

1. A patient has asymmetric face, it is especially noticeable during active muscle contraction. What nerve may be damaged?

- a. Sublingual
- b. Trigeminal, I branch
- c. Trigeminal, III branch
- d. Facial (motor unit)**
- e. Trigeminal, II branch

2. A sportsman was recommended to take a preparation with carnitine in order to improve his achievements. What process is activated by carnitine to the most extent?

- a. Synthesis of ketone bodies
- b. Synthesis of steroid hormones
- c. Lipide synthesis
- d. Tissue respiration
- e. Transporting of fatty acids to the mitochondrions**

3. A 56 year old man was taken to the hospital with complaints of general weakness, pain and burning in the region of tongue, extremity numbness. In the past he had resection of cardiac part of ventricle

- a. Aplastic
- b. Blood test: Hb- 80 g/L; RBC- $2,0 \times 10^{12}/L$; colour index of blood- 1,2; leukocytes - $3,5 \times 10^9/L$. What type of anemia is it?**
- c. Iron-deficient
- d. B12 folic-deficient
- e. Hemolytic

4. In a specimen that was coloured by method of silver impregnation some piriform cells with 2-3 evident dendrites were found. What structure is being analysed?

- a. Cerebral cortex
- b. Cerebellar cortex**
- c. Retina
- d. Spiral organ of middle ear
- e. Spinal ganglion

5. A 28 year old pregnant woman had the enzymes in the cells of amniotic fluid analyzed. The analysis revealed insufficient activity of -glucuronidase. What pathological process is it?

- a. Glycogenosis
- b. Collagenosis
- c. Mucopolysaccharidosis**
- d. Lipidosis
- e. Aglycogenosis

6. 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. Riboflavin and nicotinamide
- b. Calciferol and ascorbic acid
- c. Folic acid and cobalamin
- d. Thiamine and pyridoxine
- e. Ascorbic acid and rutin**

7. A patient had a trauma that led to the injury of front spinal roots. Denote the damaged structures:

- a. Axons of motoneurons and lateral horn neurons**
- b. Axons of lateral horn neurons
- c. Central processes of spinal ganglion neurons
- d. Axons of motoneurons
- e. Peripheral processes of spinal ganglion neurons

8. 8 Chronic rhinitis was complicated by inflammation of frontal sinus. What nasal meatus did the infection get into this sinus through?

a. Median

b. Nasopharyngeal

c. Inferior

d. Superior

e. Common

9. A 7 year old girl was taken to an infectious diseases hospital. She had complaints of high temperature, sore throat, general weakness. A doctor assumed diphtheria. What will be crucial proof of diagnosis after defining pure culture of pathogenic organism?

a. Hemolytic ability of pathogenic organism

b. Detection of volutin granules

c. Toxigenicity test

d. Phagolysability

e. Cystinase test

10. A 7 year old child had an acute onset of disease. Pediatrician stated that mucous membrane of fauces is hyperemic and covered with a lot of mucus. Mucous membrane of cheeks has whitish stains. Next day the child's skin of face, neck, body was covered with coarsely-papular rash. What disease may be presumed?

a. Diphtheria

b. Allergic dermatitis

c. Measles

d. Scarlet fever

e. Meningococcemia

11. A patient has an exudative pleurisy. At what level should the pleural puncture along the posterior axillary line be taken?

a. XI intercostal space

b. VI intercostal space

c. VIII intercostal space

d. IX intercostal space

e. VII intercostal space

12. A 17 year old student pressed out a pustule in the medial angle of eye. In 2 days she was taken to the institute of neurosurgery with thrombosis of cavernous sinus. Through what vein did the infection get into this sinus?

a. V. maxillaris

b. V. diploicae frontalis

c. V. transversa faciei

d. V. angularis

e. V. profunda faciei

13. A patient complains of aching gums and maxillary teeth. What nerve is inflamed?

a. Sublingual

b. II branch of the V pair

c. I branch of the V pair

d. Accessory

e. III branch of the V pair

14. During phonocardiogram registration it was ascertained that the duration of the first heart sound twice exceeds the norm. It is most likely that patient has the following organ affected:

a. -

b. Cardiomyocytes of ventricles

c. Semilunar valves

d. Atrioventricular valves

e. Cardiomyocytes of heart atriums

15. A patient has the inflammation of middle ear (otitis). At the same time he claims to have the disorder of gustatory sensation in the front part of tongue. What nerve is damaged?

- a. N.vagus
- b. N.trigeminus
- c. N.glossopharyngeus
- d. N.vestibulo-cochlearis
- e. N.facialis**

16. A patient with insulin-dependent diabetes had an insulin injection. Some time later he felt weakness, irritability, excessive sweating. What is the main reason of these disorders?

- a. Intensified ketogenesis
- b. Intensified glycogenolysis
- c. Reduced glyconeogenesis
- d. Carbohydrate starvation of brain**
- e. Intensified lypogenesis

17. During the postsynthetic period of mitotic cycle the synthesis of tubulin proteins was disturbed. These proteins take part in construction of division spindle. It can lead to the disturbance of:

- a. Spiralization of chromosomes
- b. Mitosis duration
- c. Chromosome disjunction**
- d. Despiralization of chromosomes
- e. Cytokinesis

18. A wide cleft between incisors of both mother and father is the dominant feature. They are both homozygous. What genetic regularity will their children have?

- a. Hybrid segregation by phenotype
- b. Linked inheritance
- c. Non-linked inheritance
- d. Independent inheritance of feature
- e. Uniformity of first generation hybrids**

19. After a surgical procedure a patient was developed an enteroparesis. What anticholinesterase medication should be prescribed in this case?

- a. Carbacholine
- b. Acetylcholine
- c. Pilocarpine
- d. Proserin**
- e. Aceclidine

20. Microscopic analysis of tissue sampling from patients skin reveals granulomas that consist of epithelioid cells surrounded mostly by T-lymphocytes. Among epithelioid cells there are solitary giant multinuclear cells of Pirogov-Langhans typ. In the centre of some granulomas there are areas of caseous necrosis. Blood vessels are absent. What disease are the described granulomas typical for?

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

21. Climbing the mountains at a height of 5000 m climbers started complaining of breath shortness, palpitation, vertigo, ring in the ears. What pathogenetic factor determines the development of these occurrences?

- a. Lactacidemia
- b. Hypoxemia**
- c. Decreased oxygen capacity of blood
- d. Hypokalemia
- e. Hypernatremia

22. A patient consulted a doctor about the intensive skin itch, especially between fingers, in axillary creases, in the inferior part of belly. During the skin examination there were found twisting whitish tracts with speckles at the end of them. What disease are these clinical presentations typical for?

- a. Miasis
- b. Scabies**
- c. Demodicosis
- d. Dermatotropic leishmaniosis
- e. Pediculosis

23. An infectious diseases hospital admitted a veterinarian with assumed brucellosis. What serologic test can confirm this diagnosis?

- a. Wassermann reaction of complement binding
- b. Wrights agglutination reaction**
- c. Widal's agglutination reaction
- d. Ascoli precipitation reaction
- e. Weigl's agglutination reaction

24. Autopsy of an 8 year old boy who was ill with pharyngeal and tonsillar diphtheria and died one week after illness begin revealed myocardial changes in form of small-focal myocardiocyte necroses, stroma edema with slight lymphocytic infiltration. What type of myocarditis is it:

- a. Granulomatous
- b. Septic
- c. Alternative**
- d. Focal-intermediate, exudative
- e. Interstitial

25. In the course of an experiment a nerve is being stimulated by electric impulses. It leads to excretion of some quantity of thick viscous saliva by sublingual and submandibular glands. What nerve is being stimulated?

- a. N.glossopharyngeus
- b. N.sympathicus**
- c. N.vagus
- d. N.trigeminus
- e. N.facialis

26. In a histological specimen of adrenal cortex there are petite polygonal cells that form roundish clusters and contain some lipidic inclusions. What part of adrenal is presented in this histological specimen?

- a. Intermedial zone
- b. Fasciolar zone
- c. -
- d. Reticular zone
- e. Glomerular zone**

27. Excessive hairiness of auricles (hypertrichosis) is determined by a gene which is localized in Y-chromosom. Father has this featur. What is the probability of the fact that the boy will be born with such anomaly?

- a. 35%
- b. 100%**
- c. 75%
- d. 0%
- e. 25%

28. A patient complains of painful cracks in mouth angles. What sulfanilamide can be recommended for local treatment of angular stomatitis?

- a. Synthomycine liniment
- b. Prednisolone ointment
- c. Tetracycline ointment

d. Butadione ointment

e. Streptocide liniment

29. A patient with an acute rhinitis has hyperemia and excessive mucus formation in nasal cavity. What epithelial cells of mucous membrane have the intensified activity?

a. Basal cells

b. Goblet cells

c. Endocrine cells

d. Ciliated cells

e. Microvillous cells

30. A patient with gingivitis was prescribed a gargle with a certain preparation. Its antiseptic properties are determined by atomic oxygene that slivers in presence of organic substances. It has also deodorant, adstringent (anti-inflammatory), and in big concentrations - cauterizing effect. Water solutions are used for bathing of wounds, mouth gargling and in higher concentrations - for burn treatment. It is also used for gastric lavage in case of poisoning. Name this preparasion:

a. Chlorhexidine bigluconate

b. Sodium bicarbonate

c. Potassium permanganate

d. Hydrogen peroxide

e. Ethyl alcohol

31. A 5 year old child was admitted to the ENT-department with suppurative inflammation of middle ear (tympanitis). It began with the inflammation of nasopharynx. What canal of temporal bone did the infection get into tympanic cavity through?

a. Caroticotympanic foramina

b. Carotid canal

c. Musculotubal canal

d. Small tympanic canal

e. Small canal of chorda tympani

32. After poisoning with an unknown drug a 37 year old patient has stereotypical face muscle contractions that imitate blinking and squinting. What form of motor function disorder of nervous system is it?

a. Ataxy

b. Hyperkinesia

c. Akinesia

d. Hypokinesia

e. -

33. A 36 year old man with craniocerebral trauma has diminished breath sounds, thready pulse, reflexes are absent. What route of pyracetam introduction is the most suitable in this case?

a. Intravenous

b. Oral

c. Subcutaneous

d. Rectal

e. Inhaling

34. A patient with chronic hypoglycemia had adrenaline introduction. After introduction blood test hasnt changed essentially. Doctor assumed liver pathology. What liver function may have been changed?

a. Function of cholesterin production

b. Excretory function

c. Ketogenic function

d. Glycolytic function

e. Function of glycogen depositing

35. A patient with inflammation of trigeminal nerve has been having progressive paradontitis for

some years. What factor is the most important for parodontitis development?

- a. Low activity of leukocytic elastase
- b. Poor formation of immunoglobulins

c. Neurodystrophic disorders

- d. Low activity of kallikrein-kinin system
- e. Increased tone of vagus nerve

36. During the examination of a two month boy a pediatrician noticed that the child's cry sounds like cats meowing; he revealed also microcephalia and valvular defect. By means of cytogenetic method he determined the child's karyotype - 46 XY, 5p-. At what stage of mitosis was the patient's karyotype analyzed?

- a. Prophase
- b. Anaphase
- c. Prometaphase
- d. Telophase

e. Metaphase

37. 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. Angiotensin-converting enzyme inhibitors
- c. α -adrenergic blockers
- d. Glucocorticoids
- e. Narcotic analgesics

38. A 7 year old child was taken to the infectious disease hospital with complaints of acute pain during swallowing, temperature rise up to 39°C, neck edema. Objective signs: tonsils are enlarged, their mucous membrane is plethoric and covered with a big number of whitish-yellowish films that are closely adjacent to the mucous membrane. After removal of these films the deep bleeding defect remains. What type of inflammation is it?

- a. Crupous
- b. Purulent

c. Diphtheritic

- d. Serous
- e. Hemorrhagic

39. 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 glomerulonephritis
- c. Acute pyelonephritis

d. Necrotic nephrosis

- e. Lipoid nephrosis

40. A boxer who got a punch in the region of temporomandibular joint has a traumatic dislocation of mandible. Displacement of what articular surfaces will overstep the limits of physiological norm?

- a. Neck of mandible and submandibular fossa
- b. Head of mandible and submandibular fossa
- c. Coronoid process and submandibular fossa
- d. Coronoid process and pterygoid fossa

e. Head of mandible and mandibular fossa

41. A patient has an acute painfulness of face skin. What nerve is damaged?

- a. Oculomotor
- b. Glossopharyngeal
- c. Facial

d. Trifacial

e. Vagus

42. A patient with diminished excretory function of kidneys has bad breath. What substance which is excessively excreted by salivary glands is the main cause of this occurrence?

- a. Phosphatase
- b. Urea**
- c. Lysozyme
- d. Mucin
- e. Alpha-amylase

43. A patient has pure culture of diphtheria corynebacteri. What immunological reaction should be used in order to determine bacteria toxigenity?

- a. Agglutination
- b. Complement binding
- c. Indirect hemagglutination
- d. Inhibition of hemagglutination

e. Precipitation in agar

44. The deficit of vitamin A causes the disorder of twilight vision. What cells is the photoreceptor function typical for?

- a. Ganglionic nerve cells
- b. Horizontal neurocytes
- c. Bipolar neurons
- d. Conic neurosensory cells

e. Rod neurosensory cells

45. A patient with essential hypertension takes enalapril. What mechanism of action has this hypotensive medication?

- a. Antagonist of angiotensine II
- b. Inhibitor of phosphodiesterase

c. Inhibitor of angiotensin converting enzyme

- d. Inhibitor of cyclooxygenase
- e. Ca channel-blocking agent

46. In order to make a functional complete denture the left superior canine of a patient should be extracte. After the infraorbital anesthesia the patient got a rapidly growing hematoma in the front part of fac. It was found that the injured artery is a branch of:

a. A.maxillaris

- b. A.labialis superior
- c. A.opthalmica
- d. A.temporalis superficialis
- e. A.alveolaris nferior

47. In course of an experiment the blood pressure of an animal had a stable rise by means of renal artery constriction. Hyperfunctioning of what renal cells cause this effect?

- a. Thick spot cells
- b. Endotheliocytes
- c. Podocytes
- d. Interstitial cells

e. Juxtaglomerular cells

48. In an excitable cell the ion channells were blocke. It hasnt changed essentially the value of rest potential, but the cell lost its ability to generate AP (action potential). What channels were blocked?

- a. Natrium and potassium
- b. Chloric
- c. Potassium
- d. Natrium**
- e. Calcium

49. Recovery from an infectious disease is accompanied by neutralization of antigens by specific antibodies. What cells produce them?

- a. Fibroblasts
- b. Tissue basophils
- c. Plasmocytes**
- d. T-lymphocytes
- e. Eosinophils

50. A patient with an acute myocarditis has the clinic presentations of cardiogenic shock. What pathogenetic mechanism plays the main part in shock development?

- a. Disorder of pumping ability of heart**
- b. Decrease of diastolic flow to the heart
- c. Decrease of vascular tone
- d. Increase of vascular tone
- e. Depositing of blood in veins

51. Histologic examination revealed in all layers of appendix a big number of polymorphonuclear leukocytes; hyperemia, stases. What disease are these symptoms typical for?

- a. Simple appendicitis
- b. Phlegmonous appendicitis**
- c. Gangrenous appendicitis
- d. Superficial appendicitis
- e. Chronic appendicitis

52. A 20 year old patient complains of excessive thirst and urinary excretion up to 10 L a day. The level of glucose in blood is normal, there is no glucose in urin. What hormone deficit can cause such changes?

- a. Vasopressin**
- b. Cortisol
- c. Triiodothyronine
- d. Oxytocin
- e. Insulin

53. In course of an experiment chorda tympani of an animal was being stimulated by electric current, as a result the parotid duct excreted:

- a. Saliva wasnt excreted
- b. A small quantity of fluid saliva
- c. A small quantity of viscous saliva
- d. A lot of fluid saliva**
- e. A lot of viscous saliva

54. A patient with cancer of the back of tongue had an intensive bleeding as a result of tumor spread to the dorsal artery of tongu. What vessel should be ligated in order to stop bleeding?

- a. Lingual artery**
- b. Dorsal artery of tongue
- c. Facial artery
- d. Deep artery of tongue
- e. Ascending pharyngal artery

55. A woman with ischemic disease has been taking an antianginal medication that has the following properties: dilates coronary arteries, peripheral vessels (arterial and venous), reduces the need of myocardium in oxygen, improves endocardial blood circulation. Name this preparation:

- a. Papaverine
- b. Dibasol
- c. Validol
- d. Aminophylline
- e. Nitroglycerin**

56. Dystrophic changes of heart are accompanied by dilatation of cardiac cavities, decrease of heart beat force, increased volume of blood that remains in cardiac cavity after systole; veins are overfilled. What state is this presentation typical for?

- a. Cardiac tamponade
- b. Cardiosclerosis stage
- c. Emergency phase of myocardial hypertrophy
- d. Myogenic dilatation**
- e. Tonogenic dilatation

57. The symptoms of regeneration process (callus) on the place of fracture were revealed at the histologic specimen of tubular bone. What tissue forms this structure?

- a. Fibrous bone tissue**
- b. Reticular tissue
- c. Lamellar bone tissue
- d. Epithelial tissue
- e. Loose connective tissue

58. In course of combined therapy a patient with chronic cardiac insufficiency was taking digitoxin and furosemide. As a result he had extreme muscular weakness. What electrolyte imbalances may be revealed in his blood?

- a. Hypokalemia**
- b. Hypocalcemia
- c. Hypercalcemia
- d. -
- e. Hyperkalemia

59. During the experimental analysis of chondrogenesis a sclerotome was damaged. What cells will it make impossible to differentiate?

- a. Chondroblasts**
- b. Fibroblasts
- c. Myoblasts
- d. Epidermocytes
- e. Smooth myocytes

60. A 50 year old patient with ischemic disease was prescribed an antiaggregant preparation. The patient was taking overdoses of this preparation. It resulted in nausea, vomiting, stomach pain during fasting. What preparation was the patient prescribed?

- a. Acetylsalicylic acid**
- b. Ticlopidine
- c. Dipyridamol
- d. Piroxicam
- e. Pentoxifylline

61. The contents of vesicles from the mucous tunic of a man who has smallpox variola was sent to the virologic laboratory. What will be revealed during microscopy of smears?

- a. Babes-Ernst corpuscles
- b. Babes-Negri corpuscles
- c. Syncytium
- d. Guarnieri corpuscles
- e. Pock cells**

62. A man has been holding his breath for 60 seconds. After that the respiratory minute volume has increased up to 12 L. What blood change is the main reason for the increase of respiratory minute volume?

- a. Increase of pH
- b. Decrease of pO₂
- c. Increase of pO₂
- d. Decrease of pCO₂

e. Increase of p CO₂

63. A 25 year old patient had in the dentists room a sudden attack of bronchial asthma. The doctor gave him salbutamol in the form of inhalation. What is the mechanism of action of this preparation?

a. Stimulates β_2 -adrenoreceptors

b. Blocks M-cholinergic receptors

c. Blocks phosphodiesterase

d. Blocks H₁-histamine receptors

e. Stimulates α -adrenoreceptors

64. From the purulent exudate of a patient with odontogenic phlegmon a pure culture of Gram(+) microorganisms was segregated. This culture was lecithinously active, coagulated plasma of a rabbit, decomposed mannitol under anaerobe conditions. What microorganism may have contributed to the origin of suppurative complication?

a. S.pyogenes

b. S.mutans

c. S.epidermidis

d. S.aureus

e. S.viridans

65. Decreased ratio of adenylic nucleotides ATP/ADP results in intensified glycolysis in parodontium tissues under hypoxia conditions. What reaction is activated in this case?

a. Enolase

b. Aldolase

c. Lactate dehydrogenase

d. Phosphofructokinase

e. Triosephosphate isomerase

66. After a psychoemotional stress a 48 year old patient had a sudden attack of acute heart pain with irradiation to the left hand. Nitroglycerine suppressed pain in 10 minutes. What pathogenetic mechanism is principal for the pain development?

a. Spasm of coronary vessels

b. Dilatation of peripheral vessels

c. Coronary vessel occlusion

d. Embolism of coronary vessels

e. Increased need of myocardium in oxygen

67. A patient has a transverse laceration of spinal cord below the VI thoracic segment. How will it change the character of breathing?

a. It will become more deep

b. It will stop

c. It won't change essentially

d. It will become more frequent

e. It will become more rare

68. Skin samples of a patient with bronchial asthma revealed allergen sensitization of poplar fuzz. What factor of immune system plays the main part in development of this immunopathological state?

a. -

b. IgE

c. IgM

d. Sensitized T-lymphocytes

e. IgD

69. A patient has the following diagnosis: renal hypertension. What is the initial pathogenetic factor of arterial hypertension development in this case?

a. Intensified renin synthesis

b. Intensified angiotensin synthesis

c. Hyperaldosteronism

d. Renal ischemia

e. Hypernatremia

70. Patient with pigmentary xeroderma are characterized by anomalously high sensitivity to ultraviolet rays that causes skin cancer as a result of enzyme systems incapability to restore damages of hereditary apparatus of cells. What process abnormality is this pathology connected with?

a. Genetic complementation

b. DNA recombination

c. DNA reparation

d. Genetic conversion

e. DNA reduplication

71. The activity of parotides reduces with age. Activity of what enzyme in saliva will be reducing?

a. Maltase

b. Hexokinase

c. Amylase

d. Phosphatase

e. Lysozyme

72. A one year old child has enlarged head and belly, retarded cutting of teeth, destruction of enamel structure. What hypovitaminosis causes these changes?

a. Hypovitaminosis D

b. Hypovitaminosis B2

c. Hypovitaminosis B1

d. Hypovitaminosis A

e. Hypovitaminosis C

73. What vitamin deficit causes the simultaneous disorder of reproductive function and dystrophy of skeletal musculature?

a. Vitamin B1

b. Vitamin K

c. Vitamin E

d. Vitamin D

e. Vitamin A

74. After tooth extraction the blood pressure of a patient fell dramatically, the patient lost consciousness. Collapsed state was diagnosed. What drug should be used?

a. Cordiamin

b. Isadrin

c. Strophanthine

d. Sustac

e. Nitroglycerine

75. Pigmentation intensity of human skin is controlled by a few independent dominant genes. It is known that pigmentation is the more intensive, the bigger quantity of these genes. What is the type of interaction between these genes?

a. Epistasis

b. Codominancy

c. Polymery

d. Pleiotropy

e. Complementarity

76. The students studied peculiarities of genetic code and found out that there are amino acids corresponded by 6 codons, 5 amino acids - 4 different codons. Other amino acids are codified by three or two codons and only two amino acids are codified by one codon. What peculiarity of genetic code did the students find out?

a. Redundancy

b. Tripletty

- c. Unidirectionality
- d. Collinearity
- e. Versatility

77. A man left a conditioned premise and went outside. The outside temperature was +40°C, the air moisture - 60%. What way of heat emission will be mostly involved in this case?

- a. Convection
- b. -
- c. Radiation
- d. Sweat evaporation**
- e. Conduction

78. A patient with focal tuberculosis of superior lobe of his right lung takes isoniazid as a part of combined therapy. After a time he started complaining of muscular weakness, decrease of skin sensitivity, sight and movement coordination disorder. What vitamin preparation will be right for elimination of these occurrences?

- a. Vitamin A
- b. Vitamin C
- c. Vitamin D
- d. Vitamin B6**
- e. Vitamin B12

79. Microscopic analysis of a specimen revealed an organ of nervous system that consists of pseudounipolar neurons covered with glial and connective tissue membranes. Determine this organ:

- a. Spinal ganglion**
- b. Spinal cord
- c. Cortex of cerebrum
- d. Cerebellum
- e. Vegetative ganglion

80. Human body cools in water much more faster than in the air. Due to what way of heat emission does it happen?

- a. Heat radiation
- b. Convection
- c. Sweat evaporation
- d. -
- e. Thermal conduction**

81. A 28 year old patient was diagnosed: an acute inflammation of mucous membrane of nasolacrimal duct. It is known from his past history that after influenza he had been having nasal excretions for 10 days. From what part of nasal cavity could the infection get into the nasolacrimal duct?

- a. Median nasal meatus
- b. Vestibule of nose
- c. Inferior nasal meatus**
- d. Superior nasal meatus
- e. Frontal sinus

82. A woman in grave condition was admitted to a hospital with the following diagnosis: hemorrhagic stroke in the region of frontal part of the right cerebral hemisphere. The damage of what artery caused most likely this condition?

- a. A. cerebri media**
- b. A. cerebri anterior
- c. A. communicans anterior
- d. A. communicans posterior
- e. A. cerebri posterior

83. X-ray examination revealed an accumulation of suppuration in maxillary sinus. Into what nasal meatus excretes the suppuration?

a. Median nasal

- b. Superior nasal
- c. Nasopharyngeal
- d. Common nasal
- e. Inferior nasal

84. After honey consumption a teenager had urticaria accompanied by leukocytosis. What type of leukocytosis is it in this case?

a. Eosinophilic leukocytosis

- b. Neutrophilic leukocytosis
- c. Lymphocytosis
- d. Basophylic leukocytosis
- e. Monocytosis

85. During the preparation of a patient for a heart operation the doctors measured blood pressure in heart chambers. In one of them the pressure was changing from 0 to 120 mm during one cardiac cycl. Name the heart chamber:

- a. -
- b. Right atrium
- c. Left atrium

d. Left ventricle

- e. Right ventricle

86. A man had an acute onset of disease, he complained of chill, temperature rise up to 40°C, headache, cough, dyspnea. On the fifth day of illness he died. Autopsy revealed: his lungs were enlarged, they had a look of "coal-miners lungs". What illness is such postmortem diagnosis typical for?

a. Influenza

- b. Adenovirus infection
- c. Multiple bronchiectasis
- d. Croupous pneumonia
- e. Respiratory syncytial infection

87. Father bought some pork at the market. What disease may the members of his family catch supposed this meat didn't stand veterinary control?

- a. Beef tapeworm infection
- b. Fasciola hepatica
- c. Echinococcosis
- d. Hymenolepiasis

e. Teniosis

88. In course of an experiment posterior roots of spinal cord of an animal were cut. What changes will take place in the innervation zone?

- a. Loss of sensation and motor functions
- b. Loss of motor functions

c. Loss of sensation

- d. Raise of muscle tone
- e. Decline of muscle tone

89. A patient with chronic glomerulonephritis has disorder of excretory function of kidneys. What blood elements deficit will result from it?

a. Leukocytes

b. Erythrocytes

- c. Leukocytes and thrombocytes
- d. Erythrocytes and leukocytes
- e. Thrombocytes

90. The lung hypertension and cardiac insufficiency of right ventricle with ascites and edemata

developed at patient with pneumosclerosis. What is the principal pathogenetic mechanism of edemata development?

- a. Increase of oncotic pressure of intercellular fluid
- b. Decrease of osmotic blood pressure
- c. Increase of hydrostatic blood pressure in veins**
- d. Increase of vascular permeability
- e. Decrease of oncotic blood pressure

91. A 46 year old patient was admitted to the hematological department. It was found that he had disorder of granulocytopoiesis and thrombocytopoiesis processes. In what organ does this pathological process take place?

- a. Red bone marrow**
- b. Thymus
- c. Palatine tonsil
- d. Spleen
- e. Lymphatic ganglion

92. Two days after myocardial infarction a patient had a sudden systolic pressure decrease up to 60 mm, tachycardia up to 140/min, dyspnea; the patient lost consciousness. What mechanism is principal for the shock pathogenesis?

- a. Intoxication
- b. Decrease of cardiac volume**
- c. Anaphylactic reaction
- d. Decrease of circulating blood volume
- e. Paroxysmal tachycardia

93. The body temperature of a patient with an infectious disease rises once in two days up to 39,5-40,5°C and stays so for about an hour and then drops to the initial level. What type of fever is it?

- a. Hectic
- b. Continued
- c. Intermittent**
- d. Atypical
- e. Remittent

94. In compliance with the clinical presentations a man was prescribed pyridoxalphosphat. What processes are corrected by this preparation?

- a. Desamination of purine nucleotides
- b. Protein synthesis
- c. Transamination and decarboxylation of amino acids**
- d. Oxidative decarboxylation of keto acids
- e. Synthesis of purine and pyrimidine bases

95. A patient has the sudden decrease of Ca^{2+} content in blood. What hormone secretion will increase?

- a. Thyrocalcitonin
- b. Aldosterone
- c. Somatotropin
- d. Parathormone**
- e. Vasopressin

96. A laboratory received a material (extract of animal matter) from the region with cases of anthrax among animals. What serological reaction should be used in order to reveal antigens of pathogenic organism in the given material?

- a. Thermoprecipitation**
- b. Complement binding
- c. Precipitations in agar
- d. Indirect hemagglutination
- e. Radio assay

97. The chemical burn of esophagus caused its local constriction as a result of scar formation. What cells of loose connective tissue take part in scar formation?

a. Mature specialized fibroblasts

b. Myofibroblasts

c. Fibroclasts

d. Fibrocytes

e. Young fibroblasts

98. A patient was taken to the hospital with preliminary diagnosis progressive muscle dystrophy. What substance will be excessively contained in urine and confirm this diagnosis?

a. Troponine

b. Carnosine

c. Hydroxyproline

d. Creatine

e. Pyruvate

99. What substance makes saliva viscous and mucous, has protective function, protects mucous membrane of oral cavity from mechanical damage?

a. Lysozyme

b. Mucin

c. Amylase

d. Glucose

e. Kallikrein

100. During the embryogenesis of oral cavity the development of dental enamel was disturbed. What source of dental development was damaged?

a. Dental sacculle

b. Dental papilla

c. Mesoderma

d. Epithelium

e. Mesenchyma

101. A victim of a road accident has an abruption of a part of mandibular angle, displacement of fragment backwards and upwards. What ligament is responsible for this displacement?

a. Styloid-mandibular

b. Pterygoid-mandibular

c. Intraarticular

d. Sphenoid-mandibular

e. Lateral

102. ESR of a patient with pneumonia is 48 mm/h. What caused such changes?

a. Hypergammaglobulinemia

b. Hyperalbuminemia

c. Hypoproteinemia

d. Erythrocytosis

e. Hypogammaglobulinemia

103. A patient with kidney disease has high blood pressure, especially the diastolic one. Hypersecretion of what biologically active substance causes blood pressure rise?

a. Catecholamines

b. Adrenaline

c. Noradrenaline

d. Renin

e. Vasopressin

104. In course of embryogenesis maxillary and mandibular processes grew together with a delay. What development anomalies should be expected in this case?

a. Microstomia

b. Macrostomia

- c. Gothic palate
- d. Cleft of superior lip
- e. Cleft palate

105. The regeneration process of damaged skeletal muscles is very slow. What elements of musculoskeletal fiber take part in the process of regeneration?

- a. Myofibroblasts
- b. Myoepithelial cells

c. Myosatellitocytes

- d. Smooth myocytes
- e. Myoblasts

106. There is a 9 year old boy in endocrinological department, who has already had a few fractures of extremities caused by fragility of bones. Malfunction of what endocrinous glands (gland) takes place?

- a. Thyroid gland
- b. Adrenal glands
- c. Epiphysis
- d. Thymus

e. Parathyroid glands

107. Leukoses are treated with antimetabolite methotrexat. What vitamin is its antagonist?

- a. Piridoxine
- b. Rutin

c. Folic acid

- d. Cyanocobalamin
- e. Phyllochinone

108. A 22 year woman has enlarged lymphatic ganglions. Histological analysis of a ganglion revealed lymphocytes, histiocytes, reticular cells, small and great Hodgkins cells, multinuclear Reed-Sternberg cells, solitary foci of caseous necrosis. What disease are these changes typical for?

- a. Lymphosarcoma
- b. Cancer metastasis

c. Lymphogranulematosis

- d. Acute leukemia
- e. Chronic leukemia

109. A patient started bleeding after tooth extraction. What action is necessary in this case?

- a. Fibrinogen injection
- b. Thrombin injection
- c. Vicasol orally

d. Adrenalin locally

- e. Neodicumarine orally

110. After recovering from epidemic parotiditis a patient began to put off weight, he was permanently thirsty, drank a lot of water, had frequent urination, voracious appetit. Now he has complaints of skin itch, weakness, furunculosis. His blood contains: glucose - 16 mmole/L, ketone bodies - 100 mcmole/L; glucosuria. What disease has developed?

- a. Malnutrition diabetes
- b. Steroid diabetes
- c. Diabetes insipidus
- d. Insulin-independent diabetes

e. Insulin-dependent diabetes

111. Before teeth come out first on their roots appears a solid tissue that looks like membrane reticulated bon. What tissue is it?

- a. Enamel
- b. Dentin

c. Dense fibrous connective tissue

d. Cement

e. Loose fibrous connective tissue

112. Unskilled people usually have muscle pain after sprints as a result of lactate accumulation. What biochemical process may it be connected with?

a. Lypogenesis

b. Glycogenesis

c. Glycolysis

d. Gluconeogenesis

e. Pentose-phosphate cycle

113. A patient with adenoma of glomerular zone of adrenal cortex (Conn's disease) has arterial hypertension, convulsions, polyuria. What is the main link in pathogenesis of these disorders?

a. Glucocorticoid hypersecretion

b. Glucocorticoid hyposecretion

c. Aldosterone hypersecretion

d. Catecholamine hypersecretion

e. Aldosterone hyposecretion

114. A patient who has been ill with tuberculosis for a long time has an intracellular mycobacteria disposition. What preparation must be included into the complex therapy of tuberculosis?

a. Rifampicin

b. Ethambutol

c. Sodium para-aminosalicylate

d. Ethionamide

e. Isoniazid

115. A patient has been taking glucocorticoids for a long time. Drug withdrawal caused acute attack of his disease, blood pressure reduction, weakness. What are these occurrences connected with?

a. Hyperproduction of corticotroph hormone

b. Cumulation

c. Adrenal glands insufficiency

d. Sensibilisation

e. Drug habituation

116. 15 minutes after a car accident examination of a 35 year old man revealed massive injury of lower extremities without serious external loss of blood. The victim is in excited state. What component of pathogenesis of traumatic shock is basic and requires urgent correction?

a. Internal loss of plasma

b. Intoxication

c. Cardiac function disorder

d. Acute renal insufficiency

e. Pain

117. Sputum smears of a patient with chronic pulmonary disease were stained by Ziehl-Neelsen method and analyzed in the bacteriological laboratory. Microscopy revealed red bacillus. What property of tuberculosis mycobacteria was found?

a. Spore-formation

b. Acid resistance

c. Encapsulation

d. Alcohol resistance

e. Alkali resistance

118. The myocytes cytoplasm contains a big number of dissolved metabolites of glucose oxidation. Name one of them that converts directly into lactate:

a. Fructose-6-phosphate

b. Glucose-6-phosphate

- c. Oxaloacetate
- d. Pyruvate**
- e. Glycerophosphate

119. A patient has painfulness along big nerve trunks and excessive content of pyruvate in blood. What vitamin deficit may cause such changes?

- a. PP
- b. B1**
- c. B2
- d. Pantothenic acid
- e. Biotin

120. During the examination of patient's oral cavity a dentist noticed a slight overbite of mandibular teeth by maxillary incisors. What occlusion belongs to such position of teeth?

- a. Prognathism
- b. Orthogenic occlusion
- c. Closed occlusion
- d. Orthognathic occlusion**
- e. Biprognathic occlusion

121. A 65 year old patient suddenly died. She suffered from thrombophlebitis of deep veins of shin. Autopsy revealed: trunk and bifurcation of pulmonary artery contain red loose masses with dull corrugated surface. What pathological process did the morbid anatomist reveal in pulmonary artery?

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

122. During the electronical microscopic analysis of salivary gland the cell fragments were revealed which are surrounded by a membrane and contain condensed particles of nuclear substance and solitary organelles; the inflammatory reaction around these cells is absent. What process is meant?

- a. Apoptosis**
- b. Karyorrhexis
- c. Karyolysis
- d. Coagulation necrosis
- e. Karyopycnosis

123. A surgeon is going to take lymph from patient's thoracic duct in the point of its flowing into venous channel. Where exactly should he insert a cannula?

- a. Point of formation of superior vena cava**
- b. Point of formation of inferior vena cava
- c. Right venous angle
- d. Left venous angle
- e. Point of formation of portal vein

124. A patient complains of having urination disorder. He is diagnosed the hypertrophy of prostate gland. What part of gland is damaged?

- a. Base
- b. Left lobe
- c. Right lobe
- d. Apex
- e. Median lobe**

125. The preparation complex for periodontitis treatment includes the medicine from the group of water soluble vitamins, bioflavonoid derivative, which is prescribed together with ascorbic acid. This preparation has anti-oxidative properties, decreases gingival hemorrhage. What preparation is meant?

- a. Calcium pantoate

- b. Cyanocobalamin
- c. Calcium pantothenate
- d. Folic acid

e. Rutin

126. For assessment of the neutralizing function of liver a patient with chronic hepatitis went through a test with natrium benzoate loa. The excretion of what acid with urine will characterize the neutrolizing function of liver?

- a. Hippuric acid**
- b. Citric acid
- c. Phenylacetic acid
- d. Oxalic acid
- e. Valeric acid

127. A patient has lost ability to recognize the objects by the typical for them sounds (clock, bell, music). What part of brain is most likely damaged?

- a. Lobus frontalis
- b. Insula
- c. Lobus parietalis
- d. Lobus temporalis**
- e. Lobus occipitalis

128. A man permanently lives high in the mountains. What changes of blood characteristics can be found in his organism?

- a. Decrease of hemoglobin content
- b. Decrease of reticulocytes number
- c. Erythroblasts in blood
- d. Increase of erythrocytes number**
- e. Decrease of colour index of blood

129. A 16 year old girl consulted a dentist about dark colour of teeth enamel. The family tree analysis revealed that this pathology is transmitted to all girls from father and to 50% of boys from mother. What type of inheritance are these peculiarities typical for?

- a. Dominant, X-chromosome-linked**
- b. Recessive, X-chromosome-linked
- c. Autosomal-dominant
- d. Autosomal-recessive
- e. Recessive, Y-chromosome-linked

130. Microspecimen analysis of childs finger skin revealed that epidermis has signs of inadequate development. What embryonal leaf was damaged in the process of development?

- a. Mezenchyma
- b. Entoderma
- c. Ectoderma**
- d. Ectomezenchyma
- e. Mesoderma

131. Chronic overdosage of glucocorticoids leads to the development of hyperglycemi. What process of carbohydrate metabolism is responsible for this effect?

- a. Glycogenesis
- b. Pentose-phosphate cycle
- c. Aerobic glycolysis
- d. Glycogenolysis
- e. Gluconeogenesis**

132. Autopsy of a woman who died of tumorous dissemination of mucinosous cystadenocarcinoma and before that had to stay in bed for a long time revealed big necrotic areas of skin and soft subjaent tissues in sacral region. What form of necrosis is the case?

a. Pressure sore

- b. Infarction
- c. Caseous necrosis
- d. Zenkers necrosis
- e. Sequester

133. After implantation of a cardiac valve a young man constantly takes indirect anticoagulants. His state was complicated by hemorrhag. What substance content has decreased in blood?

a. Ceruloplasmin

b. Prothrombin

- c. Creatin
- d. Haptoglobin
- e. Heparin

134. A patient is being operated under inhalation narcosis with nitrous oxid. It is known that it has evident lipophilic properties. What mechanism is responsible for transporting this preparation through biological membranes?

- a. Filtration
- b. Pinocytosis
- c. Active transport
- d. Facilitated diffusion

e. Passive diffusion

135. During the examination of patients oral cavity a dentist found a carious cavity on the crown surface of the second premolar tooth that was turned to the first molar tooth. Name the damaged crown surface:

- a. Facies distalis
- b. Facies lingualis
- c. Facies vestibularis
- d. Facies occlusalis

e. Facies mesialis

136. A man who took part in disaster-management at a nuclear power plant had hemorrhagic syndrome at the same time with acute radiation sickness. What is the most important thing for the pathogenesis of this syndrome?

- a. High activity of anticoagulative blood system
- b. Low activity of anticoagulative blood system

c. Thrombocytopenia

- d. Destructed structure of vessel walls
- e. High activity of fibrinolysis factors

137. A lot of pyoinflammatory processes in oral cavity are caused by anaerobes. What nutrient medium can be used for conrol of wound textile contamination by anaerobes?

- a. Ploskirevs
- b. Sabourauds
- c. Roux
- d. Endo

e. Kitt-Tarozzi

138. A patient has disorder of airways patency at the level of small and middle bronchs. What changes of acid-base balance may take place?

- a. Metabolic alkalosis
- b. Respiratory akcalosis
- c. Metabolic acidosis

d. Respiratory acidosis

e. Acid-base balance wont change

139. A woman after labor lost 20 kg of body weight, her hair and teeth fall out, she has muscle

atrophy (hypophysial cachexia). Synthesis of what hypophysis hormone is disturbed?

- a. Thyreotropic
- b. Somatotropic**
- c. Corticotrophic
- d. Gonadotropic
- e. Prolactin

140. A patient who suffered from syphilis took a course of antibiotic therapy and fully recovered. Some time later he was infected again with *Treponema pallidum*. What form of infection is it?

- a. Secondary infection
- b. Complication
- c. Superinfection
- d. Recurrence
- e. Reinfection**

141. A patient arrived to the oral surgery department with dislocation of temporomandibular joint and injury of its main ligament. Name this ligament:

- a. Lateral**
- b. Mandibular
- c. Styloid-mandibular
- d. Pterygoid-mandibular
- e. Medial

142. A patient with chronic alcoholism has symptoms of polyneuritis and cardiac insufficiency. What vitamin preparation should be prescribed to this patient?

- a. Thiamine**
- b. Retinol
- c. Rutin
- d. Phylloquinone
- e. Ergocalciferol

143. A patient with disorder of cerebral circulation has problems with deglutition. What part of cerebrum was damaged?

- a. Forebrain
- b. Cervical part of spinal cord
- c. Midbrain
- d. Interbrain
- e. Brainstem**

144. During ablation of the nose wing lipoma a dentist injured a vessel, that caused a saphenous hematoma. What vessel was damaged?

- a. A. facialis**
- b. A. supraorbitalis
- c. A. infraorbitalis
- d. A. angularis
- e. A. maxillaris

145. In the vermiform appendix there was found a white helminth, 40 mm long with thin filiform forward end. Eggs contained oval eggs with plugs at the poles. Determine the kind of helminth:

- a. Seatworm
- b. Ascarid
- c. Hookworm
- d. Whipworm**
- e. Threadworm

146. Examination of a patient with hepatolenticular degeneration revealed that synthesis of ceruloplasmin protein has a defect. What organelles is this defect connected with?

- a. Golgi complex

b. Lysosomes

c. Granular endoplasmic reticulum

d. Agranular endoplasmic reticulum

e. Mitochondrions

147. During the histologic lung analysis of a man who died from cardiac insufficiency the inflammation focuses were revealed. Alveoles were full of light-pink fluid, here and there with pinkish fibers that formed a close-meshed reticulum with a small number of lymphocytes. What type of exudate is present in lungs?

a. Hemorrhagic

b. Fibrinous

c. Serofibrinous

d. Serous

e. Purulent

148. A 53 year old patient consulted a doctor about white patch on the mucous membrane of tongue. This patch sticks out from the mucous membrane, its surface is cracked. Microscopic analysis reveals thickening of multilayer epithelium, parakeratosis and acanthosis. What is the most probable diagnosis?

a. Papilloma

b. Geographic tongue

c. Leukoplakia

d. Median rhomboid glossitis

e. Epidermoid cancer

149. A patient with complaints of dizziness, worsening of vision acuity, sickness, salivation and spasmodic stomachaches was taken to the admission department. The diagnosis was poisoning with organophosphorous compounds. What preparations should be included into complex therapy?

a. Atropine sulfate and dipiropoxim

b. Tetacin-calcium and unitiol

c. Glucose and bemegride

d. Sodium thiosulfate and bemegride

e. Nalorphine hydrochloride and bemegride

150. Bacteriological laboratory has the task to sterilize nutrient mediums containing substances that convert under the temperature over 100°C (urea, carbohydrates). What method of sterilization should be used?

a. Pasteurization

b. Boiling

c. Tindalization

d. Fluid steam sterilization

e. Autoclaving

151. After consumption of some tinned meat a patient had diplopia, acute headache, deglutition disorder, hard breathing, muscle weakness. The diagnosis was botulism. What factor of pathogenicity are the clinic presentations of this disease connected with?

a. Plasmocoagulase

b. Fibrinolysin

c. Exotoxin

d. Endotoxin

e. Hemolysin

152. A man has a disorder of absorption of fat hydrolysates. What components deficit in the cavity of small intestine may cause this effect?

a. Sodium ions

b. Bile pigments

c. Bile acids

d. Liposoluble vitamins

e. Lipolytic enzymes

153. A newborn child has microcephali. Doctors believe that it is the result of mothers taking actinomycin D during pregnancy. What embryonal leaf was influenced by this teratogen?

a. Mesoderma

b. Ectoderma

c. Entoderma and mesoderma

d. All leaves

e. Entoderma

154. A man consumes dry foo. What salivary glands secret most of all?

a. Submandibular

b. Sublingual

c. Parotides

d. Palatine

e. Buccal

155. In a histological specimen the gland adenomeres should be determine. They are formed by the cells with central round nucleus and basophilic cytoplasm. Determine the type of adenomeres:

a. Sebaceous

b. Combined

c. Mucous

d. Serous

e. Seromucous

156. A 23 year patient was admitted to the hospital in grave condition with craniocerebral traum. His respiration is characterized by a spasmodic long inspiration interrupted by a short expiration. What respiration type is it typical for?

a. Kussmauls respiration

b. Apneustic

c. Gasping

d. Cheyne-Stokes respiration

e. Biots respiration

157. A purulent wound was treated with a solution that had antiseptic effect and contributed to the mechanical wound cleansing. What solution was used?

a. Alcoholic iodine

b. Brilliant green

c. Potassium permanganate

d. Ethacrydine lactate

e. Hydrogen peroxide

158. A patients preliminary diagnosis is toxoplasmosis. What material was used for diagnostics of this disease?

a. Urine

b. Duodenal contents

c. Sputum

d. Feces

e. Blood

159. A child complains of having an itch in occipital and temporal region of hea. After examination his mother found superficial ulcers as a result of scratching and white nits in the hair. Name the pathogenic organism:

a. Head louse

b. Body louse

c. Pubic louse

d. Human flea

e. Screworm fly

160. A 30 year old patient who was taken to the hospital with diagnosis acute glomerulonephritis has proteinuri. What disorder caused this occurrence?

- a. Delayed excretion of nitrogen metabolism products
- b. Decreased number of functioning nephrons
- c. Increased permeability of renal filter**
- d. Increase of hydrostatic blood pressure in capillaries
- e. Decreased oncotic pressure of blood plasma

161. A 40 year old man who took part in disaster-management at a nuclear power plant fell sick with paradontitis. What etiological agent is the most important for the development of this pathology?

- a. Iron deficit
- b. Increased load of dentoalveolar apparatus
- c. Streptococcus
- d. Malnutrition
- e. Emotional stress**

162. A three year old child was admitted to the hospital with a foreign body in bronches. What bronchus contains most likely a foreign body?

- a. Right primary**
- b. Right segmental
- c. Lobular
- d. Left primary
- e. Left segmental

163. During morphologic analysis of pulp floor three zones can be distinctly differentiated: the one of softened dentin, transparent dentin and replacing dentin. What stage of caries are these changes typical for?

- a. Stain stage
- b. Superficial caries
- c. Chronic caries
- d. Deep caries
- e. Median caries**

164. The impact of oxitocine on uterus wall helps to stop uterine bleeding after labor. What membrane of this organ reacts on the effect of this hormone?

- a. Submucous membrane
- b. Myometrium**
- c. Endometrium
- d. Perimetrium
- e. Parametrium

165. Damage of one of the reactors at a nuclear power plant resulted in runout of radioactive products. People who were present in the high-radiation area got approximately 250-300 R. They were urgently taken to the hospital. What blood changes will be typical for this period?

- a. Lymphopenia**
- b. Thrombocytopenia
- c. Neutropenia
- d. Leukopenia
- e. Anemia

166. A 57 year old patient with diabetes mellitus was developed ketoacidosis. Biochemical base of this condition is smaller extent of acetyl-CoA utilization. What cell compound deficit causes this effect?

- a. Oxaloacetate**
- b. Succinate
- c. 2-oxoglutarate
- d. Aspartate
- e. Glutamate

167. A 4 year old child had Mantoux test. 60 hours after tuberculin introduction a focal skin hardening and redness 15 mm in diameter appeared. It was regarded as positive test. What type of hypersensitivity reaction is this test based upon?

- a. -
- b. Delayed-type hypersensitivity**
- c. Immediate hypersensitivity
- d. Immune complex-mediated hypersensitivity
- e. Complement-mediated cytotoxic hypersensitivity

168. After an operation a patient's sensitivity of front and lateral surface of neck has reduced. What nerve is damaged?

- a. N.auricularis magnus
- b. Nn.supraclaviculares
- c. N.occipitalis minor
- d. N.phrenicus
- e. N.transversus colli**

169. A 1,5 year old child was taken to the hospital. The examination revealed dementia, disorder of motor functions regulation, hypopigmentation of skin, high rate of phenylalanine in blood. What is the most probable diagnosis?

- a. Phenylketonuria**
- b. Down's syndrome
- c. Mucoviscidosis
- d. Galactosemia
- e. Tyrosinosis

170. Microscopic analysis of tissue sampling from affected area of mucous membrane of oral cavity revealed bacillus in form of accumulations that looked like a pack of cigarettes. Ziehl-Neelsen staining gives them red colour. What kind of pathogenic organism was most likely revealed in tissue sampling?

- a. M.avium
- b. A.bovis
- c. M.leprae**
- d. M.tuberculosis
- e. A.israelii

171. A patient with systemic scleroderma has an intensified collagen destruction. What amino acid will be intensively excreted with urine and reflect processes of collagen destruction?

