known that pentose-phosphate pathway actively functions in the erythrocytes. What is the main function of this metabolic pathway in the erythrocytes?

a. Counteraction to lipid peroxidation

b. Neutralization of xenobiotics

c. Increase of lipid peroxidation

d. Oxidation of glucose into lactate

e. Activation of microsomal oxidation

2719. Pupil dilation occurs when a person steps from a light room into a dark one. What reflex causes such a reaction?

a. Parasympathetic unconditioned reflex

b. Parasympathetic conditioned reflex

c. Sympathetic conditioned reflex

d. Metasympathetic reflex

e. Sympathetic unconditioned reflex

2720. A patient complaining of heartburn has undergone biopsy of the gastric mucosa. In the sample there are numerous cells with oxyphilic cytoplasm in the glandular epithelium. Name these cells:

- a. Endocrine cells
- b. Exocrine parietal cells**
- c. Mucous cells
- d. Exocrine chief cells
- e. Epithelial cells

2721. Inherited diseases, such as mucopolysaccharidoses, manifest in metabolic disorders of connective tissue, bone and joint pathologies. The sign of this disease is the excessive urinary excretion of the following substance:

- a. Glycosaminoglycans**
- b. Glucose
- c. Urea
- d. Lipids
- e. Amino acids

2722. A woman was delivered to a gynecological unit with signs of acute abdomen and suspected extrauterine pregnancy with oviduct rupture. Where will the blood accumulate in this case?

- a. Right lateral canal
- b. Left lateral canal
- c. Vesicouterine pouch
- d. Retrovesical pouch
- e. Rectouterine pouch**

2723. A patient had a trauma that caused dysfunction of motor centers regulating activity of head muscles. These centers can normally be located in the following area of the cerebral cortex:

- a. Angular gyrus
- b. Inferior part of the precentral gyrus**
- c. Supramarginal gyrus
- d. Superior part of the precentral gyrus
- e. Superior parietal lobule

2724. At the post-mortem examination the stomach of a patient with renal failure was found to have a yellow-brown coating on the thickened mucosa. The coating was firmly adhering to its surface and had significant thickness. Microscopy revealed congestion and necrosis of mucosal and submucosal layers, fibrin presence. What is the most likely diagnosis?

- a. Catarrhal gastritis
- b. Corrosive gastritis
- c. Croupous gastritis
- d. Phlegmonous gastritis
- e. Diphtheritic gastritis**

2725. Cystinuria manifests itself in a human as cystine stones in the kidneys (homozygous individuals) or increased cystine content in the urine (heterozygous individuals). Cystinuria is a monogenic disorder. Determine the type of interaction between the genes of cystinuria and normal urine cystine excretion:

- a. Epistasis
- b. Complementarity
- c. Codominance
- d. Semidominance**
- e. Complete dominance

2726. A patient with obliterating atherosclerosis has undergone sympathectomy of the femoral artery in the area of femoral triangle. What type of arterial hyperemia was developed in the patient due to this surgery?

- a. Reactive
- b. Neurotonic
- c. Functional
- d. Neuroparalytic**

e. Metabolic

2727. On bronchoscopy there is a polypoid growth 1,0 cm in diameter with ulcer in its center in the upper lobe of the right lung. Histological investigation revealed a tumor composed of lymphocyte-like cells with hyperchromic nuclei, the cells form layers and bands. What is the most likely tumor type?

- a. Undifferentiated large cell carcinoma
- b. Adenocarcinoma
- c. Glandular squamous cell carcinoma
- d. Undifferentiated small cell carcinoma**
- e. Squamous cell carcinoma

2728. The brain trauma unit received a patient with damaged greater wing of the sphenoid bone. The fracture line crosses the spinous foramen of the sphenoid. What vessel was damaged?

- a. Posterior deep temporal artery
- b. Middle meningeal artery**
- c. Lateral pterygoid artery
- d. Superficial temporal artery
- e. Anterior deep temporal artery

2729. In one of Polesye regions there was an outbreak of helminthiasis manifested by cramps and facial edemas. The developed preventive measures in particular included ban for eating infested pork even after heat processing. What helminthiasis was the case?

- a. Alveococcosis
- b. Trichinosis**
- c. Teniasis
- d. Taeniarhynchosis
- e. Echinococcosis

2730. A person with vitamin A deficiency develops twilight vision disturbance. Name the cells that fulfill this photoreceptor function:

- a. Horizontal cells of retina
- b. Cone cells
- c. Ganglionic nerve cells
- d. Rod cells**
- e. Bipolar neurons

2731. Presented is the biopsy material of an organ consisting of saccul-shaped rounded structures of varying size. Inside these structures there is a gel-like non-cellular substance - colloid; structure walls are composed of one layer of cuboidal cells that lay on the basement membrane. Between the sacculs there is connective tissue with vessels. Name this organ:

- a. Pancreas
- b. Thymus
- c. Parathyroid gland
- d. Thyroid gland**
- e. Parotid gland

2732. A 26-year-old woman with bronchitis has been administered a broad spectrum antibiotic as a causal treatment drug. Specify this drug:

- a. BCG vaccine
- b. Interferon
- c. Doxycycline**
- d. Ambroxol
- e. Dexamethasone

2733. Water affects the mucosa of lower nasal passages resulting in diving reflex. This response manifests itself as:

- a. Cough
- b. Bronchial spasm

- c. Reflex dyspnea
- d. Reflex hyperpnea

e. Reflex apnea

2734. Examination of a 56-year-old woman with a history of type 1 diabetes revealed a disorder of protein metabolism that is manifested by aminoacidemia in the laboratory blood test values, and clinically by the delayed wound healing and decreased synthesis of antibodies. Which of the following mechanisms causes the development of aminoacidemia?

a. Increased proteolysis

- b. Decrease in concentration of blood amino acids
- c. Increase in low-density lipoproteins level
- d. Increase in plasma oncotic pressure
- e. Albuminosis

2735. One of the factors that cause obesity is the inhibition of fatty acids oxidation due to:

- a. Impaired phospholipid synthesis
- b. Choline deficiency
- c. Lack of carbohydrates in the diet

d. Low carnitine content

- e. Excessive consumption of fatty foods

2736. Streptomycin and other aminoglycosides prevent the joining of formylmethionyltRNA by bonding with the 30S ribosomal subunit. This effect leads to disruption of the following process:

- a. Translation initiation in eucaryotes
- b. Transcription initiation in eucaryotes
- c. Replication initiation in procaryotes

d. Translation initiation in procaryotes

- e. Transcription initiation in procaryotes

2737. In hot weather ventilators are often used to normalize the microclimate in the heated rooms. It leads to intensified heat transfer from the human body by means of:

- a. Evaporation

b. Convection

- c. Conduction
- d. Conduction and convection
- e. Radiation

2738. During gastric resection the patient received mixed anesthesia with tubocurarin chloride muscle relaxant; to restore spontaneous respiration the patient received proserin. What pharmacological group does this drug belong to?

- a. Angiotensin-converting-enzyme inhibitors
- b. Muscarinic antagonists
- c. Muscarinic agonists

d. Cholinesterase inhibitors

- e. Calcium channel blockers

2739. A 67-year-old man consumes eggs, pork fat, butter, milk and meat. Blood test results: cholesterol - 12,3 mmol/l, total lipids - 8,2 g/l, increased low-density lipoprotein fraction (LDL). What type of hyperlipoproteinemia is observed in the patient?

- a. Hyperlipoproteinemia type IV
- b. Cholesterol, hyperlipoproteinemia
- c. Hyperlipoproteinemia type I
- d. Hyperlipoproteinemia type IIb

e. Hyperlipoproteinemia type IIa

2740. To treat bronchitis the patient was prescribed a beta-lactam antibiotic. Its mechanism of action is based on inhibition of murein production, which results in death of the causative agent. Name this drug:

- a. Azithromycin
- b. Streptomycin
- c. Bijochinol (Quinine bismuth iodide)
- d. Ciprofloxacin

e. Penicillin G Sodium Salt

2741. Cell membrane rest potential changed from -85 to -90 mV. It can be caused by activation of the following cell membrane channels:

- a. Calcium
- b. Potassium and calcium
- c. Sodium
- d. Potassium and sodium

e. Potassium

2742. Ionizing radiation or vitamin E deficiency affect the cell by increasing lysosome membrane permeability. What are the possible consequences of this pathology?

- a. Intensive energy production
- b. Intensive protein synthesis

c. Partial or complete cell destruction

- d. Restoration of cytoplasmic membrane
- e. Formation of maturation spindle

2743. A 22-year-old woman ate some seafood. 5 hours later her torso and distal parts of her limbs developed small itchy papules which were partially fused together. One day later the rash disappeared spontaneously. Specify the hypersensitivity mechanism underlying these changes:

- a. Immune complex hypersensitivity
- b. Antibody-dependent cell-mediated cytotoxicity
- c. Systemic anaphylaxis
- d. Cellular cytotoxicity

e. Atopy (local anaphylaxis)

2744. During acute hemorrhage the body loses not only fluid but also electrolytes. What substance solution can be used as a simple blood substitute?

- a. Calcium chloride

b. Sodium chloride

- c. Albumin
- d. Sodium bromide
- e. Sodium nucleotide

2745. A patient has been admitted to the contagious isolation ward with signs of jaundice caused by hepatitis virus. Which of the symptoms given below is strictly specific for hepatocellular jaundice?

- a. Bilirubinuria
- b. Hyperbilirubinemia

c. Increase of ALT, AST level

- d. Cholemia
- e. Urobilinuria

2746. In a body of a 37-year-old woman, who died with signs of pulmonary edema, there was detected acute deformation of the aortic valve: it is shortened, thickened, ulcerated, has areas of stone-like density. On its external surface there are large, up to 2 cm in diameter, thrombotic plaques. Left ventricle wall is 2,2 cm thick. Cardiac muscle is dull, matt, and flaccid. What type of endocarditis corresponds with described alterations of the aortic valve?

- a. Diffuse endocarditis
- b. Recurrent verrucous endocarditis
- c. Fibroplastic endocarditis

d. Ulcerative polypoid endocarditis

- e. Acute verrucous endocarditis

2747. Students study the stages of gametogenesis. They analyze a cell with haploid number of chromosomes, with each chromosome consisting of two chromatids. The chromosomes are located in the equatorial plane of the cell. Such situation is typical of the following stage of meiosis:

a. Metaphase of the second division

b. Anaphase of the first division

c. Prophase of the first division

d. Anaphase of the second division

e. Metaphase of the first division

2748. A 38-year-old woman developed a bronchial asthma attack. Which of the listed bronchial spasmolytics is effective for emergency aid and belongs to beta-2adrenergic agonists?

a. Adrenaline

b. Platyphyllin

c. Atropine

d. Salbutamol

e. Ipratropium bromide

2749. After emotional upset a woman has been suffering from disturbed sleep for several days. What soporific drug would be preferable for this type of insomnia?

a. Barbamylum (Amobarbital)

b. Chloral hydrate

c. Phenobarbital

d. Ethaminal sodium (Pentobarbital)

e. Nitrazepam

2750. During training session in the laboratory the students were performing spirometry on themselves. What indicator CANNOT be measured with this method?

a. Maximal breathing capacity

b. Functional residual capacity

c. Respiratory minute volume

d. Vital capacity

e. Respiration rate

2751. In the South and Central America there can be found a species of trypanosomes that is the causative agent of Chagas disease. What animal is the infection carrier specific to this disease?

a. Tsetse fly

b. Cockroach

c. Triatomine bug

d. Mosquito

e. Gnat

2752. A 54-year-old woman was brought to the emergency department after a car accident. A traumatologist diagnosed her with multiple fractures of the lower extremities. What kind of embolism is the most likely to develop in this case?

a. Tissue

b. Gaseous

c. Air

d. Adipose

e. Thromboembolism

2753. A 30-year-old man with diabetes mellitus type I was hospitalized. The patient is comatose. Laboratory tests revealed hyperglycemia and ketonemia. What metabolic disorder can be detected in this patient?

a. Respiratory alkalosis

b. Acid-base balance is normal

c. Metabolic alkalosis

d. Respiratory acidosis

e. Metabolic acidosis

2754. Typical manifestations of food poisoning caused by *C. botulinum* are double vision, abnormal functioning of the swallowing and breathing. These symptoms develop as the result of:

- a. Enterotoxic shock development
- b. Enterotoxin action
- c. Exotoxin action**
- d. Activation of adenylate cyclase
- e. Pathogen adhesion to the enterocyte receptors

2755. An infant, who was on synthetic formula feeding, developed signs of vitamin B1 deficiency. What reactions does this vitamin take part in?

- a. Amino acids decarboxylation
- b. Amino acids transamination
- c. Keto acids oxidative decarboxylation**
- d. Proline hydroxylation
- e. Redox reactions

2756. A 30-year-old woman developed the signs of virilism (body hair growth, balding temples, disturbed menstrual cycle). What hormone can cause this condition when hyperproduced?

- a. Estriol
- b. Oxytocin
- c. Prolactin
- d. Testosterone**
- e. Relaxin

2757. A histological specimen shows significant amount of mucous connective tissue (Wharton's jelly), vessels, as well as residual yolk and allantois. Name this organ:

- a. Vermiform appendix
- b. Umbilical cord**
- c. Ureter
- d. Esophagus
- e. Urethra

2758. On examination of a 6-year-old child the doctor noticed grayish film on the child's tonsils. Microscopy of the smears stained by Neisser method detected there *Corynebacterium diphtheriae*. What morphologic feature was the most indicative for determining the type of the agent?

- a. Localization of the causative agent within macrophages
- b. Fence-like position of the agent's cells
- c. Presence of the capsule
- d. Polar placement of volutin granules**
- e. Spores that exceed cells in diameter

2759. During the sports competition a boxer received a strong blow to the abdomen, which caused a knockout due to a brief drop in blood pressure. What physiological mechanisms are the cause of this condition?

- a. Ischemia of the central nervous system
- b. Alteration of transcapillary exchange
- c. Stimulation of parasympathetic nerves**
- d. Abrupt change in body fluid volume
- e. Stimulation of sympathetic nerves

2760. After a severe stress the patient presents with eosinopenia in the blood test. In this case the decreased number of eosinophils can explain changes in the level of the following hormones:

- a. Mineralocorticoids
- b. Vasopressin
- c. Adrenaline
- d. Insulin
- e. Glucocorticoids**

2761. A 30-year-old patient's blood test revealed the following: erythrocyte count is $6 \times 10^{12}/l$, hemoglobin is 10,55 mmol/l. Vaquez's disease was diagnosed. Name the leading part of pathogenesis in this case:

- a. Iron-deficiency
- b. Hypoxia
- c. Acidosis
- d. Neoplastic erythroid hyperplasia**
- e. B12-deficiency

2762. Deaf parents with genotypes DDee and ddEE gave birth to a child with normal hearing. Specify the interaction of D and E genes:

- a. Polymery
- b. Overdominance
- c. Complete dominance
- d. Epistasis
- e. Complementary interaction**

2763. Corticosteroid hormones regulate the adaptation processes of the body as a whole to environmental changes and ensure the maintenance of internal homeostasis. What hormone activates the hypothalamopituitaryadrenal axis?

- a. Corticostatin
- b. Thyroliberin
- c. Somatoliberin
- d. Somatostatin
- e. Corticoliberin**

2764. A patient with signs of emotional lability that result in troubled sleep has been prescribed nitrazepam. Specify the sleepinducing mechanism of this drug:

- a. Inhibition of stimulating amino acids
- b. Blockade of opiate receptors
- c. GABA-ergic system activation**
- d. H1-histamine receptors stimulation
- e. Supression of serotonergic neurotransmission

2765. A 50-year-old inpatient during examination presents with glucosuria and blood glucose of 3,0 mmol/l, which are the most likely to be caused by:

- a. Pellagra
- b. Renal disorder**
- c. Myxedema
- d. Diabetes insipidus
- e. Essential hypertension

2766. A man is suffering from diarrhea. In summer he spent his vacation in the south at the sea coast. Bacteria with the following properties were detected in his feces: gramnegative curved mobile monotrichous bacilli that do not produce spores or capsules. They are undemanding to nutrient medium but require alkaline reaction (pH - 8,5-9,5). Described are the agents of the following enteric infection:

- a. Shigellosis
- b. Colienteritis
- c. Pseudotuberculosis
- d. Cholera**
- e. Typhoid fever

2767. A pregnant woman was detected to have IgM to rubella virus. An obstetriciangynecologist recommended therapeutic abortion due to the high risk of teratogenic affection of the fetus. Detection of IgM was of great importance as it is these specific immunoglobulins that:

- a. Are the main factor of antiviral protection
- b. Indicate recent infection**

- c. Have the largest molecular weight
- d. Penetrate placental barrier
- e. Are associated with anaphylactic reactions

2768. During examination of a teenager with xanthomatosis the family history of hypercholesterolemia is revealed. What transportable lipids are increased in concentration in case of such a disease?

- a. Very low-density lipoproteins
- b. Chylomicrons

c. Low-density lipoproteins

- d. High-density lipoproteins
- e. Intermediate-density lipoproteins

2769. On examination the patient is found to have low production of adrenocorticotrophic hormone. How would this affect production of the other hormones?

- a. Increase sex hormones synthesis
- b. Increase thyroid hormones synthesis
- c. Decrease hormone synthesis in the adrenal medulla
- d. Decrease insulin synthesis

e. Decrease adrenocorticotrophic hormones synthesis

2770. Parkinson's disease is caused by disturbance of dopamine synthesis. What brain structure synthesizes this neurotransmitter?

- a. Corpora quadrigemina
- b. Globus pallidus

c. Substantia nigra

- d. Red nuclei
- e. Hypothalamus

2771. Determining a patient's blood group with monoclonal test-reagents revealed positive agglutination reaction to anti-A and anti-B reagents, and negative reaction to anti-D. What blood group does this patient have?

- a. IV (AB) Rh (+)
- b. I (O)Rh (+)
- c. II (A) Rh (+)
- d. III (B) Rh (-)

e. IV (AB) Rh (-)

2772. A patient visited a dentist to extract a tooth. After the tooth had been extracted, bleeding from the tooth socket continued for 15 minutes. Anamnesis states that the patient suffers from active chronic hepatitis. What phenomenon can extend the time of hemorrhage?

a. Decrease of fibrinogen content in blood

- b. Hypocalcemia
- c. Decrease of albumine content in blood
- d. Increased activity of anticoagulation system
- e. Thrombocytopenia

2773. During ascent into mountains a person develops increased respiration rate and rapid heart rate. What is the cause of these changes?

a. Decrease of O₂ partial pressure

- b. Increase of blood pH
- c. Increase of air humidity
- d. Increase of nitrogen content in air
- e. Increase of CO₂ partial pressure

2774. To stop the bleeding the patient was prescribed a direct coagulant. During introduction of the solution the patient was complaining of pain along the vein, hot sensation, and palpitations. Name the drug that causes such symptoms:

- a. Hirudine
- b. Pentoxyl
- c. Streptokinase
- d. Calcium chloride**
- e. Ergocalciferol

2775. A student, whose educational achievements throughout the semester were poor, feels emotionally tense during the final test. What is the primary cause that induced leading mechanism of emotional tension in this case?

- a. Lack of energy and information
- b. Lack of information**
- c. Tight time and lack of energy
- d. Tight time
- e. Lack of energy

2776. A young family came for a genetic counseling to identify the father of their child. The husband insists that the child does not resemble him at all and cannot possibly be his. Polymerase chain reaction method for person identification is based on the following:

- a. Genetic recombination
- b. Nucleotide deletion
- c. Gene amplification**
- d. Missense mutation
- e. Transduction

2777. A 52-year-old man presents with fever and pain in the joints. Both of his first metatarsophalangeal articulations are deformed, swollen, and reddened. Blood urea is high. The patient is diagnosed with gout. What is the main developmental factor in the pathogenesis of this disease?

- a. Argininosuccinic aciduria
- b. Hyperaminoacidemia
- c. Citrullinuria
- d. Hyperuricemia**
- e. Hyperazotemia

2778. A 67-year-old man was delivered to the cardiology unit with complaints of periodical pain in the heart, dyspnea after even insignificant physical exertion, cyanosis, and edemas. ECG revealed additional contractions of the heart ventricles. Name this type of rhythm disturbance:

- a. Tachycardia
- b. Bradycardia
- c. Extrasystole**
- d. Flutter
- e. Fibrillation

2779. During narcosis the patient developed a risk of cerebral edema. What drug should be administered in this case?

- a. Furosemide**
- b. Phenazepam
- c. Sodium bromide
- d. Triamterene
- e. Dopamine

2780. A patient with pulmonary tuberculosis is prescribed the most effective antituberculous antibiotic. Name this drug:

- a. Rifampicin**
- b. Streptocide
- c. Bactrim (Co-trimoxazole)
- d. Furasolidone
- e. Tetracycline

2781. During surgery performed in the abdominal cavity a surgeon located ligament of liver stretching from anterior abdominal wall (navel) to inferior surface of liver. What ligament is it?

- a. Coronary ligament of the liver
- b. Falciform ligament of the liver
- c. Round ligament of the liver**
- d. Venous ligament of the liver
- e. Triangular ligament of the liver

2782. On examination of a patient with disease onset 5 days ago the doctor suspected tularemia and prescribed the patient tularin intracutaneously. What is the purpose of this drug administration in the patient?

- a. Prognosis for the disease
- b. Allergy diagnostics**
- c. Treatment
- d. Prevention
- e. Treatment evaluation

2783. A patient developed increased blood content of HCO_3^- against the background of repeated and uncontrollable vomiting. What will be the leading mechanism in compensation of developed acid-base imbalance?

- a. Increased renal reabsorption of ammonia
- b. -
- c. Increased pulmonary ventilation
- d. Increased renal reabsorption of bicarbonate
- e. Decreased pulmonary ventilation**

2784. A 13-year-old boy presents with eczematous rashes on his shins and torso. Anamnesis states cases of otitis, pneumonia, and furuncles in the patient. Blood test: platelets - $70 \times 10^9/\text{l}$, low activity of T helper and T suppressor cells, low IgM, with normal IgA and IgG. What immunodeficient disease does this boy have?

- a. Severe combined immunodeficiency (Swiss type)
- b. Louis-Bar syndrome (Ataxiatelangiectasia)
- c. Wiskott-Aldrich syndrome**
- d. DiGeorge syndrome
- e. Chediak-Higashi syndrome

2785. During the exam a student was unable to correctly answer all the questions in his question card, which was accompanied by the reddening of his face and hot sensation. What type of arterial hyperemia did the student develop in this case?