- a. Phenylalanine
- b. Serine
- c. Alanine
- d. Tryptophan
- e. Oxypoline**

172. During the histologic examination of thyroid gland of a man who died of cardiac insufficiency together with hypothyroidism there was found the diffusive infiltration of gland by lymphocytes and plasmocytes, parenchyma atrophy and growth of connective tissue. Formulate a diagnosis:

- a. Thyroid gland adenoma
- b. -
- c. Purulent thyroiditis
- d. Hashimoto's thyroiditis**
- e. Thyrotoxic goiter

173. In a cell the mutation of the first exon of structural gene took place. The number of nucleotide pairs has decreased - 250 pairs instead of 290. Determine the type of mutation:

- a. Deletion**
- b. Translocation
- c. Inversion

- d. Nonsense-mutation
- e. Duplication

174. During the tooth development the enamel organ has prismatic cells with hexagonal intersection; the nucleus is situated in the central part of the cell. What cells are meant?

- a. Preenameloblasts**
- b. Cambial cells
- c. Exterior enameloblasts
- d. Enamel pulp cells
- e. Preodontoblasts

175. Microscopic analysis of brain base vessels of a patient who died of ischemic stroke revealed that intima of cerebral vessels is irregular, with moderate quantity of yellow stains and yellowish-whitish patches that narrow lumen. What is the most probable diagnosis?

- a. Atherosclerosis**
- b. Diabetes mellitus
- c. Primary hypertension
- d. Rheumatism
- e. Nodular periarteritis

176. While the examination of patients oral cavity the dentist found xerostomia, numerous erosions. What vitamin deficit caused this effect?

- a. Vitamin A**
- b. Vitamin K
- c. Vitamin PP
- d. Vitamin H
- e. Vitamin P

177. A patient who takes tetracyclin was recommended not to consume dairy products. Why did the doctor give him such recommendation?

- a. Dairy products dont assimilate
- b. Gastrointestinal digestion may be disturbed
- c. They increase risk of dysbacteriosis
- d. Antibiotic toxicity increases
- e. They inhibit antibiotic absorption**

178. A patient has a slowly healing fractur. What medicine can be used to accelerate formation of connective tissue matrix?

- a. Prednisolone
- b. Methyluracil**
- c. Cyclosporine
- d. Cyclophosphan
- e. Methotrexate

179. A 10 year old child lives in the region where fluorine content in water is above the mark. A dentist examined the child and found teeth damage in form of chalky and also pigmentary stains and stripes. What is the most probable diagnosis?

- a. Median caries
- b. Wedge defects
- c. Fluorosis**
- d. Tooth erosion
- e. Acidic necrosis of hard tooth tissues

180. A patient was taken to the hospital with complaints of headache, high temperature, frequent stool, stomach pain with tenesmus. Doctor made a clinical diagnosis dysentery and sent the material (excrements) to the bacteriological laboratory for analysis. What diagnostic method should the laboratory doctor use to confirm or to disprove the clinical diagnosis?

- a. Serological**

b. Biological

c. Bacteriological

d. Allergic

e. Bacterioscopic

181. A patient was attacked by bees. He was taken to the hospital with Quinckes edem. What antihistaminic medication without sedative effect should be prescribed the patient?

a. Diasoline

b. Phencarol

c. Tavegil

d. Diphenhydramine hydrochloride

e. Suprastine

182. A patient has liver cirrhosis. Analysis of what substance excreted with urine may characterize the state of antitoxic liver function?

a. Uric acid

b. Amino acids

c. Creatinine

d. Ammonian salts

e. Hippuric acid

183. Histologic analysis of uterus mucous membrane revealed twisting glands, serrated and spinned, they were extended by stroma growth with proliferation of its cells. Formulate a diagnosis:

a. Leiomyoma

b. Acute endometritis

c. Cystic mole

d. Placental polyp

e. Glandular hyperplasia of endometrium

184. The microscopic analysis of bronch biopsy revealed a tumor that consisted of circumscribed accumulations of atypical cells of multilayer plane epithelium, here and there with typical "pearls". What is the most likely diagnosis?

a. Epidermoid cancer without keratinization

b. Solid carcinoma

c. Epidermoid cancer with keratinization

d. Scirrhous

e. Mucous carcinoma

185. Autopsy of a man who died of typhoid fever revealed ulcers along the ileum. These ulcers have even sides, clean fundus formed by muscle layer or even by serous tunic of an intestine. What stage of disease does the described presentation correspond with?

a. Stage of medullary swelling

b. Stage of "dirty" ulcers

c. Stage of ulcer healing

d. Stage of "clean" ulcers

e. Stage of necrosis

186. After a hemorrhage into the brainstem a patient has lost reflex of myosis as a reaction to increase of illumination. What structure was damaged?

a. Lateral reticular nuclei

b. Red nuclei

c. Black substance

d. Medial reticular nuclei

e. Vegetative nuclei of oculomotor nerve

187. While of oral cavity examination the dentist revealed the formation of the first big cheekteeth on the lower jaw of a child. How old is this child?

a. 10-11 years old

- b. 12-13 years old
- c. 8-9 years old
- d. 6-7 years old**
- e. 4-5 years old

188. A patient has an injury in right lateral area of belly. What part of large intestine is most likely injured?

- a. Rectum
- b. Transverse colon
- c. Sigmoid colon
- d. Descending colon
- e. Ascending colon**

189. A patient consulted dental surgeon about an injury of submandibular triangle. During the wound cleansing the surgeon found that the artery leading to the soft palate is damaged. What artery is damaged?

- a. A. palatina descendens
- b. A. sphenopalatina
- c. A. palatina ascendens**
- d. A. pharyngea ascendens
- e. A. facialis

190. To what total ATP quantity is the full glucose oxidation and its linking with phosphorylation equivalent?

- a. 12
- b. 38**
- c. 52
- d. 58
- e. 8

191. 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. Conduction tracts
- b. Neuromuscular synapses
- c. Efferent nerves
- d. Afferent nerves
- e. Central synapses**

192. A patient has urolithiasis that was complicated by a renal calculus passage. At what level of ureter is it most likely to stop?

- a. Between abdominal and pelvic part**
- b. In pelvis
- c. 5 cm above pelvic part
- d. In the middle abdominal part
- e. 2 cm above flowing into urinary bladder

193. Tissue sample of soft palate arches that was taken because a tumor was suspected (microscopic analysis revealed an ulcer with dense fundus) revealed mucous membrane necrosis, submucous layer was infiltrated by lymphocytes, epithelioid cells, plasmacytes, solitary neutrophils. There was also evident endovasculitis and perivasculitis. What disease are these changes typical for?

- a. ulcerative stomatitis
- b. Primary syphilis**
- c. Aphthous stomatitis
- d. Vincent's ulcerative-necrotic stomatitis
- e. Fungal dysphagia

194. A mother consulted a doctor about her one year old child, who has got six teeth come out. How

many teeth should the child of such age have?

- a. 7
- b. 12
- c. 10
- d. 6
- e. 8**

195. Autopsy of a 5 year old child revealed that pia maters of brain are extremely plethoric, nebulous, have a look of yellowish-green "bonnet". Microscopic analysis: pia mater of brain is very thickened, plethoric, impregnated with purulent exudate containing fibrin. What disease is meant?

- a. Measles
- b. Anthrax
- c. Meningococcosis**
- d. Influenza
- e. Tuberculosis

196. After a long-lasting and grave illness the blood pressure of a patient fell up to 60/40 mm; he has tachicardia, dyspnea, black-out. How can this state be defined?

- a. Agony
- b. Preagony**
- c. Apparent death
- d. -
- e. Shock

197. Mother of a two year old child consulted a dentist. In the period of pregnancy she was non-systematically taking antibiotics to treat an infectious diseases. The childs examination revealed incisor destruction, yellow enamel, brown limbus of dental cervix. What preparation was mother taking during her pregnancy?

- a. Doxycycline**
- b. Furosemide
- c. Xanthinol nicotinate
- d. Octadine
- e. Ampiox

198. A woman has ovary hyperemia, increase of hemato-follicular barrier permeability with edema development, infiltration of follicle wall by segmentonuclear leukocytes. The volume of follicle is big, its wall is thinne. What period of sex cycle does the described picture correspond with?

- a. Menstrual period
- b. Postmenstrual period
- c. Ovulation
- d. Relative rest period
- e. Preovulatory stage**

199. In course of an experiment the peripheral fragment of a cut vagus nerve on the dogs neck was being stimulate. There was the following change of cardiac activity:

- a. Increase of myocardium excitability
- b. Increase of beat frequency and force
- c. Decrease of beat frequency**
- d. Increased speed of excitement conduction through myocardium
- e. Increase of beat force

200. A 50 year old woman had her tooth extracte. The tissue regenerate. Which of the following organella are the most active during tissue regeneration?

- a. Centrosomes
- b. Ribosomes**
- c. Agranular endoplasmic reticulum
- d. Lysosomes
- e. Postlysosomes

201. A surgeon should reach the omental bursa to perform an operation on abdominal cavity. How can he reach this part of peritoneal cavity without affecting the integrity of lesser omentum?

- a. Through the left mesenteric sinus
- b. Through the right paracolic sulcus
- c. Through the right mesenteric sinus
- d. Through the left paracolic sulcus
- e. Through the epiploic foramen**

202. A patient has hypocalcemia. What hormone deficiency may be its cause?

- a. Corticotropin
- b. Parathormone**
- c. Corticoliberin
- d. Aldosterone
- e. Thyrocalcitonin

203. A patient's middle ear inflammation was complicated by mastoiditis. There was a threat of purulent thrombosis of the nearest venous sinus. What sinus was under the threat?

- a. Inferior petrosal
- b. Transverse
- c. Rectus
- d. Sigmoid**
- e. Superior sagittal

204. A 30 year old patient who was taken to the hospital with diagnosis acute glomerulonephritis has proteinuria. What disorder caused this occurrence?

- a. Increase of hydrostatic blood pressure in capillaries
- b. Decreased number of functioning nephrons
- c. Delayed excretion of nitrogen metabolism products
- d. Decreased oncotic pressure of blood plasma
- e. Increased permeability of renal filter**

205. Rate of excitement conduction was studied on different sites of an isolated heart. Where was the lowest rate registered?

- a. In atrioventricular node**
- b. In ventricles myocardium
- c. In atrias myocardium
- d. In Purkinje fibers
- e. In His bundle

206. A woman with ischemic heart disease has been taking an antianginal medication that has the following properties: dilates coronary arteries, peripheral vessels (arterial and venous), reduces the need of myocardium in oxygen, improves endocardial blood circulation. Name this preparation:

- a. Nitroglycerin**
- b. Dibalol
- c. Aminophylline
- d. Validol
- e. Papaverine

207. On the territory of a certain region the mass death of rodents was observed. It was assumed that it may be caused by plague agent. What serological reaction should be applied for quick determination of antigens of this epizootic agent?

- a. Agglutination reaction
- b. Bordet-Gengou test
- c. Precipitation reaction**
- d. Reaction of passive hemagglutination
- e. Neutralization reaction

208. Formaldehyde solution was applied for disinfection of nonmetallic instruments of surgical

department. What chemical series does this antiseptic preparation belong to?

- a. Detergents
- b. Aliphatic series**
- c. Aromatic series
- d. Halogenated compounds
- e. Alcohols

209. Examination of a pregnant woman who has been taking alcohol revealed disturbed anlage of ectoderma during the fetal life. What derivatives of this leaf have defects?

- a. Bowels epithelium
- b. Liver
- c. Neural tube**
- d. Kidneys
- e. Sexual glands

210. A child has disturbed enamel and dentine formation as a result of decreased content of calcium ions in his blood. What hormone deficiency may cause such changes?

- a. Thyreocalcitonin**
- b. Somatotropin
- c. Parathormone
- d. Triiodothyronine
- e. Thyroxin

211. A mans energy consumption is measured on an empty stomach, in lying position, under conditions of physical psychical rest, at comfortable temperature. At what time will the energy consumption be the lowest?

- a. At 3-4 oclock a.m**
- b. At 10-12 oclock a.m
- c. At 2-4 oclock p.m
- d. At 5-6 oclock p.m
- e. At 7-8 oclock a.m

212. In the vermiform appendix there was found a white helminth, 40 mm long with thin filiform forward end. Ecscrements contained oval eggs with plugs at the poles. Determine the kind of helminth:

- a. Hookworm
- b. Seatworm
- c. Threadworm
- d. Ascarid
- e. Whipworm**

213. A 24 year old patient consulted a doctor about pain below the lower jaw to the right of it. Dental surgeon found a stone in the submandibular gland. While removing it he prevented bleeding from the following artery:

- a. a.submentalis
- b. a.facialis**
- c. a.labialis inferior
- d. a.lingualis
- e. a.alveolaris inferior

214. There are trisome, translocational and mosaic forms of Downs Syndrome. What method of human genetics can be applied to differentiate the said forms of Downs syndrome?

- a. Gemellary
- b. Cytogenetical**
- c. Population-statistical
- d. Biochemical
- e. Genealogical

215. In a genetical laboratory in course of work with DNA molecules of white rats of Wistars line a nucleotide was substituted for another one. At that only one amino acid was substituted in the peptide. This result is caused by the following mutation:

a. Transversion

- b. Displacement of reading frame
- c. Duplication
- d. Deletion
- e. Translocation

216. As a result of head trauma a 32 year old man has damaged ampullas of semicircular ducts. What stimuli perception will be disturbed?

a. Angular acceleration

- b. Gravitation
- c. Vibration and gravitation
- d. Linear acceleration
- e. Vibration

217. The symptoms of regeneration process (callus) on the place of fracture were revealed in the histologic specimen of tubular bone. What tissue forms this structure?

- a. Reticular tissue
- b. Loose connective tissue

c. Fibrous bone tissue

- d. Epithelial tissue
- e. Lamellar bone tissue

218. A patient with an acute rhinitis has hyperemia and excessive mucus formation in nasal cavity. What epithelial cells of mucous membrane have the intensified activity?

- a. Microvillous cells
- b. Endocrine cells

c. Goblet cells

- d. Basal cells
- e. Ciliated cells

219. Bacteriological examination of purulent discharges from urethra revealed some bacteries that had negative Grams stain, resembled of coffee corns, decomposed glucose and maltose up to acid. They were located in leukocytes. What disease do they cause?

a. Soft chancre

b. Gonorrhea

- c. Syphilis
- d. Pseudocholera
- e. Venereal lymphogranulomatosis

220. Autopsy of a man who died from ethylene glycol poisoning revealed that his kidneys are a little bit enlarged, edematic; their capsule can be easily removed. Cortical substance is broad and light-grey. Medullary substance is dark-red. What pathology had this man?

- a. Lipoid nephrosis
- b. Acute tubular-interstitial nephritis
- c. Acute glomerulonephritis

d. Necrotic nephrosis

e. Acute pyelonephritis

221. A patient ill with jaundice has increased content of conjugated bilirubin and bile acids in blood, no stercobilinogen in urine. What jaundice are these symptoms typical for?

- a. Hepatic
- b. Cythemolytic

c. Obstructive

- d. Hemolytic
- e. Hepatocellular

222. A 45 year old patient was taken to the hospital by an emergency team with serious cranial trauma in shock condition. Objectively: unconscious, skin is pale, body t°- 35,00C, low muscular tonus, reflexes are absent, pulse is rapid and weak, AP- 50/30 mm Hg. What clinical shock stage is it?

- a. Excitement stage
- b. Inhibition stage
- c. Erectile stage
- d. Torpid stage

e. Terminal stage

223. A man has considerable disorder of protein, fat and carbohydrate digestion. Reduced secretion of what digestive juice is the most probable cause of this phenomenon?

- a. Intestinal juice
- b. Bile

c. Pancreatic juice

- d. Gastric juice
- e. Saliva

224. A patient who is ill with scurvy displays disturbed processes of connective tissue formation that leads to loosening and falling of teeth. Disturbed activity of what enzyme causes these symptoms?

a. Elastase

- b. Glycosiltransferase
- c. Procollagenpeptidase of N-terminal peptide
- d. Procollagenpeptidase of C-terminal peptide
- e. Lisilhydroxylase

225. Father bought some pork at the market. What disease may catch members of his family provided that this meat didnt pass the veterinary control?

a. Pork tapeworm infection

- b. Liver fluke infection
- c. Hymenolepiasis
- d. Beef tapeworm infection
- e. Echinococcosis

226. Examination of a child who hasnt 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. Riboflavin and nicotinamide

c. Ascorbic acid and rutin

- d. Thiamine and pyridoxine
- e. Folic acid and cobalamin

227. A non trained man has usually muscular hypoxia after a sprint. What metabolite accumulates in the muscles as a result of it?

a. Oxaloacetate

b. Lactate

- c. -
- d. Ketone bodies
- e. Glucose 6-phosphate

228. An 8 month old child has non-closed palate, a number of eye defects, microcephaly, disorder of cardiovascular system. Cytogenetic analysis revealed 47 chromosomes with an additional 13th chromosome. What diagnosis can be made on the basis of clinical observations and cytogenetic examinations?

- a. Downs syndrome
- b. Cat cry syndrome
- c. Klinefelters syndrome

d. Patau syndrome

e. Edwards syndrome

229. Macroscopic examination of lung tissue revealed some areas of excessive airiness with small bubbles, histological examination registered thinning and rupture of alveolar septa and formation of big multiform cavities. What disease was revealed in the lung?

- a. Fibrosing alveolitis
- b. Multiple bronchiectasis
- c. Cavernous tuberculosis
- d. Pulmonary emphysema**
- e. Chronic bronchitis

230. Implantation process has two stages: adhesion and invasion. Morphological manifestation of blastocyte adhesion is:

- a. Destruction of connective tissue of endometrium
- b. Attachment of blastocyte to the endometrium**
- c. Formation of lacunes
- d. Destruction of endometrium vessels
- e. Destruction of endometrium epithelium

231. A 57 year old patient has periodic uterine bleedings. Diagnostic endometrectomy was performed. Biopsy material contains among the blood elements some glandular complexes of different sizes and forms that consist of atypic cells with hyperchromic nuclei and multiple mitoses (including pathological ones). What is the most probable diagnosis?

- a. Endometritis
- b. Adenocarcinoma**
- c. Chorioepithelioma
- d. Fibromyoma of uterus
- e. Glandular hyperplasia of endometrium

232. A patient with pneumosclerosis has pulmonary hypertension and cardiac insufficiency of right ventricle with ascites and edemata. What is the main pathogenetic mechanism of edemata development?

- a. Rise of oncotic pressure of intracellular fluid
- b. Reduction of oncotic blood pressure
- c. -
- d. Increased permeability of vessel walls
- e. Rise of hydrostatic blood pressure in veins**

233. Histologic examination revealed a big number of polymorphonuclear leukocytes in all layers of appendix; hyperemia, stases. What disease are these symptoms typical for?

- a. Superficial appendicitis
- b. Gangrenous appendicitis
- c. Chronic appendicitis
- d. Simple appendicitis
- e. Phlegmonous appendicitis**

234. Removal of a foreign body from patients eye involves local anesthesia with lidocaine. What is the action mechanism of this medication?

- a. It reduces dehydrogenase activity
- b. It disturbs passing of Na^+ through the membrane**
- c. It inhibits cytochrome oxidase activity
- d. It reduces passage of neuromediators
- e. It blocks passing of nitric oxide

235. A 25 year old patient had in the dentists room a sudden attack of bronchial asthma. The doctor gave him salbutamol in the form of inhalation. What is the mechanism of action of this preparation?

- a. Blocks phosphodiesterase
- b. Blocks M-cholinergic receptors

c. Stimulates 2-adrenoreceptors

d. Blocks H1-histamine receptors

e. Stimulates -adrenoreceptors

236. A 28 year old patient was diagnosed with acute inflammation of mucous membrane of nasolacrimal duct. It is known from the anamnesis that he had been having nasal discharges for 10 days after recovering from influenza. From what part of nasal cavity could the infection penetrate into nasolacrimal duct?

a. Middle nasal meatus

b. Superior nasal meatus

c. Frontal sinus

d. Vestibule of nose

e. Inferior nasal meatus

237. A 30 year old man was exposed to irradiation with about 3 Gy. What blood change will be evident in 8 hours after irradiation?

a. Thrombocytopenia

b. Lymphopenia

c. Granulocytopenia

d. Leukopenia

e. Anemia

238. Rabbits lived on food with addition of cholesterol. Five months later the atherosclerotic aorta changes were revealed. Name the main cause of atherogenesis in this case:

a. Hypodynamia

b. Exogenous hypercholesterolemia

c. Endogenous hypercholesterolemia

d. Overeating

e. -

239. During the postsynthetic period of mitotic cycle the synthesis of tubulin proteins was disturbed. These proteins take part in construction of division spindle. It can lead to the disturbance of:

a. Chromosomes disjunction

b. Cytokinesis

c. Despiralization of chromosomes

d. Spiralization of chromosomes

e. Mitosis duration

240. A 58 year old patient was being prepared to cholecystectomy operation. Drug complex of narcosis premedication included benzohexamethonium. What part does this medication play in the narcosis?

a. Functional blockade of visceral reflexes

b. Increase of retrograde amnesia

c. Relaxation of skeletal muscles

d. Relaxation of smooth muscles

e. Reduction of excitement stage

241. After traumatic tooth extraction a patient complains of a severe dull pain without accurate localization in his gum, body temperature rise up to 37,5°C. He was diagnosed with alveolitis. What type of pain does the patient have?

a. Protopathic

b. Phantom

c. Referred

d. Epicritic

e. Visceral

242. Name the drug group that can reduce need of myocardium for oxygen, decrease force of heartbeat and inhibit lipolysis:

a. beta-adrenoreceptor blockers

- b. Sympatholytics
- c. alpha-adrenoreceptor blockers
- d. alpha-adrenoreceptor agonists
- e. Selective beta-adrenoreceptor agonists

243. To approach the thyroid gland from the transverse (collar) approach the suprasternal fascial space must be opened. What anatomical formation located in this space is dangerous to damage?

- a. Subclavian artery
- b. Internal jugular vein
- c. Carotid artery
- d. Lymph nodes

e. Venous jugular arch

244. A patient complains of painful cracks in mouth angles. What sulfanilamide can be recommended for local treatment of angular stomatitis?

- a. Synthomycine liniment
- b. Streptocide liniment**
- c. Butadione ointment
- d. Tetracycline ointment
- e. Prednisolone ointment

245. Histological specimen of an oral cavity organ shows that anterior surface is lined with multilayer flat non-keratinizing epithelium and posterior surface - with multirow ciliated epithelium. What organ is it?

- a. Lip
- b. Hard palate
- c. Cheek
- d. Gum

e. Soft palate

246. Chronic overdosage of glucocorticoids leads to the development of hyperglycemia. What process of carbohydrate metabolism is responsible for this effect?

- a. Gluconeogenesis**
- b. Aerobic glycolysis
- c. Pentose-phosphate cycle
- d. Glycogenesis
- e. Glycogenolysis

247. A patient in the oral surgery department has got purulent complication. Bacteriological analysis of the wound material found a culture that produces cyan pigment. What microorganism is the most probable causative agent?

- a. Klebsiella pneumoniae
- b. Bacillus subtilis
- c. Pseudomonas aeruginosa**
- d. Proteus vulgaris
- e. Staphylococcus epidermidis

248. Electron micrograph of a kidney fragment presents an afferent arteriole with big cells under endothelium. These cells contain secretory granules. Name this type of cells:

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

249. In compliance with the clinical presentations a man was prescribed pyridoxalphosphate. What processes are corrected by this preparation?

a. Transamination and decarboxylation of amino acids

- b. Oxidative decarboxilation of keto acids
- c. Desamination of purine nucleotides
- d. Protein synthesis
- e. Synthesis of purine and pyrimidine bases

250. In course of gastric endoscopy the biopsy material of mucous membrane was taken. Its histological examination revealed the following: mucous membrane is intact, thickened, edematic, hyperemic, with small droplike hemorrhages, coated with thick mucus. Name the form of acute gastritis:

- a. Necrotic
- b. Purulent
- c. Erosive
- d. Fibrinous
- e. Catarrhal**

251. Microspecimen of a child's finger skin reveals subnormal development of epidermis. What embryonic leaf was damaged in course of development?

- a. Mesenchyma
- b. Ectomesenchyma
- c. Mesoderm
- d. Ectoderm**
- e. Entoderm

252. A patient suffers from middle ear inflammation (otitis). He complains also of disordered test sensation in the anterior tongue part. What nerve is damaged?

- a. N. facialis**
- b. N. glossopharyngeus
- c. N. vagus
- d. N. vestibulo-cochlearis
- e. N. trigeminus

253. A woman after labor lost 20 kg of body weight, her hair and teeth fall out, she has muscle atrophy (hypophysial cachexia). Synthesis of what hypophysis hormone is disturbed?

- a. Corticotropic
- b. Somatotropic**
- c. Prolactin
- d. Thyreotropic
- e. Gonadotropic

254. On examination of a road accident victim a doctor revealed left clavicle fracture and disturbed blood circulation in an extremity (no pulsing of radial artery). What cause of blood circulation disturbance is the most probable?

- a. Compression of subclavian artery**
- b. Compression of subclavian vein
- c. Compression of axillary artery
- d. Compression of axillary vein
- e. Compression of vertebral artery

255. A 19 year old patient was diagnosed with chronic acquired hemolytic anemia. What is the leading pathogenetic mechanism of this pathology's development?

- a. Toxic hemolysis
- b. Hyposmolarity of plasma
- c. Autoimmune hemolysis**
- d. Intracellular hemolysis
- e. Osmotic hemolysis

256. During many infectious diseases patients' blood may contain antigens of pathogens. What

reaction should be applied provided that antigenemia is at a low level?

- a. Reaction of indirect hemagglutination
- b. Reaction of latex-agglutination
- c. Agglutination reaction
- d. Enzyme-linked immunosorbent assay**
- e. Immunoelectrophoresis

257. Laboratory rats that have been fed only with carbohydrate food for a long time display water accumulation in the tissues. What pathogenetic mechanism is the main cause of edema in this case?

- a. Hypooncotic**
- b. Hyperosmolar
- c. Membranogenic
- d. Lymphogenic
- e. Disregulatory

258. Cerebral hemorrhage caused serious disturbance of taste sensibility. What brain structure is most likely to be damaged?

- a. Substantia nigra
- b. Hypothalamus
- c. Postcentral gyrus**
- d. Amygdaloid body
- e. Hippocampus

259. There is a 9 year old boy in endocrinological department, who has already had a few fractures of extremities caused by fragility of bones. Malfunction of what endocrinous glands (gland) takes place?

- a. Thymus
- b. Epiphysis
- c. Parathyroid glands**
- d. Adrenal glands
- e. Thyroid gland

260. In course of an experiment the peripheral segment of vagus nerve of an animal was stimulated. The following changes of heart activity were observed:

- a. Increased force of heartbeat
- b. Increased conduction of excitement through myocardium
- c. Reduced heart rate**
- d. Increase of frequency and force of heartbeat
- e. Increased excitability of myocardium

261. During the histologic lung analysis of a man who died from cardiac insufficiency the inflammation focuses were revealed. Alveoles were full of light-pink fluid, here and there with pinkish fibers that formed a close-meshed reticulum with a small number of lymphocytes. What type of exudate is present in lungs?

- a. Fibrinous
- b. Serofibrinous**
- c. Serous
- d. Purulent
- e. Hemorrhagic

262. By producing a number of hormones placenta plays a part of temporary endocrine gland. What hormone may be detected in woman's blood on the third or the fourth day after begin of implantation, that is used in medicine for early pregnancy detection?

- a. Chorionic gonadotropin**
- b. Oxytocin
- c. Vasopressin
- d. Progesterone
- e. Somatostatin

263. Sputum smears of a patient with chronic pulmonary disease were stained by Ziehl-Neelsen method and analyzed in the bacteriological laboratory. Microscopy revealed red bacillus. What property of tuberculosis myobacteria was found?

- a. Acid resistance
- b. Alcohol resistance
- c. Alkali resistance
- d. Spore-formation
- e. Encapsulation

264. Autopsy of a man who suffered from essential hypertension revealed a cavity with rust-coloured walls in the cerebral substance. What preceded the appearance of these changes?

- a. Hematoma
- b. Ischemic infarction
- c. Diapedetic hemorrhages
- d. Abscess
- e. Plasmorrhagias

265. A patient with thyreotoxicosis was prescribed a medication that inhibits enzyme systems taking part in synthesis of thyroid gland hormones. What medication is it?

- a. Diiodotyrosine
- b. Thyreoidine
- c. Radioactive iodine
- d. Potassium iodide
- e. Mercazolile

266. A newborn child has microcephalia. Doctors consider that this is the result of mothers taking actinomycin D during the pregnancy. What embryonal leaf was influenced by this teratogen?

- a. Entoderma
- b. Entoderma and mesoderma
- c. Ectoderma
- d. All leaves
- e. Mesoderma

267. A patient has increased content of uric acid in his blood that is clinically presented by pain syndrome as a result of urate deposition in the joints. What process does this acid result from?

- a. Lysis of purine nucleotides
- b. Heme catabolism
- c. Lysis of pyrimidine nucleotides
- d. Proteolysis
- e. Reutilization of purine bases

268. A 30 year old patient consulted a doctor about having diarrhea and stomach aches for 5 days, temperature rise up to 37,50C with chills. The day before the patient was in a forest and drank some water from an open pond. He was diagnosed with amebic dysentery that was bacteriologically confirmed. Name the medication for treatment of this disease:

- a. Phthalazole
- b. Metronidazole
- c. Chloramphenicol
- d. Furasolidone
- e. Emethine hydrochloride

269. A patient with chronic glomerulonephritis has disorder of incretoty function of kidneys. What blood elements deficit will result from it?

- a. Leukocytes and thrombocytes
- b. Erythrocytes and leukocytes
- c. Leukocytes
- d. Thrombocytes
- e. Erythrocytes

270. Immune-enzyme reaction revealed in blood serum HBs-antigene. What disease is this antigene associated with?

- a. AIDS
- b. Viral hepatitis type A
- c. Viral hepatitis type B**
- d. Tuberculosis
- e. Syphilis

271. A stomatologists examined first-grade pupils and revealed that one of children had yellowish brown teeth, two of them were split. Heretofore the pupil was treated with "some pills" on account of pneumonia. What medication could have had such a negative effect upon teeth?

- a. Ampicillin
- b. Erythromycin
- c. Oxacillin
- d. Biseptol
- e. Doxycycline**

272. Examination of a 42 year old patient who suffers from parodontosis revealed roundish calcified formations 2-3 mm in diameter in coronal pulp. Name these formations:

- a. Interglobular spaces
- b. Intertubular dentin
- c. Dead dentin
- d. Sclerosed (transparent) dentin
- e. Denticles**

273. A patient with streptococcal gingival infection was prescribed a medication that contains beta lactam ring in its structure. What preparation belongs to this group?

- a. Chloramphenicol
- b. Erythromycin
- c. Benzylpenicillin**
- d. Rifampicin
- e. Streptomycin sulfate

274. Myocyte cytoplasm contains a big number of dissolved metabolites of glucose oxidation. Name one of them that turns directly into lactate:

- a. Fructose 6-phosphate
- b. Pyruvate**
- c. Glycerophosphate
- d. Glucose 6-phosphate
- e. Oxaloacetate

275. An experimentator wants a dog to develop conditioned salivary reflex. What conditioned stimulus will be appropriate to use?

- a. Meat
- b. Moderately loud sound**
- c. Zwieback
- d. Very loud sound
- e. Electric current

276. A patient had his tooth extracted. The lingual surface of this tooth was smaller than the buccal one. Masticatory surface has oval form. Deep transverse sulcus separates buccal and lingual tubercles. The root is strongly compressed in mesio-distal direction and has longitudinal sulci on its aproximal surfaces, it is bifurcated. What tooth was extracted?

- a. First lower premolar
- b. Lower canine
- c. First upper premolar**
- d. Second upper premolar
- e. Upper canine

277. A patient complains of rapid fatigability. Objectively: he staggers and overbalances in the upright position with closed eyes. Skeleton muscular tonus is decreased. What brain structure is most likely to be damaged?

- a. Thalamus
- b. Cerebellum**
- c. Hypothalamus
- d. Precentral gyrus of cerebrum cortex
- e. Basal ganglions

278. A doctor examined a patient with recurrent aphthous stomatitis with concomitant candidosis and decided to eliminate a possibility of HIV-infection. What examination can help to clear the situation up and make a provisional diagnosis?

- a. Gel precipitation reaction
- b. Reaction of hemagglutination
- c. Phase-contrast microscopy
- d. Immune-enzyme analysis**
- e. Reaction of hemagglutination inhibition

279. What antihelminthic medication is used for stimulation of immune system in case of chronic generalized periodontitis?

- a. Piperidine adipinate
- b. Chloxil
- c. Pumpkin seeds
- d. Pyranthel
- e. Levamisole**

280. A patient has hyperkalemia and hyponatremia. Reduced secretion of what hormone may cause such changes?

- a. Aldosterone**
- b. Parathormone
- c. Vasopressin
- d. Cortisol
- e. Natriuretic hormone

281. Morphological examination of carious cavity floor differentiated distinctly three zones: the one of softened dentin, transparent dentin and replacing dentin. What stage of caries are these changes typical for?

- a. Chronic caries
- b. Superficial caries
- c. Median caries**
- d. Deep caries
- e. Spot stage

282. In course of an experiment the peripheral fragment of a cut vagus nerve on the dogs neck was being stimulated. There was the following change of cardiac activity:

- a. Decrease of beat frequency**
- b. Increase of beat frequency and force
- c. Increased speed of excitement conduction through myocardium
- d. Increase of beat force
- e. Increase of myocardium excitability

283. Examination of a 7 year old child revealed the following symptoms: small height, broad roundish face, closely placed eyes with narrow palpebral fissures, half-open mouth. Valvular defect has been also diagnosed. These clinical presentations are most likely typical for Downs syndrome. Name the cause of such pathology:

- a. Trisomy of the 21 chromosome**
- b. Partial monosomy
- c. X-chromosome trisomy

- d. Trisomy of the 13 chromosome
- e. Nondisjunction of sexual chromosomes

284. A 7 year old girl was taken to an infectious diseases hospital. She had complaints of high temperature, sore throat, general weakness. A doctor assumed diphtheria. What will be crucial proof of diagnosis after defining pure culture of pathogenic organism?

a. Toxigenity test

- b. Cystinase test
- c. Phagolysability
- d. Hemolytic ability of pathogenic organism
- e. Detection of volutine granules

285. Tissue sample of soft palate arches that was taken because a tumor was suspected (microscopic analysis revealed an ulcer with dense fundus) revealed mucous membrane necrosis, submucous layer was infiltrated by lymphocytes, epithelioid cells, plasmocytes, solitary neutrophils. There was also evident endovasculitis and perivasculitis. What disease are these changes typical for?

a. Primary syphilis

- b. Aphthous stomatitis
- c. Vinsans ulcerative-necrotic stomatitis
- d. Faucial diphtheria
- e. Ulcerative stomatitis

286. A patient is diagnosed with alcaptonuria. Name a defect enzyme that causes this pathology:

- a. Glutamate dehydrogenase
- b. Pyruvate dehydrogenase
- c. Phenylalanine hydroxylase
- d. Dioxyphenylalanine decarboxylase

e. Oxydase of homogentisine acid

287. A 5 year old child suffers from the neck deformity. Clinical examination revealed such symptoms: apparent flexion of head to the left, his face is turned right, passive movements of the head to the right are restricted. What muscles development was disturbed in this case?

a. Sternocleidomastoid

- b. Splenius muscle of head
- c. Long muscle of head
- d. Trapezius
- e. Sternosublingual

288. Microscopic analysis of tissue sampling from affected area of mucous membrane of oral cavity revealed bacillus in form of accumulations that looked like a pack of cigarettes. Ziehl-Neelsen staining gives them red colour. What kind of pathogenic organism was most likely revealed in tissue sampling?

- a. M.tuberculosis
- b. M.avium
- c. A.bovis
- d. A.israelii

e. M.leprae

289. A woman in grave condition was admitted to a hospital with the diagnosis of the hemorrhagic stroke in the region of frontal part of the right cerebral hemisphere. The damage of what artery most likely caused this condition?

- a. A.communicans anterior
- b. A.cerebri media
- c. A.communicans posterior
- d. A.cerebri posterior

e. A.cerebri anterior

290. A patient with clinical presentations of primary immunodeficiency displays disturbance of

antigen-presenting function by immunocompetent cells. What cells may have structure defect?

- a. T-lymphocytes
- b. Macrophages, monocytes**
- c. B-lymphocytes
- d. O-lymphocytes
- e. Fibroblasts

291. Very big teeth is an Y-linked sign. Mothers teeth are of normal size, and her sons teeth are very big. Probability of fathers having very large teeth is:

- a. 12,5%
- b. 100%**
- c. 50%
- d. 75%
- e. 25%

292. Mucous membrane of the right palatine tonsil has a painless ulcer with smooth lacquer fundus and accurate edges of cartilaginous consistency. Microscopically: inflammatory infiltrate that consists of lymphocytes, plasmocytes, a small number of neutrophils and epithelioid cells; endovasculitis and perivasculitis. What disease is in question?

- a. Pharyngeal diphtheria
- b. Necrotic (Vincent's) tonsillitis
- c. Syphilis**
- d. Tuberculosis
- e. Actinomycosis

293. A boxer who got a punch in the region of temporomandibular joint has a traumatic dislocation of mandible. Displacement of what articular surfaces will overstep the limits of physiological norm?

- a. Neck of mandible and submandibular fossa
- b. Head of mandible and submandibular fossa
- c. Coronoid process and submandibular fossa
- d. Coronoid process and pterygoid fossa
- e. Head of mandible and mandibular fossa**

294. In course of embryogenesis maxillary and mandibular processes grew together with a delay. What development anomalies should be expected in this case?

- a. Macrostomia**
- b. Gothic palate
- c. Cleft of superior lip
- d. Microstomia
- e. Cleft palate

295. A patient who suffers from chronic renal insufficiency fell ill with osteoporosis. Disturbed synthesis of what mineral metabolism regulator is the cause of osteoporosis?

- a. Proline hydroxylation
- b. Lysine hydroxylation
- c. Glutamate carboxylation
- d. Cortisol hydroxylation
- e. Formation of 1,25(OH)₂ D₃**

296. A 17 year old student pressed out a pustule in the medial angle of eye. In 2 days she was taken to the institute of neurosurgery with thrombosis of cavernous sinus. Through what vein did the infection get into this sinus?

- a. V.maxillaris
- b. V.diploicae frontalis
- c. V.transversa faciei
- d. V.profunda faciei
- e. V.angularis**

297. A patient with chronic myeloleukemia has presentations of anemy - decrease of erythrocyte number and hemoglobin content, oxyphil and polychromatophil normocytes, microcytes. What pathogenetic mechanism is the main for the development of this anemy?

- a. Intravascular erythrocyte hemolysis
- b. Chronic hemorrhage
- c. Vitamin B12 deficiency
- d. Reduction of erythropoietin synthesis

e. Replacement of erythrocytic shoot

298. Cyanide poisoning causes immediate death. What is the mechanism of cyanide effect at the molecular level?

- a. They inactivate oxygene
- b. They bind substrates of tricarboxylic acid cycle
- c. They inhibit cytochrome B

d. They inhibit cytochromoxidase

- e. They block succinate dehydrogenase

299. A patient with tuberculosis was prescribed a certain medication as a part of complex therapy - derivative of isonicotinic acid hydrazide. Name this preparation:

- a. Cephaloridine

b. Isoniazide

- c. Rifampicin
- d. Streptomycin sulfate
- e. Kanamycin

300. What substance makes saliva viscous and mucous, has protective function, protects mucous membrane of oral cavity from mechanical damage?

- a. Kallikrein
- b. Glucose
- c. Amylase

d. Mucin

- e. Lysozyme

301. Medical examination of some youths revealed in their axillary regions grey insects 1,0-1,5 mm large, with short broad body covered with hair. What insects were revealed?

- a. Itch mite
- b. Pubic louse**
- c. Bed bug
- d. Head louse
- e. Flea

302. A 60 year old patient has problems with formation and moving of food mass, it disturbs eating process. His tongue is stiff, speaking is impossible. What nerve is damaged?

- a. IX

b. XII

- c. XI
- d. V
- e. VII

303. In a histological specimen of adrenal cortex there are petite polygonal cells that form roundish clusters and contain some lipidic inclusions. What part of adrenal is presented in this histological specimen?

a. Glomerular zone

- b. Fasciolar zone
- c. Intermedial zone
- d. -
- e. Reticular zone

304. A patient with myocardium infarction was prescribed an analgetic in order to stop pain syndrome. The patient felt better but overdose caused weakness, myosis, respiratory depression. What medication was prescribed?

- a. Ibuprofen
- b. Sedalgine
- c. Morphine**
- d. Paracetamol
- e. Baralgine

305. A patient has been taking glucocorticoids for a long time. Drug withdrawal caused acute attack of his disease, blood pressure reduction, weakness. What are these occurrences connected with?

- a. Adrenal glands insufficiency**
- b. Hyperproduction of corticotroph hormone
- c. Drug habituation
- d. Cumulation
- e. Sensibilisation

306. A patient with diabetes mellitus had an insuline injection. It caused loss of consciousness and convulsions. What was the result of biochemic blood analysis on glucose content?

- a. 10 mmole/l
- b. 8,0 mmole/l
- c. 2,5 mmole/l**
- d. 5,5 mmole/l
- e. 3,3 mmole/l

307. Premature infants have syndrom of respiratory failure. Failure of what aerohematic barriere component underlies this pathology?

- a. Basal membrane of alveolocytes
- b. Alveolocytes
- c. Surfactant**
- d. Basal membrane of endothelium
- e. Capillary endothelium

308. A 69 year old patient has got an abscess of frontal lobe as a result of purulent infection in nasal cavity. What anatomical formation did the infection penetrate through?

- a. Foramen ethmoidalae posterior
- b. Foramen rotundum
- c. Foraminae cribrosae**
- d. Foramen ovale
- e. Foramen sphenopalatinum

309. A patient with acute condition of duodenal ulcer was admitted to the hospital. Gastric juice analysis has shown increase of secretory and acid-producing function of stomach. Choose a medication that will reduce secretory function due to blockade of H₂-receptors:

- a. Atropine
- b. Methacin
- c. Beladonna bell extraction
- d. Ranitidine**
- e. Platyphyllin

310. A 28 year old man with cut wound of frontal skin was admitted to the hospital. A vessel that supplies blood to the frontal part of head was ligated in order to stop bleeding. What vessel was ligated?

- a. A.temporalis superficialis
- b. A.supraorbitalis**
- c. A.angularis
- d. A.dorsalis nasi
- e. A.infraorbitalis

311. An unconscious patient was admitted to the hospital. Objectively: cold skin, miotic pupils, heavy breathing, Chaine-Stokes periodicity, low arterial pressure, overfull urinary bladder. What caused the poisoning?

a. Narcotic analgetics

b. Muscarinic receptor blockers

c. Nonnarcotic analgetics

d. -

e. Tranquilizers

312. 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. Efferent nerves

b. Conduction tracts

c. Afferent nerves

d. Central synapses

e. Neuromuscular synapses

313. A diver who has been staying at the depth of 40 m for a long time fell ill with caisson disease as a result of decompression. The main pathogenetic factor is the following embolism:

a. Tissue

b. Paradoxical

c. Gaseous

d. Air

e. Fat

314. Examination of a 16 year old boy revealed enlarged submandibular and cervical lymph nodes. The boy was subjected to biopsy. Microscopic examination of lymph nodes revealed: typical structure is obliterated, cell population is heterogenous, there are big cells with multilobe nuclei, multiple big mononuclear cells, eosinophilic and neutrophilic leukocytes, lymphocytes, besides that, there are necrotic areas and foci of sclerosis. What is the most probable diagnosis?

a. Lymph node hyperplasia

b. Non-Hodgkins lymphoma

c. Granulomatous lymphadenitis

d. Suppurative lymphadenitis

e. lymphogranulomatosis

315. If a mountain-climber stays in the mountains for a long time, quantity of erythrocytes increases from $5,0 \cdot 10^{12}/l$ to $6,0 \cdot 10^{12}/l$. What causes stimulation of erythropoiesis?

a. Increase of p O₂ in venous blood

b. Increase of p O₂ in cells

c. Decrease of p O₂ in arterial blood

d. Decrease of p O₂ in venous blood

e. Increase of p O₂ in arterial blood

316. Microscopic analysis of human heart cells revealed some oval organellas, their tunic being formed by two membranes: the external one is smooth, and the internal one forms crista. Biochemical analysis determined the presence of ATP-synthetase enzyme. What organellas were analysed?

a. Ribosomes

b. Centrosomes

c. Mitochondrions

d. Lysosomes

e. Endoplasmic reticulum

317. Poisoning with mercuric dichloride caused acute renal insufficiency that included 4 stages: 1) the initial one, 2) the stage of oligoanuria, 4) the stage of recovery. What is the third stage of acute renal insufficiency?

a. Hemodynamic

b. Polyuretic

c. Metabolic

d. Pathochemic

e. Ischemic

318. After recovering from epidemic parotiditis a patient began to lose weight, he was permanently thirsty, drank a lot of water, had frequent urination, voracious appetite. Now he has complaints of skin itch, weakness, furunculosis. His blood contains: glucose - 16 mmole/L, ketone bodies - 100 mcmmole/L; glucosuria. What disease has developed?

a. Diabetes insipidus

b. Malnutrition diabetes

c. Insulin-dependent diabetes

d. Insulin-independent diabetes

e. Steroid diabetes

319. A child was diagnosed with acute renal failure. What biochemic saliva indices can confirm this diagnosis?

a. Increase of immunoglobuline A

b. Increase of alpha amylase

c. Reduction of alkaline phosphatase

d. Decreased level of phosphate

e. Increased level of rest nitrogen

320. A patient with adenoma of glomerular zone of adrenal cortex (Conns disease) has arterial hypertension, convulsions, polyuria. What is the main link in pathogenesis of these disorders?

a. Glucocorticoid hyosecretion

b. Aldosterone hyosecretion

c. Aldosterone hypersecretion

d. Glucocorticoid hypersecretion

e. Catecholamine hypersecretion

321. The body temperature of a patient with an infectious disease rises once in two days up to 39,5-40,5°C and stays so for about an hour and then drops to the initial level. What type of fever is it?

a. Continued

b. Atypical

c. Hectic

d. Remittent

e. Intermittent

322. ESR of a patient with pneumonia is 48 mm/h. What caused such changes?

a. Erythrocytosis

b. Hypergammaglobulinemia

c. Hyperalbuminemia

d. Hypogammaglobulinemia

e. Hypoproteinemia

323. Retrospective diagnostics of old bacillary dysentery required serologic examination of blood serum in order to determine blood titer to the shigells. What reaction should be applied for this purpose?

a. Bacteriolysis reaction

b. Hemolysis reaction

c. Precipitation reaction

d. Reaction of passive hemagglutination

e. Bordet-Gengou test

324. An eye trauma caused soft tissues infection of eye-socket. Through what anatomical formation can the infection penetrate into the middle cranial fossa?

- a. Through the superior orbital fissure
- b. Through the zygomatic orbital foramen
- c. Through the anterior ethmoidal foramen
- d. Through the inferior orbital fissure
- e. Through the posterior ethmoidal foramen

325. A patient has the following changes: disorder of twilight vision, drying out of conjunctiva and cornea. Such disorders may be caused by deficiency of vitamin:

- a. Vitamin B12
- b. Vitamin C
- c. Vitamin D
- d. Vitamin A
- e. Vitamin B

326. A patient has an acute painfulness of face skin. What nerve is damaged?

- a. Oculomotor
- b. Glossopharyngeal
- c. Trifacial
- d. Vagus
- e. Facial

327. A patient has disorder of tear flow after a cold. What autonomic ganglion had been most damaged?

- a. Submandibular
- b. Pterygopalatine
- c. Aural
- d. Ciliated
- e. Sublingual

328. During phonocardiogram registration it was ascertained that the duration of the first heart sound twice exceeds the norm. It is most likely that patient has the following organ affected:

- a. Semilunar valves
- b. Atrioventricular valves
- c. Cardiomyocytes of ventricles
- d. Cardiomyocytes of heart atriums
- e. Cardiomyocytes of atriums

329. Examination of an ill child's blood revealed inherited hyperlipoproteinemia. Genetic defect of what enzyme synthesis causes this phenomenon?

- a. Lipoprotein lipase
- b. Heme synthetase
- c. Phenylalanine hydroxylase
- d. Proteinase
- e. Glycosidase

330. When a patient puts his tongue out the tip of it deflects to the left. Motor innervation of what cranial nerve is disturbed in this case?

- a. N. hypoglossus dexter
- b. N. glossopharyngeus dexter
- c. N. trigeminus sinister
- d. N. facialis sinister
- e. N. vagus dexter

331. A 62 year old patient in grave condition was admitted to the neurological department on account of cerebral hemorrhage. Objectively: hyperpnea and rising of respiratory rate, then it falls to apnea, after that the cycle of respiratory movements restores. What respiratory type is it?

- a. Gasping respiration
- b. Cheyne-Stokes respiration

- c. Apneustic
- d. Kussmauls respiration
- e. Biots respiration

332. While a 24 year old woman was waiting for tooth extraction, tonus of sympathetic part of autonomic nervous system rose. What reaction will the patient display?

- a. Hyperperistalsis
- b. Increased frequency of heartbeat**
- c. Bronchus constriction
- d. Hypersecretion of digestive juices
- e. Miotic pupils

333. A 2 year old child suffers from intestinal dysbacteriosis that lead to the development hemorrhagic syndrome. The most probable cause of hemorrhage is:

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

334. In an excitable cell the ion channels were blocked. It hasn't changed essentially the value of rest potential, but the cell lost its ability to generate AP (action potential). What channels were blocked?

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

335. A patient has the sudden decrease of Ca^{2+} content in blood. What hormone secretion will increase?

- a. Vasopressin
- b. Parathormone**
- c. Somatotropin
- d. Aldosterone
- e. Thyrocalcitonin

336. While the examination of patient's oral cavity the dentist found xerostomia, numerous erosions. What vitamin deficit caused this effect?

- a. Vitamin PP
- b. Vitamin P
- c. Vitamin A**
- d. Vitamin K
- e. Vitamin H

337. Parodontitis is accompanied by activation of proteolysis in parodontium tissues. Increase of what oral fluids component is the evidence of proteolysis activation?

- a. Biogenic amines
- b. Glucose
- c. Aminoacids**
- d. Cholesterol
- e. Organic acids

338. 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. Noradrenaline
- b. Angiotensin-II**
- c. Vasopressin

- d. Adrenaline
- e. Serotonin

339. A patient was operated on account of abdominal injury with application of tubocurarin. At the end of operation, after the respiration had been restored, the patient got injection of gentamicin. It caused a sudden respiratory standstill and relaxation of skeletal muscles. What effect underlies this phenomenon?

a. Potentiation

- b. Sensitization
- c. Antagonism
- d. Habituation
- e. Cumulation

340. A 22 year woman has enlarged lymphatic ganglions. Histological analysis of a ganglion revealed lymphocytes, histiocytes, reticular cells, small and great Hodgkins cells, multinuclear Reed-Sternberg cells, solitary foci of caseous necrosis. What disease are these changes typical for?

- a. Chronic leukemia
- b. Cancer metastasis
- c. Lymphosarcoma
- d. Acute leukemia

e. Lymphogranulematosis

341. Four months ago a 43 year old patient had a traumatic amputation of his lower extremity. Now he complains of sensing the amputated extremity and having constantly grave, sometimes unbearable pain in it. What type of pain does he have?

- a. Neuralgia
- b. Thalamic
- c. Causalgia

d. Phantom

- e. Reflex

342. Examination of a 6 days old infant revealed phenyl pyruvate and phenyl acetate excess in his urine. What aminoacid metabolism is disturbed in the child's organism?

- a. Histidine

b. Phenylalanine

- c. Methionine
- d. Arginine
- e. Tryptophan

343. A 3 year old child was admitted to the hospital with otitis. Pus is probable to spread from the tympanic cavity. Where can the pus get into?

- a. Into auditory tube
- b. Into posterior cranial fossa
- c. Into external acoustic duct
- d. Into internal ear

e. Into mastoid antrum

344. On the 5th day of illness a 12 year old child who was treated in the infectious department on account of influenza felt severe headache, sickness, dizziness, got meningeal signs. The child died 24 hours later from increasing brain edema. Dissection of cranial cavity revealed that pia mater of brain is edematous, plethoric, saturated diffusively with bright red liquid. Convolutions and sulci of brain are flattened. What influenza complication is in question?

- a. Serous meningitis

b. Hemorrhagic meningitis

- c. Cerebral hemorrhage
- d. Venous hyperemia of brain membranes
- e. Suppurative leptomeningitis

345. Trauma of occipital region of head resulted in crack fracture in the region of transverse sinus. What part of occipital bone is damaged?

- a. Condyle
- b. Left lateral
- c. Right lateral
- d. Squama**
- e. Proximal

346. Histological examination in the area of neck of fundus gland reveals small cells that have high nuclear-cytoplasmatic ratio and basophilic cytoplasm. Name the function of these cells:

- a. Protective
- b. Regeneration of glandular epithelium**
- c. Endocrine
- d. Secretion of chlorine ions
- e. Pepsinogen secretion

347. Histological examination of thyroid gland of a man who died from cardiac insufficiency accompanied by hypothyroidism revealed diffuse infiltration of the gland by lymphocytes and plasmocytes with formation of lymphoid follicles, as well as atrophy of parenchyma and growth of connective tissue. What is the most probable diagnosis?

- a. Adenoma of thyroid gland
- b. Purulent thyroiditis
- c. Thyrotoxic goiter
- d. Autoimmune Hashimotos thyroiditis**
- e. -

348. A surgeon cleansed his hands with 70% solution of ethyl alcohol before an operation. What is the main mechanism of preparations antiseptic effect upon microorganisms?

- a. Blockade of sulphhydryl groups of enzyme systems
- b. Interaction with aminogroups of protoplasm proteins
- c. Dehydration of protoplasm proteins**
- d. Oxidation of organic protoplasm components
- e. Interaction with hydroxyl enzyme groups

349. What vitamin deficiency leads to both disorder of reproductive function and dystrophy of skeletal muscles?

- a. Vitamin K
- b. Vitamin B1
- c. Vitamin A
- d. Vitamin D
- e. Vitamin E**

350. After a surgical procedure a patient has got an enteroparesis. What anticholinesterase medication should be prescribed in this case?

- a. Acetylcholine
- b. Pilocarpine
- c. Carbacholine
- d. Aceclidine
- e. Proserin**

351. A 12 year old boy came home from school and started complaining of headache, sickness, chill, periodical muscle pain, appetite loss, flabbiness. What period of illness are these symptoms typical for?

- a. Incubative
- b. High point of illness
- c. Prodromal**
- d. End of illness
- e. Latent

352. A year after subtotal stomach resection on account of ulcer of lesser curvature the following blood changes were revealed: anemia, leukocytopenia and thrombocytopenia, color index - 1,3, megaloblasts and megalocytes. What factor deficiency caused the development of thos pathology?

- a. Gastrin
- b. Pepsin
- c. Hydrochloride acid
- d. Mucin

e. Castles factor

353. In crisis period a 14 year old child ill with diphtheria has AP- 70/50 mm Hg accompanied by abrupt fall in temperature and tachycardia. What form of vascular tone disturbance is it?

- a. Vegetovascular dystonia
- b. Chronic hypotension
- c. -
- d. Essential arterial hypotension

e. Acute hypotension

354. A patient complains of headache, heavy breathing. X-ray examination confirmed the diagnosis - frontitis. What nasal meatus may contain purulent discharge?

- a. Above the superior nasal concha
- b. Inferior
- c. Superior
- d. Common

e. Middle

355. Examination of a child who has recently recovered from measles revealed in the soft tissues of cheeks and perineum some inaccurate, edematic, red-and-black, slightly fluctuating areas. What complication is it?

- a. Pressure sore
- b. Dry gangrene
- c. Trophic ulcer
- d. Gas gangrene

e. Humid gangrene

356. Microscopic analysis of tissue sampling from patients skin reveals granulomas that consist of epithelioid cells surrounded mostly by T-lymphocytes. Among epithelioid cells there are solitary giant multinuclear cells of Pirogov-Langhans type. In the centre of some granulomas there are areas of caseous necrosis. Blood vessels are absent. What disease are the described granulomas typical for?

- a. Rhinoscleroma
- b. Glanders
- c. Syphilis
- d. Leprosy

e. Tuberculosis

357. A patient with suspected liver abscess was admitted to the surgical department. The patient had been staying for a long time on business in one of african countries and fell repeatedly ill with acute gastrointestinal disorders. What protozoal disease may the patient be now ill with?

- a. Leishmaniasis

b. Amebiasis

- c. Toxoplasmosis
- d. Malaria
- e. Trypanosomosis

358. A child damaged the lateral surface of his tongue. What lingual papillas are most likely to be damaged?

- a. Vallate
- b. Filiform
- c. Conic

d. Fungiform

e. Foliate

359. Examination of a patient who had been suffering from rheumatism for a long time revealed stenosis of mitral orifice, death was caused by cardiac and pulmonary insufficiency. Autopsy has shown brown induration of lungs. What type of circulation disturbance provokes such changes in lungs?

- a. Portal hypertension
- b. Acute left ventricular insufficiency
- c. Chronic right ventricular insufficiency
- d. Acute right ventricular insufficiency

e. Chronic left ventricular insufficiency

360. In the course of an experiment a nerve is being stimulated by electric impulses. It leads to excretion of some quantity of thick viscous saliva by sublingual and submandibular glands. What nerve is being stimulated?

- a. N.trigeminus
- b. N.facialis
- c. N.glossopharyngeus

d. N.sympathicus

e. N.vagus

361. A patient had a trauma that led to the injury of front spinal roots. Denote the damaged structures:

a. Axons of motoneurons and lateral horn neurons

- b. Central processes of spinal ganglion neurons
- c. Peripheral processes of spinal ganglion neurons
- d. Axons of motoneurons
- e. Axons of lateral horn neurons

362. While passing an exam a student gets dry mouth. It is caused by realization of such reflexes:

- a. Unconditioned parasympathetic
- b. Conditioned and unconditioned sympathetic

c. Conditioned sympathetic

- d. Unconditioned sympathetic and parasympathetic
- e. Conditioned parasympathetic

363. A patient was taken to the hospital with complaints of headache, high temperature, frequent stool, stomach pain with tenesmus. Doctor made a clinical diagnosis dysentery and sent the material (excrements) to the bacteriological laboratory for analysis. What diagnostic method should the laboratory doctor use to confirm or to disprove the clinical diagnosis?

- a. Serological
- b. Allergic
- c. Bacterioscopic

d. Bacteriological

e. Biological

364. Examination of a 32 year old patient revealed disproportional skeleton size, enlargement of superciliary arches, nose, lips, tongue, jaw bones, feet. What glands function was disturbed?

- a. Pancreas
- b. Suprarenal
- c. Epiphysis
- d. Thyroid

e. Hypophysis

365. A man lost consciousness in a car with running engine where he had been waiting for a friend for a long time. What hemoglobin compaund can be found in the blood of the patient?

a. Methemoglobin

- b. Carbohemoglobin
- c. Deoxyhemoglobin
- d. Carboxyhemoglobin**
- e. Oxyhemoglobin

366. 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. Multiple foci of fresh and old cerebral hemorrhage
- b. Focal encephalitis
- c. Ischemic stroke**
- d. Senile encephalopathy
- e. Multifocal tumor growth with cystic degeneration

367. Examination of coronary arteries revealed atherosclerotic plaques with calcification that close the lumen by 1/3. The muscle contains multiple small whitish layers of connective tissue. What process was revealed in myocardium?

- a. Postinfarction cardiosclerosis
- b. Tiger heart
- c. Diffuse cardiosclerosis**
- d. Myocarditis
- e. Myocardium infarction

368. Professional dentists belong to the risk group concerning professional infection with viral hepatitis type b. Name an effective method for active prevention of this disease among the dentists:

- a. Working with gum gloves on
- b. Secure sterilization of medical instruments
- c. Introduction of specific immunoglobuline
- d. Vaccination with recombinant vaccine**
- e. Introduction of interferonogenes

369. An electronic micrograph presents a cell that has no nucleole and nuclear membrane. Chromosomes have free position, centrioles migrate to the poles. What phase of cell cycle is it typical for?

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

370. The influence of negative factors upon an organism results in the thymus change that is accompanied by mass loss of thymocytes, their drive out to the peripheral organs, proliferation of epithelioreticulocytes. How is this phenomenon called?

- a. Age thymus involution
- b. Thymus hypotrophy
- c. Accidental thymus involution**
- d. Thymus atrophy
- e. Thymus dystrophy

371. A surgeon is going to take lymph from patient's thoracic duct in the point of its flowing into venous channel. Where exactly a cannula should be inserted?

- a. Point of formation of inferior vena cava
- b. Left venous angle**
- c. Point of formation of superior vena cava
- d. Point of formation of portal vein
- e. Right venous angle

372. Toxic pulmonary edema was reproduced on a laboratory rat by means of ammonium chloride

solution. What is the leading pathogenetic factor of this edema?

- a. Decrease of colloid osmotic pressure
- b. Disorder of neural and humoral regulation
- c. Increase of venous outflow
- d. Increased permeability of capillars**
- e. Increase of lymph outflow

373. A newborn child ill with pylorostenosis has frequent vomiting accompanied by apathy, weakness, muscular hypertonia, sometimes convulsions. What form of acid-base balance disorder has developed?

- a. Excretory acidosis
- b. Nongaseous alkalosis**
- c. Metabolic acidosis
- d. Gaseous alkalosis
- e. Gaseous acidosis

374. It is known that the information about amino acids sequence in a protein molecule is coded in form of a sequence of four nucleotide types in a DNA molecule, different aminoacids being coded with different quantity of triplets - from one to six. How is such peculiarity of genetic code called?

- a. Degeneracy**
- b. Nonoverlayability
- c. Specificity
- d. Versatility
- e. Triplety

375. A patient has increased permeability of blood-vessel walls, increased gingival hemorrhage, small punctate hematomas on his skin, falling of teeth. What disturbance of vitamin metabolism can account for these symptoms?

- a. Hypovitaminosis D
- b. Hypervitaminosis D
- c. Hypovitaminosis A
- d. Hypervitaminosis C
- e. Hypovitaminosis C**

376. A 58 year old woman had her uterus and all appendages completely removed. It resulted in stoppage of urine excretion. Cystoscopy results: bladder doesn't contain any urine, urine doesn't come also from ureteric orifices. What part of urinary excretion system was damaged during the operation?

- a. Vesica urinaria
- b. Ren
- c. Ureter**
- d. Uretra
- e. Pelvis renalis

377. A patient has a slowly healing fracture. What medicine can be used to accelerate formation of connective tissue matrix?

- a. Prednisolone
- b. Methyluracil**
- c. Cyclosporine
- d. Methotrexate
- e. Cyclophosphan

378. A patient displays abnormal retrodeviation of his lower jaw as a result of trauma in the region of mandibular coronal process. What muscle is most likely to be damaged?

- a. M.temporalis**
- b. M.pterygoideus lateralis
- c. M.masseter
- d. M.levator anguli oris
- e. M.pterygoideus medialis

379. A patient has acute cardiac insufficiency resulting from essential hypertension. What medication will be the most appropriate in this case?

a. Corglycone

b. Digoxin

c. Cordiamin

d. Caffeine

e. Cardiovalen

380. A 42 year old woman diagnosed with diabetes mellitus was admitted to the endocrinological department with complaints of thirst, excessive appetite. What pathological components are revealed in course of laboratory examination of the patient's urine?

a. Protein, creatine

b. Bilirubin, urobilin

c. Protein, aminoacids

d. Glucose, ketone bodies

e. Blood

381. A woman has hyperemic ovary, increased permeability of hematofollicular barrier with the following development of edema, infiltration of follicle wall by segmentonuclear leukocytes. The follicle volume is large, its wall is thinned. What period of sexual cycle do these presentations correspond with?

a. Ovulation

b. Preovulatory stage

c. Postmenstrual period

d. Period of relative rest

e. Menstrual period

382. Post-mortem examination of a 5 year old boy who died from acute pulmonary and cardiac insufficiency revealed the following: serohemorrhagic tracheobronchitis with some necrotic areas of mucous membrane, multiple foci of hemorrhagic pneumonia in lungs. What disease is in question?

a. Croupous pneumonia

b. Diphtheria

c. Influenza

d. Scarlet fever

e. Measles

383. During the ether narcosis a patient had evident bradycardia with threat of cardiac arrest. What medication should be used to accelerate heartbeat under condition of narcosis that shouldn't be interrupted?

a. Isadrine

b. Adrenaline

c. Atropine

d. Camphor

e. Caffeine

384. Opening of a patient's abdominal cavity revealed for about 2,0 L of purulent fluid. Peritoneum is dull, greyish, serous tunic of intestines has grayish layers that can be easily removed. It is most likely to be:

a. -

b. Fibrinopurulent peritonitis

c. Hemorrhagic peritonitis

d. Serous peritonitis

e. Tuberculous peritonitis

385. A patient with primary nephrotic syndrome has the following content of whole protein: 40 g/l. What factor caused hypoproteinemia?

a. Disturbance of intestinal protein absorption

b. Proteinuria

- c. Increased proteolysis
- d. Reduced protein synthesis in liver
- e. Transition of protein from vessels to tissues

386. A patient fell into the ice hole, was chilled in the wind and taken ill. Body temperature rose up to 39,7°C and fluctuated from 39,0°C to 39,8°C. Name the type of patient's temperature profile:

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

387. Morphological examination revealed in histological specimen of biopsy material an irregular-shaped vessel. Its middle membrane is formed by bundles of smooth myocytes and layers of connective tissue. What type of vessel is it?

- a. Venule
- b. Vein of muscular type**
- c. Artery of muscular type
- d. Arteriole
- e. Lymphatic vessel

388. A 38-year-old patient died during intractable attack of bronchial asthma. Histological examination revealed mucus accumulations in bronchus lumen, a lot of mast cells (mastocytes) in bronchus wall, some of these cells are degranulated, there are also many eosinophils. Name the pathogenesis of these changes in bronchi:

- a. Granulomatosis
- b. Immune complex mechanism
- c. Cell-mediated cytotoxicity
- d. Atopy, anaphylaxis**
- e. Cytotoxic, cytolytic effect of antibodies

389. A patient with stomatitis was prescribed a medication of sulfanamide group. What is the mechanism of its antibacterial effect?

- a. Decrease of membrane permeability
- b. Synthesis disturbance of cell membrane proteins
- c. Protein coagulation
- d. Inhibition of sulfhydryl groups of thiol enzymes
- e. Competitive antagonism with para-aminobenzoic acid**

390. A mother consulted the doctor about her one-year-old child, who has got six teeth come out. How many teeth should the child of such age have?

- a. 7
- b. 6
- c. 10
- d. 8**
- e. 12

391. A 35-year-old patient came to the admission department with complaints of pain and edema in the region of floor of oral cavity. After examination he was diagnosed with inflammation in the region of excretory duct of submandibular gland. Where does this duct open into?

- a. Vestibulum oris
- b. Plica fimbriata
- c. Caruncula sublingualis**
- d. Recessus gingivalis
- e. Foramen caecum linguae

392. Examination of a patient who was exposed to the ionizing radiation revealed damage of white pulp. What cells of white pulp undergo pathological changes?

- a. Basophilic leukocytes
- b. Lymphocytes**
- c. Tissue basophils
- d. Monocytes
- e. Neutrophilic leukocytes

393. A 10 year old child was subjected to Mantoux test (with tuberculin). 48 hours later a papule up to 8 mm in diameter appeared on the site of tuberculin injection. What type of hypersensitivity reaction has developed after tuberculin injection?

- a. Hypersensitivity reaction type IV**
- b. Hypersensitivity reaction type II
- c. Reaction of Arthus phenomenon type
- d. Reaction of serum sickness type
- e. Atopic reaction

394. A patient has difficulties with jaw closing when he is chewing. There is partial atrophy of masticatory muscles situated below the zygomatic arch. What nerve branches do these muscles innervate?

- a. Nn.alveolares superiores
- b. N.mandibularis**
- c. N.infraorbitalis
- d. N.alveolaris inferior
- e. N.maxillaris

395. A chemical burn of esophagus caused its local constriction as a result of scar formation. What cells of loose connective tissue take part in scar formation?

- a. Myofibroblasts
- b. Mature specialized fibroblasts**
- c. Fibroblasts
- d. Immature nonspecialized fibroblasts
- e. Fibrocytes

396. A man has trauma of greater pectoral muscle. What index decrease will it cause?

- a. Functional residual lung capacity
- b. Residual volume
- c. Respiratory volume
- d. Inspiratory reserve volume**
- e. Expiratory reserve volume

397. A child has disturbed processes of ossification and "punctate" enamel. What microelement metabolism is disturbed?

- a. Iron
- b. Copper
- c. Fluorine**
- d. Chromium
- e. Zinc

398. It is required to set an experiment on an isolated excitable cell and to achieve increase of membrane rest potential (hyperpolarization). What ion channels should be activated to achieve such a result?

- a. Sodium
- b. Potassium**
- c. Potassium and sodium
- d. Calcium
- e. Sodium and calcium

399. A group of students has representatives of different races. One of the students has straight black hair and overhanging skin fold of superior eyelid - epicanthus. What race does this student most

probably represent?

- a. Negroid
- b. Mongoloid**
- c. Ethiopian
- d. Australoid
- e. Europeoid

400. Histological examination of trasverse enamel slice revealed linear banding in form of concentric circles that is pointing at an angle to the dentinoenamel junction. Name these structures:

- a. Enamel spindles
- b. Enamel fascicles
- c. Retsius lines**
- d. Enamel plates
- e. Hunter-Schregers lines

401. Examination of a patient revealed enlargement of some body parts (jaw, nose, ears, feet, hands), but body proportions were conserved. It might be caused by intensified secretion of the following hormone:

- a. Triiodothyronine
- b. Somatostatin
- c. Somatotropin**
- d. Tetraiodothyronine
- e. Cortisol

402. During lancing of deep abscess of a cheek a vertical section was performed. It resulted in paresis (dysfunction) of muscles on the side of operation. There were cut the branches of the following nerve:

- a. Mandibular
- b. Vagus
- c. Sublingual
- d. Maxillary
- e. Facial**

403. Examination of a microspecimen made of an unknown organ revealed some acini that contained 10-15 cone cells with basophilic cytoplasm, round nucleus and well developed granular endoplasmic reticulum. An acinus is surrounded by a basal membrane with myoepithelial cells localized in its splitting. What organ is the slice made of?

- a. Sublingual gland
- b. Liver
- c. Lungs
- d. Parotid gland**
- e. Pancreas

404. A 20 y.o. patient complains of general weakness, dizziness, rapid fatigability. Examination results: Hb- 80 g/l; microscopical analysis results: erythrocytes are deformed. These symptoms might be caused by:

- a. Obturative jaundice
- b. Addisons disease
- c. Acute intermittent porphyria
- d. Parenchymatous jaundice
- e. Sickle-cell anemia**

405. A patient with systemic scleroderma has an intensified collagen destruction. Collagen destruction will be reflected by intensified urinary excretion of the following amino acid:

- a. Phenylalanine
- b. Serine
- c. Alanine
- d. Oxyproline**
- e. Tryptophane

406. A student has been staying in a badly ventilated room for a long time that resulted in acceleration of respiratory rate. What receptors were the first to react to the increased concentration of carbonic acid in the air?

- a. Irritant receptors
- b. Central chemoreceptors**
- c. Olfactory receptors
- d. Juxtaglomerular receptors
- e. Vascular chemoreceptors

407. A 42 y.o. man who had been suffering from chronic granulomatous periodontitis and chronic purulent osteomyelitis of his lower jaw for 8 years died under conditions of acute renal insufficiency. What complication of purulent osteomyelitis was developed in kidneys?

- a. Atrophy
- b. Adipose degeneration
- c. Amyloidosis**
- d. Necrosis of epithelium of convoluted tubules
- e. Hyalinosis

408. Among students of the same group there are representatives of different races. One of the students has straight black hair and a fold of skin extending over the superior eyelid - epicanthus. What race does this student most probably represent?

- a. Caucasian
- b. Australoid
- c. Mongoloid**
- d. Negroi
- e. Ethiopian

409. An electrical cardiostimulator was implanted to a 75 y.o. man with heart rate of 40 bpm. After that heart rate rose up to 70 bpm. Cardiostimulator assumed the function of the following heart part:

- a. Sinoatrial node**
- b. His bundle branches
- c. Atrioventricular node
- d. His bundle fibers
- e. Purkinjes fibers

410. A patient with closed fracture of humeral bone was bandaged with plaster. The next day the injured hand became swollen, cyanotic and cold. What disorder of peripheral blood circulation are these symptoms typical for?

- a. Ischemia
- b. Thrombosis
- c. Venous hyperemia**
- d. Arterial hyperemia
- e. Embolism

411. Examination of a child revealed growth of a pharyngeal tonsil causing the obstructed air escape from nasal cavity. What openings of nasal cavity are blocked in this case?

- a. Pterygopalatine
- b. Nostrils
- c. Choanae**
- d. Maxillary sinus
- e. Piriform

412. A patient is ill with dermatitis, diarrhea, dementia. During history taking it was revealed that the main foodstuff of the patient was maize. These disturbances are caused by deficiency of the following vitamin:

- a. B8
- b. B1
- c. B2

d. PP

e. B9

413. A patient was prescribed a drug with apparent lipophilic properties. What is the main mechanism of its absorption?

a. Passive diffusion

b. Active transporting

c. Binding with transport proteins

d. Filtration

e. Pinocytosis

414. To subdue the fever and relieve tooth ache a patient was prescribed paracetamol. What is the action mechanism of this medication?

a. Lipoxygenase blocking

b. Phosphodiesterase blocking

c. Cyclooxygenase blocking

d. Cholinesterase blocking

e. Monoamine oxidase blocking

415. An embryo has signs of disturbed process of dorsal mesoderm segmentation and somite generation. What part of skin is most likely to have developmental abnormalities?

a. Sudoriferous glands

b. Derma

c. Sebaceous glands

d. Hair

e. Epidermis

416. A 30 y.o. man was irradiated with approximately 3 Gy. What blood changes will be revealed 8 hours after exposure to radiation?

a. Lymphopenia

b. Granulocytopenia

c. Anemia

d. Thrombocytopenia

e. Leukopenia

417. Roentgenological examination of a patient revealed a cyst in the area of a premolar that contained a tooth in its cavity. Microscopical examination reveals that the cyst wall is represented by connective tissue and lined with multistratal squamous cell epithelium. Specify the diagnosis:

a. Follicular cyst

b. Eosinophilic granuloma

c. Radicular cyst

d. Epulis

e. Primordial cyst

418. When doctors of a sanitary-and-epidemiologic institution examine employees of public catering establishments they often reveal asymptomatic parasitosis, that is when a healthy person is a carrier of cysts that infect other people. What causative agent cannot parasitize in such a way?

a. Enteral trichomonad

b. Dysenteric amoeba

c. Malarial plasmodium

d. Dermatotropic leishmania

e. Viscerotropic leishmania

419. A 5 y.o. child had a temperature rise up to 40°C, acute headache, vomiting, anxiety, chill. 4 days later there appeared hemorrhagic skin eruption, oliguria and adrenal insufficiency that caused death. Bacteriological examination of smears from the child's pharynx revealed meningococcus. What disease form was revealed?

a. Meningococcemia

- b. Meningococcal nasopharyngitis
- c. -
- d. Meningoencephalitis
- e. Meningococcal meningitis

420. Approach to the thyroid gland from the transversal (collar-like) access requires opening of cellular suprasternal space. It is dangerous to damage the following anatomic formation in this space:

- a. Subclavicular artery
- b. Carotid
- c. Lymph nodes
- d. Venous jugular arch**
- e. Internal jugular vein

421. Prophylactic examination of a patient revealed hyperglycemia, ketonuria, polyuria, glycosuria. What form of acid-base balance disorder is the case?

- a. Gaseous acidosis
- b. Gaseous alkalosis
- c. Metabolic acidosis**
- d. Nongaseous acidosis
- e. Metabolic alkalosis

422. During morphological examination of pulp floor three zones can be clearly differentiated: the one of softened dentin, sclerotic dentin, replacing dentin. What stage of caries are these changes typical for?

- a. Median caries**
- b. White spot stage
- c. Chronic caries
- d. Deep caries
- e. Superficial caries

423. As a result of dehelmintization a 2 m helminth came out with feces. It had segmented body, small head with four suckers and hooks. Name the type of helminth:

- a. Echinococcus
- b. Broad tapeworm
- c. Dwarf tapeworm
- d. Unarmed tapeworm
- e. Armed tapeworm**

424. For the preparation of the burned skin surface of a patient a certain medication was applied. Its antiseptic properties are provided by free oxygen released in presence of organic substances. What medication is it?

- a. Alcoholic iodine solution
- b. Potassium permanganate**
- c. Furacillin
- d. Chlorhexidine
- e. Sodium hydrocarbonate

425. A patient was diagnosed with a radicular cyst that had invaded nasal cavity. What tooth is most probably affected?

- a. Superior lateral incisor
- b. Superior canine
- c. Superior medial incisor**
- d. First superior bicuspid
- e. First superior molar

426. A patient is ill with herpetic stomatitis provoked by immunosuppression. What preparation introduced intravenously, internally and locally can provide antiviral and immunopotentiating effect?

- a. Methisazonum

- b. Levamisole
- c. Remantadinum
- d. Amoxicillin
- e. Acyclovir**

427. During examination of a child's oral cavity a pediatrician found 8 incisors. The child's development corresponds to his age. How old is the child?

- a. 16-20 months
- b. 10-12 months**
- c. 7-8 months
- d. 12-15 months
- e. 6-7 months

428. A 30 y.o. patient who was diagnosed with acute glomerulonephritis has proteinuria. What disturbance is the cause of this phenomenon?

- a. High hydrostatic pressure of blood in capillaries
- b. Low oncotic pressure of blood plasma
- c. Decreased quantity of functioning nephrons
- d. Increased permeability of renal filter**
- e. Delayed excretion of products of nitrogen metabolism

429. A newborn child gains weight very slowly, his urine contains too much orotic acid that is indicative of disturbed synthesis of pyrimidine nucleotides. What metabolite should be used in order to normalize metabolism?

- a. Guanosine
- b. Uridine**
- c. Adenosine
- d. Histidine
- e. Thymidine

430. A patient has arterial hemorrhage from the cut wound in the area of anterior part of mastication muscle. What vessel should be ligated?

- a. Aa. labiales inferiores
- b. a. lingualis
- c. a. mentalis
- d. A. facialis**
- e. a. maxillaris

431. A 35 y.o. patient diagnosed with sterility came to gynaecological department for diagnostic biopsy of endometrium. Microscopic examination revealed that mucous membrane is edematous, uterine glands are convoluted and filled with thick secretions. Such changes in the endometrium are caused by excess of the following hormone:

- a. Estrogen
- b. Somatotropin
- c. Progesterone**
- d. Testosterone
- e. ACTH

432. A patient suffers from bradyarrhythmia caused by hypertension. What drug should be administered?

- a. Clonidine
- b. Methyldopa
- c. Reserpine
- d. Platyphyllin hydrotartate**
- e. Papaverine hydrochloride

433. Introduction of a local anesthetic to a patient resulted in the development of anaphylactic shock. What is the leading mechanism of blood circulation disturbance?

- a. Reduction of contractile myocardium function
- b. Hypervolemia
- c. Pain
- d. Activation of sympathoadrenal system

e. Decrease of vascular tone

434. A blood smear of a patient who has recently recovered from flu contains 10% of roundish cells 4,5-7 micrometer large with a big round nucleus and basophilically stained cytoplasm in form of a narrow border around the nucleus. What blood status are they typical for?

- a. Thrombopenia
- b. Lymphocytopenia**
- c. Leukopenia
- d. Lymphocytosis
- e. Monocytopenia

435. A group of researchers set an experiment and obtained anucleate mutant cells. In the first place they will have disturbed synthesis of the following compounds:

- a. Transfer RNA
- b. Monosaccharides
- c. Lipids
- d. Polysaccharides

e. Ribosomal RNA

436. An isolated muscle fiber is under experiment. It was ascertained that excitement threshold of a cell was significantly lowered. What might have caused this phenomenon?

- a. Inactivation of membrane sodium channels
- b. Activation of membrane sodium channels**
- c. Activation of membrane potassium channels
- d. Inactivation of membrane potassium channels
- e. Blockade of energy production in the cell

437. After sprinting untrained people feel muscular pain as a result of lactate accumulation. It may be connected with intensification of the following biochemical process:

- a. Pentose-phosphate cycle
- b. Lipogenesis
- c. Glyconeogenesis

d. Glycolysis

e. Glycogenesis

438. Epithelium regeneration of mucous membrane of oral cavity (cell reproduction) was accompanied by semiconservative DNA replication (selfreproduction). Nucleotides of a new DNA chain are complementary to:

- a. Maternal chain**
- b. Sense codons
- c. RNA-polymerase enzyme
- d. DNA-polymerase enzyme
- e. Introns

439. A patient ill with chronic glomerulonephritis has a disturbed incretory function of kidneys. It will result in the deficit of the following blood corpuscles:

- a. Thrombocytes
- b. Leukocytes and thrombocytes
- c. Leukocytes

d. Erythrocytes

e. Erythrocytes and leukocytes

440. A newborn child has hyperemia, edema of mouth mucous membrane, small erosions with viscous mucopurulent discharge. Examination of mucopus smears reveals a great number of

leukocytes containing gram-negative diplococci. The same microorganisms can be found outside the leukocytes. What is the most probable diagnosis?

- a. Prenatal syphilis
- b. Toxoplasmosis
- c. Gonococcal stomatitis**
- d. Blennorrhea
- e. Staphylococcal stomatitis

441. A patient has myocardium infarction of the posterior wall of the right ventricle. What artery's branches are thrombosed?

- a. Left coronary artery
- b. Left and right coronary artery
- c. Left subclavicular artery
- d. Right coronary artery**
- e. Right subclavicular artery

442. Pellagra may be caused by maize domination and low quantity of animal foodstuffs in the dietary intake. This pathology results from lack of the following amino acid:

- a. Methionine
- b. Tryptophane**
- c. Isoleucine
- d. Phenylalanine
- e. Histidine

443. Examination of a patient revealed change of secretory function of a parotid gland. It is connected with disturbance of its vegetative innervation. What ganglion of vegetative nervous system gives postganglionic parasympathetic fibers for it?

- a. Ganglion ciliare
- b. Ganglion sublinguale
- c. Ganglion submandibulare
- d. Ganglion pterygopalatinum
- e. Ganglion oticum**

444. Helminthological examination of patients feces revealed oval brown eggs with tuberculous external membrane. Name the type of helminth:

- a. Pinworm
- b. Broad tapeworm
- c. Whipworm
- d. Dwarf tapeworm
- e. Ascarid**

445. A microphotography represents a fragment of cortical substance of a kidney. This fragment contains thick spot cells and juxtaglomerular cells with big secretory granules. What kidney structure is represented?

- a. Juxtaglomerular apparatus**
- b. Filtering barrier
- c. Prostaglandin apparatus
- d. Choroid glomus
- e. Renal corpuscle

446. It is known that information about amino acid sequence in a protein molecule is stored as a sequence of four nucleotide types in a DNA molecule, and different amino acids are encoded by different quantity of triplets ranging from one to six. Name this property of genetic code:

- a. Universality
- b. Triplety
- c. Specificity
- d. Disjointness
- e. Degeneracy**

447. After a surgical procedure a patient felt ill with enteroparesis. What medication from the group of anticholinesterase drugs should be prescribed?

a. Proserin

- b. Acetylcholine
- c. Aceclidine
- d. Carbacholine
- e. Pilocarpine

448. Microscopic examination during autopsy of a 70 y.o. man who had been ill with atherosclerosis for a long time and died from cardiovascular insufficiency revealed in the abdominal area of aorta some dense oval fibrous plaques with lime deposition in form of dense brittle plates. What stage of atherosclerosis morphogenesis is it?

- a. Liposclerosis
- b. Atheromatosis

c. Atherocalcinosis

- d. Ulceration
- e. Lipoidosis

449. It is required to disinfect equipment in a dental room. Choose a preparation without disagreeable odour and colouring power:

a. Formalin

b. Chlorhexidine bigluconate

- c. Carbolic acid solution
- d. Chloride lime
- e. Ethacrydine lactate

450. A patient has an allergic reaction accompanied by itching, edemata and reddening of skin. What biogenic amine has an increased concentration in the tissues?

- a. Gamma-aminobutyric acid
- b. Tryptamine

c. Histamine

- d. Serotonin
- e. Dopamine

451. A 16 y.o. girl consulted a dentist about dark colour of tooth enamel. Analysis of her pedigree revealed that this pathology was inherited by all girls from father and by 50% of boys from mother. What mode of inheritance are these peculiarities typical for?

a. Recessive, X-linked

b. Dominant, X-linked

- c. Recessive, Y-linked
- d. Autosomal and dominant
- e. Autosomal and recessive

452. After a patient recovered from a cold he got disturbed lacrimation. What vegetative ganglion was damaged most of all?

a. Pterygopalatine

- b. Aural
- c. Ciliated
- d. Submandibular
- e. Sublingual

453. Up to 50% of world population aged above thirty is affected by paradontosis. The leading part in pathogenesis of this disease is played by:

a. Neurodystrophic factor

- b. Immune damage of tissues
- c. Parodontium tissues damaged by kallikrein
- d. Dental calculus caused by microflora
- e. Parodontium damaged by active cells

454. A patient who attempted suicide in a state of serious depression was delivered to a hospital by an ambulance. What drugs should be administered?

- a. Sedative
- b. Neuroleptics
- c. Antidepressants**
- d. Lithium salts
- e. Tranquillizers

455. Hepatic disfunctions accompanied by insufficient inflow of bile to the bowels result in coagulation failure. This phenomenon can be explained by:

- a. Thrombocytopenia
- b. Iron deficiency
- c. Erythropenia
- d. Vitamin K deficiency**
- e. Leukopenia

456. A patient with enteritis accompanied with intense diarrhea has reduced quantity of water in the extracellular space and increased quantity of water inside the cells as well as low blood osmolarity. Name this disorder of water-electrolytic metabolism:

- a. Osmolar hypohydration
- b. Hyperosmolar hyperhydration
- c. Hyposmolar hyperhydration
- d. Hyposmolar hypohydration**
- e. Hyperosmolar hypohydration

457. Laboratory examination of a child revealed high content of leucine, valine, isoleucine and their ketoderivates in blood and urine. Urine had the typical smell of maple syrup. This disease was caused by deficiency of the following enzyme:

- a. phosphofructomutase
- b. Dehydrogenase of branched amino acids**
- c. Phosphofructokinase
- d. Aminotransferase
- e. Glucose-6-phosphatase

458. Hydrocyanic acid and cyanides are the most violent poisons. According to the dose the death follows after a few seconds or minutes. The death is caused by the inhibited activity of the following enzyme:

- a. Catalase
- b. Acetylcholinesterase
- c. Cytochrome oxidase**
- d. ATP-synthetase
- e. Methemoglobin reductase

459. A 5 y.o. child's enamel and dentin are striated with yellowish-brown stripes, the child has also dentin exposure, multiple caries. It is known that the child's mother had been taking antibiotics during her pregnancy. What medication might have caused such by-effect?

- a. Nystatin
- b. Lincomycin
- c. Streptocid
- d. Ampicillin
- e. Tetracycline**

460. A doctor needs to anaesthetize the anterior part of mucous membrane of hard palate. What nerves should he block?

- a. Inferior alveolar nerves
- b. Zygomatic nerves
- c. Suborbital nerves
- d. Nasopalatine nerves**

e. Pharyngeal nerves

461. Dentists widely apply local anaesthesia adding adrenalin to an anaesthetic solution. What is the purpose of this method?

- a. Lowering of arterial pressure
- b. Local vasoconstriction**
- c. Microcirculation improvement
- d. Local reduction of vascular resistance
- e. Local vasodilatation

462. Antigens of Sonne shigella placed on the objects of outdoor environment and foodstuffs can be revealed by means of a certain test with application of a diagnostic test system that includes a polystyrene tray with adsorbed specific antibodies. What reaction is it?

- a. Passive inverse hemagglutination test
- b. Direct hemagglutination test
- c. Immune-enzyme assay**
- d. Immunofluorescence test
- e. Immunoelectrophoresis test

463. Histological examination in the area of cervix of a fundic gland reveals small cells that have high nuclear-cytoplasmic ratio and basophilic cytoplasm. What is the function of these cells?

- a. Regeneration of glandular**
- b. Protective
- c. Endocrinal
- d. Secretion of chlorine ions
- e. Pepsinogen secretion epithelium

464. A neurological department admitted a 62 y.o. man in grave condition on account of cerebral hemorrhage. Objectively: increase of respiration depth and frequency, then its decrease to apnoea, whereupon the cycle of respiratory movements is restored. What respiration type is it?

- a. Apneustic**
- b. Kussmauls
- c. Gasping respiration
- d. Biots
- e. Chain-Stokes

465. A patient has a skin defect as a result of an extensive burn. In order to mask this defect the surgeons transplanted a skin flap from other body part of this patient. What type of transplantation is it?

- a. Homotransplantation**
- b. Xenotransplantation
- c. Explantation
- d. Allotransplantation
- e. Autotransplantation

466. A patient has a trauma of his upper jaw with an injury of supraorbital foramen. What jaw surface was damaged?

- a. Subtemporal**
- b. Anterior
- c. -
- d. Orbital
- e. Nasal

467. After a surgical procedure an experimental animal died from intense convulsions. What endocrinal glands were extracted?

- a. Ovaries
- b. Testicles
- c. Adrenal

d. Parathyroid

e. Thyroid

468. Examination of a 40 y.o. man ill with stenosing (without metastases) esophageal carcinoma revealed the following changes: atrophy of skeletal muscles and fatty tissue. His skin is sallow, epidermis is attenuated, heart has grown smaller. Myocardium and liver are brown. What is the most probable diagnosis?

a. Brown atrophy

b. Cancerous cachexia

c. Addison's disease

d. Alimentary cachexia

e. Myasthenia

469. A doctor recorded in the medical history that a patient had hypopnoea (reduced respiration depth). It means that the following characteristic of external respiration is reduced:

a. Respiratory volume

b. Vital lung capacity

c. Expiration capacity

d. Functional residual capacity

e. Respiratory minute volume

470. A couple applied to a genetic consultation with a question about probability of giving birth to children with X-linked rachitis (dominant character). Father is healthy, mother is heterozygous and suffers from this disease. Vitamin-resistant rachitis can be inherited by:

a. All children

b. Daughters only

c. A half of all daughters and sons

d. All children will be healthy

e. Sons only

471. A patient has acute cardiac insufficiency resulting from essential hypertension. What drug is the most appropriate in this case?

a. Cordiamin

b. Corglycon

c. Caffeine

d. Cardiovalene

e. Digoxin

472. A patient dropped into an ice hole, froze in the wind and fell ill. Body temperature rose up to 39,7°C and varied from 39,0°C to 39,8°C. Name the type of the patient's temperature profile?

a. Febris continua

b. Febris hectica

c. Febris recurrens

d. Febris intermittens

e. Febris remittens

473. Tetracycline taking in the first half of pregnancy causes abnormalities of fetus organs and systems, including tooth hypoplasia and alteration of their colour. What type of variability is the child's disease related to?

a. Modification

b. Combinative

c. Mutational

d. Hereditary

e. Recombinant

474. During embryogenesis trophoblast develops into an organ rudiment that has endocrinal function. What rudiment is it?

a. Villous chorion

- b. Amnion
- c. Allantois
- d. Umbilical cord
- e. Yolk sac

475. A patient ill with diabetes mellitus went through an operation on account of abscess in the area of posterior part of his neck. The wound healing lasted for a month and a half; the wound constantly discharged pus. On the site of the healed wound there appeared an irregular scar. In what way did the wound healing take place?

- a. Under the crust
- b. By epithelization
- c. By combined intention
- d. By secondary intention**
- e. By primary intention

476. As a result of road accident a driver got multiple injuries of lateral surface of his head including the malar arch fracture. What muscles function will be damaged?

- a. M. orbicularis oris
- b. M. risorius
- c. M. procerus
- d. M. buccinator
- e. M. masseter**

477. Being at a dentist a patient had an attack of stenocardia. What drug from the nitrate group should be applied in this case?

- a. Validol
- b. Menthol
- c. Nitroglycerine**
- d. Eritit
- e. Talinolole

478. Study of a tubular organ revealed that its median membrane consists of solid hyaline rings. What epithelium lines mucous membrane of this organ?

- a. Monostratal cubical
- b. Monostratal prismatic with a border
- c. Monostratal prismatic glandular
- d. Multistratal squamous nonkeratinizing
- e. Multinuclear prismatic ciliated**

479. Examination of a 10 y.o. child revealed on the alveolar submandibular process a fixed tumourous mass 1,5 cm in diameter closing premolar crown on the vestibular side. Mucous membrane of its surface is reddish-brown, it bleeds as a reaction to a slight mechanical intervention. Biopsy results: the mass consists of small size vessels separated by thin layers of connective tissue and infiltrated by plasmocytes, mucous membrane is here and there ulcerated. What is the most probable diagnosis?

- a. Giant cell form of epulis
- b. Hypertrophic gingivitis
- c. Angiomatous form of epulis**
- d. Gingival fibromatosis
- e. Fibrous form of epulis

480. A patient with a craniocerebral trauma has respiratory standstill. What part of cerebrum is most likely to be damaged?

- a. Mesencephalon
- b. Cerebellum
- c. Medulla oblongata**
- d. Telencephalon
- e. Thalamencephalon

481. Typical symptom of cholera is loss of a large quantity of water and sodium ions by an organism. What mechanism underlies initiation of diarrhea in this case?

- a. Activation of adenylate cyclase of enterocytes
- b. Inhibition of vasopressin synthesis in the hypothalamus
- c. Aldosterone oxydation in the adrenal cortex
- d. Intensified corticotropin synthesis
- e. Intensified renin secretion by the cells of renal arterioles

482. After the mouth is closed and teeth are clenched the mouth begins to open reflectory. This reflex is initiated by the following receptors:

- a. Proprioceptors of muscles that lift the lower jaw
- b. Periodont receptors
- c. Gustatory receptors
- d. Proprioceptors of muscles that let down the lower jaw
- e. Mechanoreceptors of oral cavity mucous membrane

483. As a result of expression of some genome components the embryo cells acquire typical morphological, biochemical and functional properties. Name this process:

- a. Differentiation
- b. Reception
- c. Determination
- d. Capacitation
- e. Induction

484. The first grade pupils went through a medical examination aimed at selection of children needing tuberculosis revaccination. What test was applied?

- a. Supracutaneous tularin test
- b. Anthracene test
- c. Schick test
- d. Mantoux test
- e. Burne test

485. A 7 y.o. girl was admitted to the infectious diseases hospital with fever, sore throat, common weakness. A doctor suspected diphtheria. What would be crucial for diagnosis confirmation after pure culture of causative agent had been singled out?

- a. Detection of volutine granules
- b. Phagolysability
- c. Hemolytic ability of a causative agent
- d. Cystinase test
- e. Toxigenity test

486. A patient suffering from chronic renal insufficiency felt ill with osteoporosis. It is caused by disturbed synthesis of the following regulator of mineral metabolism:

- a. Lysine hydroxylation
- b. Proline hydroxylation
- c. Cortisol hydroxylation
- d. 1,25(OH)₂ D₃ generation
- e. Glutamate carboxylation

487. Recovery of an organism from an infectious disease is accompanied by neutralization of antigens by specific antibodies. What cells produce them?

- a. Plasmocytes
- b. Fibroblasts
- c. Eosinophils
- d. T-lymphocytes
- e. Tissue basophils

488. A surgeon is going to take lymph from a patients thoracic duct, from where it flows into the

venous stream. Where should he insert a catheter into?

- a. Site of precava origination
- b. Site of portal vein origination
- c. Site of postcava origination
- d. Right venous angle
- e. Left venous angle**

489. Examination of a tooth slice of a 42 y.o. man revealed on the dentinal-enamel border some solid linear fusiform structures as long as $\frac{1}{3}$ of enamel depth. What structures were revealed?

- a. Denticles
- b. Carious damage
- c. Enamel spindles**
- d. Enamel fascicles
- e. "Dead" tracts

490. Electron microscopic study of a cell revealed roundish bubbles confined by a membrane and containing a lot of various hydrolytic enzymes. It is known that these organellas provide intracellular digestion and protective functions. These elements are:

- a. Centrosomes
- b. Lysosomes**
- c. Ribosomes
- d. Endoplasmic reticulum
- e. Mitochondria

491. A patient was admitted to a hospital because of risk of inflammation spread from the occipital area to the cranial cavity. What anatomical formation can the inflammation spread through?

- a. Condylar canal**
- b. Parietal foramen
- c. Oval foramen
- d. Spinous foramen
- e. Round foramen

492. A 28 y.o. patient was diagnosed with acute inflammation of mucous membrane of nasolacrimal duct. It is known from his anamnesis that he was having nasal discharges for 10 days after he had recovered from flu. From which part of nasal cavity could the infection have penetrated into the nasolacrimal duct?

- a. Medial nasal meatus
- b. Inferior nasal meatus**
- c. Frontal sinus
- d. Vestibule of nose
- e. Superior nasal meatus

493. A patient ill with adenoma of glomerular zone of adrenal cortex (Conns disease) has arterial hypertension, convulsions, polyuria. What is the main factor in the pathogenesis of these disturbances?

- a. Glycocorticoids hyposecretion
- b. Catecholamines hypersecretion
- c. Aldosterone hypersecretion**
- d. Aldosterone hyposecretion
- e. Glycocorticoids hypersecretion

494. In case of many infectious diseases patients blood may contain antigens of causative agents. What reaction should be applied provided that the level of antigenemia is low?

- a. Indirect hemagglutination test
- b. Enzyme-linked immunosorbent assay**
- c. Agglutination test
- d. Immunoelectrophoresis
- e. Latex agglutination test

495. A child is presumably ill with diphtheria. A specimen of affected mucous membrane of his pharynx was taken for analysis. The smear was stained and microscopical examination revealed yellow rods with dark blue thickenings on their ends. What structural element of a germ cell was revealed in the detected microorganisms?

- a. Plasmids
- b. Flagella
- c. Spores
- d. Volutin granules**
- e. Capsule

496. Deglutition of a patient is disturbed as a result of a trauma. The most probable cause of this disturbance is affection of the following part of CNS:

- a. Medulla oblongata**
- b. Mesencephalon
- c. Spinal cord, C V-VI
- d. Spinal cord, Th II-IV
- e. Hypothalamus

497. A patient had a cranial trauma that resulted in sight loss. What area of cerebral cortex was damaged?

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

498. A patient with acute attack of duodenal ulcer was admitted to a hospital. Analysis of his gastric juice revealed intensification of secretory and acid-forming stomach functions. Choose a drug that will reduce secretory stomach function due to blockade of H₂-receptors:

- a. Ranitidine**
- b. Platyphyllin
- c. Methacin
- d. Atropine
- e. Belladonna extract

499. Estimation of heat expenditures of a man's organism by means of indirect calorimetry had the following results: the organism consumed 1000 ml of oxygen and emitted 800 ml of carbonic acid per minute. What is the respiratory quotient of a man under examination?