- a. Metabolic
- b. Pathologic
- c. Neuroparalytic
- d. Neurotonic**
- e. Postischemic

2786. An injured person with wound of the anterior cervical region presents with hemorrhage. The outflowing blood is dark. What vessel is damaged?

- a. V. jugularis anterior**
- b. V. jugularis interna
- c. A. thyroidea superior
- d. A. carotis externa
- e. V. jugularis externa

2787. Due to trauma the patient presents with disturbed function of the parotid gland. What nerve ensures its secretion function?

- a. N. auricularis major
- b. N. petrosus minor**
- c. N. petrosus profundus

- d. N. petrosus major
- e. N. auricularis minor

2788. A patient developed pyoinflammatory process of periodontal tissues caused by activation of the microorganisms inherent in the body, which are a part of oral mucosal microflora. What type of infection is it?

- a. Relapse
- b. Autoinfection**
- c. Reinfection
- d. Exogenous infection
- e. Superinfection

2789. 40-year-old woman on examination presents with intensified basal metabolic rate. What hormone present in excess leads to such condition?

- a. Thyrocalcitonin
- b. Aldosterone
- c. Somatostatin
- d. Triiodothyronine**
- e. Glucagon

2790. Autopsy of a woman revealed the following morphologic changes: stenosis of the atrioventricular opening, mitral insufficiency. Histologically there are focal cardiosclerosis and "blooming" Aschoff nodules in the myocardium. What is the most likely diagnosis?

- a. Dermatomyositis
- b. Scleroderma
- c. Rheumatism**
- d. Polyarteritis nodosa
- e. Systemic lupus erythematosus

2791. After a case of sepsis a 27-year-old woman developed "bronzed" skin discoloration characteristic of Addison's disease. Hyperpigmentation mechanism in this case is based on increased secretion of:

- a. Gonadotropin
- b. Somatotropin
- c. Melanocyte-stimulating hormone**
- d. β -lipotropin
- e. Thyroid-stimulating hormone

2792. A 16-year-old girl presents with no hair on the pubis and in the armpits, her mammary glands are underdeveloped, no menstruations. What hormone imbalance can it be indicative of?

- a. Hypothyroidism
- b. Hyperthyroidism
- c. Ovarian failure**
- d. Pancreatic islet failure
- e. Adrenal medulla hyperfunction

2793. From the feces of a patient with acute gastroenteritis a pure culture of microorganisms was obtained. The microorganisms are small mobile slightly curved gram-negative bacilli that within 6 hours grow into a light blue film on the 1% alkaline peptone water. Such properties are characteristic of the following microorganism:

- a. Bacillus
- b. Spirilla
- c. Spirochaete
- d. Clostridium
- e. Vibrio**

2794. A patient was brought into the infectious diseases hospital on the 8th day since the disease onset. The patient complains of headache, malaise, and weakness. A sample of blood was taken for

the serological test. Widal agglutination test results with blood sample diluted 1:200 and typhoid fever Odiagnosticum were positive. What diagnosis can be made based on the results of this test?

- a. Dysentery
- b. Leptospirosis
- c. Tuberculosis
- d. Typhoid fever**
- e. Cholera

2795. Protective function of saliva is based on several mechanisms, including the presence of enzyme that has bactericidal action and causes lysis of complex capsular polysaccharides of staphylococci and streptococci. Name this enzyme:

- a. Collagenase
- b. β -glucuronidase
- c. α -amylase
- d. Oligo-1,6-glucosidase
- e. Lysozyme**

2796. In the process of hemoglobin catabolism iron is released and then as a part of special transport protein is returned to the bone marrow, to be used again for hemoglobin synthesis. Name this transport protein:

- a. Albumin
- b. Transferrin**
- c. Haptoglobin
- d. Transcobalamin
- e. Ceruloplasmin

2797. The first-aid center has received a victim of a traffic accident diagnosed with closed displaced fracture of the middle third of the thigh. For repositioning of bone fragments the patient received 10 ml of 2% dithylinum solution intravenously, which resulted in prolonged period of apnoea and muscle relaxation. What enzyme is deficient, resulting in such pharmacogenetic enzymopathy?

- a. Methemoglobin reductase
- b. N-acetyltransferase
- c. Uridine diphosphate glucuronyltransferase
- d. Glucose 6-phosphate dehydrogenase
- e. Pseudocholinesterase**

2798. An 18-year-old student presents with enlarged thyroid gland accompanied by accelerated metabolism and increased heart rate. These signs can be observed during hypersecretion of thyroxine. What organelles of thyroid cells are primarily responsible for hormone production and secretion?

- a. Golgi apparatus**
- b. Ribosomes
- c. Lysosomes
- d. Centrosomes
- e. Mitochondria

2799. A patient complains of pain in the upper umbilical region. On palpation there is a mobile painful intestine. What intestine is being palpated by the doctor?

- a. Sigmoid colon
- b. Transverse colon**
- c. Duodenum
- d. Jejunum
- e. Ileum

2800. A laboratory experiment on a dog was used to study central parts of auditory system. One of the mesencephalon structures was destroyed. The dog has lost the orienting response to auditory signals. What structure was destroyed?

- a. Red nucleus
- b. Inferior colliculi of corpora quadrigemina**

- c. Substantia nigra
- d. Superior colliculi of corpora quadrigemina
- e. Reticular formation nuclei

2801. Histological investigation of the uterine scrape of the 45-year-old woman with disturbed ovarian menstrual cycle revealed increased number of endometrial glands, some of which are serrated, while others are dilated and cyst-like. Make the diagnosis:

a. Endometrial cystic glandular hyperplasia

- b. Atypical endometrial hyperplasia
- c. Endometrial adenocarcinoma
- d. Glandular endometrial polyp
- e. Placental polyp

2802. A 45-year-old man diagnosed with hepatic cirrhosis and ascites underwent drainage of 5 liters of fluid from his abdominal cavity, which resulted in development of syncopal state due to insufficient blood supply to the brain. What circulatory disorder occurred in the abdominal cavity in this case?

a. Embolism

b. Arterial hyperemia

- c. Venous hyperemia
- d. Ischemia
- e. Thrombosis

2803. During cholecystectomy besides a. cystica another artery was pulled into the ligature. Ligation of this artery resulted in right-sided necrosis of the liver which led to the death of the patient. What artery was mistakenly ligated along with a. cystica?

a. A. hepatica communis

b. Ramus sinister a. hepatica propria

c. A. pancreato-duodenalis sup

d. Ramus dexter a. hepatica propria

e. A. gastro-duodenalis

2804. Microscopy of the puncture sample obtained from the inflammation focus of the patient with cutaneous abscess revealed numerous blood cells of different types. What cells are the first to transfer from vessels to tissues during inflammation?

a. Neutrophils

- b. Basocytes
- c. Lymphocytes
- d. Eosinophils
- e. Monocytes

2805. During the first year of life an infant presents with disturbed process of breast milk curdling. What cells of the proper gastric glands are functionally disturbed?

a. Cervical mucous cells

b. Parietal exocrinocytes

c. Main exocrinocytes

d. Accessory mucous cells

e. Exocrinocytes

2806. A lab rat has subcutaneously received mercury(II) chloride in the amount of 5 mg/kg. 24 hours later the plasma creatinine concentration increased several times. What mechanism of retention azotemia is observed in this case?

a. Decreased glomerular filtration

- b. Increased creatinine reabsorption
- c. Increased creatinine production in the renal tubules
- d. Increased glomerular filtration
- e. Increased creatinine production in the muscles

2807. Collagenosis patients typically present with connective tissue destruction processes. The

presence of these processes can be confirmed by the increase in:

- a. Blood urates
- b. Blood oxyproline and oxylysine**
- c. LDH-isoenzyme activity in the blood
- d. Blood creatine and creatinine
- e. Transaminase activity in the blood

2808. A 63-year-old man suffers from esophageal carcinoma, presents with metastases into the mediastinal lymph nodes and cancerous cachexia. What pathogenetic stage of neoplastic process is observed in the patient?

- a. Initiation
- b. -
- c. Promotion
- d. Transformation
- e. Progression**

2809. After an X-ray examination of the tuberculosis clinic patient, he was diagnosed with tumor of the right lung. During operation the surgeon removed the middle lobe of the patient's right lung. This lobe includes:

- a. Segmentum lingualare superius et inferius
- b. Segmentum apicale (superius) et segmentum basale mediale
- c. Segmentum basale anterius et posterius
- d. Segmentum anterius et segmentum apicale
- e. Segmentum laterale et segmentum mediale**

2810. A 2-year-old child presents with physical retardation and frequent pneumonias. The child was diagnosed with non-closure of the arterial canal. Hemodynamics disturbance in this case is caused by communication between the:

- a. Pulmonary trunk and pulmonary veins
- b. Superior vena cava and pulmonary trunk
- c. Aorta and pulmonary veins
- d. Aorta and pulmonary trunk**
- e. Superior vena cava and aorta

2811. A child diagnosed with purulent inflammation of the middle ear was brought to the otolaryngology department. The disease started with the inflammation of the nasopharynx. It was determined that the infection had reached the tympanic cavity through the eustachian tube that is located in the:

- a. Canaliculus tympanicus
- b. Canaliculus chordae tympani
- c. Canaliculi carotico tympanici
- d. Canalis musculotubarius**
- e. Canalis caroticus

2812. During the prestart period an athlete develops increased frequency and force of cardiac contractions. These changes are caused by intensification of the following reflex responses:

- a. Sympathetic conditioned**
- b. Parasympathetic conditioned
- c. Peripheral
- d. Parasympathetic unconditioned
- e. Sympathetic unconditioned

2813. Due to trauma the patient has lost 25% of circulating blood volume. Name the emergency compensatory mechanism against blood loss:

- a. Restoration of blood protein composition
- b. Restoration of erythrocyte number
- c. Erythropoiesis activation
- d. Interstitial fluid flow to the vessels**

e. Increase of reticulocyte number

2814. ECG analysis of the patient shows that the T waves are positive in the second standard limb lead and their amplitude and duration is normal. The conclusion can be made that the following process occurs normally in the patient's ventricles:

a. Repolarization

b. Excitation

c. Relaxation

d. Contraction

e. Depolarization

2815. After a case of common cold the patient developed numbness of the right side of the face. Examination revealed disturbed pain and thermal sensitivity in the right half of the face. What nerve was damaged?

a. Trigeminal

b. Glossopharyngeal

c. Hypoglossal

d. Vagus

e. Facial

2816. X-ray examination of a 57-year-old man indicates local areas of hard bone tissue resorption in some of the patient's bones. These changes can be associated with increased activity of:

a. Chondroblasts

b. Osteoblasts

c. Chondrocytes

d. Osteoclasts

e. Osteocytes

2817. A patient presents with acute attack of cholelithiasis. Laboratory examination of the patient's feces will show the following in this case:

a. Connective tissue

b. Positive reaction to stercobilin

c. Negative reaction to stercobilin

d. Partially digested cellulose

e. Starch granules

2818. During autopsy of a 34-year-old man, who died of chronic kidney failure due to renal amyloidosis, in the lungs (mainly in the lower lobes) the pathologist detected multiple bronchial dilations filled with purulent masses accumulated in the bronchial lumen. Surface of the lungs section has honey-combed pattern and resembles a honeycomb. Histologically there is a chronic inflammation detected in the bronchial wall, muscle fibers are replaced with connective tissue. These changes in the lungs can be defined as:

a. Lung abscesses

b. Bronchiectases

c. Chronic bronchitis

d. Bronchopneumonia

e. Chronic pneumonia

2819. Initial inoculation of water in 1% peptone water resulted in growth of a thin film on the medium surface in 6 hours. Such cultural properties are characteristic of causative agent of the following disease:

a. Plague

b. Dysentery

c. Pseudotuberculosis

d. Cholera

e. Tuberculosis

2820. A 30-year-old man complains of suffocation, heaviness in the chest on the right, general

weakness. Body temperature is 38.9°C. Objectively the right side of the chest lags behind the left side during respiration. Pleurocentesis yielded exudate. What is the leading factor of exudation in the patient?

a. Increased permeability of the vessel wall

- b. Hypoproteinemia
- c. Decreased resorption of pleural fluid
- d. Erythrocyte aggregation
- e. Increased blood pressure

2821. A 42-year-old man with gout presents with high content of uric acid in blood. The patient was prescribed allopurinol to lower the concentration of uric acid. Allopurinol is a competitive inhibitor of the following enzyme:

a. Xanthine oxidase

- b. Adenine phosphoribosyltransferase
- c. Guanine deaminase
- d. Hypoxanthine phosphoribosyltransferase
- e. Adenosine deaminase

2822. Autopsy revealed a large wedge-shaped patch of a dense dark red tissue with clear margins in the upper lobe of the right lung. Histological examination detected there necrosis of the alveolar walls; the alveolar lumen is tightly packed with erythrocytes. What process occurred in the lungs?