- a. 0,84
- b. 0,9
- c. 0,8**
- d. 1,25
- e. 1,0

500. A 3 m.o. baby has white film on the mucous membrane of his mouth, tongue and lips. A doctor suspected candidosis. What nutrient medium should be applied for inoculation of the material under examination in order to confirm this diagnosis?

- a. Jensens
- b. Roux
- c. Claubergs
- d. Sabourauds**
- e. Endo

501. A patient who has been treated in a neurological clinic with sedatives for a long time has the following complications: cough, rhinitis, lacrimation. What preparation might have caused such disorders?

- a. Phenazepam
- b. Valerian

c. Sodium bromide

d. Reserpine

e. Diazepam

502. A patient in a cardiological department has arrhythmia. A doctor administered him amyodaron. What is the main mechanism of amyodarons antiarrhythmic action?

a. It inhibits cholinoreceptors

b. It alters myocardium susceptibility to the acetylcholine

c. It stimulates histamine receptors

d. It blocks mostly potassium channels

e. It activates serotonin receptors

503. Examination of a histological specimen of tubular bone revealed signs of regeneration process (callus). What tissue is this structured formed of?

a. Rough fibrous osseous

b. Loose connective

c. Epithelial

d. Reticular

e. Lamellar osseous

504. Parodontitis is accompanied by proteolysis activation in the parodontium tissues. Proteolysis activation is signaled by increase of the following component of mouth liquid:

a. Glucose

b. Amino acids

c. Cholesterol

d. Biogenic amines

e. Organic acids

505. A 5 y.o. girl has high temperature and sore throat. Objectively: soft palate edema, tonsills are covered with grey films that can be hardly removed and leave deep bleeding tissue injuries. What disease is the most probable?

a. Vincents angina

b. Necrotic angina

c. Lacunar angina

d. Infectious mononucleosis

e. Pharyngeal diphtheria

506. There is a specimen of soft palate where both oral and nasal surfaces can be seen. It was revealed that oral cavity had damaged epithelium. What epithelium is damaged?

a. Multistratal squamous keratinizing

b. Multistratal cubical nonkeratinizing

c. Multirowed ciliated epithelium

d. Multistratal prismatic nonkeratinizing

e. Multistratal squamous nonkeratinizing

507. An electronic microphotography represents a cell without nucleoli and nuclear membrane. Chromosomes are loosely scattered, centrioles migrate to the poles. What phase of cell cycle is it?

a. Prophase

b. Metaphase

c. Anaphase

d. Interphase

e. Telophase

508. Examination of a 60 y.o. mans oral cavity revealed the following changes: the 26th and 27th tooth are covered with metallic crowns that plunge deep into the gums. There is a parodontal pouch 0,7 cm deep between them containing some pus. Gingival papillae of these teeth are hyperemic, edematic, cyanotic, bleed as a reaction to touching by a dental explorer. X-ray picture shows resorption of interdental septa of $\frac{1}{2}$ of tooth root. What is the most probable diagnosis?

- a. Hypertrophic gingivitis
- b. Generalized parodontitis
- c. Chronic catarrhal gingivitis
- d. Local parodontitis**
- e. -

509. A lightly dressed man is standing in a room; air temperature is +14°C. Windows and doors are closed. In what way does he lose heat most of all?

- a. Perspiration
- b. Evaporation
- c. Heat conduction
- d. Heat radiation**
- e. Convection

510. A patient applied to a doctor with complaints about noise and painful sensations in his ear. Objectively: a patient is ill with acute respiratory disease, rhinitis. The infection that caused inflammation of tympanic cavity could have penetrated into it through the following pharynx opening:

- a. Fauces
- b. Tympanic opening of auditory tube
- c. Pharyngeal opening of auditory tube**
- d. Choanae
- e. Aperture of larynx

511. Medullary substance of a hemopoietic organ lobule in a histological specimen is lighter coloured and contains epithelial bodies. What organ are these morphological properties typical for?

- a. Spleen
- b. Kidney
- c. Thymus**
- d. Lymph node
- e. Liver

512. A patient who had been suffering from a renal disease for many years died from uremia. Autopsy revealed that the kidneys were abnormally small, dense, fine-grained, light grey. What are the kidneys with such changes called?

- a. Arteriosclerotic**
- b. Contracted
- c. Mottled
- d. -
- e. Sebaceous

513. A 20 y.o. patient complains about morbid thirst and profuse urination (up to 10 l a day). Glucose concentration in blood is normal, urine contains no glucose. Such condition may be caused by deficiency of the following hormone:

- a. Triiodothyronine
- b. Vasopressin**
- c. Oxytocin
- d. Insulin
- e. Cortisol

514. A patient was stung by a bee. Examination results: his left hand is hot, pink and edematous, there is a big blister on the spot of the sting. What is the leading mechanism of edema development?

- a. Reduced blood filling of vessels
- b. Reduction of osmotic pressure of tissue
- c. Reduction of oncotic pressure of tissue
- d. Increased vascular permeability**
- e. Vascular damage caused by the sting

515. A hospital admitted a 9 y.o. boy with mental and physical retardation. Biochemical blood

analysis revealed high content of phenylalanine. Such condition may be caused by blocking of the following enzyme:

- a. Glutamine transaminase
- b. Aspartate aminotransferase
- c. Oxidase of homogentisic acid
- d. Phenylalanine-4-monooxygenase**
- e. Glutamate decarboxylase

516. A patient with hemorrhage from the lacerated wound in the angle of his mouth was delivered to the accident ward. What artery was injured?

- a. Anterior superalveolar
- b. Facial**
- c. Suborbital
- d. Lingual
- e. Maxillary

517. In course of an experiment a nerve is being stimulated by electric impulses. As a result of it sublingual and submaxillary glands discharge some dense viscous saliva. What nerve is being stimulated?

- a. N. vagus
- b. N. trigeminus
- c. N. sympathicus**
- d. N. glossopharyngeus
- e. N. facialis

518. Autopsy of a 34 y.o. man who died from rheumatism revealed that epicardium surface was villous and covered with grey films that can be easily removed. After their removal the surface is edematic and plethoric. What is the most probable diagnosis?

- a. Catarrhal pericarditis
- b. Purulent pericarditis
- c. Hemorrhagic pericarditis
- d. Proliferative pericarditis
- e. Fibrinous pericarditis**

519. A patient has a disturbed function of masticatory muscles. What nerve is damaged?

- a. Buccal
- b. Maxillary
- c. Mandibular**
- d. Lingual
- e. Auriculotemporal

520. 48 hours after tuberculin test (Mantoux test) a child had a papule up to 10 mm in diameter on the spot of tuberculin introduction. What hypersensitivity mechanism underlies the mentioned changes?

- a. Granulomatosis
- b. Immunocomplex cytotoxicity
- c. Anaphylaxis
- d. Antibody-dependent cytotoxicity
- e. Cellular cytotoxicity**

521. For treatment of skin diseases with apparent inflammation in the maxillofacial area the topical glucocorticoids are applied. What preparation has the minimal resorptive effect?

- a. Flumethasoni pivalas**
- b. Dexamethasone
- c. Hydrocortisone
- d. Prednisolone
- e. Triamcinolone

522. A patient with edemata was prescribed a K⁺-retaining diuretic - aldosterone antagonist. What drug is it?

- a. Spironolactone
- b. Clonidine
- c. Alopurinole
- d. Digoxin
- e. Procainamide hydrochloride

523. All nonsteroidal anti-inflammatory drugs can be harmful for stomach mucous membrane. In order to find substances that don't cause such complication it is necessary to know factors it is connected with. What molecular substrate should be less affected in order to reduce intensity of this complication?

- a. Cyclooxygenase 2
- b. Lysosomal enzymes
- c. Kallikrein
- d. Cyclooxygenase 1
- e. Adenylate cyclase

524. During an operation on account of mandibular dislocation a doctor should consider effect of a certain muscle. Its posterior fascicles draw back protruding lower jaw. What muscle is meant?

- a. M. temporalis
- b. M. pterygoideus lateralis
- c. M. mylohyoideus
- d. M. masseter
- e. M. pterygoideus medialis

525. A man who has been staying in a stuffy room for a long time lost consciousness. He regained consciousness after inhalation of ammonia spirit vapour. This substance's effect is connected with direct influence upon the following structures:

- a. Vasculomotor centre
- b. Respiratory centre
- c. Receptors of upper airways
- d. Resistive vessels
- e. Capacitive vessels

526. Macroscopic examination of lung tissue revealed areas of high airiness with small bubbles. histological examination revealed thinning and rupture of alveolar septa accompanied by formation of large diversiform cavities. What disease was revealed in a lung?

- a. Multiple bronchiectasis
- b. Chronic bronchitis
- c. Fibrosing alveolitis
- d. Pulmonary emphysema
- e. Cavernous tuberculosis

527. A man is ill with a protozoan disease characterized by cerebral affection and loss of sight. Blood analysis revealed half-moon-shaped unicellular organisms with pointed ends. This disease is caused by:

- a. Trichomonad
- b. Amoeba
- c. Toxoplasma
- d. Lamblia
- e. Leishmania

528. A 9 y.o. boy was admitted to the endocrinological department. This boy has already had several fractures of his extremities due to bone brittleness. The function of the following endocrinal glands (gland) is disturbed:

- a. Adrenal
- b. Parathyroid

- c. Thymus
- d. Thyroid
- e. Epiphysis

529. A 52 y.o. patient ill with mandibular cancer took radiation treatment. The tumor became less in size. What mechanism of cell destruction is the primary cause of radiation treatment effectiveness?

- a. Lysis by NK cells
- b. Vascular thrombosis
- c. Generation of free radicals**
- d. Hyperthermia
- e. Mutagenesis

530. A mans heart rate was measured according to his pulse. It equaled 120 bpm. What is the duration of cardiac cycle?

- a. 0,7 s
- b. 0,5 s**
- c. 0,9 s
- d. 1,0 s
- e. 0,8 s

531. After anlage of primary teeth at the beginning of the fifth month of embryogenesis some factors disturbed growth ability of dental plate behind the mentioned anlages. What serious consequence is possible?

- a. Formation of mouth vestibule will be disturbed
- b. Permanent teeth wont be anlagen**
- c. Formation of Hertwigs epithelial root sheath will be disturbed
- d. Dentin of primary teeth wont be formed
- e. Cervix of enamel organ wont disintegrate

532. An employee was working with radioactive substances and as a result of an incident he was irradiated with 4 Gy. He complains about headache, nausea, dizziness. What changes of blood formula can be expected 10 hours after irradiation?

- a. Lymphocytosis
- b. Leukopenia
- c. Neutrophilic leukocytosis**
- d. Agranulocytosis
- e. Neutropenia

533. A pregnant woman applied to a doctor with complaints typical for toxoplasmosis. The doctor took a sample of her blood. What serological tests should be performed in this case?

- a. Wassermann test
- b. Precipitation test
- c. Complement binding assay**
- d. Widal's test
- e. Neutralization test

534. A patient complained about a carbuncle on his face. Examination results: neither dense nor painful edema of subcutaneous cellular tissue, there is black crust in the middle of the carbuncle and peripheral vesicular rash around it. Bacteriological examination revealed presence of immobile streptobacilli able of capsulation. What microorganisms are causative agents of this disease?

- a. Bacillus subtilis
- b. Staphylococcus aureus
- c. Bacillus anthracoides
- d. Bacillus anthracis**
- e. Bacillus megaterium

535. A dentist revealed a shallow cavity with damaged enamel between two central superior incisors. He diagnosed a patient with caries. On what surface of tooth crown will the dentist fill the tooth?

- a. Facies contactus distalis
- b. Facies lingualis
- c. Facies occlusialis
- d. Facies contactus mesialis**
- e. Facies labialis

536. A patient has recently had staphylococcal infection that led to anasarca; laboratory urine analysis revealed massive proteinuria. Results of blood analysis: hypoproteinemia, hyperlipemia. What pathology can be suspected?

- a. Urolithiasis
- b. Pyelonephritis
- c. Glomerulonephritis
- d. Chronic renal insufficiency
- e. Nephrotic syndrome**

537. Blood analysis of a patient ill with jaundice revealed increase of total bilirubin by its indirect fraction. Urine and feces are intensively stained. What is the most probable mechanism of these abnormalities?

- a. Increased erythrocyte hemolysis**
- b. Obstructed bile outflow from the liver
- c. Disturbed formation of direct bilirubin
- d. Disturbed conversion of urobilinogen in liver
- e. Damage of liver parenchyma

538. For the purpose of disinfection of nonmetallic surgical instruments the formaldehyde solution was used. What group does this antiseptic preparation belong to according to its chemical structure?

- a. Halogenated compounds
- b. Aliphatics**
- c. Alcohols
- d. Aromatics
- e. Detergents

539. Liver specimen contains intralobular capillaries that have broad irregular lumen. The greatest part of the capillary has no basal membrane. What type of capillaries is it?

- a. Postcapillaries
- b. Visceral
- c. Somatic
- d. Sinusoid**
- e. Precapillaries

540. A 38 y.o. patient applied to a hospital and complained that she had lost sensation of food touching anterior $\frac{2}{3}$ of her tongue as well as pain and temperature sensation (burned her tongue with hot tea) after an acute viral respiratory disease. It is caused by the damage of the following nerve branch:

- a. Lingual nerves of a sublingual nerve
- b. Lingual nerve of a mandibular branch of a trifacial nerve**
- c. Lingual branches of a glossopharyngeal nerve
- d. Superior laryngeal nerve of a vagus
- e. Tympanichord of a facial nerve

541. Isonitol triphosphates are produced in the organism tissues as a result of phosphatidyl inositol diphosphate hydrolysis. In the mechanism of hormone activity they perform the function of secondary mediators (messengers). What is their activity in the cell aimed at?

- a. Activation of adenylate cyclase
- b. Inhibition of phosphodiesterase
- c. Release of calcium ions from the cell depots**
- d. Inhibition of protein kinase C
- e. Activation of protein kinase A

542. A 42 y.o. 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 - $2,8 \times 10^{12}$ /l, leukocytes - 8×10^9 /l, Hb- 90 g/l. What complication is it?

a. Haemorrhage

b. Penetration

c. Perforation

d. Canceration

e. Pyloric stenosis

543. After prophylactic medical examination a 7 y.o. boy was diagnosed with Lesch-Nyhan syndrome (only boys fall ill). His parents are healthy, but his grandfather by his mothers side has the same disease. What type of inheritance is it?

a. Semidominance

b. Autosomal and recessive

c. Recessive, sex-linked

d. Dominant, sex-linked

e. Autosomal and dominant

544. During an operation on a woman it became necessary to ligate her uterine artery. What formation can be accidentally ligated together with this artery?

a. Round ligament of uterus

b. Uterine tube

c. Urethra

d. Ureter

e. Internal iliac vein

545. Hemotransfusion stimulated development of intravascular erythrocyte hemolysis. The patient has the following type of hypersensitivity:

a. III type hypersensitivity (immune complex)

b. II type hypersensitivity (antibody-dependent)

c. I type hypersensitivity (anaphylactic)

d. IV type hypersensitivity (cellular cytotoxicity)

e. V type hypersensitivity (granulomatosis)

546. A pregnant woman lost for about 800 ml of blood during labour. There is also tachycardia, arterial pressure is 100/70 mm Hg, tachypnea up to 28/min. What hypoxia type is primary in such clinical situation?

a. Blood

b. Cardiovascular

c. Mixed

d. Respiratory

e. Tissue

547. Speed of excitement conduction was studied on different areas of an isolated heart. In what area was the lowest speed registered?

a. In Purkinje fibers

b. In the His bundle

c. In the atrioventricular node

d. In the ventricular myocardium

e. In the atrial myocardium

548. A patient with Itsenko-Cushing syndrome has persistent hyperglycemia and glycosuria, hypertension, osteoporosis, obesity. What hormones synthesis and secretion are intensified in this case?

a. Aldosterone

b. Adrenaline

c. Cortisol

d. Glucagon

e. Thyroxin

549. Blood of patients ill with diabetes mellitus has high content of free fatty acids. It may be caused by:

- a. Low activity of phosphatidylcholine-cholesterol-acyltransferase of plasma
- b. Activation of synthesis of apolipoproteins A-1, A-2, A-4
- c. Accumulation of palmitoyl-CoA in the cytosol
- d. High activity of triglyceride lipase of adipocytes**
- e. Activation of ketone bodies utilization

550. During tooth development periodontium preserves remains of embryonal ectoderm (Hertwig's epithelial root sheath) that are called Malassez's epithelial rests. They can be source of cyst or tumour development in the area of tooth radix. What cells form Hertwig's epithelial root sheath?

- a. Cementoblasts
- b. Cells of enamel organ**
- c. Odontoblasts
- d. Mesenchymal cells
- e. Pulpocytes

551. Clinical examination enabled to make a provisional diagnosis: stomach cancer. Gastric juice contained lactic acid. What type of glucose catabolism turns up in the cancerous cells?

- a. Aerobic glycolysis
- b. Pentose-phosphate cycle
- c. Gluconeogenesis
- d. Anaerobic glycolysis**
- e. Glucose-alanine cycle

552. Vaccination is done by means of a toxin that has been neutralized by a formaldehyde (0,4%) at a temperature 37-40°C for four weeks. Ramond was the first to apply this preparation for diphtheria prophylaxis. What preparation is it?

- a. Immunoglobulin
- b. Inactivated vaccine
- c. Adjuvant
- d. Antitoxic serum
- e. Anatoxin**

553. Soft palate arches were taken for histologic examination because of suspected tumour (macroscopical examination revealed an ulcer with dense floor). Biopsy revealed necrosis of mucous membrane along with infiltration of submucous layer by lymphocytes, epithelioid cells, plasmatic cells, single neutrophils. There is also evident endo- and perivascularitis. What disease are the described changes typical for?

- a. Primary syphilis**
- b. Aphthous stomatitis
- c. Ulcerative stomatitis
- d. Pharyngeal diphtheria
- e. Ulcerative necrotic stomatitis (Vincent's stomatitis)

554. A 30 y.o. patient is diagnosed with amebic dysentery. This diagnosis was bacteriologically confirmed. Name the preparation for its treatment:

- a. Furazolidone
- b. Acyclovir
- c. Mebendazole
- d. Itraconazole
- e. Metronidazole**

555. Examination of a tooth revealed a large cavity in its crown. The floor of this cavity is formed by a thin layer of softened dentin that separates this cavity from the pulp. What is the most probable diagnosis?

- a. Median caries
- b. Superficial caries
- c. Pulpitis
- d. Periodontitis
- e. Deep caries**

556. A patient with acute poisoning with morphine was delivered to the hospital ward. What specific antagonist of narcotic analgesics is to be applied in this case?

- a. Naloxone**
- b. Unithiol
- c. Paracetamol
- d. Methacin
- e. Digoxin

557. As a result of punctate retinal hemorrhage a patient lost ability to see objects in the centre of visual field. In what part of retina did the hemorrhage take place?

- a. Vascular membrane
- b. Ciliary part of retina
- c. Blind spot
- d. Yellow spot**
- e. Iris

558. Microscopical examination of a surgical specimen (an ulcerated part of a lip) revealed in the connective tissue of mucous membrane near the borders and under the floor of the ulcer some epithelial complexes consisting of atypical multistratified epithelium with accumulations of bright pink concentric formations. What pathology is it?

- a. Basal cell carcinoma
- b. Squamous cell keratinous carcinoma**
- c. Papilloma
- d. Transitional cell carcinoma
- e. Squamous cell nonkeratinous carcinoma

559. A patient had a trauma that resulted in a fracture in the external inferior third of his right crus. What bone was broken?

- a. Astragaloid
- b. Fibular**
- c. Femoral
- d. Calcaneal
- e. Tibial

560. On the 2nd day after myocardium infarction a patient experienced abrupt drop of systolic arterial pressure down to 60 mm Hg accompanied by tachycardia of 140 beats per minute, dyspnea, loss of consciousness. What is the leading mechanism of shock pathogenesis?

- a. Paroxysmal tachycardia
- b. Intoxication by the products of necrotic breakdown
- c. Decreased volume of circulating blood
- d. Anaphylactic reaction to the myocardial proteins
- e. Decrease of stroke volume**

561. A 50 y.o. man abruptly felt palpitation, heart ache, strong weakness, rise of arterial pressure. His pulse is irregular and deficient. ECG shows no P wave and different R-R intervals. What cardiac rate abnormality is it?

- a. Ciliary arrhythmia**
- b. Sinus extrasystole
- c. Respiratory arrhythmia
- d. Paroxysmal tachycardia
- e. Atrioventricular heart block

562. A patient has disturbed digestion of proteins, fats and carbohydrates. It is most likely to be caused by reduced secretion of the following digestive juice:

- a. Saliva
- b. Pancreatic**
- c. Intestinal
- d. Bile
- e. Gastric

563. In order to prevent gum inflammation and to improve regeneration of epithelial periodontium cells manufacturers add to the tooth pastes one of the following vitamins:

- a. Biotin
- b. Thiamine
- c. Calciferol
- d. Retinol**
- e. Phyloquinone

564. A hospital admitted a patient with complaints about abdominal swelling, diarrhea, meteorism after consumption of food rich in proteins. It is indicative of disturbed protein digestion and their intensified decaying. What substance is the product of this process in the bowels?

- a. Putrescine
- b. Cadaverine
- c. Bilirubin
- d. Indole**
- e. Agmatine

565. A dentist was examining a patient and noticed excessive salivation. The dentist applied a medication inducing dryness of oral cavity. What medication is it?

- a. Phentolamine
- b. Proserin
- c. Atropine sulfate**
- d. Pilocarpine hydrochloride
- e. Galantamine

566. In course of an operation on account of a granuloma in the area of the right upper incisor a patient began to bleed. The hemorrhage was stopped just only 3 hours later. The patients anamnesis contains information about chronic lymphatic leukemia. What is the most probable cause of hemorrhage?

- a. Eosinophilia
- b. Leukopenia
- c. Lymphocytosis
- d. Thrombocytopathia
- e. Thrombocytopenia**

567. Immune-enzyme assay of blood serum revealed presence of HBs-antigen. What disease is signaled by this antigen?

- a. Viral hepatitis B**
- b. Tuberculosis
- c. AIDS
- d. Syphilis
- e. Viral hepatitis A

568. It was revealed that a patient with coagulation failure has thrombosis of a branch of inferior mesenteric artery. What bowel segment is affected?

- a. Caecum
- b. Colon ascendens
- c. Colon transversum
- d. Ileum
- e. Colon sigmoideum**

569. A surgeon used novocaine as an anaesthetic during surgical manipulations. 10 minutes after it the patient became pale, he got dyspnea and hypotension. What type of allergic reaction is it?

- a. Stimulating
- b. Immune complex
- c. Cell-mediated
- d. Cytotoxic
- e. Anaphylactic**

570. A patient has deformed jaw bones. Histological examination revealed in the place of bones the growth of cellular-fibrous tumour-like tissue with primitive osteogenesis without distinct borders. What disease are these symptoms typical for?

- a. Ameloblastoma
- b. Eosinophilic granuloma
- c. Fibrous dysplasia**
- d. Osteosarcoma
- e. Parathyroid osteodystrophy

571. In course of an experiment the middle part of an animals cochlea was damaged. It resulted in disturbed perception of sound vibrations of the following frequency:

- a. Low
- b. Medium**
- c. High and medium
- d. High
- e. Low and medium

572. An electronic microphotography represents a cell of neural origin that is a component of mucous membrane epithelium. Distal part of its peripheral process has a clavate thickening with 10-12 cilia sprouting from it. What cell is it?

- a. Rod cell of retina
- b. Cone cell
- c. Olfactory**
- d. Bipolar neuron of spinal ganglion
- e. Sensory epithelial cells of a gustatory organ

573. A student applied to a doctor and asked him to prescribe a drug for treatment of allergic rhinitis he fell ill with during linden flowering. What drug can be applied?

- a. Losartan
- b. Loratadine**
- c. Propranolol
- d. Ambroxol
- e. Noradrenaline hydrochloride

574. Vishnevskys technique of vagosympathetic blockade lies in introduction of novocaine solution along the posterior edge of sternocleidomastoid muscle above its intersection with exterior jugular vein. Within which triangle of neck is it performed?

- a. Pirogovs triangle
- b. Carotic
- c. Scapular-trapezoid**
- d. Clavicular-scapular
- e. Submandibular

575. A patient ill with chronic bronchitis takes a synthetic mucolytic drug that stimulates sputum thinning. What drug is it?

- a. Diazepam
- b. Acetylcysteine**
- c. Enalapril
- d. Heparin
- e. Furosemide

576. A patient has a right-sided fracture and a hemorrhage (haematoma) in the area of anterior third of his lower jaw, loss of skin sensitivity in the area of his chin. What nerve was damaged?

- a. Buccal nerve
- b. Mylohyoid nerves
- c. Superior alveolar nerves
- d. Inferior alveolar nerve

e. Mental nerve

577. A patient applied to a doctor complaining about dizziness, memory impairment, periodical convulsions. It was found out that such changes were caused by a product of glutamic acid decarboxylation. What product is meant?

a. Pyridoxalphosphate

b. GABA

- c. Tetrahydrofolate
- d. ATP
- e. Thymidine diphosphate

578. 3 years ago a 52 y.o. man underwent an operation for stomach extraction. Results of blood analysis: erythrocytes - $2,0 \times 10^{12}/l$, Hb- 85 g/l, colour index - 1,27. These changes were caused by disturbed assimilation of the following vitamin:

- a. C
- b. A
- c. B6
- d. P

e. B12

579. Mucous membrane of a patient's oral cavity has a greyish-white focus, the mass is dense and protrudes above the mucous membrane. Histological examination revealed hyperkeratosis, parakeratosis and acanthosis of epithelium in this area. What pathological process was revealed in the mucous membrane?

- a. Local tumorous amyloidosis
- b. Hyalinosis

c. Leukoplakia

- d. Focal ichthyosis
- e. Leukoderm

580. A man has an accelerated heart rate, mydriatic pupils, dry mouth. It is caused by activation of the following function regulating system:

- a. Parasympathetic
- b. Metasympathetic
- c. Hypothalamo-pituitary-adrenal

d. Sympathetic

e. Vagoinsular

581. Microscopical examination of an infiltrate removed from the submandibular skin area of a 30 y.o. man revealed foci of purulent fluxing surrounded by maturing granulations and mature connective tissue, the pus contains druses consisting of multiple short rod-like elements with one end attached to the homogenous centre. What disease is it?

- a. Candidosis
- b. -
- c. Tuberculosis
- d. Syphilis

e. Actinomycosis

582. What substance makes the saliva viscous and mucous and performs protective function, including protection from mechanical injury of mouth mucous membrane?

- a. Lysozyme
- b. Kallikrein

c. Amylase

d. Mucin

e. Glucose

583. A 2 y.o. child has catarrhal effects and skin eruption. A doctor suspected scarlet fever. The child was injected intracutaneously with some serum to the erythrogenic streptococcus toxin, on the spot of injection the eruption disappeared. What do the reaction results mean?

a. The child's immune system is very weakened

b. The complete dose of serum could be introduced intravenously

c. They confirm the clinical diagnosis

d. The disease was caused by nonhemolytic streptococcus

e. The child has hypersensitivity to the erythrogenic toxin

584. Enzymatic jaundices are characterized by disbalanced activity of UDP-glucuronyl transferase. What compound is accumulated in the blood serum in case of these pathologies?

a. Biliverdin

b. Direct bilirubin

c. Mesobilirubin

d. Indirect bilirubin

e. Verdoglobulin

585. A 9 y.o. child has been taking antibiotics on account of bronchopneumonia for a long time. There appeared pain and burning in the area of mucous membrane of his lips and tongue. Objectively: mucous membrane of lips and tongue has caseous and grey plaques that can be easily removed by a spatula leaving hyperemia foci on their spot. Microscopical examination of the plaques revealed mycelium. What is the most probable diagnosis?

a. Leukoplakia

b. Exfoliative cheilitis

c. Contactant allergic cheilitis

d. Candidous cheilitis

e. Manganottis cheilitis

586. It was reported an outbreak of food poisoning connected with consumption of pastry that had been stored at a room temperature and had duck eggs as one of the ingredients. What microorganisms might have caused this disease?

a. Colon bacilli

b. Staphylococci

c. Salmonella

d. Legionella

e. Comma bacilli

587. Autopsy of a 35 y.o. woman revealed not only enlargement of many lymph nodes but also enlarged spleen weighting 600,0. Its incision showed that it was heterogeneous, dark red, dense with greyish-yellow necrotic areas up to 1 cm in diameter (porphyritic spleen). What disease can be assumed?

a. Lymphogranulomatosis

b. Chronic myeloid leukemia

c. Lymphosarcoma

d. Cancer metastases

e. Chronic lymphoid leukemia

588. Enamel is characterized by high resistance to the influence of various mechanical and chemical factors. What components synthesis provides such resistance?

a. Carbonate apatite

b. Fluorapatite

c. Collagen

d. Hydroxyapatite

e. Chlorapatite

589. A student has dry mouth during exam passing. It is caused by realization of the following reflexes:

- a. Sympathetic conditioned and unconditioned
- b. Sympathetic and parasympathetic unconditioned
- c. Sympathetic conditioned**
- d. Parasympathetic conditioned
- e. Parasympathetic unconditioned

590. A patient being treated in the burns department has suppurative complication. The pus is of bluish-green colour that is indicative of infection caused by *Pseudomonas aeruginosa*. What factor is typical for this causative agent?

- a. Presense of spores
- b. Mycelium formation
- c. Gram-negative stain**
- d. Cell pairing
- e. Coccal form

591. A 40 y.o. patient had a maxillofacial trauma that resulted in disturbed function of sublingual and submaxillary glands on the left - the glands began to produce some viscous saliva. What nerves function is disturbed?

- a. Sublingual
- b. Facial**
- c. Trifacial
- d. Vagus
- e. Glossopharyngeal

592. Histological examination of periapical tissue taken from a patient who has been suffering from chronic periodontitis for a long time revealed a granulation tissue interlaced by taeniae of squamous cell epithelium and encircled within a fibrous capsule. What is the most probable diagnosis?

- a. Cystic granuloma
- b. Composite granuloma**
- c. Simple granuloma
- d. Abscessing periodontitis
- e. Granulating periodontitis

593. A patient consulted a doctor about difficulties with urinary excretion. Examination revealed hypertrophy of an organ that encloses proximal part of urethra. What organ is it?

- a. Epididymis
- b. Bulbourethral gland
- c. Bulb of penis
- d. Prostate**
- e. Seminal vesicles

594. Microscopical examination of discharges from the gums of a patient ill with paradontosis revealed some protozoan pear-shaped organisms 6-13 micrometer long. The parasite has one nucleus and undulating membrane, there are four flagella at the front of its body. What protozoan were found?

- a. *Lambli*a
- b. *Leishmania*
- c. *Amoebae*
- d. *Balantidia*
- e. Trichomonads**

595. It was revealed that a 42 y.o. patient suffering from paradontosis had roundish calcified formations 2-3 mm in diameter in the coronal pulp. Name these structures:

- a. Intertubular dentin
- b. Dead dentin
- c. Interglobular spaces

d. Sclerotic dentin

e. Denticles

596. A sportsman has to improve his sport results. He was recommended to take a preparation containing carnitine. What process is activated by this compound to the greatest extent?

- a. Calcium ion transport
- b. Vitamin K transport
- c. Glucose transport
- d. Amino acid transport

e. Fatty acid transport

597. A patient was delivered to the hospital with neck injury. Examination revealed a damaged nerve located in the front part of anterior scalene muscle. What nerve is damaged?

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

e. Diaphragmatic

598. Examination of a patient revealed that dental hypoplasia was caused by hypovitaminosis of vitamins A and D. These vitamins were administered orally but they didn't have any medicinal effect. What is the probable cause of disturbed vitamin assimilation?

- a. Hyperchlorhydria
- b. Achylia
- c. Achlorhydria
- d. Hypochlorhydria

e. Bile acid deficiency

599. An 18 y.o. boy applied to a geneticist. The boy has asthenic constitution: narrow shoulders, broad pelvis, nearly hairless face. Evident mental deficiency. The provisional diagnosis was Klinefelter's syndrome. What method of clinical genetics will enable the doctor to confirm this diagnosis?

- a. Dermatoglyphics
- b. Population-and-statistical
- c. Twin study

d. Cytogenetic

e. Genealogical

600. A patient consulted a doctor about high pain sensitivity of skin behind his auricle and external acoustic meatus. Palpation behind the sternocleidomastoid muscle is painful. It can be caused by irritation of the following nerve:

- a. Nn. supraclaviculares
- b. N. transversus colli
- c. N. vagus
- d. N. occipitalis minor

e. N. auricularis magnus

601. During starvation normal rate of glucose is maintained by means of activation of gluconeogenesis. What substance can be used as a substrate for this process?

- a. Adenine
- b. Urea

c. Alanine

- d. Ammonia
- e. Guanine

602. A patient complained about ear noise and pain sensations. Objectively: the patient has acute respiratory disease, rhinitis. The infection penetrated into the tympanic cavity through the following opening of the pharynx:

- a. Aperture of larynx
- b. Tympanic opening of auditory tube
- c. Fauces
- d. Pharyngeal opening of auditory tube**
- e. Choanae

603. A 5 year old child has the following symptoms: body temperature up to 40°C, acute headache, vomiting, anxiety, shiver. 4 days later there appeared hemorrhagic skin rash, oliguria and adrenal insufficiency that caused death. Bacteriological examination of pharyngeal smears revealed meningococcus. What form of meningococcal infection was it?

- a. Meningoencephalitis
- b. Meningococcal nasopharyngitis
- c. Meningococemia**
- d. Meningococcal meningitis
- e. -

604. Among public catering workers examined by doctors of sanitary-and-epidemiologic station often occur asymptomatic parasite carriers. This means that a healthy person carries cysts that infect other people. Such parasitizing is impossible for the following causative agent:

- a. Malarial plasmodium
- b. Intestinal trichomonad
- c. Dysenteric amoeba**
- d. Viscerotropic leishmania
- e. Dermatotropic leishmania

605. A specimen of connective tissue of derma was stained with Sudan III and hematoxylin. There are clusters of big polygonal cells that turned orange. Their nuclei are flattened and located on periphery. What tissue is it?

- a. Brown adipose
- b. Hyaline cartilaginous
- c. Reticular connective
- d. Lamellar osseous
- e. White adipose**

606. Poisoning with corrosive sublimate caused acute renal insufficiency. Its progress included four stages: 1) initial, 2) oligoanuria, 4) recovery. Name the third stage of acute renal insufficiency:

- a. Polyuric**
- b. Ischemic
- c. Hemodynamic
- d. Metabolic
- e. Pathochemical

607. A blood sample of a pregnant woman was typed. Erythrocyte-agglutination reaction was present with standard sera 0, (I), B(III), reaction was absent with the serum A(II). The blood under examination relates to the following group:

- a. AB(IV)
- b. -
- c. 0, (I)
- d. B(III)
- e. A(II)**

608. Influence of unfavourable factors upon the organism causes change of thymus accompanied by mass loss of thymocytes, their displacement to the peripheral organs, proliferation of epithelioreticulocytes. What phenomenon is it?

- a. Age thymus involution
- b. Thymus hypotrophy
- c. Thymus atrophy
- d. Thymus dystrophy

e. Accidental thymus involution

609. A patient with Itsenko-Cushing syndrome has persistent hyperglycemia and glycosuria, hypertension, osteoporosis, obesity. Increased synthesis and hypersecretion of the following hormone will be observed in this case:

- a. Thyroxin
- b. Adrenaline
- c. Aldosterone

d. Cortisol

- e. Glucagon

610. A newborn has signs of dyspepsia after milk feeding. Symptoms of dyspepsia disappear when milk is substituted for glucose solution. The newborn has low activity of the following enzyme:

- a. Invertase
- b. Maltase
- c. Amylase

d. Lactase

- e. Isomaltase

611. An experimental rat got intra-abdominal injection of 10 ml of 40% glucose solution. 60 minutes later the rat passed into a comatose state as a result of dehydration. What is the mechanism of development of this state?

a. Rise of osmotic pressure of extracellular fluid

- b. Reduction of vasopressin secretion
- c. Acid-base disbalance
- d. Rise of oncotic pressure of extracellular fluid
- e. Loss of salts and water

612. Medical examination of the first-year pupils included Mantoux test. 15 pupils out of 35 had negative reaction. What actions should be taken against children with negative reaction?

- a. Rabies vaccination
- b. Repeat Mantoux test
- c. Antitoxin vaccination

d. BCG vaccination

- e. Examination of blood serum

613. A patient has hyperkalemia and hyponatremia. Such changes might be caused by hyposecretion of the following hormone:

- a. Parathormone
- b. Natriuretic

c. Aldosterone

- d. Vasopressin
- e. Cortisol

614. A 22 year old woman has been taking sulfanilamides for a long time that led to symptoms of hemolytic anaemia caused by hereditary disturbance of synthesis of glucose 6-phosphate dehydrogenase. This enzyme of pentose-phosphate cycle is responsible for generation of:

a. NADP-H₂

- b. FAD
- c. NAD
- d. ATP
- e. FMN

615. On a certain territory mass death of rodents was registered. It was suspected that their death might have been caused by plague. What serological reaction should be applied for quick identification of antigen of the causative agent of this epizooty?

- a. Neutralization
- b. Complement binding

c. Precipitation

- d. Agglutination
- e. Passive hemagglutination

616. After extraction of the II maxillary molar tooth the patient has got haemorrhage from the alveolar socket. The observed haemorrhage is from the system of the following artery:

- a. Mylohyoid
- b. Ascending pharyngeal

c. Maxillary

- d. Facial
- e. Inferior alveolar

617. In process of the secretory cycle secretion granules come and go in the apical part of cytoplasm of pancreas cells. These granules relate to the following structure elements:

- a. Microfilaments
- b. Lysosomes
- c. Granular endoplasmic reticulum
- d. Exocytic vacuoles

e. Inclusions

618. Examination of experimental rats that have been getting only carbohydrate feed for a long time revealed accumulation of water in tissues. What is the leading pathogenetic mechanism of edema development?

- a. Hyperosmolar

b. Hypooncotic

- c. Membranogenic
- d. Dysregulatory
- e. Lymphogenous

619. A 30 year old woman has been continuously using lipstick with a fluorescent substance that led to development of a limited erythema on the prolabium, slight peeling, and later small transversal sulci and fissures. Microscopical examination of the affected zone revealed in the connective tissue sensibilized lymphocytes and macrophages, effects of cytolysis. What type of immunological hypersensitivity has developed on the lip?

- a. I type (reagin type)
- b. II type (antibody cytotoxicity)
- c. III type (immune complex cytotoxicity)
- d. Granulomatosis

e. IV type (cellular cytotoxicity)

620. A histological specimen presents an organ that has both cortical and medullary substance. Cortical substance consists of an external zone that contains lymph nodules as well as of a paracortical zone. Medullary substance contains medullary cords, sinuses and trabecules. What organ possesses these morphological signs?

- a. Kidney
- b. Adrenal glands

c. Lymph node

- d. Thymus
- e. Spleen

621. As a result of a trauma a patient has got disfunction of lachrymal gland. What nerve is responsible for its secretion?

- a. N. occipitalis minor
- b. N. auricularis magnus
- c. N. petrosus minor

d. N. petrosus major

- e. Chorda tympany

622. A 38 year old patient complained that after acute respiratory viral disease she had lost sensation of food contact with the front $\frac{2}{3}$ of her tongue as well as pain and temperature sensation (burned her tongue with hot tea). Which nerve and which branch of it was damaged?

- a. Superior laryngeal nerve of vagus
- b. Lingual nerve of mandibular branch of trigeminus**
- c. Tympanichord of facial nerve
- d. Lingual branches of glossopharyngeal nerve
- e. Lingual nerves of sublingual nerve

623. Examination of nasal cavity revealed deviation of the posterior part of nasal septum. What bone is affected?

- a. Medial plate of pterygoid process
- b. Perpendicular plate of ethmoid bone
- c. Vomer**
- d. Vertical plate of palatine bone
- e. Lateral plate of pterygoid process

624. A 62 year old patient with cerebral haemorrhage was admitted to the neurological department in grave condition. Objectively: increase of respiration depth and rate with its following reduction to apnoea, thereafter respiration cycle restores. What respiration type is it?

- a. Biots
- b. Apneustic
- c. Cheyne-Stokes**
- d. Kussmauls
- e. Gasping

625. Examination of puncture biopsy material of liver revealed dystrophy of hepatocytes, their necrosis and sclerosis along with disturbance of beam and lobulous structure and formation of pseudolobules of regeneration nodes. What is the most probable diagnosis?

- a. Progressing massive liver necrosis
- b. Chronic hepatitis
- c. Liver cirrhosis**
- d. Acute hepatitis
- e. Chronic hepatosis

626. A 23 year old man got perforation of hard palate. There was also a solid well-defined formation. Post-operative microscopical examination of this formation revealed a large focus of caseous necrosis surrounded by granulation tissue with endovasculitis and cellular infiltrate consisting mainly of plasmocytes but also of lymphocytes and epithelioid cells. What is the most probable diagnosis?

- a. Lepra
- b. Syphilis**
- c. Sarcoma
- d. Tuberculosis
- e. Scleroma

627. Analysis of a dentists urine obtained at the end of his working day revealed protein concentration at the rate of 0,7 g/l. His morning urine hadnt such changes. What is this phenomenon called?

- a. Organic proteinuria
- b. Functional proteinuria**
- c. Extrarenal proteinuria
- d. Hematuria
- e. Nonselective proteinuria

628. Examination of a tissue sample of enlarged cervical lymph nodes taken from a young woman revealed proliferation of lymphocytes, reticular cells, macrophages, big and small Hodgkins cells, multinuclear Sternberg-Reed cells. There were also multiple eosinophils, single foci of caseous necrosis of the node tissue. What is the most probable diagnosis?

- a. Acute leukosis
- b. Lymphogranulomatosis**
- c. Lymphosarcoma
- d. Tuberculosis
- e. Metastasis of lung cancer

629. A patient suffering from chronic bronchitis takes a synthetic mucolytic drug that stimulates sputum liquefaction. What drug is it?

- a. Acetylcysteine**
- b. Heparin
- c. Diazepam
- d. Furosemide
- e. Enalapril

630. Examination of a man revealed a protozoan disease that affected brain and caused vision loss. Blood analysis revealed unicellular half-moon-shaped organisms with pointed end. The causative agent of this disease is:

- a. Leishmania
- b. Lamblia
- c. Trichomonad
- d. Toxoplasma**
- e. Amoeba

631. Examination of a tubular organ revealed that its middle membrane consisted of solid hyaline rings. What epithelium lines mucous membrane of this organ?

- a. Monolayer prismatic glanduous
- b. Monolayer cubic
- c. Monolayer prismatic with a limbus
- d. Multilayer squamous nonkeratinous
- e. Multinuclear prismatic ciliated**

632. A 75 year old male patient consulted a surgeon about a brown nonhealing ulcer of shin. Examination of biopsy material revealed diffuse growth of polymorphic atypic cells with brown pigment in their cytoplasm. Pearls reaction was negative. There were also a lot of pathological mitoses and foci of tissue necrosis. What is the most probable diagnosis?

- a. Local hemosiderosis
- b. Skin cancer
- c. Melanoma**
- d. Trophic ulcer
- e. Intradermal nevus

633. During approach to the thyroid gland by means of transverse section suprasternal cellular tissue space should be opened. It will be dangerous to damage the following anatomic formation located within this space:

- a. Internal jugular vein
- b. Carotid artery
- c. Lymph nodes
- d. Subclavicular artery
- e. Venous jugular arch**

634. As a result of improper feeding an infant got full-blown diarrhea. One of its main consequences is excretion of large amount of sodium bicarbonate. What form of acid-base balance disturbance is it?

- a. Metabolic alkalosis
- b. Acid-base balance won't be disturbed
- c. Respiratory acidosis
- d. Respiratory alkalosis
- e. Excretory acidosis**

635. A 42 year old patient who had been suffering from chronic granulomatous periodontitis and chronic purulent osteomyelitis of his lower jaw for 8 years died from chronic renal insufficiency. What complication of purulent osteomyelitis has developed in kidneys?

- a. Atrophy
- b. Hyalinosis
- c. Necrosis of epithelium of convoluted tubules
- d. Amyloidosis**
- e. Adipose degeneration

636. Examination of a patient 24 hours after appendectomy revealed neutrophilic leukocytosis with regenerative shift. What is the most probable mechanism of development of absolute leukocytosis in peripheral blood?

- a. Redistribution of leukocytes in the organism
- b. Reduction of leukolysis
- c. Immunity activation
- d. Intensification of leukopoiesis**
- e. Slower emigration of leukocytes to the tissues

637. A patient with neck injury was admitted to the hospital. Examination revealed a damaged nerve located anterior to the frontal scalene. What nerve is damaged?

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

638. A patient was delivered to the admission ward with poisoning with an insecticide of anticholinesterase action. What drug able to block muscarinic cholinoreceptors should be prescribed?

- a. Benzo hexonium
- b. Dithylinum
- c. Pilocarpine hydrochloride
- d. Mesatonum
- e. Atropine sulfate**

639. A patient has allergic rhinitis with profuse mucous discharges, itching, frequent sneezing. What drug should be chosen if you know that it selectively blocks histamine receptors?

- a. Mesatonum
- b. Loratadine**
- c. Prednisolone
- d. Adrenaline hydrochloride
- e. Naphthizin

640. What preventive medications should be injected to a patient with open maxillofacial trauma provided that he has never got prophylactic vaccination before?

- a. Antitetanus immunoglobulin and anatoxin**
- b. Diphtheria, tetanus toxoids and pertussis vaccine and antibiotics
- c. Anticonvulsive drugs and anatoxin
- d. Tetanus anatoxin and antibiotics
- e. Antitetanus serum and antibiotics

641. Active physical work induces rise of concentration of carbonic acid in blood. This causes deepening and acceleration of respiration thus reducing concentration of carbonic acid and hydrogen ions in blood. This maintains the following process:

- a. Immunity
- b. Homeostasis**
- c. Ontogenesis
- d. Orthobiosis
- e. Anabiosis

642. A patient has dislocation of his mandible that caused impairment of salivation and gustatory sensitivity of anterior $\frac{2}{3}$ of his tongue. What nerve was damaged?

a. Sublingual nerve

b. Tympanichord

c. Greater petrosal nerve

d. Deep petrosal nerve

e. Lesser petrosal nerve

643. A histological specimen presents a developed tooth that has a coating resistant to acids, but it can be found only on the lateral surfaces of the tooth. What coating is meant?

a. Enamel

b. Dentine

c. Enamel pellicle

d. Cement

e. Cuticle

644. Electron-microscope investigation of cortical substance of a kidney reveals some structures lined with prismatic epithelium that normally has brush border and deep plicae of plasmolemma in its basal part. There is a big number of mitochondrions between these plicae. These structures belong to the following part of a nephron:

a. Distal straight tubule

b. Distal convoluted tubule

c. Henles loop

d. Proximal tubule

e. Renal corpuscle

645. Analysis of an electron diffraction pattern of a cell revealed mitochondrion destruction. This might result in abnormal course of the following cell process:

a. Cleavage

b. Crossingover

c. Oxidation of organic substances

d. Nuclear division

e. -

646. A 15 year old girl was delivered to the hospital with inflammation of vermiform appendix. Blood analysis revealed signs of anaemia. Her feces contained lemon-shaped helminthic eggs (50x30 micrometer) with "plugs" on the poles. What type of helminth is it?

a. Pinworm

b. Echinococcus

c. Trichuris

d. Hymenolepis nana

e. Hookworm

647. A young woman has entered a production unit where strongly smelled of paints and varnishes and had bronchospasm. This reflex was provoked by irritation of the following receptors:

a. Pleural receptors

b. Juxtaglomerular

c. Central chemoreceptors

d. Peripheral chemoreceptors

e. Irritant

648. Specific prophylaxis involved application of a vaccine containing microorganisms and exotoxin detoxicated by formalin. It relates to the following type of vaccine:

a. Live

b. Anatoxin

c. Genetically engineered

d. Chemical

e. Combined

649. A 40 year old female patient has enlarged thyroid gland. On palpation the gland is dense, its surface is slightly tuberos. Histological examination of gland sample revealed diffuse infiltration of tissue by the cells, formation of lymphoid follicles. What disease is it?

- a. Endemic goiter
- b. Riedels disease
- c. Sporadic goiter
- d. Diffuse toxic goiter
- e. Autoimmune thyroiditis**

650. A basketball player complains of pain over his heel that is getting stronger during walking. It might be caused by damage of tendon of the following muscle:

- a. m. fibularis brevis
- b. m. fibularis longus
- c. m. triceps surae**
- d. m. flexor digitorum longus
- e. m. tibialis posterior

651. Parodontosis is treated by means of antioxidants. Which of the following natural compounds is used as an antioxidant:

- a. Tocopherol**
- b. Pyridoxine
- c. Thiamine
- d. Choline
- e. Gluconate

652. Prophylactic medical examination of a 7 year old boy revealed that the boy had Lesch-Nyhan syndrome (only boys can be affected). His parents are healthy but his grandfather by his mothers side has the same diagnosis. What is the type of disease inheritance?

- a. Autosomally dominant
- b. Semidominance
- c. Recessive, sex-linked**
- d. Dominant, sex-linked
- e. Autosomally recessive

653. A patient has mental retardation, small height, brachydactyly, mongoloid slant. Analysys of his karyotype revealed trisomy 21. What chromosomal anomaly is it?

- a. Trisomy X
- b. Turners syndrome
- c. Specific fetopathy
- d. Klinefelters syndrome
- e. Downs disease**

654. A 7 year old child has angin. A smear from the tonsil surface was inoculated on blood agar. 24 hours later there had grown colonies of streptococci. Nutrient medium turned transparent around them. This study revealed presence of the following pathogenous factor:

- a. Beta-lactamase
- b. Hemolysin**
- c. Leukocidin
- d. Neuraminidase
- e. Endotoxin

655. A patient with fracture of the greater wing of sphenoid bone was admitted to the craniocerebral department. The fracture line went through the spinous foramen. What vessel was damaged?