- a. Gangrene
- b. Carneous degeneration

c. Hemorrhagic infarction

- d. Hemorrhage
- e. Atelectasis

2823. A patient complains of dizziness, thirst, difficulty swallowing, and impaired vision of close objects. Objectively: respiratory rate is increased, pupils are dilated, general agitation, talkativeness, though the speech is indistinct. BP is 110/70 mm Hg, heart rate is 110/min. Given symptoms can indicate overdosage of the following drug:

- a. Ephedrine
- b. Morphine

c. Atropine

- d. Aminazine
- e. Caffeine

2824. A patient presents with indigestion, stomachaches, and excessive salivation. Similar symptoms had already been observed in this patient previously. Laboratory analysis detected oval eggs covered with lumpy capsules in the patient's feces. What is the most likely cause of the patient's disorder?

- a. Enterobiasis
- b. Fascioliasis
- c. Trichocephaliasis
- d. Diphyllbothriasis

e. Ascariasis

2825. Regional lymph nodes surrounding an infected wound are enlarged. Histological examination shows increased number of macrophages, lymphocytes, and lymphatic follicles, as well as a large amount of plasma cells, in the cortical layer of the lymph nodes. What process in the lymph nodes is indicated by these histologic changes?

a. Transplant rejection

b. Antigen stimulation

- c. Congenital deficiency of lymphoid tissue
- d. Acquired deficiency of lymphoid tissue
- e. Neoplastic aberration

2826. During removal of the hyperplastic thyroid gland of a 47-year-old woman, the parathyroid gland was damaged. One month after the surgery the patient developed signs of hypoparathyroidism:

frequent convulsions, hyperreflexia, laryngospasm. What is the most likely cause of the patient's condition?

- a. Hyponatremia
- b. Hypophosphatemia
- c. Hyperkalemia
- d. Hypocalcemia**
- e. Hyperchlorhydria

2827. On examination the patient presents with hirsutism, moon-shaped face, stretch marks on the abdomen. BP is 190/100 mm Hg, blood glucose is 17.6 mmol/L. What pathology is such clinical presentation characteristic of?

- a. Gonadal hypofunction
- b. Hyperfunction of the insular apparatus
- c. Hyperthyroidism
- d. Hypothyroidism
- e. Adrenocortical hyperfunction**

2828. A 45-year-old woman presents with breast cancer. Metastases can spread in this case to the following regional lymph nodes:

- a. Axillary, parasternal**
- b. Cervical, parasternal
- c. Aortic, mediastinal
- d. Parasternal, mediastinal
- e. Abdominal, cervical

2829. A 40-year-old pregnant woman underwent amniocentesis. Examination determined the fetal karyotype to be 47, XY+21. What fetal pathology was detected?

- a. Phenylketonuria
- b. Patau syndrome
- c. Klinefelter syndrome
- d. Turner syndrome
- e. Down syndrome**

2830. A patient used an indirect-acting adrenergic agonist to treat rhinitis. After the patient has been putting in the nose drops for several days, the vasoconstrictive effect of the drug gradually diminished. Name this phenomenon:

- a. Allergy
- b. Cumulation
- c. Idiosyncrasy
- d. Teratogenicity
- e. Tachyphylaxis**

2831. In a township there was registered an outbreak of hepatitis, which had supposedly spread through the water supply. What hepatitis virus could be the cause of the outbreak in this township?

- a. Hepatitis E virus**
- b. Hepatitis D virus
- c. Hepatitis B virus
- d. Hepatitis G virus
- e. Hepatitis C virus

2832. A medical student was hospitalized into the infectious diseases unit on the 2nd day after the disease onset; the patient is suspected to have infectious mononucleosis. What results of laboratory analysis can confirm this diagnosis immediately on the day of the hospitalization?

- a. IgM antibodies to herpes simplex virus were detected
- b. Herpesvirus was isolated
- c. Cytomegalovirus antibodies were detected
- d. IgM antibodies to Epstein-Barr virus were detected**
- e. Fourfold increase in number of antibodies to Epstein-Barr virus was detected

2833. A 64-year-old woman presents with disturbed fine motor function of her fingers, marked muscle rigidity, and tremor. The neurologist diagnosed her with Parkinson's disease. What brain structures are damaged resulting in this disease?

- a. Red nuclei
- b. Thalamus
- c. Substantia nigra**
- d. Cerebellum
- e. Reticular formation

2834. A 20-year-old young man with tall stature, asthenic body type, signs of hypogonadism and gynecomastia, and low sperm count (azoospermia) has karyotype 47, XXY. What hereditary syndrome can be characterized by this chromosomal anomaly?

- a. Turner syndrome
- b. Wiskott-Aldrich syndrome
- c. Klinefelter syndrome**
- d. Louis-Bar syndrome (ataxiatangiectasia)
- e. Down syndrome

2835. Pathogenic staphylococcus was obtained from the purulent wound of the patient. Its antibiotic sensitivity was determined to be as follows: penicillin growth inhibition zone - 8 mm; oxacillin - 9 mm, ampicillin - 10 mm, gentamicin - 22 mm, lincomycin - 11 mm. What antibiotic should be chosen for treatment in this case?

- a. Penicillin
- b. Lincomycin
- c. Oxacillin
- d. Ampicillin
- e. Gentamicin**

2836. A patient presents with dilated blood vessels of the anterior medial surface of the lower leg. This condition resulted from the dilation of the following blood vessel:

- a. V. saphena magna**
- b. V. saphena parva
- c. V. poplitea
- d. A. tibialis posterior
- e. A. tibialis anterior

2837. A patient, who had received a thermal burn, developed painful boils filled with turbid liquid on the skin. What morphological type of inflammation has developed in the patient?

- a. Diphtheritic
- b. Serous**
- c. Croupous
- d. Proliferative
- e. Granulomatous

2838. Nitrogen is being excreted from the body mainly as urea. When activity of a certain enzyme in the liver is low, it results in inhibition of urea synthesis and nitrogen accumulation in blood and tissues. Name this enzyme:

- a. Carbamoyl phosphate synthetase**
- b. Urease
- c. Pepsin
- d. Amylase
- e. Aspartate aminotransferase

2839. Coronary artery thrombosis resulted in development of myocardial infarction. What mechanisms of cell damage are leading in this disease?

- a. Calcium**
- b. Acidotic
- c. Protein

- d. Electroosmotic
- e. Lipid

2840. People, who for a long time remained in hypodynamic state, develop intense pain in the muscles after a physical exertion. What is the most likely cause of this pain?

- a. Accumulation of creatinine in muscles
- b. Intensive breakdown of muscle proteins
- c. Accumulation of lactic acid in muscles**
- d. Decreased content of lipids in muscles
- e. Increased content of ADP in muscles

2841. Histological specimen shows organ parenchyma to consist of lymphoid tissue that forms lymph nodules; the nodules are located diffusely and have a central artery. What anatomical structure has such morphological characteristics?

- a. Red bone marrow
- b. Spleen**
- c. Lymph node
- d. Tonsil
- e. Thymus

2842. A 25-year-old woman complains of visual impairment. Examination revealed disturbed eye accommodation, the pupil is dilated and unresponsive to light. What muscles are functionally disturbed in this case?

- a. Iris dilator muscle, ciliary muscle
- b. Lateral rectus muscle, iris sphincter muscle
- c. Iris sphincter and iris dilator muscles
- d. Iris sphincter muscle, ciliary muscle**
- e. Superior oblique muscle, ciliary muscle

2843. A patient with hypochromic anemia has hair with split ends and suffers from hair loss. The nails are brittle. Gustatory sensations are affected. What is the mechanism of development of these symptoms?

- a. Low production of parathyroid hormone
- b. Vitamin B12 deficiency
- c. Iron enzymes deficiency**
- d. Vitamin A deficiency
- e. Low production of thyroid hormones

2844. A patient suffers from hepatic cirrhosis. What substance excreted in urine should be analyzed to characterize the antitoxic function of liver?

- a. Amino acids
- b. Hippuric acid**
- c. Creatinine
- d. Ammonium salts
- e. Uric acid

2845. 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. Tissue embolism
- b. Thrombosis
- c. Thromboembolism**
- d. Foreign body embolism
- e. Fat embolism

2846. Representatives of a certain human population can be characterized by elongated body, height variability, decreased volume of muscle mass, increased length of limbs, decreased size and volume

of rib cage, increased perspiration, decreased indices of base metabolism and fat synthesis. What type of adaptive evolution is it?

- a. Moderate
- b. Arctic
- c. Tropical**
- d. Intermediate
- e. Mountain

2847. A 56-year-old man complains of thirst and frequent urination. The endocrinologist diagnosed this patient with diabetes mellitus and prescribed him glibenclamide. What mechanism of action does this drug have?

- a. Stimulation of β -cells of islets of Langerhans**
- b. Facilitates glucose transport through cell membranes
- c. Inhibits glucose absorption in the intestine
- d. Suppression of α -cells of islets of Langerhans
- e. Facilitates glucose uptake by the tissues

2848. Patients with bile duct obstruction typically present with inhibited blood clotting and develop hemorrhages due to insufficient assimilation of vitamin:

- a. C
- b. K**
- c. D
- d. A
- e. E

2849. A test animal receives electrical impulses that irritate the sympathetic nerve that innervates blood vessels of the skin. What reaction will it cause in the blood vessels?

- a. Venous dilation
- b. Arterial and venous constriction**
- c. Arterial dilation
- d. No reaction
- e. Arterial and venous dilation

2850. Examination of the coronary arteries revealed atherosclerotic plaques with calcinosis that narrow the arterial opening by 1/3. In the muscle there are numerous whitish layers of connective tissue. Name the process detected in the myocardium:

- a. Myocarditis
- b. Myocardial infarction
- c. Tiger heart
- d. Postinfarction cardiosclerosis
- e. Diffuse cardiosclerosis**

2851. A person has increased pulmonary ventilation due to physical exertion. What indicator of external respiration will be significantly increased compared to the resting state?