- a. Anterior deep temporal artery
- b. Middle meningeal artery**
- c. Lateral pterygoid artery
- d. Superficial artery
- e. Posterior deep temporal artery

656. Autopsy revealed that the upper lobe of the right lung was enlarged, grey, airless; surface of incision was dripping with turbid liquid; pleura had a lot of fibrinous plicae. Microscopical examination of alveoles revealed exudate containing neutrophils, desquamated alveolocytes and fibrin fibres. Bronchus wall was intact. What is the most probable diagnosis?

- a. Croupous pneumonia
- b. Focal pneumonia
- c. Pulmonary abscess
- d. Interstitial pneumonia
- e. Influenzal pneumonia

657. A 10 year old child underwent Mantoux test (with tuberculin). 48 hours later there appeared a papule up to 8 mm in diameter on the site of tuberculin injection. Tuberculin injection caused the following hypersensitivity reaction:

- a. Arthus reaction
- b. II type hypersensitivity reaction
- c. Seroreaction
- d. IV type hypersensitivity reaction
- e. Atopic reaction

658. A female patient has symptoms of inflammation of urogenital tracts. A smear from the vaginal mucous membrane contained big unicellular pyriform organisms with a sharp spike on the back end of their bodies; big nucleus and undulating membrane. What protozoa were revealed in the smear?

- a. *Trichomonas vaginalis*
- b. *Trichomonas hominis*
- c. *Lambia intestinalis*
- d. *Trypanosoma gambiense*
- e. *Trichomonas buccalis*

659. Microscopic study of an endocrine gland revealed that its parenchyma consisted of follicular structures. Their wall was formed by monolayer cubic epithelium, and their cavity was filled up with oxyphilic substance. What hormone is secreted by this gland?

- a. Oxytocin
- b. Cortisol
- c. Aldosterone
- d. Parathyrin
- e. Thyroxin

660. A patient who takes blocker of membrane cytoceptors of efferent conductor synapses of autonomic nervous system complains about dry mouth. What receptors are blocked?

- a. Muscarinic cholinoreceptors
- b. -adrenoreceptors
- c. -adrenoreceptors
- d. Nicotinic cholinoreceptors
- e. H₂-receptors

661. A mountain climber spent a long time in the mountains. Erythrocyte number has risen from $5,0 \times 10^{12}/l$ up to $6,0 \times 10^{12}/l$. What factor stimulated erythropoiesis?

- a. Decrease of O₂ in the arterial blood
- b. Increase of O₂ in the venous blood
- c. Increase of O₂ in the arterial blood
- d. Increase of O₂ in the cells
- e. Decrease of O₂ in the venous blood

662. A patient with streptococcal infection of gums was prescribed a drug that contained beta-lactam ring in its structure. Which drug relates to this group?

- a. Rifampicin
- b. Streptomycin sulfate
- c. Chloramphenicol

d. Benzylpenicillin

e. Erythromycin

663. A typical symptom of cholera is great loss of water and sodium ions. What mechanism underlies development of diarrhea in this case?

a. Increased secretion of renin by the cells of renal arterioles

b. Inhibition of vasopressin synthesis in hypothalamus

c. Aldosterone oxidation in adrenal cortex

d. Increased corticotropin synthesis

e. Activation of adenylate cyclase of enterocytes

664. A 28 year old woman consulted a doctor about sterility. Examination revealed underdeveloped ovaries and uterus, irregular menstrual cycle. Study of sex chromatin revealed 2 Barrs bodies in most somatic cells. What chromosome disease is the most probable in this case?

a. Edwards syndrome

b. Klinefelters syndrome

c. Turners syndrome

d. Patau syndrome

e. Triplo-X syndrome

665. A new-born child has hyperemia, edema of the oral mucous membrane, small erosions with viscous mucopus. Smears from the mucopus contain a lot of leukocytes with Gram-negative diplococci. The same microorganisms can be found also beyond the leukocytes. What is the most probable diagnosis?

a. Blennorrhoea

b. Staphylococcal stomatitis

c. Congenital syphilis

d. Gonococcal stomatitis

e. Toxoplasmosis

666. Treatment of many diseases involves use of cocarboxylase (thiamine pyrophosphate) for supplying cells with energy. What metabolic process is activated in this case?

a. Amino acids decarboxylation

b. Decarboxylation of biogenic amines

c. Glutamate deamination

d. Detoxication of harmful substances in liver

e. Oxidizing decarboxylation of pyruvate

667. A patient with myocardium infarction was delivered to the resuscitation department. What drug should be injected to the patient for prophylaxis of pain shock?

a. Celecoxib

b. Naloxone

c. Analgin

d. Paracetamol

e. Promedol

668. A 43 year old female patient was admitted to the hospital with complaints of pain in the right subcostal area, skin itch. Examination revealed hypalgesia and hemolysis, skin icteritiousness, bradycardia, hypotoni A. What is the most probable cause of these symptoms?

a. Diabetes mellitus

b. Parenchymatous jaundice

c. Hepatocellular jaundice

d. Cholemia

e. Intensification of erythrocyte haemolysis

669. A student has accidentally hit his elbow against the edge of the table and sensed burning and tingling on the interior surface of his forearm. What nerve was damaged in this case?

a. N. medianus

- b. N. axillaris
- c. N. ulnaris**
- d. N. radialis
- e. N. musculocutaneus

670. Vagosympathetic Vishnevskys block involves introduction of novocaine along the posterior edge of sternocleidomastoid muscle above its intersection with exterior jugular vein. The block is performed within the following triangle of neck:

- a. Submandibular
- b. Omoclavicular
- c. Carotid
- d. Omotrapezoid**
- e. Pirogoffs

671. Researchers studied speed of excitement conduction in different areas of an isolated heart. Which area demonstrated the lowest speed?

- a. Atrioventricular node**
- b. Atrial myocardium
- c. His bundle
- d. Purkinjes fibers
- e. Ventricular myocardium

672. 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. Metronidazole**
- b. Nystatin
- c. Gentamicin sulfate
- d. Doxycycline hydrochloride
- e. Ampicillin

673. Clinical examination of a female patient revealed reduction of basal metabolism by 40%, gain in body mass, drop of body temperature, face puffiness, sexual disfunctions, inertness and apathy, lowered intelligence. These symptoms are caused by disfunction of the following endocrine gland:

- a. Hypofunction of parathyroid glands
- b. Hyperfunction of thyroid gland
- c. Epiphysis hypofunction
- d. Hypofunction of thyroid gland**
- e. Hypophysis hyperfunction

674. A patient has been suffering from diabetes mellitus for 5 years. As a result of not keeping to a diet the patient passed into a comatose state. Emergency doctor injected him glucose. The patients state got better. What is the most probable type of coma in this case?

- a. Acidotic
- b. Hypothyreoid
- c. Hepatic
- d. Hyperglycemic
- e. Hypoglycemic**

675. A patient suffering from caries of the left inferior premolar has got a swelling on his neck above the hyoid bone. There appeared fever, salivary discharge, contraction of masticatory muscles, difficult mouth opening. The patient was diagnosed with phlegmon of mouth floor. What muscles will be involved in the process?

- a. Hyoglossal and styloglossal
- b. Mylohyoid and geniohyoid**
- c. Platysma and stylohyoid
- d. Thyrohyoid and sternohyoid
- e. Digastric and stylohyoid

676. A doctor examined a victim of a road accident and revealed damage of the exterior wall of eye socket. The patient has lost ability to abduct the eyeball on the affected side. What nerve might be damaged in this case?

- a. N. infraorbitalis
- b. N. abducens**
- c. N. oculomotorius
- d. N. ophthalmicus
- e. N. trochlearis

677. A 55 year old man had been suffering from chronic glomerulonephritis. He died from chronic renal failure. Macroscopical examination revealed on the surface of epicardium and pericardium some greyish-white villous depositions. After their removal dilated and plethoric vessels were uncovered. What process took place in the pericardium?

- a. Organization
- b. Arterial hyperemia
- c. Haemorrhagic inflammation
- d. Proliferative inflammation
- e. Fibrinous inflammation**

678. A 35 year old female patient diagnosed with infertility underwent diagnostic biopsy of endometrium. Microscopical examination revealed that its mucous membrane was edematic, uterine glands were convoluted and filled with thick secretion. Such changes of endometrium are caused by excess of the following hormone:

- a. Testosterone
- b. ACTH
- c. Progesterone**
- d. Somatotropin
- e. Estrogen

679. A male patient underwent an operation on account of inguinal herni A. During the operation a surgeon damaged content of the inguinal canal. What structure was damaged?

- a. Lig. teres uteri
- b. Lig. inguinale
- c. Urachus
- d. -
- e. Funiculus spermaticus**

680. What chnges will be observed in an isolated heart after introduction of adrenaline into the perfusion solution?

- a. Increase of heart rate
- b. Increase of heart rate and force**
- c. Diastolic arrest
- d. Increase of heart force
- e. Decrease of heart force

681. After mouth closing and teeth clenching the mouth opens reflectory. What receptots initiate this reflex?

- a. Proprioceptors of elevator muscles of lower jaw
- b. Proprioceptors of depressor muscles of lower jaw
- c. Gustatory receptors
- d. Mechanoreceptors of oral mucous membrane
- e. Receptors of periodontium**

682. A 58 year old female patient had to be prepared to cholecystectomy. Complex of premedication drugs included benzohexonium. What is the function of this drug in anaesthesia?

- a. Reduction of excitement phase
- b. Relaxation of skeletal muscles
- c. Relaxation of smooth muscles

d. Intensification of retrograde amnesia

e. Functional block of visceral reflexes

683. Tissue is being stimulated by electric cathodic impulse with amplitude of 70% of threshold. What changes of membrane potential will be observed?

a. Partial depolarization

b. No changes

c. -

d. Hyperpolarization

e. Action potential

684. 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. Thyroxin

b. Thyrocalcitonin

c. Parathormone

d. Somatotrophic hormone

e. Triiodothyronine

685. A patient with disfunction of external respiration has to undergo tracheotomy. The isthmus of thyroid gland is commonly situated on a level with the following tracheal rings:

a. V-VI

b. IV-V

c. I-II

d. II- IV

e. III-IV

686. A patient consulted a doctor about acute pain in the right subcostal area. During examination the doctor noticed yellowed sclera of the patient. Laboratory analyses revealed high activity of alanine-aminotransferase and negative reaction to stercobilin in feces. What disease are these symptoms typical for?

a. Haemolytic jaundice

b. Hepatitis

c. Chronic colitis

d. Cholelithiasis

e. Chronic gastritis

687. A patient was prescribed a drug with apparent lipophilic properties. What is the main mechanism of its absorption?

a. Binding with transport proteins

b. Active transport

c. Pinocytosis

d. Filtration

e. Passive diffusion

688. A 70 year old patient suffering from cardiac insufficiency has been uncontrolledly taking digoxin that resulted in extrasystole, vomiting, vision impairment, anxiety, sleep disturbance, reduction of diuresis. Application of drugs relating to the following group will be pathogenetically reasonable in this case:

a. Donators of nitrogen oxide

b. Potassium channel blockers

c. Donators of sulfhydryl groups

d. Angiotensin II receptor blockers

e. Stimulants of β -adrenoreceptors

689. During the preventive examination of a miner a doctor revealed changes in cardiovascular fitness being evidence of cardiac insufficiency at a stage of compensation. What is the main evidence of compensation of cardiac activity?

- a. Tachycardia
- b. Dyspnea
- c. Myocardium hypertrophy**
- d. Cyanosis
- e. Rise of arterial pressure

690. It is known that information about sequence of amino acids in a protein molecule is encoded as a sequence of four types of nucleotides in a DNA molecule, and different amino acids are encoded by different number of triplets - from one to six. Such peculiarity of the genetic code is called:

- a. Specificity
- b. Triplety
- c. Universality
- d. Degeneracy**
- e. Nonoverlapping

691. A child has physical and mental retardation, serious abnormalities in connective tissue of internal organs; urine contains keratan sulfates. This is caused by metabolic disorder of the following substance:

- a. Elastin
- b. Collagen
- c. Fibronectin
- d. Hyaluronic acid
- e. Glycosaminoglycan**

692. During a neuro-surgical operation the occipital areas of cerebral cortex are stimulated. What sensations will the patient have?

- a. Auditory
- b. Visual**
- c. Olfactory
- d. Tactile
- e. Gustatory

693. A patient suffering from chronic renal insufficiency has got osteoporosis. Osteoporosis was caused by abnormal synthesis of the following regulator of mineral metabolism in kidneys:

- a. Lysine hydroxylation
- b. Glutamate carboxylation
- c. 1,25(OH)₂D₃ formation**
- d. Proline hydroxylation
- e. Cortisol hydroxylation

694. A female patient suffering from acute bronchitis complains about respiratory obstruction and cough with thick viscous sputum. She was prescribed a mucolytic agent that stimulates surfactant synthesis. What mucolytic agent was prescribed?

- a. Theophylline
- b. Glaucin
- c. Ambroxolum**
- d. Morphine hydrochloride
- e. Sodium hydrocarbonate

695. Coprological examination of a patients feces revealed small operculate eggs. It is known from the anamnesis that the patient often consumes fish. What fluke parasitizes in the patients organism?

- a. Cat liver fluke**
- b. Lung fluke
- c. Liver fluke
- d. Lancet fluke
- e. Blood fluke

696. On the 2nd day after myocardium infarction the patients systolic arterial pressure abruptly

dropped down to 60 mm Hg. This was accompanied by tachycardia up to 140 bpm, dyspnea, loss of consciousness. What is the leading mechanism in the pathogenesis of this shock?

a. Intoxication by the products of necrotic degeneration

b. Decrease of stroke volume

c. Decrease of circulating blood volume

d. Anaphylactic reaction to myocardial proteins

e. Paroxysmal tachycardia

697. A patient with fracture of femoral bone in the area of surgical neck got symptoms of acute dextroventricular insufficiency as a result of pulmonary embolism. What type of embolism is it?

a. Metastatic

b. Gas

c. Tissue

d. Fat

e. Air

698. A sportsman needs to improve his sporting results. He was recommended a drug containing carnitine. What process is activated by this compound in the first place?

a. Transport of calcium ions

b. Transport of amino acids

c. Transport of glucose

d. Transport of vitamin K

e. Transport of fatty acids

699. A histological specimen presents the tissue that contains cells having no processes and a few tens of nuclei each. One of cell surfaces has a corrugated zone that provides secretion of hydrolytic elements. What tissue is it?

a. Muscular tissue

b. Epithelial tissue

c. Nerve tissue

d. Cartilaginous tissue

e. Osseous tissue

700. Examination of a female patient revealed low activity of lipoprotein lipase which hydrolyzes chylomicron triglycerides on the surface of endothelium of adipose tissue capillaries. What biochemical disorders should be expected?

a. Type II A hyperlipoproteinemia

b. Type II B hyperlipoproteinemia

c. Type I hyperlipoproteinemia

d. Type III hyperlipoproteinemia

e. Type IV hyperlipoproteinemia

701. A patient has high sunlight sensitivity of skin. During standing his urine turns dark-brown. What is the most probable cause of this condition?

a. Pellagra

b. Haemolytic jaundice

c. Alkaptonuria

d. Porphyrria

e. Albinism

702. After restoration of blood circulation in damaged tissue accumulation of lactate comes to a stop and speed of glucose consumption slows down. These metabolic changes are caused by activation of the following process:

a. Lipolysis

b. Gluconeogenesis

c. Aerobic glycolysis

d. Glycogen biosynthesis

e. Anaerobic glycolysis

703. A patient diagnosed with malignant carcinoid has extremely high concentration of serotonin in blood. This biogenic amine can be formed from the following amino acid:

- a. Alanine
- b. Threonine
- c. Tryptophan**
- d. Methionine
- e. Leucine

704. A student has dry mouth during an exam. This is caused by realization of the following reflexes:

- a. Unconditioned parasympathetic
- b. Conditioned and unconditioned sympathetic
- c. Unconditioned sympathetic and parasympathetic
- d. Conditioned parasympathetic
- e. Conditioned sympathetic**

705. A patient with apparent icteritiousness of skin, sclera and mucous membranes was admitted to the hospital. The patients urine was of brown ale colour, analysis revealed presence of direct bilirubin. Feces had low concentration of bile pigments. What type of jaundice is it?

- a. Parenchymatous
- b. Conjugated
- c. Absorbtion
- d. Obturative**
- e. Haemolytic

706. In order to speed up healing of the thermal injury it is required to prescribe a drug that facilitates epithelization of skin and mucous membranes. What drug is it?

- a. Ascorbic acid
- b. Nicotinic acid
- c. Ergocalciferol
- d. Tocopherol acetate
- e. Retinol acetate**

707. A patient underwent extraction of a tooth with oval crown and two tubercles on its masticatory surface. Its root is strongly flattened in mesiodistal direction, its apex is bifurcated. What tooth was extracted?

- a. Canine
- b. Second superior premolar
- c. First inferior premolar
- d. Second inferior premolar
- e. First superior premolar**

708. A sensory nerve ganglion consists of roundish neurocytes with one process that divides into axon and dendrite at a certain distance from perikaryon. What are such cells called?

- a. Pseudounipolar**
- b. Apolar
- c. Bipolar
- d. Multipolar
- e. Unipolar

709. It was necessary to determine absolute gustation thresholds of a healthy man for different substances. The lowest threshold will be observed for the following substance:

- a. Sodium chloride
- b. Saccharose
- c. Citric acid
- d. Glucose
- e. Quinine**

710. A patient with a tumour in the area of superior tubercles of quadrigeminal plate has lost pupillary

reflex. This is most probably caused by dysfunction of the following nucleus of cranial nerves:

a. Accessory nucleus of oculomotor nerve

- b. Motor nucleus of abducent nerve
- c. Motor nucleus of accessory nerve
- d. Motor nucleus of oculomotor nerve
- e. Motor nucleus of trochlear nerve

711. A married couple applied to the genetic consultation in order to consult about their child with multiple abnormalities (microcephaly, idiocy etc). The woman has had an illnesses during her pregnancy but she didnt take any teratogens or mutagens. The parents and the childs karyotype is normal. Anamnesis study revealed that the family kept a cat. What gravidic disease caused the childs abnormalities?

a. Toxoplasmosis

- b. Dysentery
- c. Trichomoniasis
- d. Leishmaniasis
- e. Balantidiasis

712. Autopsy of a 68 year old man who died from chronic cardiac insufficiency revealed deformed, thickened, conjoined cusps of mitral valve. Along the edge of joining there were small (1-2 mm) thrombs. What form of endocarditis caused development of chronic cardiac insufficiency?

a. Polypoulcerous

b. Recurrent verrucous

- c. Fibroplastic
- d. Acute verrucous
- e. Diffuse

713. Rheography of an 18 year old student during exercise showed redistribution of blood flow between organs. The peak blood flow will be observed in the following vessels:

- a. Cerebrum
- b. Gastrointestinal tract

c. Skeletal muscles

- d. Kidneys
- e. Liver

714. Pathological material taken from a patient suffering from pulpitis was inoculated onto Kitt-Tarozzi cultural medium. It is planned to find the following microorganisms:

- a. Acid-resistant
- b. Acidophilic
- c. Aerobic
- d. Haemolytic

e. Anaerobic

715. During examination of a childs oral cavity a pediatrician established presence of inferior medial incisors. The childs development is normal. How old is the child?

- a. 8-9 months
- b. -

c. 6-7 months

- d. 10-12 months
- e. 13-14 months

716. After continuous treatment with antibiotics a patient got symptoms of stomatitis. Examination of specimens of oral mucous membrane revealed some oval polymorphous Gram-positive microorganisms arranged in clusters. What microorganism may be the cause of such manifestations?

- a. C.perfringens
- b. C.pylori

c. C.albicans

- d. S.aureus

e. *S. pyogenes*

717. 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. Substitution of haemoblast

b. Deficiency of vitamin B12

c. Chronic haemorrhage

d. Reduced synthesis of erythropoietin

e. Intravascular hemolysis of erythrocytes

718. A 35 year old man got a trauma that resulted in complete rupture of spinal cord at a level of the first cervical segment. What changes of respiration will be observed?

a. Respiration will become infrequent and deep

b. Respiration will become frequent and shallow

c. Respiration will come to a standstill

d. Respiration won't change

e. Respiration will become diaphragmatic

719. A man got poisoned with mushrooms. They contain muscarine that stimulates muscarinic cholinoreceptors. What symptom is typical for poisoning with inedible mushrooms?

a. Miosis

b. Heart rate rise

c. Mydriasis

d. Bronchi dilation

e. Arterial pressure rise

720. A 10 month old child has high excitability, sleep disturbance, amyotonia, retarded dentition, teeth erupt with inadequate enamel calcification. These changes are caused by deficiency of the following vitamin:

a. Cholecalciferol

b. Thiamine

c. Retinol

d. Riboflavin

e. Nicotinamide

721. A patient has deformation of jaw bones. Histological examination revealed there growth of fibrocellular tumour-like ill-defined tissue with primitive osteogenesis. What disease are these presentations typical for?

a. Osteosarcoma

b. Parathyroid osteodystrophy

c. Ameloblastoma

d. Fibrous dysplasia

e. Eosinophilic granuloma

722. A patient suffering from hepatocerebral degeneration has low concentration of ceruloplasmin in blood serum. What element accumulation will be observed in liver, cerebrum and kidneys of the patient?

a. Calcium

b. Potassium

c. Cuprum

d. Sodium

e. Ferrum

723. Microscopical study of discharges from urethra of a patient suffering from acute urethritis revealed bean-shaped microorganisms up to 1 micrometer in diameter arranged in pairs and placed inside the leukocytes. What microorganisms are these?

- a. Streptococci
- b. Gonococci**
- c. Tetracocci
- d. Staphylococci
- e. Meningococci

724. A patient with myocardium infarction was admitted to the resuscitation department. What drug should be injected to the patient in order to prevent thrombosis?

- a. Heparin**
- b. Dimedrol
- c. Biseptol-480
- d. Chingamin
- e. Thyroxine

725. A 40 year old European works in a Southeast Asian country. He complains that it is hard to bear high temperature under conditions of high relative humidity. The reason for it is difficult heat emission by way of:

- a. Convection and heat conduction
- b. Heat conduction
- c. Radiation
- d. Evaporation**
- e. Convection

726. Roentgenological examination of a patient revealed a deformity of the inferior wall of the right eye socket. What paranasal sinus was most probably damaged?

- a. Sphenoidal sinus
- b. Frontal sinus
- c. Right maxillary sinus**
- d. Right ethmoidal labyrinth
- e. Left ethmoidal labyrinth

727. A patient has been diagnosed with alkaptonuria. This pathology is caused by deficiency of the following enzyme:

- a. Glutamate dehydrogenase
- b. DOPA decarboxylase
- c. Oxidase of homogentisic acid**
- d. Phenylalanine hydroxylase
- e. Pyruvate dehydrogenase

728. Pathological process of purulent barotitis involves an artery on the anterior wall of tympanic cavity. What artery is it?

- a. A. temporalis superficialis
- b. A. carotis interna**
- c. A. auricularis posterior
- d. A. carotis externa
- e. A. meningea media

729. A patient noticed symptoms of approaching attack of bronchial asthma and took several tablets one by one at short intervals out of the doctors control. Short-term improvement of his condition came only after taking the first two tablets. Next intakes of a drug didnt improve his condition. Reduction of the drug effectiveness was caused by:

- a. Tachyphylaxis**
- b. Dependence
- c. Idiosyncrasy
- d. Cumulation
- e. Addiction

730. Histological study of an extirpated pulp revealed some cylindrical cells in its peripheral layer.

What are these cells called?

- a. Odontoblasts**
- b. Monocytes
- c. Myofibroblasts
- d. Ameloblasts
- e. Fibroblasts

731. What contraction of upper extremity muscles will be observed during holding (but not moving) a load in a certain position?

- a. Isotonic
- b. Isometric**
- c. Auxotonic
- d. Excentric
- e. Concentric

732. During embryogenesis the epithelial band also known as vestibular plate gives rise to development of vestibule of mouth. What biological mechanism of the programmed death of cells provides growth of buccolabial sulcus from epithelial plate?

- a. Paraneerosis
- b. Apoptosis**
- c. Amitosis
- d. Necrosis
- e. Meiosis

733. A patient suffers from chronic left-ventricular insufficiency. What drug should be prescribed?

- a. Vinpocetine
- b. Bemegride
- c. Etimizol
- d. Digoxin**
- e. Pyracetam

734. Microscopical examination of exudate obtained from a rat with aseptic peritonitis and mixed with birds erythrocytes revealed macrophages surrounded by foreign erythrocytes. What stage of phagocytosis is it?

- a. Approaching
- b. Uncomplete phagocytosis
- c. Intracellular digestion
- d. Adherence**
- e. Immersion

735. During examination a dentist revealed cervical caries of right inferior incisors as well as enlargement of a certain group of lymph nodes. What lymph nodes are enlarged?

- a. Superficial cervical
- b. Deep cervical
- c. Occipital
- d. Submental**
- e. Facial

736. A patient suffering from essential arterial hypertension got hypertensic crisis that caused an attack of cardiac asthma. What is the leading mechanism of cardiac insufficiency in this case?

- a. Myocardium damage
- b. Absolute coronary insufficiency
- c. Cardiac overload due to increased blood volume
- d. Cardiac overload due to increased resistance**
- e. Disturbed blood inflow to the heart

737. A 3 month old infant has got a white deposition on the mucous membrane of his mouth, tongue and lips. The doctor suspected candidosis. What nutrient medium should be used for inoculation of

the material under examination in order to confirm this diagnosis?

- a. Endo
- b. Loewenstein-Jensen
- c. Clauberg
- d. Roux
- e. Sabouraud**

738. Examination of mountain climbers who have spent a long time in a high-altitude region revealed increase of erythrocyte number (over $6 \times 10^{12}/l$) and haemoglobin concentration (over 170 g/l). What mechanism caused this phenomenon?

- a. Weakening of intracellular erythrocyte haemolysis
- b. Intensified processes of anoxic energy production
- c. Improved ability of tissue for oxygen utilization
- d. Weakening of erythrocyte haemolysis in bloodstream
- e. Intensified production of erythropoietin by the kidneys**

739. What factor may cause increase of power inputs of human organism by 100%?

- a. Consumption of carbohydrate food
- b. Consumption of fatty food
- c. Consumption of protein food
- d. Rise of external temperature
- e. Drop of external temperature**

740. A patient underwent partial removal of a structure of central nervous system by medical indications. This resulted in development of atony, astasia, intention tremor, ataxia, adiadochokinesis. What structure of CNS was partially removed?

- a. Amygdaloid complex
- b. Cerebellum**
- c. Hippocampus
- d. Motor cortex
- e. Basal ganglions

741. Roentgenological examination of a patient revealed a cyst enclosing a tooth in its cavity in the area of the premolar. Microscopical examination revealed that the cyst wall consisted of connective tissue and was lined with multilayer squamous epithelium. What is the most probable diagnosis?

- a. Follicular cyst**
- b. Eosinophilic granuloma
- c. Primordial cyst
- d. Radicular cyst
- e. Epulis

742. The 16th tooth of a patient is missing. X-ray picture shows in the depth of alveolar process rarefaction of bone and a well-defined cavity that contained the underdeveloped tooth crown. Microscopical examination revealed that the cavity wall was lined with stratified squamous epithelium and enclosed within a fibrous capsule. Make a diagnosis:

- a. Cystic ameloblastoma of jaw
- b. Follicular gnathic cyst**
- c. Radicular gnathic cyst
- d. Cyst of the incisive canal
- e. Primordial gnathic cyst

743. A patient had an attack of bronchial asthma in the dentists office. The attack was arrested by salbutamol. This drug relates to the following group of therapeutic agents:

- a. beta2-adrenomimetics**
- b. alpha1--adrenomimetics
- c. alpha1-alpha2-adrenomimetics
- d. Sympatholytics
- e. alpha-beta-adrenomimetics

744. Blood analysis of a patient suffering from jaundice revealed increase of total bilirubin by its indirect fraction. Urine and feces have intense colouring. What is the most probable mechanism of these abnormalities?

- a. Impaired transformation of urobilinogen in the liver
- b. Obstruction of bile outflow from the liver
- c. Increased haemolysis of erythrocytes**
- d. Damage of liver parenchyma
- e. Impaired generation of direct bilirubin

745. Periodontitis is accompanied by activation of proteolysis in the periodontium tissues. The evidence of proteolysis activation is increase of the following component of oral liquid:

- a. Glucose
- b. Organic acids
- c. Amino acids**
- d. Biogenic amines
- e. Cholesterol

746. A 48 year old male patient was admitted to the hospital with acute attack of chronic glomerulonephritis. Examination revealed chronic renal failure. What is the cause of hyperazotemia by chronic renal failure?

- a. Reduction of tubular excretion
- b. Reduction of tubular reabsorption
- c. Disorder of protein metabolism
- d. Reduction of glomerular filtration**
- e. Disorder of water-electrolytic metabolism

747. Examination of a patient who has recently had a hepatic disease revealed low concentration of prothrombin in blood. First of all this will cause disturbance of:

- a. Anticoagulative blood properties
- b. Second phase of coagulation haemostasis**
- c. First phase of coagulation haemostasis
- d. Vasculothrombocytic haemostasis
- e. Fibrinolysis

748. A patient with acute duodenal ulcer was admitted to the hospital. Analysis of gastric juice revealed hyperfunction of secretion and acid-forming in stomach. Choose a drug that can reduce secretory function of stomach due to inhibition of H₂-receptors:

- a. Extract of dry belladonna
- b. Ranitidine**
- c. Atropine
- d. Methacin
- e. Platyphyllin

749. A patient with ventricular arrhythmia was admitted to the cardiological department. What drug should be administered?

- a. Aminazine
- b. Amiodarone**
- c. Drotaverine
- d. Amlodipine
- e. Proserin

750. A microspecimen of parotid gland presents secretory acines with serous cells that synthesize mostly enzymes. According to the chemical composition classification, the parotid gland relates to the following glands:

- a. -
- b. Mucous
- c. Seromucous
- d. Enzymatic

e. Serous

751. Study of a patient's facial gesture revealed that he couldn't whistle, round his lips; mouth corners didn't rise during laughing, oral fissure stretched sideways (transversal smile). These symptoms indicate the atrophy of the following muscle:

a. Orbicular muscle of mouth

- b. Greater zygomatic muscle
- c. Risorius muscle
- d. Cervical muscle
- e. Masticatory muscle

752. A 60-year-old patient complains of tongue burning, excessive salivation and glossalgia effects that came 5 days after he started using a metal dental bridge. Objectively: mucous membrane of oral cavity is edematous and hyperemic. What form of stomatitis is it?

a. Catarrhal

- b. Purulent
- c. Ulcerous
- d. Fibrinous
- e. Gangrenous

753. Autopsy of a man who had been suffering from hypertension revealed in his brain a cavity with rust-colored walls. What event preceded development of these changes?

- a. Ischemic infarction
- b. Plasmorrhagias

c. Haematoma

- d. Abscess
- e. Diapedetic haemorrhages

754. A 40-year-old male patient died from cerebral edema. In anamnesis the face carbuncle was registered. Autopsy revealed hyperemia and edema of cerebral tissue. White matter of the left hemisphere had two cavities 6x5,5 and 5x4,5 cm large filled with yellowish-green cream-like fluid. Walls of the cavities were built up by nerve tissue with irregular strands. What complication of carbuncle was it?

a. Acute abscesses

- b. Cysts
- c. Colliquative necroses
- d. Empyema
- e. Chronic abscesses

755. Examination of uterine cavity revealed an embryonated ovum that wasn't attached to the endometrium. The embryo is at the following stage of development:

a. Blastocyst

- b. Gastrula
- c. Zygote
- d. Neurula
- e. Morula

756. Medical ambulance delivered a 2-year-old girl to the children's department. Objectively: the child is inert, apathetic. Liver is enlarged, study of biopsy material revealed glycogen excess. Blood glucose rate is below normal. The most probable cause of hypoglycemia is:

- a. Low activity of glucose 6-phosphatase
- b. Low activity of glycogen synthase
- c. Low activity of glucose 1-phosphate uridine transferase
- d. High activity of glucokinase

e. Low activity of glycogen phosphorylase

757. A ventral root of spinal cord was damaged as a result of a trauma. The following processes of the following neurons were damaged:

- a. Axons of sensory neurons
- b. Dendrites of motor neurons
- c. Dendrites of internuncial neurons
- d. Dendrites of sensory neurons

e. Axons of motor neurons

758. A patient underwent Caesarean section. During the operation a long incision was made in the uterus wall and the fetus was extracted from uterus. Healing of the sutured myometrium will proceed in the following way:

a. Formation of a fibrous cicatrix

- b. Proliferation of myosatellitocytes
- c. Formation of cross-striated muscle fibers
- d. Formation of smooth muscular tissue
- e. Hypertrophy of smooth myocytes

759. A patient was admitted to the infectious diseases department. His skin was dry, with low turgor; he had rice-water stool. The patient was diagnosed with cholera A. This disease is ordinarily accompanied by the following disorder of water-electrolytic balance:

a. Hyperosmotic hyperhydration

b. Isoosmotic hypohydration

- c. Hyposmotic hyperhydration
- d. Hyperosmotic hypohydration
- e. Hypoosmotic hypohydration

760. A patient suffering from non-insulin-dependent diabetes mellitus was prescribed glibenclamide internally. What is the mechanism of its hypoglycemic action?

a. It stimulates generation of endogenous insulin by beta cells

- b. It inhibits alpha glucosidase and polysaccharide breakdown
- c. It intensifies utilization of glucose by peripheral tissues
- d. It inhibits gluconeogenesis in liver
- e. It inhibits glucose absorption in the bowels

761. A patient suffering from syphilis was prescribed a drug the action of which is based upon disturbed generation of murein leading to death of the causative agent. What drug is it?

a. Ciprofloxacin

b. Benzylpenicillin sodium salt

- c. Azithromycin
- d. Bijochinol
- e. Doxycycline hydrochloride

762. A patient was admitted to a hospital with poisoning with unsound food. His stomach was lavaged with solution of potassium permanganate. What is its mechanism of action?

- a. Destruction of bacteria membranes
- b. Disturbance of synthesis of respiratory chain enzymes
- c. Release of chlorine
- d. Release of iodine

e. Release of atomic oxygen

763. A dentist was examining oral cavity of a 9 year old child in the buccal surface of gingiva in the area of the lower canine he revealed a red, soft, node-like formation 1 cm in diameter that started immediately bleeding when touched. Microscopical examination revealed that this formation consisted of many small vessels like venules and capillaries separated by thin layers of connective tissue, with focal infiltration by lymphoid and plasmatic cells. Such changes are typical for:

- a. Papilloma
- b. Capillary hemangioma

c. Angiomatous epulis

- d. Fibrous epulis
- e. Radicular granuloma

764. A 6 year old child was delivered to the hospital because of measles pneumonia. On the mucous membrane of a cheek a dentist revealed an ill-defined greish area 2x2,5 cm large. Soft tissues are edematic and foul-smelling. The most probable diagnosis of the dentist should be:

- a. Gangrenous stomatitis
- b. Noma**
- c. Pustular stomatitis
- d. Ulcerous stomatitis
- e. Phlegmonous stomatitis

765. Patients suffering from relapsing typhus have fever that can be characterized by several days of high temperature alternating with periods of normal temperature. Such temperature curve is called:

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

766. A patient with myocardium infarction was admitted to the cardiological department. In order to relieve his pain it was decided to potentiate action of fentanyl by a certain neuroleptic. What is the most suitable neuroleptic for neuroleptanalgesia?

- a. Aminazine
- b. Haloperidol
- c. Triftazine
- d. Sulpiride
- e. Droperidol**

767. A female patient was admitted to the hospital with pleuritis. Which area of pleural cavity contains most exudate?

- a. Costomediastinal recess
- b. Under the pulmonary radix
- c. Phrenicomediastinal recess
- d. Under the pleural cupula
- e. Costodiaphragmatic recess**

768. After mouth opening the mouth closed reflectory. What receptors initiate this reflex?

- a. Mechanoreceptors of oral mucous membrane
- b. Gustatory receptors
- c. Proprioceptors of elevator muscles of mandible**
- d. Periodontium receptors
- e. Proprioceptors of depressor muscles of mandible

769. A female patient with pyelonephritis was admitted to the urological department. Examination revealed an associated infection accompanied by pyelovenous reflux. This complication was induced by affection of the following structure:

- a. Fornical renal apparatus
- b. Renal tubules
- c. Renal corpuscle**
- d. Excretory renal tracts
- e. Straight tubules

770. Analysis of a patients saliva revealed high concentration of lactate. This is most probably caused by activation of the following process:

- a. Carbohydrate hydrolysis
- b. Glucose-lactate cycle
- c. Glycogen breakdown
- d. Aerobic glucose breakdown
- e. Anaerobic glucose breakdown**

771. A 34 year old male patient consulted a doctor about face carbuncle. Objectively: a loose, painless edema of hypodermic tissue; black crust in the centre of carbuncle, vesicular rash around it. Microbiological examination revealed static streptobacilli capable of capsule building. What microorganisms are the causative agents of this disease?

- a. *Bacillus megaterium*
- b. *Bacillus subtilis*
- c. ***Bacillus anthracis***
- d. *Bacillus anthracoides*
- e. *Staphylococcus aureus*

772. A histological specimen of an oral cavity organ demonstrates that the organ's anterior surface is lined with multilayer squamous nonkeratinous epithelium, and its posterior surface - with multiseriate ciliated epithelium. What organ is it?

- a. Cheek
- b. Gingiva
- c. Hard palate
- d. **Soft palate**
- e. Lip

773. A 27 year old patient consulted a doctor about a solid tumour in front of the antihelium. During removal of this tumour a dental surgeon revealed a vein. What vein is localized in this area?

- a. V. facialis
- b. V. jugularis externa
- c. V. auricularis posterior
- d. V. jugularis interna
- e. **V. retromandibularis**

774. What method should be applied for sterilization of heatproof and moistureproof stomatological instruments in order to ensure total destruction of viruses, vegetative and spore forms of microorganisms?

- a. Tyndallization
- b. Pasteurization
- c. Burning in the flame of gas burner
- d. Boiling
- e. **Autoclaving**

775. Microscopic examination of periodontium revealed plethoric vessels, edema of connective tissue along with infiltration by single neutrophils. What type of exudative inflammation in the periodontium is it?

- a. Fibrinous
- b. **Serous**
- c. Purulent
- d. Putrid
- e. Catarrhal

776. Autopsy of a dead patient revealed that pia mater was dull, there were greenish-yellow overlays covering almost all convex surface of cerebral hemispheres. Histological examination revealed extreme hyperemia of pia mater along with diffuse leukocytic infiltration. What is the most probable diagnosis?

- a. Tuberculosis
- b. Measles
- c. Anthrax
- d. Influenza
- e. **Meningococcal infection**

777. A 52 year old patient suffering from cancer of the lower jaw underwent a course of radiation therapy. The tumour has remitted. Which mechanism of cell destruction ensures efficiency of radiation therapy most of all?

- a. Lysis by natural killer cells
- b. Vessel thrombosis
- c. Mutagenesis
- d. Hyperthermia

e. Generation of free radicals

778. Examination of a patient revealed abnormal development of enamel. This is caused by damage of the following structural elements of dental germ:

- a. Pulp of enamel organ
- b. Intermediate layer of enamel organ
- c. Internal enamel epithelium of enamel organ**
- d. Cervix of enamel organ
- e. External enamel epithelium of enamel organ

779. Researches of the latest decades established that immediate "executors" of cell apoptosis are special enzymes called caspases. Generation of one of them proceeds with participation of cytochrome c. What is its function in a normal cell?

- a. Component of H⁺ ATP system
- b. Component of pyruvate-dehydrogenase system
- c. Enzyme of respiratory chain of electron transport**
- d. Enzyme of tricarboxylic acid cycle
- e. Enzyme of beta-oxidation of fatty acids

780. ECG of a patient showed that RR interval equaled 1,5 s, heart rate equaled 40 bpm. What is cardiac pacemaker?

- a. Atrioventricular node**
- b. Left branch of His bundle
- c. Right branch of His bundle
- d. His bundle
- e. Sinus node

781. For the purpose of anaesthetization a patient got injection of local anesthetic. A few minutes later the patient got dyspnea and tachycardia; he lost consciousness. What type of shock is it?

- a. Traumatic
- b. Anaphylactic**
- c. Burn
- d. Cardiogenic
- e. Haemorrhagic

782. A patient who has been taking a certain drug for a long time cannot discontinue the use of it because this causes psychic and somatic dysfunctions. The syndrome occurring at refraining from the use of a drug is called:

- a. Idiosyncrasy
- b. Abstinence**
- c. Tachyphylaxis
- d. Sensitization
- e. Cumulation

783. After a road accident a driver has got deformity in the middle third of his left shin and intense pain, especially when he tries to move his left shin. The ends of a triangular bone stick out of a wound, there is great blood loss. What bone might be damaged?

- a. Tibia**
- b. Femur
- c. Astragalus
- d. Fibula
- e. Patella

784. A patient with essential hypertension was admitted to the cardiological department. In order to

lower arterial pressure a doctor prescribed a drug that blocks 1 and 2-adrenoreceptors. What drug is it?

- a. Propranolol**
- b. Proserin
- c. Indometacin
- d. Celecoxib
- e. Prednisolone

785. During examination of a patient a dentist revealed carious cavities on the front teeth that don't have accessory antagonists. What teeth are meant?

- a. Superior canines
- b. Superior medial incisors
- c. Inferior lateral incisors
- d. Inferior medial incisors**
- e. Superior lateral incisors

786. Endoscopic examination of duodenum revealed a tumour of the major papilla. This pathological formation is localized in the following part of duodenum:

- a. Superior part
- b. Superior flexure
- c. Ascending part
- d. Descending part**
- e. Horizontal part

787. Intralobular capillaries of a liver specimen have wide irregular lumen. Basal membrane is absent in the major part of the capillary. What type of capillaries is it?

- a. Sinusoid**
- b. Postcapillaries
- c. Visceral
- d. Precapillaries
- e. Somatic

788. Hurler's disease is caused by point mutation of only one gene. This results in abnormal absorption of tryptophan in the intestine as well as its abnormal reabsorption in renal tubules. This causes synchronous disorders in digestive and urinary excretion systems. What genetic phenomenon is observed in this case?

- a. Codominance
- b. Pleiotropy**
- c. Polymery
- d. Complementary interaction
- e. Semidominance

789. A patient was administered clonidine to be taken parenterally in case of abrupt rise of arterial pressure. What is its mechanism of action?

- a. Stimulation of central beta2-adrenoreceptors**
- b. Block of alpha1- and alpha2-adrenoreceptors
- c. Stimulation of central imidazole1-receptors
- d. Block of nicotinic cholinoreceptors of ganglia
- e. Block of alpha1-adrenoreceptors

790. A 24 year old patient consulted a doctor about pain below his lower jaw on the right. Dental surgeon revealed a concrement in the submandibular gland. During its removal he had to prevent bleeding out of the following artery:

- a. A. alveolaris inferior
- b. A. facialis**
- c. A. lingualis
- d. A. submental
- e. A. labialis inferior

791. A patient has roundish ulcers on his face, inflammation and enlargement of lymph nodes. These symptoms turned up as a result of mosquito bites. Laboratory examination of discharge from the ulcers revealed unicellular aflagellar organisms. What is the most probable diagnosis?

- a. Toxoplasmosis
- b. Myasis
- c. Trypanosomiasis
- d. Dermatotropic leishmaniasis**
- e. Scabies

792. A 35 year old patient complains about permanent thirst, poor appetite. He drinks 9 l water per day. Daily diuresis is increased, urine is colourless, its relative density is 1,005. The most probable cause of this pathology development is damage of:

- a. Hypothalamic nuclei**
- b. Basal membrane of glomerular capillaries
- c. Epithelium of renal tubuli
- d. Adenohypophysis
- e. Epiphysis

793. Potassium cyanide that is a poison came into a patient's organism and caused death a few minutes after it. The most probable cause of its toxic effect was abnormal activity of:

- a. Catalase
- b. ATP-synthetase
- c. NADP-H-dehydrogenase
- d. Haemoglobin synthesis
- e. Cytochrome oxidase**

794. During an experiment the median part of an animal's cochlea was damaged. This resulted in impaired perception of acoustic vibrations of the following frequency:

- a. High
- b. Low
- c. High and medium
- d. Medium**
- e. Low and medium

795. Formation of ribosome subunits in a cell was disturbed in course of an experiment (by means of activated mutagenic factors). This will have an effect on the following metabolic process:

- a. Biological oxidation
- b. ATP synthesis
- c. Carbohydrate biosynthesis
- d. Photosynthesis
- e. Protein biosynthesis**

796. Roentgenological examination of mandible of a 27 year old man revealed a focus of osseous tissue destruction. Histological examination revealed a tumour consisting of odontogenous epithelium cords, immature connective tissue and dysplastic dentin rests. What tumour is it?

- a. Ameloblastic fibro-odontoma
- b. Odontoameloblastoma
- c. Complex odontoma
- d. Odontogenous fibroma
- e. Dentinoma**

797. Abnormal chromosome disjunction during meiosis resulted in formation of: an ovum with 22 autosomes and polar body with 24 chromosomes. If such an ovum would be fertilized with a normal spermatozoon (22+X) the child might have the following syndrome:

- a. Downs syndrome
- b. Edwards syndrome
- c. Klinefelters syndrome
- d. Trisomy X

e. Turners syndrome

798. Microscopical examination of coronary artery of a 53 year old dead man revealed luminal narrowing of the vessel because of fibrous plaque mixed with lipides. The most probable form of atherosclerosis is:

- a. Lipoidosis
- b. Ulceration
- c. Atheromatosis

d. Liposclerosis

e. -

799. In the surgical department of a dental clinic cases of hospital-acquired staphylococcal infection were registered which was caused by strains with multiple drug resistance. Such feature can be identified by presence of:

a. R-plasmids

- b. Virulent bacteriophages
- c. Exotoxins
- d. Temperate bacteriophages
- e. F-plasmids

800. A 38 year old patient takes aspirin and sulfanilamides. After their intake intensified erythrocyte haemolysis is observed which is caused by deficiency of glucose 6-phosphate dehydrogenase. This pathology is caused by failure of the following coenzyme:

a. NADP-H

- b. FAD-H₂
- c. Ubiquinone
- d. Pyridoxal phosphate
- e. FMN-H₂

801. In hemotransfusions it is recommended to transfuse only phenotype-matched blood D. According to the ABO system, blood group is determined by:

a. Carbohydrate determinants of erythrocyte membranes

- b. Carbohydrate determinants of leukocyte membranes
- c. Protein determinants of erythrocyte membranes
- d. Protein-polysaccharide components of leukocytes
- e. Proteins of blood serum

802. A patient consulted a dentist about the temporomandibular joint arthritis. The dentist administered an ointment containing diclofenac sodium. What is its mechanism of action?

- a. Cyclooxygenase activation
- b. Opiate receptor block
- c. Opiate receptor activation
- d. Phospholipase inhibition

e. Cyclooxygenase inhibition

803. Examination of a patient with an interbrain injury revealed the hearing impairment. What structures must be damaged?

- a. Lateral geniculate bodies of thalamus
- b. Medial nuclei of hypothalamus
- c. Frontal nuclei of hypothalamus

d. Medial geniculate bodies of thalamus

- e. Intralaminar nuclei of hypothalamus

804. A patient who has been treated for viral hepatitis B developed symptoms of hepatic insufficiency. What changes indicating disorder in protein metabolism are likely to be observed in this case?

a. Absolute hypoalbuminemia

- b. Absolute hyperglobulinemia

- c. Absolute hyperalbuminemia
- d. Absolute hyperfibrinogenemia
- e. Protein rate in blood will stay unchanged

805. As a result of a trauma a patient has damaged frontal spinal roots. What structures are likely to be affected?

- a. Axons of the lateral horn neurons
- b. Central processes of the sensory neurons of the spinal ganglions
- c. Dendrites of the spinal ganglion neurons
- d. Axons of the motoneurons and axons of the lateral horn neurons**
- e. Peripheral processes of the sensory neurons of the spinal ganglions

806. A patient complains about retrosternal pain, dyspnea and palpitation. After examination he was diagnosed with coronary heart disease and prescribed verapamil. What is the mechanism of its action?

- a. It blocks beta-adrenoreceptors
- b. It blocks sodium channels
- c. It blocks potassium channels
- d. It blocks calcium channels**
- e. It blocks alpha-adrenoreceptors

807. Heterozygous parents with A(II) and B(III) blood group according to the AB0 system have got a child D. What is the probability that the child has 0(I) blood group?

- a. 0%
- b. 50%
- c. 100%
- d. 75%
- e. 25%**

808. It was revealed that a patient with coagulation failure has thrombosis of a branch of inferior mesenteric artery. What bowel segment is affected?