- a. Total lung capacity
- b. Respiratory volume**
- c. Inspiratory reserve volume
- d. Vital lung capacity
- e. Expiratory reserve volume

2852. The carotid bodies on both sides were removed in a test animal. Which of the listed factors WILL NOT be able to cause hyperventilation in the test animal?

- a. Hypercapnia
- b. Physical exertion
- c. Hypoxemia**
- d. Acidosis
- e. Increase of core body temperature

2853. Due to prolonged stay in the mountains at the altitude of 3000 m above the sea level, a person developed increased oxygen capacity of blood, which was directly caused by intensified production of:

a. Erythropoietins

- b. Carbaminohemoglobin
- c. 2,3-bisphosphoglycerate
- d. Catecholamines
- e. Leukopoietins

2854. A woman has been limiting the amount of products in her diet to lose some weight. 3 months later she developed edemas and her diuresis increased. What dietary component deficiency is the cause of this?

a. Proteins

- b. Carbohydrates
- c. Minerals
- d. Vitamins
- e. Fats

2855. A microslide of the lung tissue sample taken from a patient with pneumonia shows damage to the cells that carry out respiratory function. What cells of the alveolar wall are damaged?

- a. Club cells
- b. Lymphocytes
- c. Type 1 alveolar cells
- d. Macrophages

e. Type 2 alveolar cells

2856. After a psychic trauma a woman developed periodical increases in her blood pressure accompanied by headache, palpitations, and general weakness. What mechanism of hypertension development does this woman have?

- a. Increased circulating blood volume
- b. Tachycardia
- c. Venoconstriction

d. Increased arteriolar tone

e. Decreased cardiac output

2857. An electron micrograph of a nephron segment shows cuboidal cells with ciliated lining on their apical surfaces; their basal surfaces have basal striation with mitochondria located between the cytolemma invaginations. Name the described nephron segment:

a. Glomerular capsule

b. Proximal tubule

- c. Distal tubule
- d. Collecting ducts
- e. Thin limbs of Henle's loop

2858. A patient has been taking bisacodyl for a long time to treat chronic constipation. However, several weeks later the aperient effect of the drug diminished. What is the possible cause of this?

- a. Functional cumulation
- b. Sensitization
- c. Drug dependence
- d. Material cumulation

e. Acquired tolerance

2859. A force generated by the muscle is not enough to lift a load. What type of muscle contraction occurs in this case?

a. Concentric

b. Isometric

- c. Isotonic
- d. Tetanic
- e. Eccentric

2860. Condition of a patient with diabetes mellitus sharply deteriorated after a regular injection of insulin. The patient became anxious and broke out in cold sweat; tremor of the extremities, general weakness, and dizziness appeared. What medicine can remove these symptoms?

- a. Noradrenaline
- b. Glibutid (Buformin)
- c. Tolbutamide
- d. Caffeine

e. Adrenaline

2861. Microscopy of the myocardium of a girl, who died of diphtheria due to heart failure, shows fatty degeneration, multiple foci of cardiomyocytes necrosis, and small foci of cellular infiltrates in the interstitium. What type of myocarditis is it?

a. Allergic

- b. Focal exudative
- c. Granulomatous
- d. Interstitial
- e. Diffuse exudative

2862. A schizophrenia patient was prescribed aminazine. What pharmacodynamic action of this drug is the grounds for its prescription in this case?

- a. Antiemetic
- b. Muscle relaxant
- c. Hypotensive

d. Antipsychotic

- e. Hypothermic

2863. A 40-year-old man developed skin redness and swelling in the neck area, where eventually a small abscess appeared. On section the focus is dense and yellowgreen colored. In the purulent masses there are white granules. Histologically there are fungal druses, plasma and xanthome cells, and macrophages detected. Specify the most correct etiological name of this pathological process:

a. Actinomycosis

- b. Carbuncle
- c. Leprosy
- d. Syphilis
- e. Furuncle

2864. A patient was hospitalized into the infectious diseases unit on the 11th day since the disease onset and provisionally diagnosed with typhoid fever. What biological material should be collected from the patient for the analyzes at this stage?

- a. Urine
- b. Bile
- c. Roseola secretion

d. Blood serum

- e. Feces

2865. A man with ischemic heart disease has been taking his medicine too often throughout a day, which resulted in poisoning. Examination detects cyanosis of skin and mucosa, sharp drop of blood pressure, tachycardia, and respiratory depression. Blood methemoglobin is high. What type of medicine did the patient overdose on?

- a. Calcium channel blockers
- b. α -adrenergic blockers

c. Organic nitrates

- d. Adenosine-based drugs
- e. Myotropic antispasmodics

2866. General structure of eukaryotic genes is as follows: exon-intron-exon. Such functional structure of a gene leads to certain specifics of the transcription process. What sequence will correspond with precursor mRNA (immature)?

- a. Exon-exon
- b. Exon-exon-intron
- c. Exon-intron-exon**
- d. Intron-exon
- e. Exon-intron

2867. Atria of a test animal were superdistended with blood, which resulted in decreased reabsorption of Na^+ and water in renal tubules. This can be explained by the effect of the following factor on the kidneys:

- a. Renin
- b. Aldosterone
- c. Natriuretic hormone**
- d. Angiotensin
- e. Vasopressin

2868. A patient with clinical signs of a primary immunodeficiency has functionally disturbed mechanism of antigen-presentation to the immunocompetent cells. What cells are likely to have structural defects?

- a. B-lymphocyte
- b. T-lymphocyte
- c. Macrophages, monocytes**
- d. Fibroblasts
- e. O-lymphocytes

2869. During intensive muscle work there is a large amount of ammonia produced in the muscles. What amino acid plays the main role in the transportation of ammonia to the liver and participates in gluconeogenesis reactions?

- a. Aspartate
- b. Alanine**
- c. Lysine
- d. Arginine
- e. Ornithine

2870. Encephalopathy has developed in a child with hemolytic disease of the newborn. What substance had increased in the child's blood, resulting in damage to the CNS?

- a. Verdohemoglobin
- b. Bile acids
- c. Bilirubin-albumin complex
- d. Bilirubin glucuronide
- e. Unconjugated bilirubin**

2871. Renal examination shows the kidney to be swollen and plethoric, with easily removable capsule. Renal pelvis and calyces are dilated and filled with turbid urine; their mucosa is dull and has hemorrhagic foci. On section the renal tissue is variegated, there are yellow-gray areas surrounded with plethoric and hemorrhagic zone. What disease can be characterized by such results of macroscopic examination?

- a. Acute glomerulonephritis
- b. Nephrolithiasis
- c. Polycystic kidney
- d. Acute pyelonephritis**
- e. Renal amyloidosis

2872. A 54-year-old man complains of general weakness, frequent colds, and bruises constantly appearing on his body. Blood test: erythrocytes - $2.5 \times 10^{12}/\text{L}$; Hb- 80 g/L; color index - 0.9; reticulocytes - absent; platelets - $50 \times 10^9/\text{L}$; leukocytes - $58 \times 10^9/\text{L}$; leukogram: basocytes - 5%, eosinophils 15%, myeloblasts - 6%, myelocytes - 10%, juvenile - 18%, stab neutrophils - 26%, segmented neutrophils - 10%, lymphocytes - 8%, monocytes - 2%, ESR - 40 mm/hour. What hematologic conclusion can be made?

- a. Leukemoid response
- b. Chronic lymphocytic leukemia
- c. Basophilic eosinophilic leukocytosis
- d. Chronic myelogenous leukemia**
- e. Myeloblastic leukemia

2873. A mutation has occurred in a cell in the 1st exon of the structural gene. The number of nucleotide pairs changed from 290 to 250. Name this type of mutation:

- a. Translocation
- b. Nullisomy
- c. Inversion
- d. Duplication
- e. Deletion**

2874. The dorsal root of the spinal nerve of a test animal was severed. What changes will occur in the innervation area?

- a. Increased muscle tone
- b. Loss of sensitivity and motor function
- c. Loss of motor function
- d. Decreased muscle tone
- e. Loss of sensitivity**

2875. Due to destruction of certain structures of the brainstem a test animal has lost its orientation reflexes in response to strong light stimuli. What structures were destroyed?

- a. Anterior quadrigeminal bodies**
- b. Red nuclei
- c. Substantia nigra
- d. Vestibular nuclei
- e. Posterior quadrigeminal bodies

2876. A toxin neutralized with 0.4% formaldehyde under 37-40°C for 4 weeks is used for vaccination. This preparation was first used by Gaston Ramon for diphtheria prevention. Name this preparation:

- a. Immunoglobulin
- b. Adjuvant
- c. Inactivated vaccine
- d. Anatoxin**
- e. Antitoxic serum

2877. 24 hours after an appendectomy the patient's blood test shows neutrophilic leukocytosis with a regenerative shift. What is the most likely mechanism of absolute leukocytosis development in the patient's peripheral blood?

- a. Decreased leukocyte disintegration
- b. Leukocyte redistribution
- c. Intensification of leukopoiesis**
- d. Deceleration of leukocyte migration to the tissues
- e. Immunity activation

2878. The right leg of a 40-year-old woman measured at the shin level is by 2 cm smaller in the diameter than the left leg. Anklejerk (Achilles) and knee-jerk reflexes are absent on the right. What is the most likely mechanism of hyporeflexia development during peripheral paralysis?

- a. Disturbed perception of stimulation
- b. Disturbed conduction of stimulation**
- c. Disturbed synaptic impulse transmission
- d. Inhibition of pyramidal motoneuron
- e. Activation of excitatory impulses from the CNS

2879. A 38-year-old man, who has been suffering from systemic lupus erythematosus for 3 years, developed diffuse renal lesions accompanied by massive edemas, marked proteinuria,

hyperlipidemia, and dysproteinemia. What is the most likely mechanism of proteinuria development in this case?

a. Autoimmune damage to the nephrons

- b. Ischemic damage to the tubules
- c. Morbid affection of the urinary tracts
- d. Increased blood proteins
- e. Inflammatory damage to the nephrons

2880. A 59-year-old man, a business manager, developed intense burning retrosternal pain that irradiates to the left arm. The pain occurred in the evening after the tax audit. 15 minutes later the patient's condition normalized. What mechanism of angina pectoris development is leading in this patient?

a. Functional cardiac overload

b. Increased level of blood catecholamines

- c. Intravascular aggregation of blood cells
- d. Coronary atherosclerosis
- e. Coronary artery thrombosis

2881. A 25-year-old woman at her third pregnancy with impending miscarriage was brought to the hospital. What combination of Rh-factor of the mother and the fetus can be the cause of this condition?

a. Mother Rh (+), fetus Rh (-)

b. Mother Rh (-), fetus Rh (-)

c. Mother Rh (-), fetus Rh (+)

d. Mother Rh (+), fetus Rh (+)

e. -

2882. A specimen of a 10-day-old human embryo shows two interconnected sacs (amniotic and yolk sacs). Name the structure located in the place where these two sacs connect:

a. Floor of the amniotic sac

b. Amniotic stalk

c. Extraembryonic mesoderm

d. Embryonic shield

e. Roof of the amniotic sac

2883. A woman with the III (B), Rh (-) blood group gave birth to a child with the II (A) blood group. The child is diagnosed with hemolytic disease of newborn caused by rhesus incompatibility. What blood group and Rh does the father have?

a. III (B), Rh (+)

b. I(0),Rh(+)

c. II (A), Rh (+)

d. I(0),Rh(-)

e. II (A), Rh (-)

2884. A 40-year-old woman suffers from Cushing's disease - steroid diabetes. On biochemical examination she has hyperglycemia and hypochloremia. What process activates in the first place in such patients?

a. Glucose reabsorption

b. Glycogenolysis

c. Gluconeogenesis

d. Glucose transport to the cells

e. Glycolysis

2885. A patient with a chemical burn has developed esophageal stenosis. The patient presents with acute weight loss due to problematic food intake. Blood test: erythrocytes - $3.0 \times 10^{12}/L$, Hb- 106 g/L, total protein - 57 g/L. What type of starvation does this patient suffer from?

a. Water starvation

b. Absolute starvation

- c. Protein starvation
- d. Complete starvation

e. Incomplete starvation

2886. Autopsy of the body of a man, who for a long time had been working at the factory with high content of silicon dioxide in the air, revealed enlarged dense lungs with numerous round and oval sclerotic foci. The foci were miliary and larger in size and colored gray or gray-black. What is the most likely diagnosis?

a. Nodular silicosis

- b. Anthracosilicosis
- c. Asbestosis
- d. Silicoanthracosis
- e. Diffuse sclerotic silicosis

2887. Autopsy of the body of a 50-yearold man, who had been suffering from tuberculosis and died of cardiopulmonary decompensation, shows lobar affection of the lungs: the upper lobe of the right lung is enlarged, dense, yellow on section, crumbling, with pleural ?brin deposition. What type of secondary tuberculosis can be characterized by this pathology?