- a. Colon transversum
- b. Colon ascendens
- c. Colon sigmoideum**
- d. Caecum
- e. Ileum

809. A patient with gastric ulcer underwent a course of treatment, which led to digestion normalization, pain relief, better mood. However in a few weeks the epigastric pain as well as heartburn and sour eructation recurred. Such course of the disease can be characterized as:

- a. Complication
- b. Prodromal period
- c. Relapse**
- d. Remission period
- e. Latent period

810. Heart auscultation revealed diastolic murmur in the II intercostal space along the right parasternal line. This is the evidence of the following valve pathology:

- a. Valve of pulmonary trunk
- b. -
- c. Tricuspid
- d. Bicuspid
- e. Aortic valve**

811. A 40-year-old male patient had a tumour-like formation 8x7 cm large on his neck. A surgeon removed it only partially because of close connection with large vessels. Microscopical examination revealed marked cellular and tissue atypism, lipoblast-type cells in different stages of maturity, with polymorphism and nuclear hyperchromia, pathological mitoses, necrosis foci. Specify the histological

form of the tumour:

- a. Fibrosarcoma
- b. Fibroma
- c. Liposarcoma**
- d. Lipoma
- e. Hibernoma

812. A 38 year old patient takes aspirin and sulfanilamides. After their intake intensified erythrocyte haemolysis is observed which is caused by deficiency of glucose 6-phosphate dehydrogenase. This pathology is caused by failure of the following coenzyme:

- a. Ubiquinone
- b. FMN-H₂
- c. Pyridoxal phosphate
- d. FAD-H₂
- e. NADP-H**

813. Examination of uterine cavity revealed an embryonated ovum that was not attached to the endometrium. The embryo is in the following stage of development:

- a. Blastocyst**
- b. Gastrula
- c. Zygote
- d. Neurula
- e. Morula

814. A child suspected for tuberculosis underwent Mantoux test. 24 hours after allergen injection there appeared a swelling, hyperaemia and tenderness. What are the main components in the development of this reaction?

- a. Macrophages, B-lymphocytes and monocytes
- b. B-lymphocytes, IgM
- c. Granulocytes, T-lymphocytes and IgG
- d. Mononuclears, T-lymphocytes and lymphokines**
- e. Plasmatic cells, T-lymphocytes and lymphokines

815. A female patient suffering from chronic hepatitis complains about an increased susceptibility to barbiturates, which previously induced no symptoms of intoxication. This may be explained through the following liver dysfunction:

- a. Cholepoietic
- b. Metabolic**
- c. Hemopoietic
- d. Phagocytal
- e. Hemodynamic

816. According to the law of constant chromosome number, each species of most animals has a definite and constant number of chromosomes. The mechanism providing this constancy in sexual reproduction of the organisms is called:

- a. Meiosis**
- b. Gemmation
- c. Regeneration
- d. Shizogony
- e. Amitosis

817. While examining a blood smear taken from a patient and stained by Romanovsky's method a doctor revealed some protozoa and diagnosed the patient with Chagas disease. What protozoan is the causative agent of this disease?

- a. Trypanosoma brucei
- b. Toxoplasma gondii
- c. Leishmania tropica
- d. Leishmania donovani

e. Trypanosoma cruzi

818. A patient is found to have increased permeability of blood vessel walls accompanied by increased gingival haemorrhage, petechial skin haemorrhages, dedentition. What pathology is observed in this patient?

- a. Hypovitaminosis A
- b. Hypervitaminosis C
- c. Hypervitaminosis D
- d. Hypovitaminosis D

e. Hypovitaminosis C

819. A sensory nerve ganglion consists of roundish neurocytes with one process that divides into axon and dendrite at a certain distance from perikaryon. What are such cells called?

a. Pseudounipolar

- b. Bipolar
- c. Multipolar
- d. Apolar
- e. Unipolar

820. A patient was diagnosed with seborrheic dermatitis associated with vitamin H (biotin) deficiency. The patient has disturbed activity of the following enzyme:

- a. Carbomoyl phosphate synthetase
- b. Pyruvate decarboxylase
- c. Alcohol dehydrogenase
- d. Amino transferase

e. Acetyl-CoA-carboxylase

821. In order to anaesthetize superior incisors an anaesthetic should be injected in the region of the incisive foramen. What nerve is located in this place?

a. N.nasopalatinus

- b. Rr.nasales posteriores inferiores
- c. N.palatinus major
- d. N.pharyngeus
- e. Nn.palatini minores

822. A patient consulted a dentist about a lesion of his oral mucosa. He was diagnosed with herpetic stomatitis. Which of the following drugs will have an effect on etiologic factor?

- a. Dimedrol
- b. Levamisole
- c. Furacilinum

d. Acyclovir

- e. Paracetamol

823. During an operation on a woman it became necessary to ligate her uterine artery. What formation can be accidentally ligated together with this artery?

- a. Uterine tube
- b. Urethra
- c. Round ligament of uterus

d. Ureter

- e. Internal iliac vein

824. Examination of a patient, suffering from atrophic gastritis, revealed megaloblastic anemia. The anemia is likely to be caused by the deficiency of the following substance:

- a. Vitamin B1

b. Gastromucoprotein

- c. Erythropoietin
- d. Vitamin B6
- e. Iron

825. Two weeks after hemotransfusion a patient developed fever. What protozoal disease can be suspected?

- a. Amebiasis
- b. Malaria**
- c. Toxoplasmosis
- d. Leishmaniasis
- e. Trypanosomiasis

826. As a result of a trauma a patient has developed traumatic shock. The patient is fussy, talkative, pale. AP- 140/90 mm Hg, Ps- 120 bpm. This condition is consistent with the following shock phase:

- a. Erectile**
- b. -
- c. Torpid
- d. Latent
- e. Terminal

827. What artery may be damaged during the conduction anesthetization in the region of the mandibular foramen?

- a. Buccal artery
- b. Inferior alveolar artery**
- c. Lingual artery
- d. Median meningeal artery
- e. Pterygoid branches

828. A child with renal insufficiency exhibits delayed teeth eruption. This is most likely caused by the abnormal formation of the following substance:

- a. Hydroxylysine
- b. 1,25 (OH)₂D₃**
- c. γ -ketoglutarate
- d. Glycocyamine
- e. Glutamate

829. A patient complains about attacks of laboured breathing, dizziness. He works at a chemical plant producing hydrocyanic acid. The described symptoms might be associated with dysfunction of the following enzyme:

- a. Lactate dehydrogenase
- b. Succinate dehydrogenase
- c. Cytochrome oxidase**
- d. Catalase
- e. Pyruvate dehydrogenase

830. Autopsy of an aged man who had been suffering from acute intestinal upset for the last 2 weeks revealed the following changes in the rectum and sigmoid colon: mucous membrane surface was coated with brown-green film. The intestine wall was thickened, and its cavity was extremely constricted. Microscopical examination revealed variously deep penetrating necrosis of mucous membrane; necrotic masses contained fibrin fibers and bore signs of leukocytic infiltration. What is the most likely diagnosis?

- a. Follicular colitis
- b. -
- c. Catarrhal colitis
- d. Fibrinous colitis**
- e. Ulcerative colitis

831. Examination of urine in a newborn revealed presence of citrulline and high ammonia concentration. This baby is most likely to have the disorder of the following substance production:

- a. Creatinine
- b. Uric acid
- c. Ammonia

d. Urea

e. Creatine

832. A patient with convulsive contractions of facial muscles was admitted to the infectious disease ward. From a scratch on his lower right extremity, analysts isolated bacteria with terminal endospores that gave them a drumstick appearance. What bacteria are compliant with given description?

a. *Bacillus anthracis*

b. *Clostridium perfringens*

c. *Clostridium tetani*

d. *Bacillus cereus*

e. *Clostridium botulinum*

833. Pellagra may be caused by maize domination and low quantity of animal foodstuffs in the dietary intake. This pathology results from lack of the following amino acid:

a. Methionine

b. Isoleucine

c. Histidine

d. Tryptophane

e. Phenylalanine

834. Osteolathyrism is characterized by a loss of tensile strength of collagen, which is induced by a significant decrease in the formation of cross-links in collagen fibrils. The cause for it is the reduced activity of:

a. Collagenase

b. Monoamine oxidase

c. Prolyl hydroxylase

d. Lysyl hydroxylase

e. Lysyl oxidase

835. Autopsy of a man, who died from acute posthaemorrhagic anaemia resulting from pulmonary haemorrhage, revealed the following: macroscopically - lung apices were deformed, their section showed multiple whitish-grey foci 10-15 mm in diameter and multiple pathological cavities up to 15 mm in diameter with dense walls. Microscopically: the cavity walls presented proliferation of the connective tissue infiltrated by epithelioid cells, multicellular giant cells and lymphocytes. What is the most likely diagnosis?

a. Secondary fibrocavernous tuberculosis

b. Primary tuberculosis without signs of progress

c. Hematogenic disseminated pulmonary tuberculosis

d. Hematogenic miliary pulmonary tuberculosis

e. Progressing tuberculosis complex

836. A patient diagnosed with acute pancreatitis was admitted to the surgical department. Which drug administration would be pathogenetically grounded?

a. Trypsin

b. Chymotrypsin

c. Pancreatin

d. Contrical

e. Fibrinolysin

837. A patient suffering from non-insulin-dependent diabetes mellitus was prescribed glibenclamide internally. What is the mechanism of its hypoglycemic action?

a. It inhibits gluconeogenesis in liver

b. It inhibits alpha glucosidase and polysaccharide breakdown

c. It stimulates generation of endogenous insulin by beta cells

d. It inhibits glucose absorption in the bowels

e. It intensifies utilization of glucose by peripheral tissues

838. A patient has dislocation of his mandible that caused impairment of salivation and gustatory sensitivity of anterior $\frac{2}{3}$ of his tongue E. What nerve was damaged?

- a. Deep petrosal nerve
- b. Sublingual nerve
- c. Lesser petrosal nerve
- d. Tympanichord**
- e. Greater petrosal nerve

839. 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. Thyrocalcitonin
- c. Thyroxine
- d. Parathormone**
- e. Somatotrophic hormone

840. A girl who was provisionally diagnosed with Turner's syndrome came to a genetic consultation. The diagnosis can be specified by means of the following genetic method:

- a. Biochemical
- b. Dermatoglyphics
- c. Genealogical
- d. Hybridological
- e. Sex chromatin test**

841. A patient with toxic paralysis of respiratory centre was given several cordiamin injections intended to stimulate the respiratory centre. What side effect may arise?

- a. Tonic convulsions
- b. Collapse
- c. Clonic convulsions**
- d. Bronchospasm
- e. Arrhythmia

842. Various cells of the oral mucous membrane and antimicrobial substances synthesized by these cells play an important part in the local immunity of the oral cavity. Specify the key factors for the local immunity:

- a. Secretory IgA**
- b. IgG
- c. Macrophages
- d. Eosinophils
- e. B-lymphocytes

843. A 65-year-old male patient complains about being unable to move his lower jaw in backward direction. It was revealed that after a fall the following muscle was damaged:

- a. Lateral pterygopalatine
- b. Medial pterygopalatine
- c. Masticatory
- d. Digastric
- e. Temporal**

844. A histological specimen of a mandibular gland shows an excretory duct. Mucous membrane of the duct is lined with cuboidal epithelium whose cells have weakly developed organelles. What excretory duct is it?

- a. Striated
- b. Interlobular
- c. Intercalated**
- d. -
- e. Common excretory

845. A patient suffering from syphilis was prescribed a drug the action of which based upon disturbed generation of murein leading to death of the causative agent. What drug is it?

- a. Doxycycline hydrochloride
- b. Azithromycin
- c. Bijochinol
- d. Ciprofloxacin
- e. Benzylpenicillin sodium salt**

846. A 14-year-old patient was diagnosed with Hutchinsons triad: barrel-shaped incisors, parenchymatous keratitis and deafness. The revealed presentations are consistent with the following disease:

- a. Lepra
- b. Tuberculosis
- c. Syphilis**
- d. Toxoplasmosis
- e. Opisthorchiasis

847. A 35-year-old patient with chronic periodontitis underwent excision of a cyst 3 cm in diameter found at a root of the 15th tooth. Histological examination revealed that it had thin wall formed by mature connective tissue infiltrated by lymphocytes and plasmatic cells. Its internal surface was lined with multilayer pavement epithelium with no signs of keratinization; the cavity contained serous exudat E. What is the most likely diagnosis?

- a. Radicular cyst**
- b. Follicular ameloblastoma
- c. Primordial cyst
- d. Follicular cyst
- e. Cherubism

848. Children often have laboured nasal breathing which is caused by overdevelopment of lymphoid tissue of the pharyngeal mucous membran E. This phenomenon may cause enlargement of the following tonsils:

- a. Tonsilla tubaria
- b. Tonsilla palatina
- c. Tonsilla pharyngea**
- d. All above-mentioned
- e. Tonsilla lingualis

849. A 50-year-old male patient suffers from chronic bronchitis, complains about dyspnea during physical activity, sustained cough with sputum. After examination he was diagnosed with pulmonary emphysem A. This complication is caused by:

- a. Decrease in lung elasticity**
- b. Ventilation-perfusion disbalance
- c. Decrease in lung compliance
- d. Decrease in alveolar ventilation
- e. Decrease in lung perfusion

850. Introduction of a local anesthetic to a patient resulted in the development of anaphylactic shock. What is the leading mechanism of blood circulation disturbance?

- a. Activation of sympathoadrenal system
- b. Reduction of contractile myocardium function
- c. Decrease of vascular tone**
- d. Hypervolemia
- e. Pain

851. In the process of tooth tissue histogenesis dentin wasnt formed in time for some reasons. What process of further histogenesis will be delayed or will not take place at all?

- a. Cellular cement formation
- b. Pulp formation

c. Enamel formation

- d. Acellular cement formation
- e. Predentinal space formation

852. A 5 y.o. child had a temperature rise up to 40°C, acute headache, vomiting, anxiety, chill. 4 days later there appeared hemorrhagic skin eruption, oliguria and adrenal insufficiency that caused death. Bacteriological examination of smears from the child's pharynx revealed meningococcus. What disease form was revealed?

- a. Meningoencephalitis
- b. Meningococcal nasopharyngitis
- c. -
- d. Meningococcal meningitis

e. Meningococcemia

853. A patient in a cardiological department has arrhythmia. A doctor administered him amiodarone. What is the main mechanism of amiodarone's antiarrhythmic action?

- a. It activates serotonin receptors
- b. It stimulates histamine receptors
- c. It inhibits cholinergic receptors

d. It blocks mostly potassium channels

- e. It alters myocardium susceptibility to the acetylcholine

854. Examination of a 30-year-old man's mandible revealed in the region of his molar a dense tumour-like formation that significantly deformed the mandible. Here and there the formation was not fully detached from the bone tissue. Microscopical examination of a tissue sampling revealed that stroma had some cords and follicles with odontogenic cylindric epithelial cells in periphery and stellate cells resembling of the enamel organ pulp in the center. What is the most likely diagnosis?

a. Osteoclastoma

b. Ameloblastoma

- c. Adenomatoid tumour
- d. Primary intraosseous cancer
- e. Adenocarcinoma

855. A patient complains about pain in his upper jaw and toothache. Objectively: the patient feels pain when pressed in the region of the supraorbital foramen. What nerve is affected?

- a. The third branch of trigeminal
- b. Facial nerve

c. The second branch of trigeminal

- d. Trochlear nerve
- e. The first branch of trigeminal

856. Blood of a child and putative father was referred to forensic medical examination for affiliation. What chemical components should be identified in the blood under study?

- a. Messenger RNA
- b. Transfer RNA
- c. Ribosomal RNA

d. DNA

- e. SnRNA

857. An electrical cardiostimulator was implanted to a 75 y.o. man with heart rate of 40 bpm. After that heart rate rose up to 70 bpm. Cardiostimulator assumed the function of the following heart part:

- a. His bundle branches
- b. His bundle fibers
- c. Purkinje fibers
- d. Atrioventricular node

e. Sinoatrial node

858. Autopsy of a 70-year-old man who died from cardiac insufficiency revealed deformed and

constricted coronary arteries. The artery section shows that the intimal surface is stony hard and fragile. It is also whitish, with nodular appearance. What stage of atherosclerosis is it?

- a. Ulceration
- b. Liposclerosis
- c. Atherocalcinosis**
- d. Atheromatosis
- e. Lipoidosis

859. 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 mmol/l, phosphorus - 1,9 mmol/l. These changes are associated with:

- a. Hypoparathyroidism**
- b. Hyperaldosteronism
- c. Hypothyroidism
- d. Hyperparathyroidism
- e. Hypoaldosteronism

860. A female patient with a tumour of pancreas has developed mechanical jaundice resulting from compression of a bile-excreting duct. Which duct is compressed?

- a. Ductus hepaticus sinister
- b. Ductus choledochus**
- c. Ductus cysticus
- d. Ductus hepaticus dexter
- e. Ductus hepaticus communis

861. A 60-year-old female patient presents with hypoactivity of the principal digestive enzyme of saliva. This is usually accompanied by disturbed primary hydrolysis of:

- a. Proteins
- b. Lactose
- c. Cellulose
- d. Fats
- e. Carbohydrates**

862. A 35 y.o. patient diagnosed with sterility came to gynaecological department for diagnostic biopsy of endometrium. Microscopic examination revealed that mucous membrane is edematous, uterine glands are convoluted and filled with thick secret. Such changes in the endometrium are caused by excess of the following hormone:

- a. Somatotropin
- b. Estrogen
- c. Progesterone**
- d. Testosterone
- e. ACTH

863. In a surgical department of a stomatological polyclinic a patient is being prepared for tooth extraction. What drug should be added to the solution of a local anaesthetic in order to prolong its action?

- a. Isadrine
- b. Noradrenaline hydrotartrate
- c. Octadine
- d. Salbutamol
- e. Adrenalin hydrochloride**

864. Analysis of urine from a 24-year-old man revealed the following changes: daily diuresis - 10 l, relative density - 1,001, qualitative alterations are absent. A patient complains of excessive thirst, frequent urination. What is the most likely cause of this disease?

- a. Aldosterone hypersecretion
- b. Vasopressin hyposecretion**
- c. Vasopressin hypersecretion

- d. Glucocorticoid hypersecretion
- e. Relative insulin insufficiency

865. 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. Chronic bronchitis**
- b. Interstitial pneumonia
- c. Bronchopneumonia
- d. Acute bronchitis
- e. Lobar pneumonia

866. A patient has secretory dysfunction of the submandibular salivary gland. Which nerve is responsible for its vegetative innervation?

- a. N.mandibularis
- b. N.petrosus minor
- c. N.petrosus major
- d. N.auriculotemporalis
- e. Chorda tympani**

867. A patient has roundish ulcers on his face, inflammation and enlargement of lymph nodes. These symptoms turned up as a result of mosquito bites. Laboratory examination of discharge from the ulcers revealed unicellular aflagellar organisms. What is the most probable diagnosis?

- a. Toxoplasmosis
- b. Trypanosomiasis
- c. Myasis
- d. Dermatotropic leishmaniasis**
- e. Scabies

868. A lightly dressed man is standing in a room; air temperature is +14°C. Windows and doors are close. In what way does he lose heat most of all?

- a. Convection
- b. Heat conduction
- c. Evaporation
- d. Heat radiation**
- e. Perspiration

869. Prophylactic examination of a patient revealed hyperglycemia, ketonuria, polyuria, glycosuria. What form of acid-base balance disorder is the case?

- a. Metabolic acidosis**
- b. Gaseous acidosis
- c. Nongaseous acidosis
- d. Metabolic alkalosis
- e. Gaseous alkalosis

870. A chemical industry worker complains about enamel wear. Objectively: generalized destruction of dental crowns along with replacing dentin formation. What is the most likely diagnosis?

- a. Necrosis of hard tooth tissues**
- b. Wedge-shaped defects
- c. Dental erosion
- d. Median caries
- e. Fluorosis

871. ECG of a patient shows that T-waves in the second standard extremity lead are positive, their amplitude and duration are normal. It would be true that the following process is taking its normal course in the cardiac ventricles:

- a. Excitement
- b. Repolarization**
- c. Depolarization
- d. Contraction
- e. Relaxation

872. Examination of a kidney tissue sampling revealed leukocyte infiltration of interstitial tissue; miliary abscesses; dystrophic tubules filled with desquamated epithelium and leukocytes. What is the most likely diagnosis?

- a. Glomerulonephritis
- b. Nephrolithiasis
- c. Necrotic nephrosis
- d. Pyelonephritis**
- e. Pyelitis

873. A patient complains about shin pain which is getting worse during walking. Objectively: there is an edema and reddening along the vein. A doctor administered a direct coagulant to be applied topically. What drug can be applied for this purpose?

- a. Heparin ointment**
- b. Thrombin
- c. Salicylic ointment
- d. Troxevasin ointment
- e. Butadion ointment

874. A patient underwent gastroscopy that revealed insufficient amount of mucus covering the mucous membran E. This phenomenon is caused by the dysfunction of the following cells of stomach wall:

- a. Endocrinocytes
- b. Cells of prismatic glandular epithelium**
- c. Cervical cells of gastric glands
- d. Parietal cells of gastric glands
- e. Principal exocrinocytes of gastric glands

875. A man is in the state of rest. He has been forcing himself to breath deeply and frequently for 3-4 minutes. What effect will it have upon acid-bace balance of the organism?

- a. Metabolic acidosis
- b. Respiratory acidosis
- c. Respiratory alkalosis**
- d. There will be no change in acid-base balance
- e. Metabolic alkalosis

876. Examination of a patient revealed that he had a strong, balanced, inert type of higher nervous activity according to Pavlovs classification. What temperament has this patient according to Hippocrate?

- a. Choleric
- b. -
- c. Melancholic
- d. Phlegmatic**
- e. Sanguine

877. A patient was admitted to a hospital because of a penetrating wound of mouth floor. Which muscle is injured?

- a. Stylohyoid
- b. Mylohyoid**
- c. Omohyoid
- d. Thyrohyoid
- e. Sternohyoid

878. As a result of a cold a patient has the abnormal pain and temperature sensitivity of the frontal $\frac{2}{3}$ of his tongue E. Which nerve must be damaged?

- a. Glossopharyngeal
- b. Accessory
- c. Trigeminal**
- d. Vagus
- e. Sublingual

879. A patient has increased pyruvate concentration in blood D. Large amount of it is excreted with urine E. What vitamin deficiency is observed?

- a. B6
- b. E
- c. B1**
- d. B3
- e. B2

880. A patient with high obesity was recommended to take carnitine as a food additive for better fat burning. What function is fulfilled by carnitine in the process of fat oxidation?

- a. Transport of fatty acids from the cytosol to the mitochondria**
- b. Intracellular lipolysis activation
- c. Fatty acid activation
- d. Transport of fatty acids from the fat depots to the tissues
- e. Participation in one of the reactions of beta-oxidation of fatty acids

881. Parodontitis is treated with calcium preparations and a hormone that stimulates tooth mineralization and inhibits tissue resorption. What hormone is it?

- a. Parathormone
- b. Calcitonin**
- c. Adrenalin
- d. Aldosterone
- e. Thyroxine

882. In course of an experiment thalamocortical tracts of an experimental animal were cut through. The animal didn't lose the following sensations:

- a. Olfactory**
- b. Visual
- c. Nociceptive
- d. Exteroceptive
- e. Auditory

883. Injection of an anaesthetic before the tooth extraction resulted in development of anaphylactic shock accompanied by oliguria A. What pathogenetic mechanism caused a decrease in diuresis in this case?

- a. Increase in oncotic pressure of blood plasma
- b. Decrease in hydrostatic pressure in the renal corpuscle capillaries**
- c. Increase in hydrostatic pressure in the Bowman's capsule
- d. Increase in vasopressin secretion
- e. Damage of glomerular filter

884. A 70-year-old man has developed prosthodontic stomatitis. Apart of this he was found to have an evident lesion of mouth corners. Microscopical examination revealed large ovoid gram-positive cells. What microorganisms are most likely to be the leading etiological agent of such a lesion?

- a. Neisseria
- b. Staphylococci
- c. Candida fungi**
- d. Streptococci
- e. Corynebacteria

885. Glucose concentration in a patient's blood is 15 millimole/l (reabsorption threshold is 10 millimole/l). What effect can be expected?

- a. Diuresis reduction
- b. Reduced vasopressin secretion
- c. Reduced glucose reabsorption
- d. Reduced aldosterone secretion

e. Glucosuria

886. A scheme shows an exocrine gland with an unbranched excretory duct into which only one terminal part in form of a sacculus opens. In compliance with the morphological classification of exocrine glands, such gland is called as follows:

- a. Complex unbranched alveolar
- b. Complex unbranched alveolar-tubular
- c. Simple branched tubular
- d. Complex branched alveolar

e. Simple unbranched alveolar

887. A 35-year-old patient consulted a dentist about low density of dental tissues, increased fragility of teeth on eating solid food. In order to determine Ca/P relation a scrape of enamel was sent to the laboratory. What value of this index is suggestive of intensified demineralization?

- a. 2,5
- b. 0,9**
- c. 1,5
- d. 1,85
- e. 1,67

888. A boy has fallen down from the tree. Now he finds it difficult to abduct his arm till it takes horizontal position. Which muscle is most probably injured?

- a. M. anconeus
- b. M. triceps brachii
- c. M. supinator
- d. M. coracobrachialis

e. M. deltoideus

889. A 40-year-old female patient has enlarged thyroid gland. On palpation the gland is dense, its surface is slightly tuberculous. Histological examination of gland sample revealed diffuse infiltration of tissue by the cells, formation of lymphoid follicles. What disease is it?

- a. Sporadic goiter
- b. Autoimmune thyroiditis**
- c. Riedel's disease
- d. Diffuse toxic goiter
- e. Endemic goiter

890. Cytogenetic examination of a patient with dysfunction of the reproductive system revealed normal karyotype 46,XY in some cells, but most cells have Klinefelter's syndrome karyotype - 47,XXY. Such phenomenon of cell inhomogeneity is called:

- a. Mosaicism**
- b. Transposition
- c. Duplication
- d. Heterogeneity
- e. Inversion

891. Clinical examination of a female patient revealed reduction of basal metabolism by 40%, gain in body mass, drop of body temperature, face puffiness, sexual dysfunctions, inertness and apathy, lowered intelligence. These symptoms are caused by dysfunction of the following endocrine gland:

- a. Hypofunction of parathyroid glands
- b. Hyperfunction of thyroid gland
- c. Epiphysis hypofunction

d. Hypofunction of thyroid gland

e. Hypophysis hyperfunction

892. A sample taken from the pharynx of a patient with angina was inoculated on the blood-tellurite agar. This resulted in growth of grey, radially striated (in form of rosettes) colonies up to 4-5 mm in diameter. Microscopically there can be seen gram-positive rods with club-shaped ends arranged in form of spread fingers. What microorganisms are these?

a. Clostridium botulinum

b. Streptococci

c. Corynebacteria diphtheriae

d. Diphtheroids

e. Streptobacilli

893. A male patient has stenosis of the mitral orific E. What is the leading mechanism of cardiac failure?

a. Myocardial damage

b. Tension-induced overload

c. Resistance-induced overload

d. -

e. Volume overload

894. A 70-year-old patient is diagnosed with brainstem haemorrhag E. Examination revealed increased tonus of flexor muscles accompanied by decreased tonus of extensor muscles. Such changes in muscle tonus can be explained by the irritation of the following brain structures:

a. Vestibular nuclei

b. Quadrigeminal plate

c. Red nuclei

d. Reticular formation

e. Black substance

895. Obliterating atherosclerosis causes changes in the vessels of the lower extremities. A histological specimen of such a vessel evidently presents both internal and external elastic membranes, middle membrane contains a lot of myocytes. What vessel is affected in case of this disease?

a. Artery of muscular type

b. Vein with strongly developed muscles

c. Artery of mixed type

d. Artery of elastic type

e. Lymph node

896. Liver puncture biopsy in a patient with hepatocellular insufficiency revealed vacuolar, ballooning degeneration of hepatocytes, necrosis of single cells, Councilmans bodies, infiltration of portal and lobular stroma mainly by lymphocytes and macrophages with a small number of polymorphonuclear leukocytes. What is the most likely diagnosis?

a. Acute viral hepatitis

b. Chronic persisting hepatitis

c. Autoimmune hepatitis

d. Chronic active hepatitis

e. Alcoholic hepatitis

897. Examination of a patient revealed that dental hypoplasia was caused by hypovitaminosis of vitamins A and D. These vitamins were administered perorally but they didnt have any medicinal effect. What is the probable cause of disturbed vitamin assimilation?

a. Hypochlorhydria

b. Achylia

c. Hyperchlorhydria

d. Bile acid deficiency

e. Achlorhydria

898. A patient suffering from stomatitis was prescribed oral rinsing. Which antiseptic from the oxidant group is the most suitable for this purpose?

- a. Boric acid
- b. Ethyl alcohol
- c. Chloramine
- d. Alcoholic iodine solution
- e. Potassium permanganate**

899. During an experiment it is required to estimate the rate of cell excitability. For this purpose it would be rational to determine:

- a. Duration of action potential
- b. Depolarization threshold**
- c. Critical level of depolarization
- d. Amplitude of action potential
- e. Rest potential

900. During physical exercise people are less sensitive to pain. The reason for it is the activation of:

- a. Adrenal gland functions
- b. Antinociceptive system**
- c. Sympathoadrenal system
- d. Thyroid gland functions
- e. Nociceptive system

901. While exercising on a bicycle ergometer a sportsman was trying to choose such a load that would allow him to achieve the maximal performance of his muscles. What load intensity is required in this case?

- a. Maximal
- b. Continuous minimal
- c. Alternating minimal and maximal
- d. Middle**
- e. Minimal

902. A patient complains of headache, difficult respiration. Rhinological examination allowed to confirm the following diagnosis: frontitis (frontal sinus inflammation). Which nasal meatus may contain purulent discharges?

- a. Common
- b. Superior
- c. Inferior
- d. Median**
- e. Above the superior nasal turbinate

903. A newborn didn't take his first breath. Autopsy revealed that in spite of unobstructed respiratory tracts the baby's lungs didn't expand. What might be the cause of it?

- a. Surfactant absence**
- b. Bronchi rupture
- c. Apical cap of lung
- d. Bronchostenosis
- e. Alveole enlargement

904. A female patient suffering from secondary syphilis got foci of skin depigmentation in the upper parts of her back. What pathological process is it?

- a. Dysplasia
- b. Metaplasia
- c. Parakeratosis
- d. Leukoderma**
- e. Leukoplakia

905. During anaesthetization of the oral cavity mucous tunic a patient developed anaphylactic shock

(generalized vasodilatation, increase in vascular permeability along with escape of liquid to the tissues). What type of hypersensitivity has the patient developed?

- a. IV type (cellular cytotoxicity)
- b. V type (granulomatosis)
- c. III type (immune complex)
- d. II type (antibody-dependent)
- e. I type (anaphylactic)**

906. 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. Cholecystokinin-pancreozymin**

907. A male patient underwent an operation on account of inguinal hernia. During the operation a surgeon damaged content of the inguinal canal. What structure was damaged?

- a. Funiculus spermaticus**
- b. -
- c. Lig. inguinale
- d. Lig. teres uteri
- e. Urachus

908. A 40 year old male patient died from cerebral edema. In anamnesis the face carbuncle was registered. Autopsy revealed hyperemia and edema of cerebral tissue. White matter of the left hemisphere had two cavities 6x5,5 and 5x4,5 cm large filled with yellowish-green cream-like fluid. Walls of the cavities were built up by nerve tissue with irregular strands. What complication of carbuncle was it?

- a. Colliquative necroses
- b. Chronic abscesses
- c. Acute abscesses**
- d. Cysts
- e. Empyema

909. Inside a human cell the informational RNA containing both exons and introns was delivered to the granular endoplasmic reticulum to the ribosomes. What process does NOT take place?

- a. Translation
- b. Processing**
- c. Prolongation
- d. Transcription
- e. Replication

910. A specimen of connective tissue of derma was stained with Sudan III and hematoxylin. There are clusters of big polygonal cells that turned orange. Their nuclei are flattened and located on periphery. What tissue is it?

- a. Reticular connective
- b. White adipose**
- c. Brown adipose
- d. Lamellar osseous
- e. Hyaline cartilaginous

911. A patient has coronary heart disease. For its treatment he was prescribed an antianginal drug that activates guanylate cyclase and accumulates cyclic guanosine monophosphate in the myocardium cells. What drug is it?

- a. Verapamil
- b. Panangine
- c. Validol

d. Dipyridamol

e. Isosorbide mononitrate

912. It was determined that basal metabolic rate of a patient under study increased due value by 8%. This means that the intensity of energetic metabolism processes in this patient is:

a. Moderately inhibited

b. Normal

c. Moderately increased

d. Essentially increased

e. Essentially inhibited

913. A patient who takes a blocker of membrane cytoceptors of efferent conductor synapses of autonomic nervous system complains about dry mouth. What receptors are blocked?

a. β -adrenoreceptors

b. H₂-receptors

c. β -adrenoreceptors

d. Nicotinic cholinoreceptors

e. Muscarinic cholinoreceptors

914. Laboratory of extremely dangerous infections received a sample taken from a patient with assumed cholera. What express-diagnostics method can confirm this diagnosis?

a. Immunofluorescence test

b. Hemagglutination reaction

c. Complement binding reaction

d. Precipitation reaction

e. Agglutination test

915. A 60-year-old patient presents with intestinal hypoperistalsis. Which of the following foodstuffs will stimulate peristalsis most of all?

a. Lard

b. Brown bread

c. White bread

d. Meat

e. Tea

916. A patient being treated in the burns department has suppurative complication. The pus is of bluish-green colour that is indicative of infection caused by *Pseudomonas aeruginosa*. What factor is typical for this causative agent?

a. Presence of spores

b. Coccal form

c. Cell pairing

d. Mycelium formation

e. Gram-negative stain

917. Examination of a patient with chronic renal insufficiency revealed an increase in residual nitrogen concentration in blood up to 35 millimole/l, more than half of which is urea. What type of hyperazotemia is it?

a. Hepatic

b. Combined

c. Productional

d. Retentional

e. Residual

918. During examination of a child's oral cavity a pediatrician found 8 incisors. The child's development corresponds to his age. How old is the child?

a. 7-8 months

b. 12-15 months

c. 16-20 months

d. 10-12 months

e. 6-7 months

919. Histological examination of a microspecimen presenting a malignant lung tumour revealed that the tumor consisted of lymphocyte-like cells forming any structures. Stroma is mildly marked, there are a lot of mitoses and necroses. What tumour is it?

a. Squamous cell keratinous carcinoma

b. Small cell carcinoma

c. Squamous cell nonkeratinous carcinoma

d. Fibroma

e. Adenocarcinoma

920. A patient suffering from tuberculosis was treated with rifampicin, which caused drug resistance of tuberculosis mycobacterium A. In order to reduce mycobacteria resistance, rifampicin should be combined with the following drug:

a. Amoxicillin

b. Metronidazole

c. Isoniazid

d. Itraconazole

e. Acyclovir

921. A patient has myocardial infarction in the region of the frontal wall of the left ventricle E. Circulatory dysfunction occurred in the following vascular basin:

a. Frontal interventricular branch of the left coronary artery

b. Circumflex branch of the left coronary artery

c. Marginal branch of the left coronary artery

d. Frontal ventricular branch of the right coronary artery

e. Atrioventricular branch of the left coronary artery

922. Dehelminthization of a patient revealed some long fragments of a helminth with segmented structure E. Mature segments were rectangular, 30x12 mm large, closed-type matrix was in form of a stem with 17-35 lateral branches. Specify this helminth:

a. Hookless tapeworm

b. Armed tapeworm

c. Echinococcus

d. Dwarf tapeworm

e. Alveococcus

923. Bacteriological analysis of purulent discharges from urethra revealed presence of gram-negative bacteria resembling of coffee beans, which were able to decompose glucose and maltose into acid D. They were found in the leukocytes. These bacteria are causative agents of the following disease:

a. Ulcer molle

b. Syphilis

c. Melioidosis

d. Gonorrhoea

e. Venereal lymphogranulomatosis

924. In spring a patient experiences petechial haemorrhages, loosening of teeth, high liability to colds. A doctor supposes hypovitaminosis C. In this respect loosening of teeth can be explained by:

a. Structural failure of collagen in the periodontal ligaments

b. Structural change of glycosaminoglycan

c. Mechanical damage of teeth

d. Disturbed oxidation-reduction process in the periodont

e. Increased permeability of periodont membranes

925. Patients with erythropoietic porphyria (Gunther's disease) are known to have photosensitive skin, red urine E. In the ultraviolet light their teeth exhibit bright red fluorescence E. This disease is associated with deficiency of the following enzyme:

- a. Ferrochelatase
- b. Uroporphyrinogen-I-synthase
- c. Delta-aminolevulinate synthase
- d. Uroporphyrinogen decarboxylase
- e. Uroporphyrinogen-III-cosynthase**

926. At an altitude of 14000 m an aircraft experienced a sudden loss of cabin pressure. The pilot must have developed the following type of embolism:

- a. Fat embolism
- b. Gaseous**
- c. Foreign body embolism
- d. Thromboembolism
- e. Air embolism

927. It is known that people who permanently live in highland have an increased concentration of erythrocytes per each blood volume unit. Owing to this fact blood can optimally fulfil the following function:

- a. Maintenance of acid-base balance
- b. Amino acid transport
- c. Maintenance of ionic equilibrium
- d. Gas transport**
- e. Haemostasis participation

928. 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 give an intravenous injection of calcium gluconate solution
- b. To reduce digitoxin dosage
- c. To withhold digitoxin**
- d. To administer digoxin
- e. To administer strophanthine intravenously

929. A scientific expedition in India was guided by a native who had never parted with his dog. What invasion diseases can be transmitted to the participants of the expedition as a result of contacts with this dog if it is known to be the source of invasion?

- a. Fascioliasis
- b. Echinococcosis**
- c. Paragonimiasis
- d. Teniasis
- e. Dicrocoeliasis

930. During postembryonal haemopoiesis in the red bone marrow the cells of one of the cellular lineages 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. Basophil cytopoiesis
- c. Lymphopoiesis
- d. Neutrophil cytopoiesis
- e. Erythropoiesis**

931. While being at the dentist a patient had an attack of bronchial asthma. The dentist applied a ?-adrenomimetic drug in form of inhalations. What drug was applied?

- a. Aminophylline
- b. Adrenaline hydrochloride
- c. Atropine sulfate
- d. Salbutamol**
- e. Ephedrine hydrochloride

932. Vaccination is done by means of a toxin that has been neutralized by a formaldehyde (0,4%) at a temperature 37-40°C for four weeks. Ramond was the first to apply this preparation for diphtheria prophylaxis. What preparation is it?

a. Inactivated vaccine

b. Anatoxin

c. Immunoglobulin

d. Antitoxic serum

e. Adjuvant

933. 30 minutes after a road accident a 35-year-old man was found to have a massive trauma of his lower extremities without significant external haemorrhage. The injured is in excited state. What is the leading component of traumatic shock pathogenesis that requires immediate correction?

a. Internal organs dysfunction

b. Internal plasma loss

c. Pain

d. Internal haemorrhage

e. Intoxication

934. A female patient was admitted to the hospital with pleuritis. Which area of pleural cavity contains most exudate?

a. Costodiaphragmatic recess

b. Phrenicomedial recess

c. Costomediastinal recess

d. Under the pleural cupula

e. Under the pulmonary radix

935. Treatment of many diseases involves use of cocarboxylase (thiamine pyrophosphate) for supplying cells with energy. What metabolic process is activated in this case?

a. Glutamate deamination

b. Oxidizing decarboxylation of pyruvate

c. Amino acids decarboxylation

d. Decarboxylation of biogenic amines

e. Detoxication of harmful substances in liver

936. Examination of a patient's oral cavity revealed contacting cutting edges of his superior and inferior incisors. Such tooth position is typical for the following occlusion:

a. Prognathism

b. Direct occlusion

c. Biprognathic occlusion

d. Closed occlusion

e. Orthognathia

937. A teenager had his tooth extracted under novocaine anaesthesia. 10 minutes later he presented with skin pallor, dyspnea, hypotension. When this reaction is developed and the allergen achieves tissue basophils, it reacts with:

a. IgA

b. IgD

c. IgE

d. T-lymphocytes

e. IgM

938. After destruction of CNS structure an animal lost its orientative reflexes. What exactly was destroyed?

a. Medial reticular nuclei

b. Quadrigeminal plate

c. Lateral vestibular nuclei

d. Black substance

e. Red nuclei

939. It is known that patients with diabetes mellitus are more subject to inflammatory processes, they have low regeneration and slower wound healing. What is the reason for this?

- a. Decrease in lipolysis
- b. Decrease in proteosynthesis**
- c. Accelerated gluconeogenesis
- d. Increase in lipolysis
- e. Intensification of catabolism

940. A patient consulted a dentist about pains, reddening and swelling of gums. The dentist assumed herpetic gingivostomatitis. What virus might have caused this disease?

- a. Cytomegalic virus
- b. Herpes simplex virus type 1**
- c. Epstein-Barr virus
- d. Herpes simplex virus type 2
- e. Herpes zoster

941. Autopsy of a 35 y.o. woman revealed not only enlargement of many lymph nodes but also enlarged spleen weighting 600,0. Its incision showed that it was heterogeneous, dark red, dense with greyish-yellow necrotic areas up to 1 cm in diameter (porphyritic spleen). What disease can be assumed?

- a. Lymphogranulomatosis**
- b. Cancer metastases
- c. Chronic lymphoid leukosis
- d. Chronic myeloid leukosis
- e. Lymphosarcoma

942. A pregnant woman lost for about 800 ml of blood during labour. There is also tachycardia, arterial pressure is 100/70 mm Hg, tachypnea up to 28/min. What hypoxia type is primary in such clinical situation?

- a. Blood**
- b. Respiratory
- c. Cardiovascular
- d. Mixed
- e. Tissue

943. Study of a tubular organ revealed that its median membrane consists of solid hyaline rings. What epithelium lines mucous membrane of this organ?

- a. Multinuclear prismatic ciliated**
- b. Multistratal squamous nonkeratinizing
- c. Monostratal cubical
- d. Monostratal prismatic with a border
- e. Monostratal prismatic glandular

944. As a result of a chest trauma the costal cartilage was damage D. The cartilage regenerates due to the following layer of perichondrium:

- a. Fibrous
- b. Elastic
- c. Collagen
- d. Sharpeys fibers
- e. Chondrogenic**

945. Underdevelopment of which parts of facial skeleton in the embryonal period is the reason for such a malformation as cleft palate?

- a. Mandibular and palatine processes
- b. Mandibular processes
- c. Frontal processes
- d. Palatine processes**
- e. Frontal and maxillary processes

946. Examination of a 60 y.o. man's oral cavity revealed the following changes: the 26th and 27th tooth are covered with metallic crowns that plunge deep into the gums. There is a parodontal pouch 0,7 cm deep between them containing some pus. Gingival papillae of these teeth are hyperemic, edematous, cyanotic, bleed as a reaction to touching by a dental explorer. X-ray picture shows resorption of interdental septa of $\frac{1}{2}$ of tooth root. What is the most probable diagnosis?

a. Local parodontitis

b. Generalized parodontitis

c. Hypertrophic gingivitis

d. -

e. Chronic catarrhal gingivitis

947. As a result of a road accident a 26-year-old man is in the torpid phase of shock. Blood count: leukocytes - $3,2 \times 10^9/l$. What is the leading mechanism of leukopenia development?

a. Leukopoiesis inhibition

b. Leukocyte destruction in the hematopoietic organs

c. Faulty release of mature leukocytes from the bone marrow into the blood

d. Leukocyte redistribution in the bloodstream

e. Increased excretion of the leukocytes from the organism

948. A patient who has been taking a certain drug for a long time cannot discontinue the use of it because this causes psychic and somatic dysfunctions. The syndrome occurring at refraining from the use of a drug is called:

a. Tachyphylaxis

b. Sensitization

c. Idiosyncrasy

d. Cumulation

e. Abstinence

949. Epithelium regeneration of mucous membrane of oral cavity (cell reproduction) was accompanied by semiconservative DNA replication (selfreproduction). Nucleotides of a new DNA chain are complementary to:

a. DNA-polymerase enzyme

b. Sense codons

c. Introns

d. Maternal chain

e. RNA-polymerase enzyme

950. As a result of iodine deficiency in foodstuffs Transcarpathian people often have endemic goiter. This disease is caused by the following type of variability:

a. Correlative

b. Modification

c. Ontogenetic

d. Mutational

e. Combinatorial

951. The total number of leukocytes in patient's blood is $90 \times 10^9/l$. Leukogram: eosinophils - 0%, basophils - 0%, juvenile - 0%, stab neutrophils - 2%, segmentonuclear cells - 20%, lymphoblasts - 1%, prolymphocytes - 2%, lymphocytes - 70%, monocytes - 5%, Botkin-Gumprecht cells. Clinical examination revealed enlarged cervical and submandibular lymph nodes. Such clinical presentations are typical for the following pathology:

a. Chronic lympholeukosis

b. Acute lympholeukosis

c. Lymphogranulomatosis

d. Chronic myeloleukosis

e. Infectious mononucleosis

952. A histological specimen presenting a tooth slice shows that the intercellular dentin substance contains collagen fibers being tangential to the dentinoenamel junction and perpendicular to the

dentinal tubules (Ebners fibers). This dentin layer is called:

- a. Mantle dentin
- b. Granular layer
- c. Parapulpal dentin**
- d. Secondary dentin
- e. Interglobular dentin

953. A patient was delivered to a hospital after having been exposed to ionizing radiation. He presents with vomiting, anorexia, pain in different region of abdomen, bloody feces, elevation of body temperature, inertness. Such clinical presentations are typical for the following form of acute radiation disease:

- a. Bone-marrow
- b. Toxemic
- c. Cerebral
- d. Intestinal**
- e. Combined

954. After prophylactic medical examination a 7 y.o. boy was diagnosed with Lesch-Nyhan syndrome (only boys fall ill). His parents are healthy, but his grandfather by his mothers side has the same disease E. What type of inheritance is it?

- a. Dominant, sex-linked
- b. Autosomal and recessive
- c. Autosomal and dominant
- d. Recessive, sex-linked**
- e. Semidominance

955. A patient complains about having pain during mastication, especially when he moves his jaw forward or sideward D. What muscles are damaged?

- a. Lateral pterygoid**
- b. Temporal
- c. Masticatory
- d. Medial pterygoid
- e. Mylohyoid

956. On examination a male patient was diagnosed with acute radiation disease E. Laboratory examination revealed abrupt decrease in serotonin found in blood platelets. A likely cause of decrease in serotonin concentration would be metabolic imbalance of the following substance:

- a. Phenyl alanine
- b. Histidine
- c. Serine
- d. Tyrosine
- e. 5-oxytryptophane**

957. A 49-year-old woman spent a lot of time standing. As a result of it she got leg edema A. What is the most likely cause of the edema?

- a. Increase in hydrostatic pressure of blood in veins**
- b. Increase in oncotic pressure of blood plasma
- c. Decrease in hydrostatic pressure of blood in veins
- d. Increase in systemic arterial pressure
- e. Decrease in hydrostatic pressure of blood in arteries

958. A patient with fracture of femoral bone in the area of surgical neck got symptoms of acute dextroventricular insufficiency as a result of pulmonary embolism. What type of embolism is it?

- a. Air
- b. Fat**
- c. Metastatic
- d. Gas
- e. Tissue

959. A patient with edemata was prescribed a K⁺-retaining diuretic - aldosterone antagonist. What drug is it?

- a. Digoxin
- b. Clonidine
- c. Procainamide hydrochloride
- d. Alopurinole
- e. Spironolactone**

960. Autopsy of a 68 year old man who died from chronic cardiac insufficiency revealed deformed, thickened, conjoined cusps of mitral valve. Along the edge of joining there were small (1-2 mm) thrombs. What form of endocarditis caused development of chronic cardiac insufficiency?

- a. Acute verrucous
- b. Recurrent verrucous**
- c. Fibroplastic
- d. Diffuse
- e. Polypoulcerous

961. Blood analysis of a patient suffering from jaundice revealed increase of total bilirubin by its indirect fraction. Urine and feces have intense colouring. What is the most probable mechanism of these abnormalities?

- a. Increased haemolysis of erythrocytes**
- b. Impaired generation of direct bilirubin
- c. Damage of liver parenchyma
- d. Obstruction of bile outflow from the liver
- e. Impaired transformation of urobilinogen in the liver

962. To prevent possible negative effect upon the gastric mucosa a patient with rheumatoid arthritis was administered a nonsteroid anti-inflammatory drug - a COX-2 selective inhibitor. Specify this drug:

- a. Analgine
- b. Celecoxib**
- c. Butadion
- d. Ibuprofen
- e. Acetylsalicylic acid

963. As a result of a trauma a patient is unable to extend his cubital articulation. This may be caused by dysfunction of the following muscle:

- a. Musculus infraspinatus
- b. Musculus triceps brachii**
- c. Musculus teres major
- d. Musculus subscapularis
- e. Musculus levator scapulae

964. Examination of a 42-year-old patient suffering from paradontosis revealed some roundish calcified formations 2-3 mm in diameter in the coronal pulp. Name these structures:

- a. Dead dentin
- b. Sclerotic dentin
- c. Interglobular spaces
- d. Denticles**
- e. Interglobular dentin

965. Blood analysis of a 16-year-old girl suffering from the autoimmune inflammation of thyroid gland revealed multiple plasmatic cells. Such increase in plasmocyte number is caused by proliferation and differentiation of the following blood cells:

- a. Tissue basophils
- b. T-killers
- c. T-helpers
- d. T-suppressors
- e. B-lymphocytes**

966. A patient complained about a carbuncle on his face. Examination results: neither dense nor painful edema of subcutaneous cellular tissue, there is black crust in the middle of the carbuncle and peripheral vesicular rash around it. Bacteriological examination revealed presence of immobile streptobacilli able of capsulation. What microorganisms are causative agents of this disease?

- a. *Staphylococcus aureus*
- b. *Bacillus megaterium*
- c. *Bacillus anthracoides*
- d. *Bacillus anthracis***
- e. *Bacillus subtilis*

967. A patient has applied eye drops containing atropine which resulted in persistent mydriasis. Which muscle was blocked?

- a. Rectus
- b. Pupil-dilating
- c. Pupil-contracting**
- d. Oblique
- e. Ciliary

968. A histological specimen of an eyeball shows a structure in form of a convexoconvex formation connected with the ciliary body by the fibers of ciliary zonule and covered with a transparent capsule. Specify this structure:

- a. Sclera
- b. Vitreous body
- c. Crystalline lens**
- d. Ciliary body
- e. Cornea

969. A man who has been staying in a stuffy room for a long time lost consciousness. He regained consciousness after inhalation of ammonia spirit vapour. This substance's effect is connected with direct influence upon the following structures:

- a. Receptors of upper airways**
- b. Resistive vessels
- c. Capacitive vessels
- d. Respiratory centre
- e. Vasculomotor centre

970. In the mountains some clinically healthy people present with anaemia symptoms. Blood test can reveal sickle cells. What is the genotype of such people?

- a. XcXc
- b. AA
- c. XCXc
- d. aa
- e. Aa**

971. Histological examination of myocardium of a 47-year-old patient with rheumatic heart disease (section material) revealed some big visually empty vacuoles within the cardiomyocytes. They turn black when stained with osmic acid, and yellow-red when stained with Sudan III. What pathological process is it?

- a. Carbohydrate degeneration
- b. Adipose degeneration**
- c. Dysproteinosis
- d. Hyaline drop degeneration
- e. Hydropic degeneration

972. During starvation normal rate of glucose is maintained by means of gluconeogenesis activation. What substance can be used as a substrate for this process?

- a. Ammonia
- b. Adenine

c. Guanine

d. Urea

e. Alanine

973. A patient underwent the extraction of his isuperior medial incisor. It is supplied with blood by the branches of the following artery:

a. A.alveolaris inferior

b. A.infraorbitalis

c. A.sphenopalatina

d. A.palatina descendens

e. A.buccalis

974. Coprological examination of a patients feces revealed small operculate eggs. It is known from the anamnesis that the patient often consumes fish. What fluke parasitizes in the patients organism?

a. Blood fluke

b. Cat liver fluke

c. Lung fluke

d. Liver fluke

e. Lancet fluke

975. Specimen of a patients sputum was stained with the following dyes and reagents: Ziehls solution, methylene blue solution, 5% solutoin of sulfuric aci D. What staining method was applied?

a. Neissers

b. Grams

c. Burris

d. Peshkovs

e. Ziehl-Neelsen

976. A 35 year old man got a trauma that resulted in complete rupture of spinal cord at a level of the first cervical segment. What changes of respiration will be observed?

a. Respiration wont change

b. Respiration will become diaphragmatic

c. Respiration will come to a standstill

d. Respiration will become infrequent and deep

e. Respiration will become frequent and shallow

977. A 60-year-old patient consulted a doctor about retrosternal pain arising immediately after physical exercis E. He was prescribed nitroglycerin. The medication relieved retrosternal pain but the patient got acute headach E. What is the likely mechanism of this side effect?

a. Phosphodiesterase block

b. Intracranial pressure rise

c. Inhibited formation of mediators in brain

d. ?-adrenoreceptor block

e. Reduced accumulation of calcium ions

978. Microscopic examination of a parenchymatous organ revealed that its epithelial cords formed glomerular, fascicular and reticular zones. The central part of the organ was presented by accumulations of chromaffin cells. Specify this organ:

a. Adrenal gland

b. Thyroid gland

c. Hypophysis

d. Epiphysis

e. Liver

979. Autopsy of a man, who died from typhoid fever on the 5th day of disease, revealed the following changes: aggregated follicles of ileum were enlarged and plethoric; they protruded over the mucous membrane, and multiple sulci and convolutions could be seen on their surfac E. Histological examinatio revealed plethority and edema of tissues, presense of granulomas composed of big cells

with light cytoplasm and containing typhoid bacilli. These local changes are compliant with the following period of typhoid fever:

- a. Stage of ulcer healing
- b. Stage of necrosis
- c. Stage of medullary swelling**
- d. Stage of ulceration
- e. Stage of clean ulcers

980. A 25-year-old patient with clinical presentations of nephrotic syndrome underwent puncture biopsy of a kidney. Microscopical examination revealed expansion of the epithelium cells of proximal nephron tubules, vacuoles containing transparent liquid in the cytoplasm, peripheral deviation of the nucleus. What degeneration was revealed in the tubule epithelium?

- a. Adipose
- b. Granular
- c. Keratinization
- d. Hyaline drop
- e. Hydropic**

981. During examination of a 36-year-old woman a dentist revealed a formation in form of a nodule up to 0,8 cm in diameter, of dark brown-red colour, soft, on a wide base. The formation was found on the buccal surface of gum in the region of the 2nd molar. Histological examination revealed that the formation had plenty of sinusoid vessels and a lot of roundish mononuclear and big multinuclear cells; in some parts accumulations of hemosiderin granules could be found. What is the most likely diagnosis?

- a. Mandibular osteoclastoma
- b. Ameloblastoma
- c. Root granuloma
- d. Angiomatous epulis
- e. Giant-cell epulis**

982. Researches of the latest decades established that immediate "executors" of cell apoptosis are special enzymes called caspases. Generation of one of them proceeds with participation of cytochrome C. What is its function in a normal cell?

- a. Component of H⁺ATP system
- b. Component of pyruvate-dehydrogenase system
- c. Enzyme of tricarboxylic acid cycle
- d. Enzyme of respiratory chain of electron transport**
- e. Enzyme of beta-oxidation of fatty acids

983. A 45-year-old patient was admitted to the resuscitation department with a laryngeal edema. During tracheotomy a surgeon accidentally cut across the jugular venous arch that lies within:

- a. Spatium interscalenum
- b. Spatium interaponeuroticum suprasternale**
- c. Spatium retropharyngeale
- d. Spatium antescalenum
- e. Spatium pretracheale

984. The air in a room has increased concentration of carbonic acid. What respiratory changes (depth and rate) will be observed in a person after entering this room?

- a. Decrease in depth
- b. Increase in depth
- c. Decrease in rate
- d. Increase in rate
- e. Increase in depth and rate**

985. Examination of nasal cavity revealed deviation of the posterior part of nasal septum. What bone is affected?

- a. Perpendicular plate of ethmoid bone

b. Medial plate of pterygoid process

c. Vomer

d. Lateral plate of pterygoid process

e. Vertical plate of palatine bone

986. A woman with intractable vomiting was admitted to the infectious disease ward. What changes of water-salt metabolism are likely to be observed?

a. Iso-osmolar dehydration

b. Hypo-osmolar hyperdehydration

c. Hyper-osmolar hyperdehydration

d. Hypo-osmolar dehydration

e. Hyperosmolar dehydration

987. Examination of a 35-year-old patient included histological analysis of the red bone marrow punctate that revealed a significant increase in the megakaryocyte number. This will cause the following alterations in the peripheral blood:

a. Leukopenia

b. Thrombocytopenia

c. Leukocytosis

d. Thrombocytosis

e. Agranulocytosis

988. Cystinuria in humans shows itself in form of cystine stones in kidneys (homozygotes) or else an increased rate of cystine in urine (heterozygotes). Cystinuria is a monogenic disease. Specify the type of interaction between cystinuria genes and normal rate of cystine in urine:

a. Codominance

b. Epistasis

c. Complementarity

d. Semidominance

e. Complete dominance

989. Before an operation a 30-year-old male patient had his blood type D. It turned out to be Rh-positive. Erythrocytes were not agglutinated by standard sera of O(I), A(II), B(III) groups. According to the ABO blood group system this blood is of the following type:

a. A(II)

b. AB(IV)

c. O(I)

d. -

e. B(III)

990. A patient was admitted to a surgical department for an operation. He has to undergo neuroleptanalgesia. To achieve neuroleptanalgesia it would be rational to combine fentanyl with the following medicine:

a. Pilocarpine

b. Salbutamol

c. Cholosasum

d. Fraxiparine

e. Droperidol

991. Examination of a patient who complains of deglutitive problem revealed a tumour-like eminence 1-2 cm in diameter on the tongue root in the region of the cecal foramen. These are overgrown remnants of the following gland:

a. Parathyroid

b. Thyroid

c. Sublingual

d. Adenohypophysis

e. Thymus

992. A patient has torticollis. Which neck muscle is damaged?

- a. M.platysma
- b. M.mylohyoideus
- c. M.omohyoideus
- d. M.sternohyoideus
- e. M.sternocleidomastoideus**

993. 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 patient's condition got better, the pulmonary ventilation volume increased. What phenomenon underlies the interaction of these medications?

- a. Indirect synergism
- b. Direct synergism
- c. Unilateral antagonism
- d. Direct antagonism**
- e. Indirect antagonism

994. After parenteral introduction of a medication a patient fell into a coma. He had Cheyne-Stokes respiration, apparently miotic pupils. The patellar reflex was preserved. What medication might have caused the intoxication?

- a. Aminazine
- b. Diazepam
- c. Morphine hydrochloride**
- d. Analgin
- e. Phenobarbital

995. A 13-year-old patient complains of general weakness, dizziness, fatigability. Mental retardation is also observed. Examination revealed high concentration of valine, isoleucine and leucine in blood and urine. The patient's urine has a specific smell. What is the likely cause of such condition?

- a. Maple syrup urine disease**
- b. Histidinemia
- c. Basedow's disease
- d. Tyrosinosis
- e. Addison's disease

996. For infection prevention a patient who underwent appendectomy was prescribed a cephalosporin antibiotic. C. Antimicrobial activity of these antibiotics is called forth by the disturbance of the following process:

- a. Microbial wall formation**
- b. Ribosomal protein synthesis
- c. Nucleic acid synthesis
- d. Energy metabolism
- e. Cholinesterase block

997. ECG of a patient showed that RR interval equaled 1,5 s, heart rate equaled 40 bpm. What is the cardiac pacemaker?

- a. Atrioventricular node**
- b. Sinus node
- c. Right branch of His bundle
- d. His bundle
- e. Left branch of His bundle

998. A 7 year old child has angina. A smear from the tonsil surface was inoculated on blood agar. 24 hours later there had grown colonies of streptococci. Nutrient medium turned transparent around them. This study revealed presence of the following pathogenic factor:

- a. Neuraminidase
- b. Endotoxin
- c. Hemolysin**

- d. Leukocidin
- e. Beta-lactamase

999. While on holiday in the countryside a boy found a spider with the following morphological peculiarities: body length at the rate 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. Solifugae
- c. Mite
- d. Scorpion
- e. Steppe spider (*Latrodectus tredecimguttatus*)**

1000. While operating on a tumour of abdominal part of ureter a doctor should be aware of an important arterial vessel located in front of it. Which vessel is it?

- a. A.ileocolica
- b. A.iliaca interna
- c. A.renalis
- d. A.testicularis**
- e. A.iliaca communis

1001. A 50-year-old man sustained a great stress. This caused a dramatic increase in adrenalin and noradrenalin concentration. What enzymes catalyze the inactivation of the latter?

- a. Peptidases
- b. Carboxylase
- c. Monoamine oxidases**
- d. Glycosidases
- e. Tyrosinase

1002. In course of parallel experiments some rats were being subjected to continuous direct solar irradiation and some were being irradiated while placed into a glass box. The animals that received a dose of direct irradiation got tumours on parts of their skin not coated with hair. This phenomenon is associated with the influence of the following factor:

- a. Exogenous chemical carcinogens
- b. Ultraviolet radiation**
- c. Endogenous chemical carcinogens
- d. Infrared radiation
- e. Biological carcinogens

1003. A patient with essential hypertension has been prescribed captopril. What is its mechanism of action?

- a. Inhibition of angiotensin-converting enzyme activity**
- b. α -adrenoreceptor block
- c. Peripheral vasodilating effect
- d. Angiotensin II receptor block
- e. β -adrenoreceptor block

1004. Inside a human cell the informational RNA containing both exons and introns was delivered to the granular endoplasmic reticulum to the ribosomes. What process does NOT take place?

- a. Prolongation
- b. Transcription
- c. Processing**
- d. Translation
- e. Replication

1005. A patient has a first-degree atrioventricular block accompanied by the prolongation of P-Q interval up to 0,25 s. Under such conditions the following myocardial function will be disturbed:

- a. Conduction**

- b. Automatism
- c. Contractibility
- d. Excitability
- e. -

1006. Blood test of a patient suffering from atrophic gastritis gave the following results: RBCs - $2,0 \times 10^{12}/l$, Hb - 87 g/l, colour index - 1,3, WBCs - $4,0 \times 10^9/l$, thrombocytes - $180 \times 10^9/l$. Anaemia might have been caused by the following substance deficiency:

- a. Vitamin A
- b. Iron
- c. Vitamin K
- d. Vitamin B12**
- e. Zinc

1007. An electronic microphotography of a sense organ shows some hair cells with short microvilli - stereocilia - located on their apical surface and a polar kinocilium. What sense organ are these cells typical for?

- a. Olfactory organ
- b. Gustatory organ
- c. Acoustic organ
- d. Organ of vision
- e. Organ of equilibrium**

1008. Examination of a 45-year-old man who had kept to a vegetarian diet for a long time revealed negative nitrogen balance. Which peculiarity of his diet is the cause of this phenomenon?

- a. Lack of fats
- b. Lack of vitamins
- c. Excess of carbohydrates
- d. Lack of proteins**
- e. Excess of water

1009. A sample taken from the pharynx of a patient with angina was inoculated on the blood-tellurite agar. This resulted in growth of grey, radially striated (in form of rosettes) colonies up to 4-5 mm in diameter. Microscopically there can be seen gram-positive rods with club-shaped ends arranged in form of spread fingers. What microorganisms are these?

- a. Corynebacteria diphtheriae**
- b. Diphtheroids
- c. Streptobacilli
- d. Clostridium botulinum
- e. Streptococci

1010. Curare-like substances (dithylinum) make it impossible for skeletal muscles to contract because they block:

- a. Membrane conduction of excitement
- b. Central synapses
- c. Ganglionic synapses
- d. Proprioceptors
- e. Neuromuscular synapses**

1011. 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. Secretin
- b. Somatostatin
- c. Vaso-intestinal peptide
- d. Cholecystokinin-pancreozymin**
- e. Gastro-inhibiting peptide

1012. A patient has been delivered to a hospital with a provisional diagnosis of progressing muscle

dystrophy. This diagnosis can be confirmed by the increased concentration of the following substance found in urine:

- a. Hydroxyproline
- b. Pyruvate
- c. Troponin
- d. Kreatine**
- e. Carnosine

1013. A 42-year-old patient came to a first-aid post because of a cut wound in the lower part of the anterior shoulder surface. Objectively: the patient has difficulties with forearm flexion. What muscles are most likely to be damaged?

- a. M.deltoideus, m.biceps brachii
- b. M.biceps brachii, m.anconeus
- c. M.coracobrachialis, m.supraspinatus
- d. M.deltoideus, m.infraspinatus
- e. M.brachialis, m.biceps brachii**

1014. Dentists commonly practice local anaesthetization by applying novocain solution with 0,1% adrenalin solution. The added adrenalin induces:

- a. Decrease in vascular resistance
- b. Arterial pressure rise
- c. Arterial pressure drop
- d. Local vasodilatation
- e. Local vasoconstriction**

1015. A 26-year-old patient was found to have a big furuncle of soft tissues of face by the root of nose and inferior eyelid. This disease can be seriously complicated by the infection spreading along veins of this region to the sinuses of dura mater. What sinus is most likely to be affected?

- a. Sigmoid
- b. Superior sagittal
- c. Petrosal
- d. Cavernous**
- e. Occipital

1016. 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, phosphorus - 1,9 millimole/l. These changes are associated with:

- a. Hypoparathyroidism**
- b. Hypothyroidism
- c. Hyperaldosteronism
- d. Hyperparathyroidism
- e. Hypoaldosteronism

1017. A teenager had his tooth extracted under novocain anaesthesia. 10 minutes later he presented with skin pallor, dyspnea, hypotension. When this reaction is developed and the allergen achieves tissue basophils, it reacts with:

- a. IgE**
- b. T-lymphocytes
- c. IgD
- d. IgA
- e. IgM

1018. A 58-year-old female patient complains of rapid fatigability, performance decrement, sleepiness, dyspnea during fast walking. In blood: RBCs - $4,0 \times 10^{12}/l$, Hb - 80 g/l, CI - 0,6; a large number of anisocytes and microcytes. What anaemia are these presentations typical for?

- a. Posthemorrhagic
- b. Pernicious
- c. Iron-deficient**

- d. Haemolytic
- e. Sickle-cell

1019. A patient with bronchial asthma has been administered inhalations of 0,5% isadrin solution. This helped to relieve bronchospasms but the patient started complaining of heart pain and palpitation. What is the cause of these presentations?

- a. Inhibition of acetylcholine synthesis
- b. alpha-adrenoreceptor stimulation
- c. beta1-adrenoreceptor stimulation**
- d. M-cholinoreceptor activation
- e. beta2-adrenoreceptor stimulation

1020. In order to establish the level of antidiphtheritic immunity in a child it was decided to use a passive hemagglutination test. This task can be completed by the sensibilization of erythrocytes by:

- a. Diphtheria bacillus antigens
- b. Haemolytic serum
- c. Diphtheria antitoxin
- d. Antidiphtheric serum
- e. Diphtheria anatoxin**

1021. An embryo has a disturbed development of blood-vascular system caused by a teratogenic factor. This disturbance occurred in the following germ layer:

- a. Ento- and mesoderm
- b. Entoderm
- c. Ento- and ectoderm
- d. Exoderm
- e. Mesoderm**

1022. Studying the mitotic cycle phases of an onion root the researchers revealed a cell with chromosomes lying in equatorial plane in form of a star. What phase of mitosis is it?

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

1023. In the third period of fever a patient had a critical body temperature drop accompanied by tachycardia and arterial pressure drop down to 80/60 mm Hg. Specify a type of collapse developed as a result of these changes:

- a. Haemorrhagic
- b. Infectious-and-toxic collapse**
- c. Cardiogenic
- d. Pancreatic
- e. Orthostatic

1024. A 35-year-old patient consulted a dentist about low density of dental tissues, increased fragility of teeth on eating solid food. In order to determine Ca/P relation a scrape of enamel was sent to the laboratory. What value of this index is suggestive of intensified demineralization?

- a. 2,5
- b. 1,85
- c. 0,9**
- d. 1,5
- e. 1,67

1025. A patient lost consciousness as a result of a cerebral trauma. This might be caused by damaging the following zones of cerebral cortex:

- a. Occipital**
- b. Temporal

- c. Frontal
- d. Parietal
- e. Temporal and parietal

1026. A patient diagnosed with acute pancreatitis was admitted to the surgical department. Which drug administration would be pathogenetically grounded?

- a. Chymotripsin
- b. Tripsin
- c. Contrical**
- d. Pancreatin
- e. Fibrinolysin

1027. A patient with a trigeminus inflammation has been suffering from progressing parodontitis for the last few years. What is the leading factor in the parodontitis development in this case?

- a. Low immunoglobulin production
- b. Hypoactivity of leukocytic elastase
- c. Increase of vagus tonus
- d. Neurodystrophical changes in parodontium**
- e. Hypoactivity of kallikrein-kinin system

1028. 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. Parathormone
- b. Vasopressin**
- c. Cortisol
- d. Natriuretic
- e. Corticotropin

1029. 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. ulnaris**
- c. N. dorsalis scapularis
- d. N. musculocutaneus
- e. N. subscapularis

1030. As a result of a chest trauma the costal cartilage was damaged. The cartilage regenerates due to the following layer of perichondrium:

- a. Elastic
- b. Sharpey's fibers
- c. Collagen
- d. Fibrous
- e. Chondrogenic**

1031. 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. Lingual
- c. Inferior labial
- d. Facial
- e. Mental**

1032. A 70-year-old man has developed prosthodontic stomatitis. Apart of this he was found to have an evident lesion of mouth corners. Microscopical examination revealed large ovoid gram-positive cells. What microorganisms are most likely to be the leading etiological agent of such a lesion?

- a. Staphylococci
- b. Candida fungi**

- c. Neisseria
- d. Streptococci
- e. Corynebacteria

1033. A histological specimen of an oral cavity organ represents three zones: adipose, glandular and fibrous. Specify this organ:

- a. Lip
- b. Gum
- c. Hard palate**
- d. Cheek
- e. Soft palate

1034. Parodontitis is treated with calcium preparations and a hormone that stimulates tooth mineralization and inhibits tissue resorption. What hormone is it?

- a. Thyroxine
- b. Aldosterone
- c. Calcitonin**
- d. Adrenalin
- e. Parathormone

1035. After prolonged exercising people usually experience intense muscle pain. What is its most likely cause?

- a. Intensified disintegration of muscle proteins
- b. Accumulation of lactic acid in muscles**
- c. Increased muscle excitability
- d. Accumulation of creatinine in muscles
- e. Increased concentration of ADP in muscles

1036. A couple has a son with haemophili a. The parents are healthy but the maternal grandfather also has haemophili a. Specify the type of inheritance:

- a. Dominant sex-linked
- b. Recessive sex-linked**
- c. Semidominance
- d. Autosomal dominant
- e. Recessive autosomal

1037. A 46-year-old inveterate smoker has a white crateriform ulcer with dense edges in the right corner of mouth. Eosine staining and microscopical examination revealed cords of atypical multilayer epithelium ingrowing into the adjacent tissues and making clusters. In the centre of these clusters some roundish pink concentric formations can be seen. What is the most likely diagnosis?

- a. Keratinizing squamous cell carcinoma**
- b. Basal cell carcinoma
- c. Leukoplakia
- d. Adenocarcinoma
- e. Squamous cell nonkeratinous carcinoma

1038. A 46-year-old female patient complaining of having alveolar haemorrhage for 6 hours after a tooth extraction, general weakness and dizziness was delivered to a hospital. The patient has a history of essential hypertension. Objectively: pale skin and mucous membranes. In blood: Hb - 80 g/l, Ht - 30%, bleeding and coagulation time is normal. What complication had been provoked by the haemorrhage?

- a. Chronic posthaemorrhagic anaemia
- b. Acute posthaemorrhagic anaemia**
- c. Folic acid deficiency anaemia
- d. Haemolytic anaemia
- e. Iron deficiency anaemia

1039. 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

1040. A specimen of cerebral cortex impregnated with silver nitrate shows some gigantic neurons of pyramidal form. These cells make the following layer of cortex:

- a. Ganglionic**
- b. Interior granular
- c. Molecular
- d. Exterior granular
- e. Pyramidal

1041. A patient has a spasm of smooth muscles of bronchi. As the first aid it would be physiologically appropriate to inject the patient the antagonists of the following receptors:

- a. β -adrenoreceptors
- b. M-cholinoreceptors**
- c. N-cholinoreceptors
- d. Adenosine receptors
- e. α -adrenoreceptors

1042. A patient suffering from stenocardia takes 100 mg of acetylsalicylic acid daily. What is the effect of acetylsalicylic acid in this patient?

- a. Inhibition of thrombocyte aggregation**
- b. Dilatation of coronary vessels
- c. Cholesterol rate reduction
- d. Inhibition of blood coagulation
- e. Prothrombin rate reduction

1043. A patient complains of frequent gingival haemorrhages he has been experiencing since his childhood. Blood test revealed a deficiency in blood-coagulation factor VIII. This means that the patient has an impairment of:

- a. Thrombin generation
- b. Prothrombinase generation**
- c. Fibrin generation
- d. Thrombocyte aggregation
- e. Thrombocyte adhesion

1044. 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

1045. A patient with herpetic stomatitis was prescribed acyclovir for topical application. What is its mechanism of action?

- a. It inhibits virus penetration into cells
- b. It inhibits synthesis of nucleic acids of viruses**
- c. It inhibits virus maturation
- d. It inhibits virion assembly
- e. It increases the resistance of macroorganism cells to the viruses

1046. A patient has a craniocerebral trauma. X-ray examination revealed a fracture of skull base.

The fracture line passes through the spinous and round foramina. What bone is damaged?

- a. Ethmoid
- b. Occipital
- c. Temporal
- d. Frontal

e. Sphenoid

1047. A 60-year-old male patient is unable to urinate after a surgery and needs a catheter installation. When a manipulator is not skilled enough, he can pierce the ureter in its following part (normally its the most narrow part):

- a. Fossa navicularis
- b. Ostium uretrae externum
- c. Pars spongiosa

d. Pars membranacea

e. Pars prostatica

1048. 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. Bilipid
- c. Liposclerosis
- d. Atheromatosis

e. Atherocalcinosis

1049. Examination of a 30-year-old man's mandible revealed in the region of his molar a dense tumour-like formation that significantly deformed the mandible. Here and there the formation wasn't fully detached from the bone tissue. Microscopical examination of a tissue sampling revealed that stroma had some cords and follicles with odontogenous cylindrical epithelial cells in periphery and stellate cells resembling of the enamel organ pulp in the centre. What is the most likely diagnosis?

a. Adenocarcinoma

b. Ameloblastoma

- c. Adenomatoid tumour
- d. Primary intraosteal cancer
- e. Osteoclastoma

1050. After inoculation of feces sample into the 1% alkaline peptonic water and 8-hour incubation in the thermostat at a temperature of 37°C a culture in form of a tender bluish film has grown. Such cultural properties are typical for the causative agent of the following disease:

a. Paratyphoid fever A

b. Cholera

- c. Dysentery
- d. Plague
- e. Typhoid fever

1051. A 29-year-old female patient has moon face, upper body obesity, striae on her anterior abdominal wall, hirsutism; urine shows an increased rate of 17-oxy ketosteroids. What disease are these presentations typical for?

- a. Primary aldosteronism
- b. Secondary aldosteronism

c. Itsenko-Cushing syndrome

- d. Conns syndrome
- e. Pheochromocytoma

1052. An electronic microphotography shows epidermis with some dendritic cells among common cubic cells. These cells have a well-developed Golgi complex, a lot of ribosomes and melanosomes. These cells are called:

a. Melanocytes

b. Tissue basophils

c. Keratinocytes

d. Langerhans cells

e. Merckels cells

1053. Dehelmintization of a patient revealed some long fragments of a helminth with segmented structure. Mature segments were rectangular, 30x12 mm large, closed-type matrix was in form of a stem with 17-35 lateral branches. Specify this helminth:

a. Alveococcus

b. Echinococcus

c. Dwarf tapeworm

d. Hookless tapeworm

e. Armed tapeworm

1054. A patient has some vesicles on the mucous membrane of the oral cavity, lips and nose. A dentist suspected vesicular stomatitis. What analysis will allow to confirm the diagnosis?

a. Contamination of animals with the vesicular fluid

b. Microscopy of the vesicular fluid

c. Recovery of bacteria from the vesicular fluid

d. Allergy test

e. Recovery of virus from the vesicular fluid

1055. A patient has myocardial infarction in the region of the anterior wall of the left ventricle. Circulatory dysfunction occurred in the following vascular basin:

a. Marginal branch of the left coronary artery

b. Anterior ventricular branch of the right coronary artery

c. Circumflex branch of the left coronary artery

d. Anterior interventricular branch of the left coronary artery

e. Atrioventricular branch of the left coronary artery

1056. Inflammation of tympanic cavity got complicated by the mastoid bone inflammation. Which wall of the tympanic cavity did the pus penetrate through?

a. Superior

b. Anterior

c. Medial

d. Posterior

e. Lateral

1057. A child presents with symptoms of psychic and physical retardation (cretinism). It is usually associated with the following hormone deficiency:

a. Somatotrophic

b. Insulin

c. Calcitonin

d. Thyroxin

e. Testosterone

1058. A victim has been delivered to a hospital with an open fracture of mandible ramus and profuse bleeding in the region of fracture. What artery is most likely to be damaged?

a. Inferior alveolar

b. Median temporal

c. Lingual

d. Ascending palatine

e. Facial

1059. A male patient waiting for tooth extraction has developed a strong sense of anxiety. Which drug should be given to him in order to relieve him of this discomfort?

a. Aminazine

b. Diazepam

- c. Aethimizolum
- d. Analgin
- e. Carbamazepine

1060. Depressions and emotional disorders result from noradrenaline, serotonin and other biogenic amines deficiency in brain. Concentration of these compounds in synapses can be increased by means of antidepressants that inhibit the activity of the following enzyme:

- a. Diamine oxidase
- b. Phenylalanine-4-monooxygenase
- c. L-amino acid oxidase

d. Monoamine oxidase

- e. D-amino acid oxidase

1061. A 23-year-old patient complains of increased salivation. Production of large amount of serous saliva is caused by the stimulation of the following vegetative ganglion:

- a. Ganglion pterygopalatinum
- b. Ganglion submandibulare
- c. Ganglion sublinguale
- d. Ganglion ciliare

e. Ganglion oticum

1062. Children often have laboured nasal breathing which is caused by overdevelopment of lymphoid tissue of the pharyngeal mucous membrane. This phenomenon may cause enlargement of the following tonsils:

- a. Tonsilla lingualis
- b. All above-mentioned
- c. Tonsilla palatina

d. Tonsilla pharyngea

- e. Tonsilla tubaria

1063. 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. Protopathic

- b. Phantom
- c. Heterotopic
- d. Visceral
- e. Epicritic

1064. In order to administer general health-improving therapy a parodontist intends to study factors of nonspecific resistance of saliva and mucous secretion. Which of the following factors of nonspecific resistance should be studied in the first line?

b. Lysozyme

- c. Secretory IgA
- d. Complement
- e. Properdin

1065. A 57-year-old patient experiences periodical uterine haemorrhages. Diagnostic biopsy of lining of uterus has revealed among the blood elements some glandular complexes of different forms and sizes made by atypic cells having hyperchromic nuclei with multiple mitoses (including pathological ones). What is the most likely diagnosis?

b. Adenocarcinoma

- c. Chorioepithelioma
- d. Endometritis
- e. Uterus fibromyoma

1066. A histologic specimen of the sagittal section of mandible primordium of a 3,5-month-old human embryo shows an epithelial organ surrounded by compactly arranged mesenchymal cells. This mesenchymal formation is called:

- a. Internal enamel organs
- b. Dental sacculle**
- c. Dental bulb
- d. External enamel organs
- e. Pulp of an enamel organ

1067. Autopsy of a 67-year-old man who died after presenting with hypoglycemic coma revealed some areas of connective tissue growth and necrosis foci, atrophy of Langerhans islets in pancreas. What disease might have induced such changes in pancreas?

- a. Diabetes mellitus**
- b. Pancreas hypoplasia
- c. Mucoviscidosis
- d. Acute pancreatitis
- e. Cancer of the head of pancreas

1068. A patient who has been taking tetracycline for a long time has developed candidosis of mucous membranes. What drug should be administered for its treatment?

- a. Nitrofurantoin
- b. Nitrofungin
- c. Amphotericin
- d. Griseofulvin
- e. Itraconazole**

1069. One of the protein synthesis stages is recognition. The first mRNA triplet starts with UAU triplet. What complementary triplet is found in tRNA?

- a. GUG
- b. CUC
- c. AUA**
- d. AAA
- e. UGU

1070. A removed vermiform appendix was sent for a histological analysis. The appendix was enlarged, with thickened walls and dull plethoric serous membrane covered by coagulated fibrin. After dissection some pus could be seen. Microscopical examination revealed vascular congestion, edema of all the layers and their diffuse infiltration with leukocytes. Specify the form of acute appendicitis:

- a. Gangrenous
- b. Simple
- c. Apostematous
- d. Flegmonous**
- e. Superficial

1071. Shortly before death a patient got an electrocardiographically based diagnosis of acute myocardial infarction. Autopsy revealed that the myocardial cavity contained 200 ml of liquid blood and 400 g of clots; the posterior wall of the left ventricle had a perforation up to 2 cm long. What complication of myocardial infarction is it?

- a. Idiopathic myocarditis
- b. Exudative pericarditis
- c. Haemorrhagic pericarditis
- d. Stone heart
- e. Myocardial rupture with cardiac tamponade**

1072. During examination of first-grade pupils a dentist revealed that one child had brown-yellow teeth and two split teeth. According to the child, previously he had been treated for pneumonia with "some" pills. What drug might have had such a negative impact on teeth?

- a. Biseptol
- b. Erythromycin
- c. Oxacillin
- d. Doxycycline**
- e. Ampicillin

1073. A 35-year-old female patient with a chronic renal disease has developed osteoporosis. The cause of this complication is the deficiency of the following substance:

- a. D3
- b. D2
- c. Cholesterol
- d. 1,25-dihydroxy-D3**
- e. 25-hydroxy-D3

1074. In spring a patient experiences petechial haemorrhages, loosening of teeth, high liability to colds. A doctor suspects hypovitaminosis c. In this respect loosening of teeth can be explained by:

- a. Increased permeability of periodont membranes
- b. Disturbed oxidation-reduction process in the periodont
- c. Structural change of glycosaminoglycans
- d. Structural failure of collagen in the periodontal ligaments**
- e. Mechanical damage of teeth

1075. 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 Shigell a. What was the main disease?

- a. Salmonellosis
- b. Yersiniosis
- c. Nonspecific ulcerous colitis
- d. Typhoid fever
- e. Dysentery**

1076. A patients blood shows an increased concentration of pyruvate which is excreted with urine for the most part. This is typical for the following vitamin deficiency:

- a. B3
- b. B6
- c. B1**
- d. E
- e. B2

1077. A 25-year-old patient has been diagnosed with chronic hepatitis. The patient complains of 10 kg weight loss within 2 months. Objectively: the patient has dry peeling skin, pale with yellow shade, petechial haemorrhages, stomatorrhagia. Petechial haemorrhages and stomatorrhagia are caused by the disturbance of the following hepatic function:

- a. Depositing
- b. Glycogen synthesizing
- c. Chromogenic
- d. Detoxication
- e. Protein synthesizing**

1078. The immunoblot detected gp120 protein in the blood serum. This protein is typical for the following disease:

- a. Tuberculosis
- b. Virus B hepatitis
- c. HIV-infection**
- d. Poliomyelitis
- e. Syphilis

1079. Heart rate of an adult man is 40/min. This rate is possible due to the following element of the cardiac conduction system:

- a. His bundle
- b. Purkinjes fibers
- c. Sinoatrial node
- d. His bundle branches
- e. Atrioventricular node**

1080. 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. Disturbed permeability of glomerular membranes
- c. Intensification of sodium reabsorption
- d. Mass decrease of active nephrons**
- e. Tubular hyposecretion

1081. Such presentations as catarrhal conjunctivitis, pharyngitis, laryngotracheobronchitis, white spots on the buccal mucosa in the region of lower premolar teeth, maculopapular rash on face, body and extremities are typical for the following disease:

- a. Measles**
- b. Spotted fever
- c. Influenza
- d. Meningococcal infection
- e. Scarlet fever

1082. Dwellers of a village noticed mass mortality of rats in some farms. It was suspected that the animals might have died from plague. What postmortal analyses should be conducted in order to establish the causative agent of the infection as soon as possible?

- a. Ring precipitation reaction**
- b. Passive agglutination reaction
- c. Complement-binding reaction
- d. Neutralization reaction
- e. Agglutination reaction

1083. 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. Cardiac tamponade
- b. Chronic left-ventricular failure
- c. Chronic right-ventricular failure
- d. Acute left-ventricular failure**
- e. Collapse

1084. A patient was delivered to a hospital after having been exposed to ionizing radiation. He presents with vomiting, anorexia, pain in different region of abdomen, bloody feces, elevation of body temperature, inertness. Such clinical presentations are typical for the following form of acute radiation disease:

- a. Combined
- b. Cerebral
- c. Bone-marrow
- d. Intestinal**
- e. Toxemic

1085. While examining an extracted stomach a researcher revealed that its antral part along the lesser curvature had a deep, roundish, even-edged defect up to 1,5 cm in diameter reaching the myenteron. In the defect floor one could see a dense semitransparent area resembling of a hyaline

cartilage. Specify the process observed in the floor of the mucosa defect?

- a. General hyalinosis
- b. Local hyalinosis**
- c. Fibrinoid changes
- d. Muroid swelling
- e. Amyloidosis

1086. After a fall a patient got unable to extend his knee joint. What muscle is likely to be damaged?

- a. Semitendinous
- b. Quadriceps**
- c. Semimembranous
- d. Triceps muscle of calf
- e. Biceps muscle of thigh

1087. In order to reduce salivation before a stomatological procedure a dentist gave his patient 10 drops of 0,1% solution of atropine sulfate perorally. 30 minutes later the patient started complaining of acute pain in the eyeballs, misty vision, headache, palpitation. These symptoms were eliminated by means of the following drug:

- a. Carbacholine
- b. Aceclidine
- c. Physostigmine**
- d. Cytiton
- e. Phosphacol

1088. An infectious patient manifests sensibilization to penicillin. Which of the following antibiotics is the safest to be applied in this case?

- a. Erythromycin**
- b. Oxacillin
- c. Ampicillin
- d. Amoxicillin
- e. Bicillin

1089. A victim has a trauma resulting from the direct blow to the internal surface of the middle third of shin. What anatomic formation is most likely to be broken?

- a. Proximal epiphysis of tibial bone
- b. Distal epiphysis of tibial bone
- c. Distal epiphysis of fibular bone
- d. Tibial shaft**
- e. Proximal epiphysis of fibular bone

1090. Before the cells can utilize the glucoze, it is first transported from the extracellular space through the plasmatic membrane inside theml. This process is stimulated by the following hormone:

- a. Glucagon
- b. Insulin**
- c. Thyroxin
- d. Aldosterone
- e. Adrenalin

1091. A patient presents with the following motor activity disturbances: tremor, ataxia and asynergia f movements, dysarthri a. The disturbances are most likely to be localized in:

- a. Basal ganglions
- b. Cerebellum**
- c. Medulla oblongata
- d. Brainstem
- e. Limbic system

1092. A 30-year-old male patient consulted a dentist about a mastication disorder and pain provoked by pulling the jaw backwards. The dentist diagnosed the patient with an inflammation of one of the

masticatory muscles. Which muscle is inflamed?

- a. Temporal (anterior fibers)
- b. Lateral pterygopalatine
- c. Masticatory
- d. Medial pterygopalatine
- e. Temporal (posterior fibers)**

1093. A surgeon concluded that the biggest space for examination and surgical procedures on pancreas can be created by dissection of lig. gastrocolicum. It allows to penetrate into the following space of abdominal cavity:

- a. Omental bursa**
- b. Right lateral canal
- c. Pregastric bursa
- d. Left lateral canal
- e. Hepatic bursa

1094. A 35-year-old patient with chronic periodontitis underwent excision of a cyst 3 cm in diameter found at a root of the 15th tooth. Histological examination revealed that it had thin wall formed by mature connective tissue infiltrated by lymphocytes and plasmatic cells. Its internal surface was lined with multilayer pavement epithelium with no signs of keratinization; the cavity contained serous exudate. What is the most likely diagnosis?

- a. Follicular ameloblastoma
- b. Radicular cyst**
- c. Primordial cyst
- d. Cherubism
- e. Follicular cyst

1095. As a result of a cold a patient has the abnormal pain and temperature sensitivity of the frontal $\frac{2}{3}$ of his tongue. Which nerve must have been damaged?

- a. Trigeminal**
- b. Accessory
- c. Vagus
- d. Glossopharyngeal
- e. Sublingual

1096. During a brain surgery it was noticed that stimulation of certain zones of cerebral cortex caused tactile and thermal sensations in patient. Which zone was being stimulated?

- a. Precentral gyrus
- b. Parahippocampal gyrus
- c. Cingulate gyrus
- d. Superior lateral gyrus
- e. Postcentral gyrus**

1097. In the process of tooth tissue histogenesis dentin wasn't formed in time for some reasons. What process of further histogenesis will be delayed or will not take place at all?

- a. Predentinal space formation
- b. Cellular cement formation
- c. Acellular cement formation
- d. Enamel formation**
- e. Pulp formation

1098. On examination a male patient was diagnosed with acute radiation disease. Laboratory examination revealed abrupt decrease in serotonin found in blood platelets. A likely cause of decrease in serotonin concentration would be metabolic imbalance of the following substance:

- a. Tyrosine
- b. 5-oxytryptophan**
- c. Histidine
- d. Phenyl alanine

e. Serine

1099. A 45-year-old female patient underwent an excision of 2,5x2 cm large tumour located in the region of submandibular salivary gland. Microscopic examination revealed that it consisted of glandular structures and contained solid epithelial complexes as well as mucoid, chondroid and myxoid foci. Specify this tumour:

- a. Salivary gland carcinoma
- b. Ameloblastoma
- c. Polymorphous adenoma
- d. Osteoclastoma
- e. Cementoma

1100. It is known that patients with diabetes mellitus are more subject to inflammatory processes, they have low regeneration and slower wound healing. What is the reason for this?

- a. Intensification of catabolism
- b. Accelerated gluconeogenesis
- c. Decrease in lipolysis
- d. Decrease in proteosynthesis
- e. Increase in lipolysis

1101. A 29-year-old patient was delivered to a hospital because of intoxication with carbon monoxide. Objectively: the patient presents with symptoms of severe hypoxia - evident dyspnea, cyanosis, tachycardia. What compound is produced as a result of intoxication with carbon monoxide?

- a. Methemoglobin
- b. Oxyhemoglobin
- c. Carboxhemoglobin
- d. Carboxyhemoglobin
- e. Sulfhemoglobin

1102. 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. Neuroparalytic
- c. Functional
- d. Metabolic
- e. Neurotonic

1103. In the second week of being ill with viral hepatitis a patient presented with sleep disorder, headache, aggressiveness, unbearable skin itch. Objectively: AP drop, decrease in blood coagulation and reflex activity, bradycardia. What is the cause of these changes?

- a. Hypercholesterolemia
- b. Stercobilinemia
- c. Urobilinemia
- d. Hyperlipemia
- e. Cholemia

1104. While examining a blood smear taken from a patient and stained by Romanovsky's method a doctor revealed some protozoa and diagnosed the patient with Chagas disease. What protozoan is the causative agent of this disease?

- a. Toxoplasma gondii
- b. Leishmania tropica
- c. Trypanosoma brucei
- d. Leishmania donovani
- e. Trypanosoma cruzi

1105. A patient with diabetes mellitus lapsed into diabetic coma as a result of acid-base disturbance. Specify the type of disturbance:

- a. Gaseous alkalosis

- b. Metabolic alkalosis
- c. Non-gaseous alkalosis
- d. Metabolic acidosis**
- e. Respiratory acidosis

1106. Before a tooth extraction a 48-year-old female patient received an injection of diazepam. Anxiolytic effect of this drug can be explained by:

- a. M-cholinoreceptor activation
- b. beta-adrenoreceptor block
- c. Interaction with benzodiazepine receptors**
- d. Dopamine receptor block
- e. alpha-adrenoreceptor block

1107. A victim has a left-sided comminuted fracture of cheekbone accompanied by loss of skin sensitivity above it. What nerve is damaged?

- a. Infraorbital
- b. Zygomaticofacial**
- c. Facial
- d. Pes anserinus minor
- e. Buccal

1108. 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. Allergy
- b. Antagonism
- c. Cumulation
- d. Tachyphylaxis
- e. Addiction**

1109. A 2-day-old baby has yellowish skin and mucous membranes. This might be caused by the temporary lack of the following enzyme:

- a. Haem synthetase
- b. Sulfotransferase
- c. UDP-glucuronil transferase**
- d. Hemoxygenase
- e. Biliverdine reductase

1110. A 60-year-old patient consulted a doctor about retrosternal pain arising immediately after physical exercise. He was prescribed nitroglycerin. The medication relieved retrosternal pain but the patient got acute headache. What is the likely mechanism of this side effect?

- a. α -adrenoreceptor block
- b. Intracranial pressure rise**
- c. Inhibited formation of mediators in brain
- d. Phosphodiesterase block
- e. Reduced accumulation of calcium ions

1111. A victim who had been rescued from under the ruins was found to have confused mental state, multiple subcutaneous haemorrhages on his head and neck, small wound on the face. There was a scalping in the posterosuperior parts of head and a significant deformation of head contours. What bones might have been damaged?

- a. Parietal and occipital bone**
- b. Malar and lacrimal bones
- c. Sphenoid bone and mandible
- d. Temporal bone and maxilla
- e. Frontal and nasal bones

1112. In the focus of inflammation the vessels of microvasculature exhibit an increased permeability

and hydrodynamic pressure rise. Inter-tissue fluid has an increase in osmotic concentration and dispersity of protein structures. What type of edema will develop in this case?

- a. Lymphogenous
- b. Hydrodynamic
- c. Membranogenic
- d. Colloid osmotic
- e. Combined**

1113. 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. Somatotrophic hormone
- b. Thyroxine
- c. Triiodothyronine
- d. Thyrocalcitonin
- e. Parathormone**

1114. 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. Increase in hydrostatic pressure of blood in veins**
- b. Decrease in hydrostatic pressure of blood in veins
- c. Increase in systemic arterial pressure
- d. Increase in oncotic pressure of blood plasma
- e. Decrease in hydrostatic pressure of blood in arteries

1115. A 47-year-old female patient was diagnosed with a tumour of the tongue apex. Metastases are likely to spread into the following regional lymph nodes:

- a. Occipital
- b. Submandibular**
- c. Mastoid
- d. Parotid
- e. Retropharyngeal

1116. Purulent discharges of a patient with a mandibulofacial phlegmon contain spheroid microorganisms making S-shaped colonies with golden pigment that produce lecithinase, plasmocoagulase, hemolysin and decompose mannitol under anaerobic conditions. Specify the kind of microorganisms that had caused the suppuration:

- a. S. aureus**
- b. Str. pyogenes
- c. Str. sanguis
- d. Str. mutans
- e. S. epidermidis

1117. A patient was delivered to a hospital with the fracture of mandible and considerable bleeding in the region of fracture. What artery is likely to be damaged?

- a. Superior alveolar artery
- b. Inferior alveolar artery**
- c. Ascending pharyngeal artery
- d. Ascending palatine artery
- e. Lingual artery

1118. A patient consulted a dentist about the temporomandibular joint arthritis. The dentist administered an ointment containing diclofenac sodium. What is its mechanism of action?

- a. Opiate receptor block
- b. Cyclooxygenase inhibition**
- c. Cyclooxygenase activation
- d. Phospholipase inhibition
- e. Opiate receptor activation

1119. A patient who has been treated for viral hepatitis B developed symptoms of hepatic insufficiency. What changes indicating disorder in protein metabolism are likely to be observed in this case?

- a. Absolute hyperalbuminemia
- b. Absolute hyperfibrinogenemia
- c. Protein rate in blood will stay unchanged
- d. Absolute hyperglobulinemia

e. Absolute hypoalbuminemia

1120. After a severe trauma of visceral cranium a patient has a deglutition disorder with food getting to the nasopharynx. This is the result of the following muscles disfunction:

- a. M.levator veli palatini**
- b. M.stylopharyngeus
- c. M.palatoglossus
- d. M.genioglossus
- e. M.palatopharyngeus

1121. After an attack of bronchial asthma a patient had his peripheral blood teste d. What changes can be expected?

- a. Lymphocytosis
- b. Thrombocytopenia
- c. Leukopenia

d. Eosinophilia

- e. Erythrocytosis

1122. Among the specific hypocholesterolemic drugs the most effective are those blocking the synthesis of endogenic cholesterol in liver. Which of the below listed drugs has such mechanism of hypocholesterolemic action?

- a. Linaethol
- b. Lovastatin**
- c. Clofibrate
- d. Probucol
- e. Allilcepum

1123. A patient of oral surgery department has developed a purulent complication. Bacteriological analysis of the wound discharge allowed to isolate a culture producing a blue-and-green pigment. Which of the listed microorganisms may be a causative agent of the infection?

- a. Pseudomonas aeruginosa**
- b. Klebsiella pneumoniae
- c. Proteus vulgaris
- d. Bacillus subtilis
- e. Staphylococcus epidermidis

1124. A 32-year-old female patient suffers from gingivitis accompanied by gum hypoxia. What metabolite of carbohydrate metabolism is produced in the periodontium tissues more actively in this case?

- a. NADPH-H
- b. Lactate**
- c. Glycogen
- d. Glucose 6-phosphate
- e. Ribose 5-phosphate

1125. Analysis of a newborns urine revealed phenylpyruvic aci d. Its presence in urine is associated with the following pathology:

- a. Tyrosinosis
- b. Phenylketonuria**
- c. Alkaptonuria
- d. Gout

e. Albinism

1126. 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 8
- b. CD 3
- c. CD 19
- d. CD 28
- e. CD 4**

1127. A 50-year-old male patient suffers from chronic bronchitis, complains about dyspnea during physical activity, sustained cough with sputum. After examination he was diagnosed with pulmonary emphysema. This complication is caused by:

- a. Decrease in lung perfusion
- b. Decrease in alveolar ventilation
- c. Ventilation-perfusion disbalance
- d. Decrease in lung compliance
- e. Decrease in lung elasticity**

1128. A man is eating dry food. Which salivary glands secrete the largest amount of saliva in this case?

- a. Submandibular
- b. Palatine
- c. Buccal
- d. Sublingual
- e. Parotid**

1129. For infection prevention a patient who underwent appendectomy was prescribed a cephalosporin antibiotic. Antimicrobial activity of these antibiotics is called forth by the disturbance of the following process:

- a. Energy metabolism
- b. Cholinesterase block
- c. Microbial wall formation**
- d. Ribosomal protein synthesis
- e. Nucleic acid synthesis

1130. 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. Cortisol
- b. Oxytocin
- c. Thyroxine
- d. Insulin
- e. Vasopressin**

1131. A shepherd who has tended sheep together with dogs presents with chest pain and blood spitting. X-ray examination revealed a roundish neoplasm in his lungs. Immunological reactions confirmed the provisional diagnosis. Specify the helminth that might have caused this disease:

- a. Echinococcus**
- b. Broad tapeworm
- c. Dwarf tapeworm
- d. Armed tapeworm
- e. Common liver fluke

1132. According to the phenotypic diagnosis a female patient has been provisionally diagnosed with X-chromosome polysomy. This diagnosis can be confirmed by a cytogenetic method. What karyotype will allow to confirm the diagnosis?

- a. 47(XXX)**

- b. 46(XX)
- c. 47(XXY)
- d. 48(XXYY)
- e. 48(XXXY)

1133. In course of an experiment a white rat was being stimulated with a stress factor (electric current). The researchers could observe muscle hypononia, arterial hypotension, hypothermia. What period of general adaptation syndrome is it?