- a. Tuberculoma
- b. Acute focal tuberculosis
- c. Fibrous focal tuberculosis
- d. In?ltrative tuberculosis

e. Caseous pneumonia

2888. A woman has come to the hospital with complaints of general weakness, dizziness, and dyspnea. Resently she has been taking levomycetin (chloramphenicol) for prevention of enteric infection. Blood test: erythrocytes - $1.9 \times 10^{12}/L$, hemoglobin - 58 g/L, color index - 0.9, leukocytes - 2.2 G/L , reticulocytes - 0.3%. What type of anemia is it indicative of?

- a. Aplastic
- b. Metaplastic

c. Hypoplastic

- d. Hemolytic
- e. Iron-de?ciency

2889. Preoperative examination revealed prothrombin de?ciency in the blood of the patient. What drug should be preliminarily prescribed to mitigate blood loss in the patient during the surgery?

- a. Aminocapronic acid
- b. Thrombin

c. Vicasol (Menadione)

- d. Phenylin (Phenindione)
- e. Contrykal (Aprotinin)

2890. A patient with streptococcal infection of the gingiva was prescribed a drug with β -lactam ring in its structure. What drug of those listed below belongs to this pharmacological group?

- a. Erythromycin
- b. Rifampicin

c. Benzylpenicillin

- d. Streptomycin sulfate
- e. Levomycetin (Chloramphenicol)

2891. A microslide of the skin sample taken from the ?nger of a child shows that epidermis is insuf?ciently developed. What germ layer was damaged in the process of embryo development?

a. Ectoderm

- b. Endoderm
- c. Ectomesenchyme
- d. Mesenchyme
- e. Mesoderm

2892. Neutralization of xenobiotics and active endogenous metabolites often occurs via introduction of an oxygen atom into the substrate molecule. What process occurs as the result?

a. Hydroxylation

- b. Transamination
- c. Deaminization
- d. Phosphorilation
- e. Decarboxylation

2893. In the process of an experiment, vascular resistance to the blood flow was measured in the different areas of circulatory system. The highest resistance was detected in the:

- a. Venules
- b. Veins
- c. Arteries
- d. Capillaries

e. Arterioles

2894. A 34-year-old man died in a comatose state. According to his family after a business trip to an African country he developed periodical jaundice attacks. Autopsy shows the following: dense enlarged spleen with slate-black pulp; enlarged plethoric liver, gray-black on section; cerebral gray matter is brown-gray; cerebral white matter contains numerous small hemorrhages. What infectious disease can be suspected?

- a. Prion infection
- b. Meningococcemia

c. Malaria

- d. Generalized herpetic infection
- e. Generalized cryptococcosis

2895. What diagnostic method should be used in industry to test the raw leather for presence of B. anthracis?

- a. Bacteriological analysis
- b. Serological test
- c. Microscopy with Burry-Gins stain
- d. Microscopy with Aujeszky stain

e. Ascoli's thermo precipitation test

2896. A 46-year-old patient suffering from ulcer disease of the stomach is diagnosed with rheumatoid arthritis. What anti-inflammatory drug would be the most advisable in this case?

a. Paracetamol

b. Celecoxib

- c. Analgin (Metamizole)
- d. Prednisolone
- e. Promedol (Trimeperidine)

2897. A patient with myocardial infarction has acute heart failure. Among the drugs that increase the force of heart contractions the least dangerous in this case will be:

- a. Euphyllin (Aminophylline)
- b. Caffeine
- c. Adrenaline
- d. Isadrinum (Isoprenaline)

e. Dobutamine

2898. During intensive physical exertion, one of the energy sources for the working muscles is glucose produced as the result of gluconeogenesis. This process is the most intensive in the following organ:

- a. Brain
- b. Muscles
- c. Stomach

d. Liver

e. Lungs

2899. During influenza epidemic, morbidity in the schoolchildren, who did not participate in sports, was 40%, while in the schoolchildren, who engaged in regular physical activities, morbidity did not exceed 20%. What adaptation mechanism ensured low morbidity in the physically active schoolchildren?

- a. Specific adaptation
- b. Biochemical adaptation
- c. Genetic adaptation

d. Cross-adaptation

e. Physiological adaptation

2900. Monoamine oxidase inhibitors are widely used as psychopharmacological drugs. They change the level of nearly all neurotransmitters in synapses, with the following neurotransmitter being the exception:

- a. Dopamine
- b. Serotonin
- c. Noradrenaline
- d. Adrenaline

e. Acetylcholine

2901. A 17-year-old girl suffers from periodical palpitations that last several minutes. Her heart rate is 200/min., rhythmic. What heart rhythm disorder developed in this patient?

- a. Extrasystole
- b. Atrioventricular block
- c. Sinus tachycardia
- d. Sinus bradycardia

e. Paroxysmal tachycardia

2902. Kidney X-ray image obtained by means of pyelography shows that the minor calyces converge to form 2 major calyces that adjoin to the renal pelvis, from which the ureter exits. What type of urinary tract is it?

a. Mature

- b. Bicornuate
- c. Fetal
- d. Cystic
- e. Embryonic

2903. A patient has been brought into a surgical ward with an incised wound of the anterior surface of the shoulder in its lower one-third. Flexing function was disturbed in the shoulder and elbow joints, which is caused by the damage to the:

- a. Anconeus muscle
- b. Triceps muscle of the arm

c. Biceps muscle of the arm

- d. Deltoid muscle
- e. Coracobrachial muscle

2904. A patient suffers from acute cardiopulmonary failure with pulmonary edema. What diuretic should be prescribed in the given case?

- a. Hydrochlorothiazide (Dichlothiazidum)
- b. Acetazolamide (Diacarb)
- c. Triamterene
- d. Spironolactone

e. Furosemide

2905. Ketosis develops in the patients with diabetes mellitus, as the result of activation of fatty acids oxidation processes. What acidbase imbalance can result from accumulation of excessive ketone bodies in the blood?

- a. Respiratory acidosis
- b. Respiratory alkalosis
- c. Metabolic alkalosis
- d. No imbalance occurs

e. Metabolic acidosis

2906. A 5-year-old child is diagnosed with Bruton syndrome (X-linked agammaglobulinemia) that manifests itself as severe clinical course of bacterial infections and absence of B lymphocytes and plasma cells. What changes of immunoglobulin content can be observed in blood serum of the child with immunodeficiency?

- a. Decreased IgA, IgM**
- b. Decreased IgD, IgE
- c. No changes
- d. Increased IgD, IgE
- e. Increased IgA, IgM

2907. During the skill-building session in microbiology the students need to stain the prepared and fixed sputum smears obtained from a tuberculosis patient. What staining technique should be used in this case?

- a. Burry
- b. Giemsa
- c. Gram

d. Ziehl-Neelsen

- e. Giemsa

2908. A woman with hypophyseal diabetes insipidus developed a water-mineral imbalance. What type of water-mineral imbalance develops in such cases?

- a. Isoosmolar dehydration
- b. Hypoosmolar dehydration

c. Hyperosmolar dehydration

- d. Hypoosmolar hyperhydration
- e. Hyperosmolar hyperhydration

2909. First-year schoolchildren have received tuberculin skin test (Mantoux test) at the school nurse's office. The purpose of this test was:

- a. To preventively vaccinate against tuberculosis
- b. To measure allergization rate toward rickettsia
- c. To detect parotitis in the schoolchildren

d. To determine the children that need to receive BCG vaccination

- e. To measure immunity stress toward diphtheria

2910. In an experiment it is necessary to assess neuromotor and muscle excitability. What value should be measured to make the assessment?

- a. Action potential amplitude
- b. Threshold potential
- c. Action potential duration

d. Sensory threshold

- e. Resting potential

2911. Vestibular receptors of semicircular canals of a test animal have been destroyed. What reflexes will disappear as a result?

- a. Primary orienting reflex

b. Statokinetic reflex during movements with angular acceleration

- c. Head-righting reflex
- d. Statokinetic reflex during movements with linear acceleration
- e. Body-righting reflex

2912. Acute renal impairment caused death of a patient with hemorrhage. Autopsy revealed enlarged

kidneys with broad pale pink cortical layer expressively demarcated from dark red renal pyramids. Macroscopic examination revealed lack of epithelial nuclei of the convoluted tubules, tubulorrhexis, phlebostasis. The cell nuclei of the choroid glomus and straight tubules were present. What pathology is it?

- a. Necronephrosis
- b. Glomerulonephritis
- c. Nephrosis
- d. Pyelonephritis
- e. Infarction

2913. A boxer had sustained a blow to the left parotid area, after which he developed paralysis of the facial muscles on this side. What nerve had been damaged?

- a. Lesser petrosal
- b. Facial
- c. Maxillary
- d. Ophthalmic
- e. Mandibular

2914. A patient has an open facial wound with undermined edges; tissue necrosis with gradually developing partial gangrene that nearly reaches the bone tissue is observed. On close examination the wound contains live larvae. The patient is diagnosed with tissue myiasis. What Diptera larvae are the causative agents of this disease?

- a. *Phlebotomus pappatachi*
- b. *Stomoxys calcitrans*
- c. *Glossina palpalis*
- d. *Musca domestica*
- e. *Wohlfahrtia magnifica*

2915. A hereditary disease - homocystinuria - is caused by disturbed transformation of homocysteine into methionine. Accumulated homocysteine forms its dimer (homocystine) that can be found in urine. What vitamin preparation can decrease homocysteine production?

- a. Vitamin C
- b. Vitamin B2
- c. Vitamin PP
- d. Vitamin B12
- e. Vitamin B1

2916. During hypersensitivity skin test a patient received an allergen subcutaneously, after which the patient developed skin redness, edema, and pain due to histamine action. This biogenic amine is produced as the result of the following transformation of histidine amino acid:

- a. Decarboxylation
- b. Phosphorylation
- c. Deamination
- d. Isomerization
- e. Methylation

2917. During the night a man has received a strong blow to the upper anterior abdominal wall, which resulted in the cardiac arrest. What mechanism has led to the cardiac arrest in this case?

- a. Sympathetic conditioned
- b. Peripheral
- c. Sympathetic unconditioned
- d. Parasympathetic conditioned
- e. Parasympathetic unconditioned

2918. A woman has lost a lot of blood during the childbirth. Her blood group needs to be determined. Erythrocyte agglutination occurred with standard serums 0 (I) and A (II) and did not occur with standard serum B (III). What blood group does this woman have?

- a. -

b. B (III)

c. A (II)

d. O (I)

e. AB (IV)

2919. A 60-year-old man diagnosed with chronic heart failure was brought to the hospital. After a long course of treatment the patient developed signs of intoxication: dyspnea, extrasystole, nausea, and disturbed perception of colors. What medicine has caused such side-effects?

a. Anaprilin (Propranolol)

b. Drotaverine

c. Furosemide

d. Digoxin

e. Nitroglycerine

2920. A patient with exacerbated peptic ulcer disease of the stomach has made an appointment with the doctor. What type of drugs should be included in the complex therapy of this patient?

a. α -adrenergic agonists

b. H₂ antagonists

c. α -adrenergic antagonists

d. H₁ antagonists

e. β -adrenergic antagonists

2921. Autopsy of the body revealed waxy degeneration of the rectus abdominis muscles. In the terminal segment of the small intestine there are ulcers 3-5 cm in diameter. The ulcer walls are covered in a crumbling grayish-white substance. The ulcer edges are markedly raised above the mucosa. Widal test is positive. Make the diagnosis:

a. Crohn's disease

b. Dysentery

c. Nonspecific ulcerative colitis

d. Relapsing fever

e. Typhoid fever

2922. Genealogical analysis of a child with myotonic dystrophy determined that this disease is present in every generation, equally presented by the relatives of both genders, the risk of inheriting this disease is equal no matter which parent is affected. If one of the parents is heterozygous for this disease and the other parent is healthy, the risk of them giving birth to a sick child is 50%. What type of disease inheritance is it?

a. X-linked recessive

b. Y-linked

c. Autosomal recessive

d. X-linked dominant

e. Autosomal dominant

2923. A 30-year-old man has undergone surgical removal of a thyroid tumor. Histologically the tumor is made up of papillary structures varying in size that emerge from the inner surface of dilated cystic follicles and are covered with atypical epithelium. What is the most likely diagnosis?

a. Macrofollicular adenoma

b. Colloid nodular goiter

c. Papillary carcinoma

d. Follicular carcinoma

e. Medullary carcinoma

2924. A young woman, a foreign student from Tehran, has made an appointment with the urologist. She complains of the sensation of heaviness in her lower abdomen and a small amount of blood being excreted with urine at the end of each urination. Microscopy of urine detects the presence of parasite eggs, approximately 140x70 micron in size, with a terminal spike. What diagnosis can be made by the infectious diseases specialist?

a. Fascioliasis

b. Schistosomiasis

- c. Dicrocoeliasis
- d. Opisthorchiasis
- e. Paragonimiasis

2925. Various biological preparations can be used for poliomyelitis prevention. What drug induces the type of local intestinal mucosal immunity that lasts the longest?

- a. Parenteral vaccination with inactivated vaccine
- b. Parenteral vaccination with live vaccine
- c. Parenteral introduction of normal human immunoglobulin

d. Oral vaccination with live vaccine

- e. Oral introduction of poliovirus-specific immunoglobulin

2926. Histological analysis of a removed skin tumor shows clusters and bands composed of atypical stratified squamous epithelium cells that penetrate into the underlying tissue. What preliminary diagnosis can be made?

- a. Adenoma
- b. Non-keratinizing squamous cell carcinoma**
- c. Carcinoma in situ
- d. Solid cancer
- e. Papilloma

2927. Autopsy of a patient, who died of bilateral bronchopneumonia, shows in the left lung lower lobe a cavity 5 cm in diameter, filled with yellowish-white liquid. What complication of the patient's pneumonia had developed?

- a. Sequestrum
- b. Tuberculoma
- c. Gangrene
- d. Granuloma

e. Abscess

2928. A patient with parkinsonism was prescribed levodopa, which led to rapid improvement of the patient's condition. What is the mechanism of action of this drug?

- a. Stimulation of dopamine receptors
- b. Muscarinic acetylcholine receptor blockade

c. Stimulation of dopamine synthesis

- d. Anticholinesterase action
- e. Muscarinic acetylcholine receptor stimulation

2929. A sick child presents with high content of phenyl pyruvate in urine (normally it is practically absent). Blood phenylalanine level is 350 mg/L (norm - 15 mg/L). What disease are these symptoms characteristic of?

- a. Alkaptonuria
- b. Gout
- c. Albinism
- d. Tyrosinosis

e. Phenylketonuria

2930. An oncology patient is to undergo a surgery on the descending colon. Name the main source of blood supply to this organ:

- a. Middle colic artery
- b. Splenic artery
- c. Superior mesenteric artery
- d. Celiac trunk

e. Inferior mesenteric artery

2931. A patient presents with enlarged cervical lymph nodes. Other lymph nodes and internal organs are without changes. Peripheral blood test results are normal. Histological examination of biopsy

material taken from the cervical lymph node shows smoothed-out pattern, absent follicles, homogeneous cell composition represented by lymphoblasts. The cells penetrate into the lymph node capsule. What diagnosis can be made?

- a. Burkitt lymphoma
- b. Lymphoblastic leukemia**
- c. Erythroblastic leukemia
- d. Myeloblastic leukemia
- e. Sezary disease

2932. When studying the pulmonary ventilation values, the reduction of forced expiratory volume has been detected. What is the likely cause of this phenomenon?

- a. Obstructive pulmonary disease**
- b. Increase of inspiratory reserve volume
- c. Increase of functional residual lung capacity
- d. Increase of pulmonary residual volume
- e. Increase of respiratory volume

2933. A man is a carrier of HIV that is an RNA virus. The cells of this patient synthesize viral DNA. This process is based on:

- a. Repair
- b. Translation
- c. Replication
- d. Transcription
- e. Reverse transcription**

2934. Sanitary assessment of a pond, where the children from a recreation summer camp take their swims, detected there oval cysts 50-60 micron in diameter, with 2 nuclei visible in their cytoplasm (macronucleus and micronucleus). What protozoa do these cysts belong to?

- a. *Giardia*
- b. *Amoeba*
- c. *Euglena*
- d. *Balantidium***
- e. *Toxoplasma*

2935. A hospital has received a 24-year-old man, who had received a penetrating wound to the eye, which has caused the vitreous body to run out. As the result of this, retinal detachment occurred. What retinal layer was tightly adherent to the vascular tunic of the eye and did not detach?

- a. Outer nuclear layer
- b. Inner nuclear layer
- c. Layer of rods and cones
- d. Ganglion cell layer
- e. Retinal pigment epithelium**

2936. A newborn presents with weak suckling, frequent vomiting, and hypotonia. Blood and urine citrulline are very high. What metabolic process is disturbed?

- a. Tricarboxylic acid cycle
- b. Gluconeogenesis
- c. Cori cycle
- d. Ornithine cycle**
- e. Glycolysis

2937. Stool test detects in the patients feces a large amount of undigested fats. This patient is the most likely to have disturbed secretion of the following enzymes:

- a. Bile lipase
- b. Gastric protease
- c. Pancreatic amylase
- d. Pancreatic proteases
- e. Pancreatic lipases**

2938. A 19-year-old young man was examined in the nephrology clinic. High calcium was detected in his secondary urine. What hormone is likely to cause such change, if it is produced in excess?

- a. Glucagon
- b. Testosterone
- c. Oxytocin
- d. Adrenaline
- e. Aldosterone**

2939. A young woman presents with a tumor along the auditory nerve. The tumor is node-shaped, 3 cm in diameter, soft and elastic, pink-white colored, and has homogeneous structure. Microscopically the tumor contains bundles of cells with oval nuclei. These cellular fibrous bundles form regular structures made up of parallel rows of regularly oriented cells arranged in the form of a palisade with an acellular homogeneous area in between (Verocay bodies). Name this type of tumor:

- a. Neurinoma**
- b. Ganglioneuroma
- c. Ganglioneuroblastoma
- d. Neuroblastoma
- e. Malignant neurinoma

2940. A patient has undergone surgical removal of the pylorus. Decreased secretion of the following hormone can be expected:

- a. Gastrin**
- b. Secretin
- c. Gastric inhibitory polypeptide
- d. Cholecystokinin
- e. Histamine

2941. An electron micrograph shows a small vessel with endothelial layer but without basement membrane and pericytes; anchoring fibrils are present. Name this vessel:

- a. Sinusoid hemocapillary
- b. Visceral hemocapillary
- c. Arteriole
- d. Venule
- e. Lymph capillary**

2942. One of the causes of pernicious anemia is disturbed synthesis of transcobalamin Castle's intrinsic factor - by the parietal cells of the stomach. What substance is called Castle's extrinsic factor?

- a. Riboflavin
- b. Biotin
- c. Folic acid
- d. Pyridoxine
- e. Cobalamin**

2943. A patient with contact dermatitis needs to be prescribed an antihistamine drug without somnolent effect. Select this drug from the list:

- a. Suprastin (Chloropyramine)
- b. Dimedrol (Benadryl)
- c. Loratadine**
- d. Diprazine (Promethazine)
- e. Ranitidine

2944. Congenital pyruvate carboxylase deficiency causes physical and mental retardation in children and leads to early death. It is characterized by lactic acidemia, lactic aciduria, and a number of metabolic disorders. Among others, inhibition of the following occurs:

- a. Citric acid cycle and gluconeogenesis**
- b. Glycogenesis and glycogenolysis
- c. Pentose-phosphate pathway and glycolysis
- d. Lipolysis and lipogenesis

e. Glycolysis and glycogenolysis

2945. A woman with enteritis accompanied by severe diarrhea presents with loss of water in the extracellular space, increased water content in the cells, and decreasing blood osmolarity. Name this type of water/electrolyte imbalance:

- a. Hypoosmolar hypohydration
- b. Hyperosmolar hypohydration
- c. Isoosmolar hypohydration
- d. Hypoosmolar hyperhydration
- e. Hyperosmolar hyperhydration

2946. To stimulate the labor activity a parturient woman was prescribed a drug - a posterior pituitary hormone that does not affect the blood pressure. As the pregnancy progresses, the sensitivity to this hormone increases. Name the prescribed drug:

- a. Pituitrin
- b. Ergotal
- c. Dinoprostone
- d. Dinoprost
- e. Oxytocin

2947. Cell membrane rest potential changed from -85 to -90 mV. It can be caused by activation of the following cell membrane channels:

- a. Potassium and sodium
- b. Sodium
- c. Potassium
- d. Calcium
- e. Potassium and calcium

2948. Ionizing radiation or vitamin E deficiency affect the cell by increasing lysosome membrane permeability. What are the possible consequences of this pathology?

- a. Intensive protein synthesis
- b. Restoration of cytoplasmic membrane
- c. Formation of maturation spindle
- d. Partial or complete cell destruction
- e. Intensive energy production

2949. 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, thus causing this disease?

- a. Hexosaminidase
- b. β -galactosidase
- c. Hyaluronidase
- d. Glucocerebrosidase
- e. Sphingomyelinase

2950. A 3-year-old girl with mental retardation has been diagnosed with sphingomyelin lipidosis (Niemann-Pick disease). In this condition the synthesis of the following substance is disturbed:

- a. Ceramides
- b. Gangliosides
- c. Glycosyltransferase
- d. Sphingosine
- e. Sphingomyelinase

2951. A traumatology unit has received a patient with a wrist trauma and a clinical presentation of the damage to the nerve that passes through the carpal tunnel. Name this nerve:

- a. N. musculocutaneus
- b. N. medianus
- c. N. radialis

- d. N. ulnaris
- e. N. axillaris

2952. A patient, who has been taking β adrenergic blockers, developed a bronchial spasm. What group of bronchodilators should be chosen to stop the bronchial spasm?

- a. Indirect adrenergic agonists
- b. β -adrenergic blockers
- c. Myotropic antispasmodics
- d. Muscarinic cholinomimetic agents
- e. Cholinesterase inhibitors

2953. A man has an inguinal hernia. The hernial sac exits through the following opening:

- a. Foramen suprapiriforme
- b. Anulus profundus canalis inguinalis
- c. Anulus femoralis
- d. Anulus superficialis canalis inguinalis
- e. Linea alba

2954. After a nephrectomy the patient developed enteroparesis. What cholinergic agent with anticholinesterase action should be prescribed in this case?

- a. Pilocarpine
- b. Acetylcholine
- c. Carbacholine
- d. Aceclidine
- e. Proserin

2955. Parenchyma of an organ is composed of pseudounipolar neurons localized under the capsule of connective tissue. Central place belongs to nerve fibers. Name this organ:

- a. Sympathetic ganglion
- b. Nerve trunk
- c. Spinal cord
- d. Spinal ganglion
- e. Intramural ganglion

2956. An obstetrician-gynecologist measures pelvis size of a pregnant woman. A caliper was used to measure the distance between the two iliac crests. What measurement of large pelvis was made?

- a. Distantia cristarum
- b. Distantia spinarum
- c. Conjugata anatomica
- d. Conjugata vera
- e. Distantia throchanterica

2957. Genetic recombination is achieved via several mechanisms. One such mechanism is crossingover. It occurs at the following stage of prophase in the first meiotic division:

- a. Pachynema
- b. Zygonema
- c. Diakinesis
- d. Diplonema
- e. Leptonema

2958. ECG of the patient shows increased duration of the QRS complex. What is the most likely cause?

- a. Increased atrial and ventricular excitability
- b. Increased period of atrial excitation
- c. Disturbed conduction in the atrioventricular node
- d. Increased atrial excitability
- e. Increased period of ventricular excitation

2959. A 50-year-old inpatient during examination presents with glucosuria and blood glucose of 3.0

mmol/L, which are the most likely to be caused by:

- a. Pellagra
- b. Renal disorder**
- c. Myxedema
- d. Diabetes insipidus
- e. Essential hypertension

2960. A 40-year-old woman was diagnosed with glomerulonephritis based on her clinical symptoms and the results of urine analysis. Anamnesis states chronic tonsillitis. What microorganisms are the most likely cause for her kidney damage?

- a. Mycoplasma
- b. Meningococci
- c. Staphylococci
- d. Escherichia
- e. Streptococci**

2961. A 7-year-old child presents with marked signs of hemolytic anemia. Biochemical analysis of erythrocytes determined low concentration of NADPH and reduced glutathione. What enzyme is deficient in this case leading to the biochemical changes and their clinical manifestations?

- a. Hexokinase
- b. Pyruvate kinase
- c. Lactate dehydrogenase
- d. Glucose-6-phosphate dehydrogenase**
- e. Fructokinase

2962. 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. Graves' disease (toxic diffuse goiter)
- b. Hashimoto's thyroiditis (chronic lymphocytic thyroiditis)**
- c. Undifferentiated thyroid carcinoma
- d. Papillary thyroid cancer
- e. Solid adenoma of the thyroid

2963. An 8-year-old girl presents with signs of disturbed twilight vision. This condition is caused by the deficiency of vitamin:

- a. D
- b. E
- c. A**
- d. K
- e. F

2964. A 25-year-old young man came to the doctor complaining of general weakness, rapid fatigability, irritability, reduced working ability, and bleeding gums. What vitamin is likely to be deficient in this case?

- a. Ascorbic acid**
- b. Thiamine
- c. Folic acid
- d. Retinol
- e. Riboflavin

2965. A 52-year-old man presents with fever and pain in the joints. Both of his first metatarsophalangeal articulations are deformed, swollen, and reddened. Blood urea is high. The patient is diagnosed with gout. What is the main developmental factor in the pathogenesis of this disease?

- a. Hyperaminoacidemia
- b. Citrullinuria**

c. Argininosuccinic aciduria

d. Hyperazotemia

e. Hyperuricemia

2966. A person with the fourth blood group (genotype IAIB) has in erythrocytes both antigen A controlled by allele IA and antigen B controlled by allele IB. This phenomenon is an example of the following gene interaction:

a. Complementarity

b. Polymery

c. Epistasis

d. Codominance

e. Semidominance

2967. Vascular endothelium is characterized by high metabolic activity and synthesizes vasoactive substances. Among these substances there is a potent vasodilator synthesized from L-arginine. Name this vasodilator:

a. Acetylcholine

b. Adrenaline

c. Histamine

d. Bradykinin

e. Nitrogen oxide

2968. A victim of a traffic accident was received by the intensive care unit. The patient is in a grave condition that can be characterized as a severe pathologic process that leads to exhaustion of vital functions and puts the patient into the marginal state between life and death due to critical reduction of capillary circulation in the affected organs. The patient is in the state of:

a. Collapse

b. Agony

c. Preagony

d. Shock

e. Coma

2969. A person becomes less receptive to pain in physically or emotionally straining situations due to activation of:

a. Nociceptive system

b. Thyroid gland functions

c. Antinociceptive system

d. Adrenal glands functions

e. Parasympathetic nervous system

2970. A patient suffers from posttraumatic hemorrhage that resulted in development of hemorrhagic shock. What volume of circulating blood was lost by the patient?

a. 12-25%

b. 40-50%

c. 25-40%

d. 50-75%

e. 3-20%

2971. During surgery performed in abdominal cavity a surgeon located the ligament of liver stretching from the anterior abdominal wall (navel) to the inferior surface of liver. What ligament is it?

a. Falciform ligament of the liver

b. Venous ligament of the liver

c. Triangular ligament of the liver

d. Round ligament of the liver

e. Coronary ligament of the liver

2972. A patient has disturbed blood supply to the anterior papillary muscle of the left ventricle. What cardiac artery supplies this muscle with blood?

- a. A. coronaria dextra
- b. Ramus interventricularis posterior
- c. Ramus interventricularis anterior**
- d. Ramus circumflexus
- e. Ramus marginalis

2973. Autopsy of the body of an elderly man revealed yellow spots and streaks in the aortic intima and white-yellow protruding plaques in the area of aortic bifurcation. Microscopy (with hematoxylin and eosin staining) shows round cavities in the thickened aortic intima. The cavities color orange when stained with sudan 3 and are surrounded with overgrown connective tissue. What process developed in the aortic intima?

- a. Metabolic disorder of neutral fat
- b. Local hyalinosis
- c. Metabolic disorder of cholesterol and cholesterol ethers**
- d. Systemic hyalinosis
- e. Secondary amyloidosis

2974. An 18-year-old patient has developed candidiasis after the case of pneumonia treated with β -lactam antibiotic. What antimycotic agent should be prescribed?

- a. Phthalylsulfathiazole
- b. Trimethoprim/sulfamethoxazole (Biseptol)
- c. Streptomycin
- d. Ampicillin
- e. Fluconazole**

2975. Preventive vaccination against poliomyelitis is made with inactivated vaccine introduced parenterally. What immunoglobulins create the postvaccinal immunity in this case?

- a. IgG, secretory IgA
- b. Serum IgA, IgM
- c. IgE, IgM
- d. IgM, IgG**
- e. IgM, secretory IgA

2976. During pregnancy a woman has been taking an antiepileptic drug - sodium valproate. It resulted in her child developing a vertebral column malformation - spina bifida. Name the described effect of the drug:

- a. Immunosuppressive effect
- b. Dependence
- c. Sensitizing effect
- d. Teratogenic effect**
- e. Acquired tolerance

2977. A patient was prescribed atropine sulfate to treat intestinal colic. What concomitant disease can be a contraindication for this drug?

- a. Vertigo
- b. Glaucoma**
- c. Sinus bradycardia
- d. Bronchial asthma
- e. Hypotension

2978. A patient has developed status epilepticus. What medicine should be used in this case to stop the seizures?

- a. Diprazine (Promethazine)
- b. Cyclodol (Trihexyphenidyl)
- c. Diazepam**
- d. Sodium bromide
- e. Valerian extract

2979. A 48-year-old man is unconscious. He has a history of several syncopal episodes with convulsions. ECG shows deformed QRS complexes unconnected with P waves, atrial contractions are approximately 70/min., ventricular contractions 25-30/min. Name the type of arrhythmia in this case:

- a. Complete atrioventricular block
- b. Second-degree atrioventricular block
- c. Intraventricular block
- d. Intraatrial block
- e. First-degree atrioventricular block

2980. In human organism significant blood loss leads to decreased blood pressure, tachycardia, and weakness. Eventually the sensation of thirst appears. What hormone participates in the development of this sensation?

- a. Dopamine
- b. Adrenalin
- c. Cortisol
- d. Serotonin
- e. Angiotensin 2

2981. After a trauma the man has lost skin sensitivity on the lateral surface of his forearm. What nerve of the brachial plexus provides sensitivity of the affected area?

- a. N. axillaris
- b. N. radialis
- c. N. medianus
- d. N. ulnaris
- e. N. musculocutaneus

2982. Autopsy of a 50-year-old woman, who had been suffering from systemic connective tissue disease, reveals small dense kidneys with lumpy surface. Microscopy of the renal glomeruli detects there foci of fibrinoid necrosis, hyaline thrombi, hematoxylin bodies, and so-called "wire loop thickening" of the basement membranes. What disease can be characterized by such changes in the kidneys?

- a. Rheumatism
- b. Rheumatoid arthritis
- c. Dermatomyositis
- d. Systemic lupus erythematosus
- e. Scleroderma

2983. A 4-year-old child presents with numerous carious cavities and yellow-colored teeth. The mother has a history of antibiotic treatment during her pregnancy. What antibiotic was the most likely taken by the child's mother?

- a. Streptomycin sulfate
- b. Erythromycin
- c. Cefazolin
- d. Doxycycline
- e. Ampicillin

2984. A patient developed inflammatory process of periodontal tissues caused by activation of the microorganisms inherent in the body, which are a part of oral mucosal microflora. What type of infection is it?

- a. Superinfection
- b. Relapse
- c. Exogenous infection
- d. Reinfection
- e. Autoinfection

2985. After a hand fracture the man has lost the ability to touch his little finger with the thumb on the affected hand. Examination of the palmar surface shows one of the palmar muscles to be atrophied. Name the affected muscle:

- a. M. palmaris brevis
- b. M. opponens policis**
- c. Mm. interossei
- d. Mm. lumbricales
- e. M. ?exor digiti minimi