- a. -
- b. Shock phase**
- c. Antishock phase
- d. Exhaustion stage
- e. Resistance stage

1134. 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 cysticus
- b. Ductus hepaticus dexter
- c. Ductus hepaticus communis
- d. Ductus choledochus**
- e. Ductus hepaticus sinister

1135. A patient has been admitted to the oral surgery department with a fracture of malar arch. The patient presents with difficult mouth opening. This state is caused by the dysfunction of the following muscle:

- a. Digastric
- b. Masticatory**
- c. Lateral pterygoid
- d. Zygomatic
- e. Medial pterygoid

1136. A male patient consulted a dentist about an acute toothache. Examination revealed a carious cavity in the upper premolar on the right. The carious cavity reaches the pulp. What is the most likely caries complication causing the toothache?

- a. Periodontitis
- b. Parodontitis
- c. -
- d. Tooth erosion

e. Pulpitis

1137. Before the infiltration anaesthesia a patient had been tested for sensitivity to novocaine. The reaction turned out to be positive. Which of the below listed drugs can be used for anaesthetization in this case?

- a. Procainamide hydrochloride
- b. Tetracaine
- c. Lidocaine**
- d. Trimecaine
- e. Anesthezin

1138. As a result of a road accident a 26-year-old man is in the torpid phase of shock. Blood count: leukocytes - $3,2 \times 10^9/l$. What is the leading mechanism of leukopenia development?

- a. Leukocyte redistribution in the bloodstream**
- b. Increased excretion of the leukocytes from the organism
- c. Leukocyte destruction in the hematopoietic organs
- d. Leukopoiesis inhibition
- e. Faulty release of mature leukocytes from the bone marrow into the blood

1139. In order to anaesthetize superior incisors an anaesthetic should be injected in the region of the

incisive foramen. What nerve is located in this place?

- a. Rr.nasales posteriores inferiores
- b. N.pharyngeus
- c. Nn.palatini minores
- d. N.palatinus major

e. N.nasopalatinus

1140. A histological specimen shows an extraembryonic organ in form of a vesicle linked to the entodermal canal. Its wall is lined with epithelium, exteriorly it is made up by connective tissue. In the early stages of embryogenesis this organ has hematopoietic function. Name this organ:

- a. Amnion
- b. Placenta

c. Vitelline sac

- d. Umbilical cord
- e. Allantois

1141. Histological study of two different tooth specimens revealed acellular and cellular cement, respectively. The second specimen comes from the following tooth part:

- a. The border between root and crown

b. Root apex

- c. Superior subgingival part
- d. Dental cervix
- e. Tooth crown

1142. Power inputs of a man are being measured on an empty stomach, in the lying position, at physical and psychic rest, under comfortable temperature. The highest power inputs will be observed in the following daypart:

- a. 7-8 a.m
- b. 10-12 a.m
- c. 8-12 p.m

d. 5-6 p.m

- e. 3-4 a.m

1143. 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. Efferent conductor
- b. Muscles

c. Nerve centres

- d. Afferent conductor
- e. Receptors

1144. A patient suffers from hypertension and atherosclerosis. He should reduce the consumption of the following lipide:

- a. Phosphatidyl serine
- b. Lecithin
- c. Oleic acid
- d. Monooleate glyceride

e. Cholesterol

1145. A 29-year-old female patient complains of gingival haemorrhage and lower front teeth mobility she has been experiencing for the last 6 months. Objectively: the mucous membrane in the region of the front lower teeth is hyperemized, edematic, bleeds when touched. From under the gingival mucosa foul-smelling pus is discharged, tooth roots are exposed. The patient has been diagnosed with the III stage of parodontitis. What factor allowed to establish the stage of disease progress?

- a. Mucosa inflammation
- b. Disease duration

c. Tooth root exposure

- d. Nature of purulent discharge

e. Teeth mobility

1146. Indirect calorimetry allowed to establish that a 30-year-old male patient had a 30% decrease in basal metabolic rate. This might be caused by the reduced concentration of the following hormones in blood plasma:

a. Somatoliberin, somatostatin

b. Catecholamines

c. Triiodothyronine, tetraiodothyronine

d. Glucocorticoids

e. Thyrocalcitonin, parathormone

1147. It is known that people who permanently live in highland have an increased concentration of erythrocytes per each blood volume unit. Owing to this fact blood can optimally fulfil the following function:

a. Maintenance of acid-base balance

b. Amino acid transport

c. Maintenance of ionic equilibrium

d. Haemostasis participation

e. Gas transport

1148. In course of an experiment thalamocortical tracts of an experimental animal were cut through. The animal didn't lose the following sensations:

a. Exteroceptive

b. Nociceptive

c. Olfactory

d. Visual

e. Auditory

1149. A man is in the state of rest. He has been forcing himself to breathe deeply and frequently for 3-4 minutes. What effect will it have upon acid-base balance of the organism?

a. Respiratory acidosis

b. There will be no change in acid-base balance

c. Respiratory alkalosis

d. Metabolic acidosis

e. Metabolic alkalosis

1150. During postembryonal haemopoiesis in the red bone marrow the cells of one of the cellular lineages 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. Erythropoiesis

b. Basophil cytopoiesis

c. Neutrophil cytopoiesis

d. Lymphopoiesis

e. Eosinophil cytopoiesis

1151. Autopsy of a man, who died from typhoid fever on the 5th day of disease, revealed the following changes: aggregated follicles of ileum were enlarged and plethoric; they protruded over the mucous membrane, and multiple sulci and convolutions could be seen on their surface. Histological examination revealed plethority and edema of tissues, presence of granulomas composed of big cells with light cytoplasm and containing typhoid bacilli. These local changes are compliant with the following period of typhoid fever:

a. Stage of ulcer healing

b. Stage of ulceration

c. Stage of necrosis

d. Stage of clean ulcers

e. Stage of medullary swelling

1152. During manipulations aimed at treatment of mandible dislocation a physician should pay particular attention to a muscle that pulls a capsule and interarticular disc of temporomandibular articulation exteriorly. What muscle is it?

- a. M. pterygoideus medialis
- b. M. pterygoideus lateralis**
- c. M. masseter
- d. M. mylohyoideus
- e. M. temporalis

1153. A 25-year-old man has a saucer-shaped ulcer 0,8 cm in diameter on the upper left surface of tongue. The ulcer's floor and edges are dense with smooth and glistening surface, painless on palpation. Microscopical examination of the ulcer floor revealed an infiltration consisting of lymphoid, plasmatic and epithelioid cells with a lot of vessels affected by endovasculitis. What is the most likely diagnosis?

- a. Tuberculosis
- b. Primary syphilis**
- c. Cancerous ulcer
- d. Decubital ulcer
- e. Settons aphtha

1154. A 70-year-old patient is diagnosed with brainstem haemorrhage. Examination revealed increased tonus of flexor muscles accompanied by decreased tonus of extensor muscles. Such changes in muscle tonus can be explained by the irritation of the following brain structures:

- a. Vestibular nuclei
- b. Red nuclei**
- c. Black substance
- d. Reticular formation
- e. Quadrigeminal plate

1155. Autopsy of a 42-year-old man revealed a distinctly dilated lumen of small intestine filled with rice-water-like liquid. The intestine wall was edematous with lots of petechial haemorrhages on the mucosa. What infectious disease is the described enteritis typical for?

- a. Typhoid fever
- b. Cholera**
- c. Dysentery
- d. Amebiasis
- e. Salmonellosis

1156. 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 patient's condition got better, the pulmonary ventilation volume increased. What phenomenon underlies the interaction of these medications?

- a. Indirect synergism
- b. Indirect antagonism
- c. Direct antagonism**
- d. Direct synergism
- e. Unilateral antagonism

1157. 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. Demodicosis
- b. Scabies**
- c. Pediculosis
- d. Dermatotropic leishmaniasis
- e. Myiasis

1158. Premolar teeth absence is inherited as an autosomal dominant factor. Parents with normal dental system gave birth to a child with lacking premolar teeth. What is the probability of giving birth to children without this pathology (%) in this family?

- a. 75%
- b. 50%
- c. 25%
- d. 0%
- e. 12,5%

1159. A patient with a tumour of thymus presents with cyanosis, expansion of subcutaneous venous network and soft tissue edema of face, neck, upper trunk and upper extremities. What vein is compressed by the tumour?

- a. Subclavicular vein
- b. Exterior jugular vein
- c. Anterior jugular vein
- d. Precava
- e. Interior jugular vein

1160. A patient has a lacrimal gland secretory dysfunction induced by a disorder of its vegetative innervation. Which of the ganglia of vegetative nervous system gives it postganglionic parasympathetic fibers?

- a. Ganglion ciliare
- b. Ganglion submandibulare
- c. Ganglion oticum
- d. -
- e. Ganglion pterygopalatinum

1161. An emotional stress induces activation of hormone-sensitive triglyceride lipase in the adipocytes. What secondary mediator takes part in this process?

- a. cGMP
- b. AMP
- c. Ca²⁺ ions
- d. Cyclic adenosine monophosphate
- e. Diacylglycerol

1162. A child has an acute renal failure. What biochemical factor found in saliva can confirm this diagnosis?

- a. Increase in urea concentration
- b. Increase in concentration of higher fatty acids
- c. Increase in glucose concentration
- d. Decrease in nucleic acid concentration
- e. Decrease in glucose concentration

1163. A patient with a serious trauma of his upper extremity has an impaired regeneration of cartilaginous tissue as a result of a damage done to poorly differentiated cells of cartilage lineage. What cells have been damaged?

- a. The cells of the internal perichondrium
- b. The cells of the young cartilage
- c. The cells coming from the blood vessels
- d. The cells of the external perichondrium
- e. The cells constituting isogenic groups

1164. A patient suffering from glomerulonephritis was found to have anasarca, AP of 185/105 mm Hg, anaemia, leukocytosis, hyperazotemia, hypoproteinaemia. What factor indicates that glomerulonephritis has been complicated by the nephrotic syndrome?

- a. Leukocytosis
- b. Anaemia
- c. Hypoproteinaemia

d. Arterial hypertension

e. Hyperazotemia

1165. 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

1166. A married couple complains of inability to have children. Examination revealed that the husband had his spermatogenetic epithelium of a testicle damaged, which caused absence of spermatozoons in his sperm and infertility as a result. Which part of testicle was damaged?

a. Efferent ducts

b. Network of testis

c. Straight seminiferous tubules

d. Epididymis ducts

e. Convoluted seminiferous tubules

1167. A patient underwent the extraction of his isuperior medial incisor. It is supplied with blood by the branches of the following artery:

a. A.palatina descendens

b. A.alveolaris inferior

c. A.sphenopalatina

d. A.buccalis

e. A.infraorbitalis

1168. A cell with vitamin E deficit had been affected by ionizing radiation. This induced an intensified release of hydrolytic enzymes into the cytoplasm and thus a complete destruction of intracellular structures - autolysis. What organelles caused this phenomenon?

a. Lysosomes

b. Golgi complex

c. Endoplasmic reticulum

d. Mitochondrions

e. Microbodies

1169. Cystinuria in humans shows itself in form of cystine stones in kidneys (homozygotes) or else an increased rate of cystine in urine (heterozygotes). Cystinuria is a monogenic disease. Specify the type of interaction between cystinuria genes and normal rate of cystine in urine:

a. Epistasis

b. Semidominance

c. Complete dominance

d. Complementarity

e. Codomination

1170. A 40-year-old male patient had a tumour-like formation 8x7 cm large on his neck. A surgeon removed it only partially because of close connection with large vessels. Microscopical examination revealed marked cellular and tissue atypism, lipoblast-type cells in different stages of maturity, with polymorphism and nuclear hyperchromia, pathological mitoses, necrosis foci. Specify the histological form of the tumour:

a. Lipoma

b. Liposarcoma

c. Hibernoma

d. Fibroma

e. Fibrosarcoma

1171. 10 years ago a patient underwent extraction of his right kidney on account of a tumour. After that the volume of his left tumour grew by 50%. What process was developed in the kidney?

- a. Pseudohypertrophy
- b. Functional hypertrophy
- c. Hypertrophic enlargement
- d. Vicarious hypertrophy**
- e. Neurohumoral hypertrophy

1172. A cell has been treated with a substance that blocks nucleotide phosphorylation in the mitochondrions. What process of cell activity will be disturbed in the first place?

- a. Integration of functional protein molecules
- b. Synthesis of mitochondrial proteins
- c. Fragmentation of big mitochondrions into lesser ones
- d. Oxidative phosphorylation
- e. ATP resynthesis**

1173. A viral process caused a considerable sclerosis of parenchyma of submandibular salivary glands as well as reduced production of biologically active hormonal substances. This resulted in the impairment of oral mucosa regeneration. The reason for it is an insufficient concentration of the following saliva component:

- a. Lysozyme
- b. Epithelial growth factor**
- c. Parotin
- d. Thymocyte-transforming factor
- e. Insulin-like growth factor

1174. Obliterating atherosclerosis causes changes in the vessels of the lower extremities. A histological specimen of such a vessel evidently presents both internal and external elastic membranes, middle membrane contains a lot of myocytes. What vessel is affected in case of this disease?

- a. Artery of muscular type**
- b. Lymph node
- c. Artery of elastic type
- d. Artery of mixed type
- e. Vein with strongly developed muscles

1175. 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. Glucose**
- c. Lipase
- d. Insulin
- e. Somatotropin

1176. 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. supinator
- b. M. deltoideus**
- c. M. anconeus
- d. M. triceps brachii
- e. M. coracobrachialis

1177. An electronic microphotography shows a renal corpuscle with dendritic cells between the capillaries of choroid glomerulus. Their cytoplasm contains a large number of filaments. Specify these cells:

- a. Adventitious
- b. Juxtaglomerular
- c. Mesangial**
- d. Fibroblasts
- e. Juxta-vascular

1178. A 12-year-old child presents with intolerance to some foodstuffs. Their consumption causes an allergic reaction in form of itching skin eruption. What antihistaminic drug should be administered that won't have any negative impact on the child's school studies (with no sleepiness effect)?

- a. Loratadine**
- b. Aminophylline
- c. Mesatonum
- d. Sodium diclofenac
- e. Dimedrol

1179. 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 alveolar lumens. What mechanism accounts for the development of hypersensitivity reaction?

- a. Cytotoxic reaction
- b. Lymphocyte-mediated cytolysis
- c. Granulomatosis
- d. Reaginic reaction**
- e. Immune complex reaction

1180. A mother consulted a pediatrician about small white filiform worms about 1 cm long with pointed ends that she found on her child's underwear. According to the mother, the child sleeps badly, grinds his teeth, scratches the area of anus. Specify the helminth type:

- a. Trichuris
- b. Armed tapeworm
- c. Pinworm**
- d. Hookworm
- e. Ascarid

1181. 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. 5 l/min
- b. 4 l/min
- c. 10 l/min**
- d. 6 l/min
- e. 7 l/min

1182. 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. Inhibition of transamination enzymes
- c. Activation of amino acid decarboxylation
- d. Disorder of biogenic amines neutralization
- e. Protein synthesis inhibition

1183. An embryo had its external layer of dental sacculus experimentally destroyed. What dental structure won't have any further development?

- a. Periodontium**
- b. Dentin
- c. Pulp
- d. Enamel
- e. Cement

1184. An inflammation is characterized by the dilatation of blood capillaries in the region of injury, reduced circulation, increased permeability of vessel walls. What cells play the main part in the development of these changes?

- a. Plasmocytes
- b. Eosinophils
- c. Fibroblasts
- d. Tissue basophils**
- e. Macrophages

1185. On the 2-3 day after stomach resection a patient is still experiencing a failure of intestinal peristalsis. In order to stimulate the motility of gastrointestinal tract the following drug should be administered:

- a. Proserin**
- b. Noradrenaline hydrotartrate
- c. Atropine sulphate
- d. Prazosin
- e. Cyclodolum

1186. 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 reduce digitoxin dosage
- b. To administer strophanthine intravenously
- c. To administer digoxin
- d. To withhold digitoxin**
- e. To give an intravenous injection of calcium gluconate solution

1187. Elderly people often complain of joint pain that can be associated with age-related changes of tissue covering the joint surface. What tissue is it?

- a. Connective tissue proper
- b. Hyaline cartilage**
- c. Epithelial
- d. Bone tissue
- e. Elastic cartilage

1188. There is a strict time limit for people to stay at a height of 8000 m above sea level without oxygen cylinders. Specify the life-limiting factor in this case:

- a. Humidity rate
- b. Rate of ultraviolet radiation
- c. Temperature
- d. Earth gravity
- e. Partial pressure of oxygen in air**

1189. During an acute experiment some of diluted solution of hydrochloric acid was injected into the duodenal cavity of an experimental animal. This will result in hypersecretion of the following hormone:

- a. Histamine
- b. Secretin**
- c. Motilin
- d. Neurotensin
- e. Gastrin

1190. Microscopic examination of a parenchymatous organ revealed that its epithelial cords formed glomerular, fascicular and reticular zones. The central part of the organ was presented by accumulations of chromaffin cells. Specify this organ:

- a. Hypophysis
- b. Thyroid gland
- c. Liver

d. Epiphysis

e. Adrenal gland

1191. A section of pulmonary tissue has a large-meshed look due to the sacciform and cylindric dilatation of the bronchi; microscopical examination of the bronchial wall reveals a leucocytal infiltration with neutrophil prevalence; elastic, muscle fibers as well as cartilage plates are partly destroyed and replaced by the connective tissue. The adjacent pulmonary tissue has inflammation foci, fibrosis areas, vascular sclerosis and signs of emphysema. The right ventricle hypertrophy is present. What is the most likely diagnosis?

a. Multiple bronchiectasis

b. Pneumofibrosis

c. Interstitial pneumonia

d. Pulmonary emphysema

e. Chronic bronchitis

1192. A 17-year-old child with a developmental delay and manifestations of self-aggression has the concentration of uric acid in blood at the rate of 1,96 millimole/l. What metabolic disorder is this typical for?

a. Podagra

b. Acquired immunodeficiency syndrome

c. Cushing's basophilism

d. Gierke's disease

e. Lesch-Nyhan syndrome

1193. Two weeks after haemotransfusion a patient has developed fever. What protozoal disease can be suspected?

a. Trypanosomiasis

b. Toxoplasmosis

c. Amebiasis

d. Leishmaniasis

e. Malaria

1194. Examination of a kidney tissue sampling revealed leukocyte infiltration of interstitial tissue; miliary abscesses; dystrophic tubules filled with desquamated epithelium and leukocytes. What is the most likely diagnosis?

a. Nephrolithiasis

b. Necrotic nephrosis

c. Pyelonephritis

d. Pyelitis

e. Glomerulonephritis

1195. A veterinary attendant working at a cattle farm complains of joint pain, fever, indisposition and sweating at nighttime that he has been experiencing for a month. Giving the regard to such presentations and occupational history the doctor suspected brucellosis. What material taken from this patient is to be analyzed in a common microbiological laboratory?

a. Feces

b. Urine

c. Vomit mass

d. Blood serum

e. Spinal fluid

1196. After a tourniquet application a patient was found to have petechial haemorrhages. The reason for it is the dysfunction of the following cells:

a. Platelets

b. Neutrophils

c. Eosinophils

d. Monocytes

e. Lymphocytes

1197. 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. Residual volume
- c. Inspiratory reserve volume**
- d. Functional residual lung capacity
- e. Respiratory capacity

1198. A month after a serious operation a 38-year-old patient has recovered and has now positive nitrogen balance. Urine of this patient may be found to have low concentration of the following nitrogen-containing substance:

- a. Galactose
- b. Lactate
- c. Urea**
- d. 17-ketosteroids
- e. Stercobilinogen

1199. During a visit to a dentist a patient has developed collapse. What drug can be applied to manage this situation?

- a. Strophanthine
- b. Seduxen
- c. Mesaton**
- d. Propranolol
- e. Nitroglycerine

1200. 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. Somatotrophic hormone
- b. Triiodothyronine
- c. Thyroxin
- d. Thyrocalcitonin
- e. Parathormone**

1201. A patient at the early stage of diabetes mellitus was found to have polyuria. What is its cause?

- a. Ketonemia
- b. Hypercholesterolemia
- c. Hypocholesterolemia
- d. Hyperkalemia
- e. Hyperglycemia**

1202. 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, plethoric, 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 serous peritonitis
- b. Serous peritonitis
- c. Fibrinous suppurative peritonitis**
- d. Peritoneal commissures
- e. Fibrinous haemorrhagic peritonitis

1203. 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. Liposclerosis
- c. Bilipid
- d. Atheromatosis

e. Atherocalcinosis

1204. 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. Trypanosome
- b. Leishmania

c. Lamblia

- d. Toxoplasma
- e. Intestinal trichomonad

1205. Trauma of occipital region of head resulted in crack fracture in the region of transverse sinus. What part of occipital bone is damaged?

- a. Condyle
- b. Right lateral
- c. Left lateral
- d. Proximal

e. Squama

1206. A 12-year-old child presents with intolerance to some foodstuffs. Their consumption causes an allergic reaction in form of itching skin eruption. What antihistaminic drug should be administered that won't have any negative impact on the child's school studies (with no sleepiness effect)?

a. Loratadine

- b. Dimedrol
- c. Aminophylline
- d. Mesatonum
- e. Sodium diclofenac

1207. In order to fix dislocated mandible it is necessary to pull it down. What anatomic structure requires this action?

a. Articulate tubercle of temporal bone

- b. Mandibular incisure
- c. Condylar process of mandible
- d. Coronal process of mandible
- e. Mandibular fossa of temporal bone

1208. A patient with epilepsy and depressive reaction has been administered a drug that reduced epilepsy manifestations and improved the patient's psychic condition

- a. Phenobarbital
- b. Ethosuxemide
- c. Phenytoin

d. Sodium valproate

- e. Amitriptyline

1209. Macroscopic examination of lung tissue revealed areas of high airiness with small bubbles, histological examination revealed thinning and rupture of alveolar septa accompanied by formation of large diversiform cavities. What disease was revealed in a lung?

a. Pulmonary emphysema

- b. Cavernous tuberculosis
- c. Chronic bronchitis
- d. Fibrosing alveolitis
- e. Multiple bronchiectasis

1210. Harmful stimulations of tooth tissues resulted in formation of denticle structures along the peripheral zone of pulp. This phenomenon induces the following risk for the tooth:

- a. Loss of enamel regenerability
- b. Loss of pulp regenerability
- c. Loss of tooth innervation

d. Loss of cement regenerability

e. Loss of dentine regenerability

1211. Before the cells can utilize the glucose, it is first transported from the extracellular space through the plasma membrane inside them. This process is stimulated by the following hormone:

a. Insulin

b. Thyroxine

c. Adrenalin

d. Glucagon

e. Aldosterone

1212. On examination a male patient was diagnosed with acute radiation disease. Laboratory examination revealed abrupt decrease in serotonin found in blood platelets. A likely cause of decrease in serotonin concentration would be metabolic imbalance of the following substance:

a. Tyrosine

b. Serine

c. Histidine

d. Phenyl alanine

e. 5-oxytryptophane

1213. Studying the mitotic cycle phases of an onion root the researchers revealed a cell with chromosomes lying in equatorial plane in form of a star. What phase of mitosis is it?

a. Metaphase

b. Interphase

c. Anaphase

d. Prophase

e. Telophase

1214. 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

1215. It is required to anaesthetize the right lower molars. The proper injection site for the conduction anaesthesia is:

a. The region of the right mental foramen

b. The gums to the right of mandible

c. The region of suborbital foramen

d. The region of the oval foramen

e. The region of the right mandibular foramen

1216. Deficiency of linoleic and linolenic acids in an organism induces skin damages, hair loss, slow wound healing, thrombocytopenia, low resistance to infectious diseases. These symptoms are most likely to be caused by the disturbed synthesis of the following substances:

a. Catecholamines

b. Corticosteroids

c. Interleukins

d. Eicosanoids

e. Interferons

1217. 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. Gamma-amino butyric acid

- b. Serotonin
- c. Histamine
- d. Acetylcholine
- e. Dopamine

1218. 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. Protopathic**
- b. Heterotopic
- c. Visceral
- d. Epicritic
- e. Phantom

1219. The immunoblot detected gp120 protein in the blood serum. This protein is typical for the following disease:

- a. Poliomyelitis
- b. HIV-infection**
- c. Virus B hepatitis
- d. Syphilis
- e. Tuberculosis

1220. A child presents with body shortness, mental deficiency, mongoloid palpebral fissures, epicanthal fold, enlarged grooved tongue protruding from the mouth, high palate, malocclusion, diastema, cross striation of lips. What hereditary disease are these presentations typical for?

- a. Edwards syndrome
- b. Down syndrome**
- c. Patau syndrome
- d. Klinefelter syndrome
- e. Turner syndrome

1221. Microelectrode technique allowed to register a potential following "all-or-none" law and being able of decremental spreading. Specify this potential:

- a. Receptor potential
- b. Action potential**
- c. Inhibitory postsynaptic potential
- d. Excitatory postsynaptic potential
- e. Rest potential

1222. A patient has myocardial infarction with thrombosis of the left coronary artery. What pharmacological preparation group should be used to reestablish blood flow?

- a. Narcotic analgesics
- b. beta-adrenergic blockers
- c. Glucocorticoids
- d. Angiotensin-converting enzyme inhibitors
- e. Fibrinolysis activators**

1223. Microspecimen of a child's finger skin reveals subnormal development of epidermis. What embryonic leaf was damaged in course of development?

- a. Mesoderm
- b. Entoderm
- c. Ectoderm**
- d. Ectomesenchyma
- e. Mesenchyma

1224. A woman who had taken alcohols during her pregnancy had a child with cleft palate and upper lip. These presentations are indicative of some chromosomal anomalies. What process do they result from?

- a. Carcinogenesis
- b. Mutagenesis
- c. Phylogenesis
- d. Ontogenesis
- e. Teratogenesis**

1225. A 55-year-old man had been suffering from chronic glomerulonephritis. He died from chronic renal failure. Macroscopical examination revealed on the surface of epicardium and pericardium some greyish-white villous depositions. After their removal dilated and plethoric vessels were uncovered. What process took place in the pericardium?

- a. Haemorrhagic inflammation
- b. Arterial hyperemia
- c. Fibrinous inflammation**
- d. Organization
- e. Proliferative inflammation

1226. 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. Cellulose
- c. Proteins
- d. Lactose
- e. Fats

1227. A patient with a trigeminus inflammation has been suffering from progressing parodontitis for the last few years. What is the leading factor in the parodontitis development in this case?

- a. Hypoactivity of leukocytic elastase
- b. Low immunoglobulin production
- c. Neurodystrophical changes in parodontium**
- d. Hypoactivity of kallikrein-kinin system
- e. Increase of vagus tonus

1228. A patient has roundish ulcers on his face, inflammation and enlargement of lymph nodes. These symptoms turned up as a result of mosquito bites. Laboratory examination of discharge from the ulcers revealed unicellular aflagellar organisms. What is the most probable diagnosis?

- a. Dermatotropic leishmaniasis**
- b. Scabies
- c. Myiasis
- d. Toxoplasmosis
- e. Trypanosomiasis

1229. The value of basal metabolism of a man under examination exceeds the due value by 8%. This means that the man has the following intensity of energy metabolism processes:

- a. Normal**
- b. Considerably decreased
- c. Moderately decreased
- d. Considerably increased
- e. Moderately increased

1230. In course of an experiment researchers stimulate a branch of a sympathetic nerve that innervates heart. What changes in cardiac activity should be registered?

- a. Increase in arterial pressure
- b. Increase in heart force
- c. Increase in heart rate
- d. Decrease in heart force
- e. Increase in heart rate and heart force**

1231. A 60-year-old patient has problems with formation and moving of food mass, it disturbs eating

process. His tongue is stiff, speaking is impossible. What nerve is damaged?

- a. XII
- b. VII
- c. XI
- d. IX
- e. V

1232. For the purpose of disinfection of nonmetallic surgical instruments the formaldehyde solution was used. What group does this antiseptic preparation belong to according to its chemical structure?

- a. Halogenated compounds
- b. Alcohols
- c. Detergents

d. Aliphatics

- e. Aromatics

1233. A child with renal insufficiency exhibits delayed teeth eruption. This is most likely caused by the abnormal formation of the following substance:

- a. Glycocyamine
- b. Hydroxylysine

c. 1,25 (OH)₂D₃

- d. Glutamate
- e. α -ketoglutarate

1234. 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. Bradycardia
- b. Flutter

c. Extrasystole

- d. Tachycardia
- e. Fibrillation

1235. 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 focal tuberculosis
- b. Fibrous focal tuberculosis
- c. Tuberculoma

d. Fibrous cavernous tuberculosis

- e. Acute cavernous tuberculosis

1236. Preventive examination of a 55-year-old patient revealed type II diabetes mellitus. An endocrinologist revealed an increase in body weight and liver enlargement. The man is non-smoker and doesn't abuse alcohol but likes to have a good meal. Histological examination by means of diagnostic liver puncture revealed that the hepatocytes were enlarged mostly on the lobule periphery, their cytoplasm had transparent vacuoles showing positive reaction with sudan III. What liver pathology was revealed?

- a. Alcohol hepatitis
- b. Chronic viral hepatitis
- c. Acute viral hepatitis
- d. Portal liver cirrhosis

e. Fatty hepatosis

1237. 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. Brainstem
- b. Limbic system
- c. Basal ganglions

d. Cerebellum

e. Medulla oblongata

1238. Examination of a patient revealed that dental hypoplasia was caused by hypovitaminosis of vitamins A and D. These vitamins were administered perorally but they didn't have any medicinal effect. What is the probable cause of disturbed vitamin assimilation?

- a. Hyperchlorhydria
- b. Achlorhydria
- c. Achylia
- d. Hypochlorhydria

e. Bile acid deficiency

1239. A 30-year-old comatous patient with type I diabetes mellitus had been admitted to a hospital. Laboratory tests revealed hyperglycemia, ketonemia. Which of the following metabolic disorders might be found in this patient?

- a. Metabolic acidosis**
- b. Normal acid-base state
- c. Respiratory alkalosis
- d. Respiratory acidosis
- e. Metabolic alkalosis

1240. A patient consulted a dentist about the temporomandibular joint arthritis. The dentist administered an ointment containing diclofenac sodium. What is its mechanism of action?

- a. Opiate receptor block
- b. Opiate receptor activation

c. Cyclooxygenase inhibition

- d. Phospholipase inhibition
- e. Cyclooxygenase activation

1241. Morphological examination of an amputated gangrenous extremity revealed that the lumen of femoral artery was constricted due to stony, partly ulcerated plaques with obturating thrombi. What is the most likely diagnosis?

a. Atherosclerosis

- b. Non-specific aortoarteriitis
- c. Nodular periarteritis
- d. Obliterating thromboangiitis
- e. Obliterating endarteriitis

1242. Wound healing is accompanied by the development of a connective tissue cicatrice which is formed on the site of the tissue defect. What cells are responsible for this process?

a. Fibroblasts

- b. Fibrocytes
- c. Macrophages
- d. Mastocytes
- e. Melanocytes

1243. After a tourniquet application a patient was found to have petechial haemorrhages. The reason for it is the dysfunction of the following cells:

b. Platelets

- c. Monocytes
- d. Neutrophils
- e. Lymphocytes

1244. 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. musculocutaneu**

- b. N.radialis
- c. N.subscapularis

d. N.ulnaris

- e. N.dorsalis scapularis

1245. As a result of a development anomaly a newborn has malformation of major salivary glands. This anomaly is caused by the damage of the following embryonal structure:

- a. Splanchnotom
- b. Mesenchyme
- c. Somites

d. Ectoderm

- e. Entoderm

1246. 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. Hypothyroidism
- b. Hyperparathyroidism
- c. Hyperaldosteronism
- d. Hypoaldosteronism

e. Hypoparathyroidism

1247. A 32-year-old patient who lives in the countryside consulted a doctor about a painful swelling and a fistula in the submandibular region. Examination revealed an infiltration with a fistula discharging thick pus and containing white granules. On dissection the infiltration tissues turned out to be dense, yellow-green and had honeycomb structure because of multiple abscesses. What is the most likely diagnosis?

- a. Submandibular abscess
- b. Tuberculosis

c. Actinomycosis

- d. Syphilis
- e. Lepra

1248. A patient suffering from non-insulin-dependent diabetes mellitus was prescribed glibenclamid internally. What is the mechanism of its hypoglycemic action?

- a. It inhibits gluconeogenesis in liver
- b. It intensifies utilization of glucose by peripheral tissues
- c. It inhibits alpha glucosidase and polysaccharide breakdown
- d. It inhibits glucose absorption in the bowels

e. It stimulates generation of endogenous insulin by beta cells

1249. A worker of a cattle farm consulted a surgeon about fever up to 40°C, headache, weakness. Objective examination of his back revealed hyperaemia and a dark red infiltration up to 5 cm in diameter with black bottom in the centre and some pustules. What disease are these presentations typical for?

- a. Plaque
- b. Abscess
- c. Tularemia

d. Anthrax

- e. Furuncle

1250. A patient was delivered to a hospital after having been exposed to ionizing radiation. He presents with vomiting, anorexia, pain in different region of abdomen, bloody feces, elevation of body temperature, inertness. Such clinical presentations are typical for the following form of acute radiation disease:

- a. Toxemic
- b. Bone-marrow

c. Intestinal

- d. Combined
- e. Cerebral

1251. A histological specimen of ovary cortex shows a follicle with a large cavity. The first-order ovocyte is located in the region of cumulus oophorus, it is surrounded by transparent zone and radiate crown. Specify the type of follicle:

- a. Primary
- b. Atertiary
- c. Primordial
- d. Secondary
- e. Tertiary**

1252. Examination of a 30-year-old man's mandible revealed in the region of his molar a dense tumour-like formation that significantly deformed the mandible. Here and there the formation wasn't fully detached from the bone tissue. Microscopical examination of a tissue sampling revealed that stroma had some cords and follicles with odontogenous cylindric epithelial cells in peripheria and stellate cells resembling of the enamel organ pulp in the centre. What is the most likely diagnosis?

- a. Adenocarcinoma
- b. Ameloblastoma**
- c. Osteoclastoma
- d. Primary intraosteal cancer
- e. Adenomatoid tumour

1253. 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. Secretin
- b. Gastro-inhibiting peptide
- c. Somatostatin
- d. Vaso-intestinal peptide
- e. Cholecystokinin-pancreozymin**

1254. A patient of oral surgery department has developed a purulent complication. Bacteriological analysis of the wound discharge allowed to isolate a culture producing a blue-and-green pigment. Which of the listed microorganisms may be a causative agent of the infection?

- a. *Proteus vulgaris*
- b. *Bacillus subtilis*
- c. *Staphylococcus epidermidis*
- d. *Klebsiella pneumoniae*
- e. *Pseudomonas aeruginosa***

1255. 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. Vasopressin**
- b. Natriuretic
- c. Corticotropin
- d. Cortisol
- e. Parathormone

1256. A 34-year-old patient has low endurance of physical loads. At the same time skeletal muscles have increased concentration of glycogen. This is caused by the reduced activity of the following enzyme:

- a. Glycogen synthase
- b. Glucose-6-phosphatase
- c. Phosphofructokinase
- d. Glycogen phosphorylase**
- e. Glucose-6-phosphate dehydrogenase

1257. 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. Retabolil
- b. Nitroglycerine**
- c. Validol
- d. Propranolol
- e. Promedol

1258. A 42-year-old woman has been administered propranolol for the ischemic heart disease. Yet she has been found to have a disease in case of which the use of propranolol is contra-indicated. What disease is it?

- a. Duodenal ulcer
- b. Arterial hypertension
- c. Myasthenia
- d. Bronchial asthma**
- e. Cholecystitis

1259. A woman consulted an otolaryngologist about an olfactory disorder. Examination revealed atrophic alterations of regio olfactoria of the nasal cavity mucosa. Where is it located?

- a. -
- b. In the region of common nasal meatus
- c. In the region of inferior nasal meatus
- d. In the region of median nasal meatus
- e. In the region of superior nasal meatus**

1260. A 30-year-old driver complains of allergic rhinitis that usually exacerbates in spring. He has been administered an antihistamine drug with a slight sedative effect and 24-hour period of action. Which of the listed drugs has been administered?

- a. Loratadine**
- b. Heparin
- c. Dimedrol
- d. Vicasol
- e. Oxytocin

1261. Autopsy of a man who died from ethylene glycol poisoning revealed that his kidneys are a little bit enlarged, edematic; 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 glomerulonephritis
- b. Lipoid nephrosis
- c. Necrotic nephrosis**
- d. Acute pyelonephritis
- e. Acute tubular-interstitial nephritis

1262. Dentists are at increased risk of being infected with the type B hepatitis. What preparation should be used for reliable active prevention of this disease?

- a. Recombinant vaccine of HBsAg proteins**
- b. Monoclonal HBsAg antibodies
- c. Antihepatitis serum
- d. Live type B hepatitis vaccine
- e. Specific immunoglobulin

1263. A 38-year-old man died all of a sudden. 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. Karyolysis**
- b. Adipose degeneration
- c. Calcification
- d. Protein degeneration
- e. Carbohydrate degeneration

1264. 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. Hyperplasia
- b. Dysplasia
- c. Physiological regeneration
- d. Metaplasia**
- e. Reparative regeneration

1265. Toxic affection of liver results in dysfunction of protein synthesis. It is usually accompanied by the following kind of dysproteinemia:

- a. Absolute hyperproteinemia
- b. Absolute hypoproteinemia**
- c. Relative hyperproteinemia
- d. Paraproteinemia
- e. Relative hypoproteinemia

1266. A cell of granular endoplasmatic reticulum is at the stage of translation, when mRNA advances to the ribosomes. Amino acids get bound by peptide bonds in a certain sequence thus causing polypeptide biosynthesis. The sequence of amino acids in a polypeptide corresponds with the sequence of:

- a. mRNA codons**
- b. rRNA nucleotides
- c. tRNA anticodons
- d. tRNA nucleotides
- e. rRNA anticodons

1267. 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. Increased excretion of the leukocytes from the organism
- d. Faulty release of mature leukocytes from the bone marrow into the blood
- e. Leukocyte destruction in the hematopoietic organs

1268. A 62-year-old patient with cerebral haemorrhage was admitted to the neurological department in grave condition. Objectively: increase of respiration depth and rate with its following reduction to apnoea, thereafter respiration cycle restores. What respiration type is it?

- a. Biots
- b. Gasping
- c. Kussmauls
- d. Apneustic
- e. Cheyne-Stokes**

1269. Parodontitis is treated with calcium preparations and a hormone that stimulates tooth mineralization and inhibits tissue resorption. What hormone is it?

- a. Aldosterone
- b. Thyroxine
- c. Adrenalin
- d. Calcitonin**
- e. Parathormone

1270. A 67-year-old patient ordered a full functional denture. It was necessary to extract his left upper canine. After infraorbital anaesthesia a patient presented with a progressing haematoma in the frontal part of his face. The patient was found to have an injury of an artery which is the branch of:

- a. A. labialis superior
- b. A. maxillaris**
- c. A. ophthalmica
- d. A. temporalis superficialis

e. A. facialis

1271. 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. Gentamicin sulfate

b. Ampicillin

c. Nystatin

d. Metronidazole

e. Doxycycline hydrochloride

1272. A patient with anacydic gastritis has the following blood formula: erythrocytes - $2,510^{12}/l$; Hb - 50 g/l; colour index - 0,6; reticulocytes - 0,02%; microcytosis. What type of anaemia is it?

a. Protein-deficient

b. Aplastic

c. Folic acid-deficient

d. Iron-deficient

e. Hypoplastic

1273. A group of students who were climbing up a mountain presented with euphoria, tachypnea, tachycardia. Specify the immediate reason for hypocapnia accompanying mountain sickness:

a. Decrease in respiration depth

b. Anaemia

c. Increase in respiration rate and depth

d. Increase in heart rate

e. Erythrocytosis

1274. During cytoscopy 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 isthmus

b. Bladder apex

c. Bladder cervix

d. Bladder body

e. Bladder floor

1275. 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. Right mesenteric sinus

b. Rectouterine

c. Left mesenteric sinus

d. Vesicouterine

e. Intersigmoid sinus

1276. An embryo has signs of disturbed process of dorsal mesoderm segmentation and somite generation. What part of skin is most likely to have developmental abnormalities?

a. Sudoriferous glands

b. Hair

c. Sebaceous glands

d. Epidermis

e. Derma

1277. 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 19

b. CD 8

c. CD 4

d. CD 3

1278. In the course of evolution there appeared molecular mechanisms for correction of damaged DNA molecules. This process is called:

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

1279. Autopsy revealed that the upper lobe of the right lung was enlarged, grey, airless; surface of incision was dripping with turbid liquid; pleura had a lot of fibrinous plicae. Microscopical examination of alveoles revealed exudate containing neutrophils, desquamated alveolocytes and fibrin fibres. Bronchus wall was intact. What is the most probable diagnosis?

- a. Influenzal pneumonia
- b. Focal pneumonia
- c. Pulmonary abscess
- d. Interstitial pneumonia
- e. Croupous pneumonia**

1280. 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. Cycle of tricarboxylic acids**
- b. Glyconeogenesis
- c. Fatty acids oxidation
- d. Lipolysis
- e. Glycolysis

1281. A histological specimen of kidney shows a structure consisting of a glomerulus of fenestrated capillaries and a bilayer epithelial capsule. Specify this structure:

- a. Renal corpuscle**
- b. Receiving tube
- c. Distal tubule
- d. Henles loop
- e. Proximal tubule

1282. A 45-year-old woman has been diagnosed with endemic goiter. What mechanism has caused hyperplasia of thyroid gland in this patient?

- a. Increased catecholamine production
- b. Increased hydration of derma and hypodermic cellulose
- c. Increased iodine absorption
- d. Increased thyroxine production
- e. Increased thyrotropin production**

1283. 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. Perforation
- b. Pyloric stenosis
- c. Penetration
- d. Haemorrhage**
- e. Canceration

1284. A patient with chronic bronchitis has been administered an expectorant that disintegrates disulphide bonds of sputum glycosaminoglycan thus reducing its viscosity. The patient has been also warned about possible bronchospasm. What drug has been administered?

- a. Bromhexine

- b. Thermopsis herb
- c. Sodium hydrocarbonate
- d. Acetylcysteine**
- e. Libexine

1285. 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. Folic acid and cobalamin
- b. Calciferol and ascorbic acid
- c. Riboflavin and nicotinamide
- d. Ascorbic acid and rutin**
- e. Thiamine and pyridoxine

1286. An oral surgery unit admitted a woman with a phlegmon on the anterior surface of neck in the region of carotid triangle. What muscle demarcates the posterior wall of this triangle?

- a. Sternocleidomastoid**
- b. Thyrohyoid
- c. Omohyoid
- d. Sternothyroid
- e. Sternohyoid

1287. A patient in grave condition has been delivered to the admission ward. Examination revealed pupil mydriasis, no reaction to the light, considerable reddening and dryness of skin and mucous membranes. What drug might have caused the intoxication symptoms?

- a. Atropine sulphate**
- b. Pilocarpine hydrochloride
- c. Adrenalin hydrochloride
- d. Dithylinum
- e. Proserin

1288. A patient with diabetes mellitus lapsed into diabetic coma as a result of acid-base disbalance. Specify the type of disbalance:

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

1289. A patient with a fracture of mandibular angle has been admitted to a hospital. A haematoma in the region of the fracture usually results from the injury of the following artery:

- a. Facial
- b. Lingual
- c. Inferior alveolar**
- d. Maxillary
- e. Internal carotid

1290. A woman with A (II), Rh-negative blood had a child with B (III), Rh-positive blood. The child was diagnosed with congenital anaemia of newborns. What is the most likely cause of its development?

- a. AB0-incompatibility
- b. Intrauterine intoxication
- c. Intrauterine infection
- d. Hereditary chromosomal pathology
- e. Rhesus incompatibility**

1291. After the second abortion a 23-year-old woman has been diagnosed with toxoplasmosis. Which drug should be used for toxoplasmosis treatment?

- a. Azidothimidine

- b. Mebendazole
- c. Co-trimoxazole**
- d. Itraconazole
- e. Acyclovir

1292. Examination of a 32-year-old patient revealed disproportional skeleton size, enlargement of superciliary arches, nose, lips, tongue, jaw bones, feet. What glands function was disturbed?

- a. Pancreas
- b. Thyroid
- c. Hypophysis**
- d. Epiphysis
- e. Suprarenal

1293. 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. Immune complex**
- b. Delayed
- c. Anaphylactic
- d. Stimulating
- e. Cytotoxic

1294. 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. Echinococcosis**
- d. Enterobiasis
- e. Ascariasis

1295. A month after surgical constriction of rabbits renal artery the considerable increase of systematic arterial pressure was observed. What of the following regulation mechanisms caused the animals pressure change?

- a. Serotonin
- b. Noradrenaline
- c. Vasopressin
- d. Adrenaline
- e. Angiotensin-II**

1296. To prevent possible negative effect upon the gastric mucus a patient with rheumatoid arthritis was administered a nonsteroid anti-inflammatory drug - a COX-2 selective inhibitor. Specify this drug:

- a. Ibuprofen
- b. Acetylsalicylic acid
- c. Celecoxib**
- d. Analgin
- e. Butadion

1297. 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 six polar flagella
- c. Colonisation of gastric cells
- d. Absence of spores and capsules
- e. Presence of urease

1298. A woman had taken synthetic hormones during her pregnancy. Her newborn girl presents with

excessive hairiness which has formal resemblance to adrenogenital syndrome. This sign of variability is called:

- a. Recombination
- b. Mutation
- c. Replication
- d. Heterosis
- e. Phenocopy**

1299. For infection prevention a patient who underwent appendectomy was prescribed a cephalosporin antibiotic. Antimicrobial activity of these antibiotics is called forth by the disturbance of the following process:

- a. Ribosomal protein synthesis
- b. Microbial wall formation**
- c. Nucleic acid synthesis
- d. Cholinesterase block
- e. Energy metabolism

1300. A stomatologists examined first-grade pupils and revealed that one of children had yellowish brown teeth, two of them were split. Heretofore the pupil was treated with "some pills" on account of pneumonia. What medication could have had such a negative effect upon teeth?

- a. Biseptol
- b. Doxycycline**
- c. Oxacillin
- d. Ampicillin
- e. Erythromycin

1301. 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. Chronic haemorrhage
- b. Deficiency of vitamin B12
- c. Substitution of haemoblast**
- d. Reduced synthesis of erythropoietin
- e. Intravascular hemolysis of erythrocytes

1302. Autopsy of a 68-year-old man who died from chronic cardiac insufficiency revealed deformed, thickened, conjoined cusps of mitral valve. Along the edge of joining there were small (1-2 mm) thrombs. What form of endocarditis caused development of chronic cardiac insufficiency?

- a. Recurrent verrucous**
- b. Diffuse
- c. Polypoulcerous
- d. Acute verrucous
- e. Fibroplastic

1303. A patient has been delivered to a hospital with a provisional diagnosis of progressing muscle dystrophy. This diagnosis can be confirmed by the increased concentration of the following substance found in urine:

- a. Carnosine
- b. Kreatine**
- c. Hydroxyproline
- d. Troponin
- e. Pyruvate

1304. 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. Compression of coronary vessels
- c. Dilatation of peripheral vessels
- d. Spasm of coronary arteries**
- e. Obstruction of coronary vessels

1305. A 35-year-old patient with chronic periodontitis underwent excision of a cyst 3 cm in diameter found at a root of the 15th tooth. Histological examination revealed that it had thin wall formed by mature connective tissue infiltrated by lymphocytes and plasmatic cells. Its internal surface was lined with multilayer pavement epithelium with no signs of keratinization; the cavity contained serous exudate. What is the most likely diagnosis?

- a. Primordial cyst
- b. Radicular cyst**
- c. Follicular ameloblastoma
- d. Cherubism
- e. Follicular cyst

1306. Leukoses are treated with antimetabolite methotrexate. What vitamin is its antagonist?

- a. Piridoxine
- b. Rutin
- c. Cyanocobalamin
- d. Folic acid**
- e. Phyllochinone

1307. Histological examination of a lymph node removed from the posterior triangle of neck of an 18-year-old patient revealed some cell agglomerations that included single multinuclear Reed-Sternberg cells, major Hodgkins cells, minor Hodgkins cells and many lymphocytes, single plasmatic cells, eosinophils. What is the most likely diagnosis?

- a. Burkitts tumour
- b. Nodular lymphoma
- c. Lymphogranulomatosis**
- d. Chronic lymphoid leukosis
- e. Lymphocytic lymphoma

1308. 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. Multifocal tumor growth with cystic degeneration
- b. Focal encephalitis
- c. Multiple foci of fresh and old cerebral hemorrhage
- d. Senile encephalopathy
- e. Ischemic stroke**

1309. 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. Sodium salt of benzylpenicillin
- b. Alcohol iodine solution
- c. Ciprofloxacin
- d. Isoniazid**
- e. Rifampicin

1310. 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. Urogenital tracts
- b. Lymph nodes
- c. Renal glomeruli
- d. Cardiac valves

e. Brain tunics

1311. In the process of tooth tissue histogenesis dentin wasn't formed in time for some reasons. What process of further histogenesis will be delayed or will not take place at all?

- a. Pulp formation
- b. Acellular cement formation
- c. Predentinal space formation

d. Enamel formation

- e. Cellular cement formation

1312. A 20-year-old patient has multiple yellow-brown and black erosions of tooth enamel. The teeth crumble and break, some of them are decayed. Make a diagnosis:

- a. Teeth erosion
- b. Deep caries

c. Fluorosis

- d. Acidic necrosis of teeth
- e. -

1313. After prolonged exercising people usually experience intense muscle pain. What is its most likely cause?

- a. Increased concentration of ADP in muscles
- b. Increased muscle excitability

c. Accumulation of lactic acid in muscles

- d. Intensified disintegration of muscle proteins
- e. Accumulation of creatinine in muscles

1314. A patient underwent the extraction of his superior medial incisor. It is supplied with blood by the branches of the following artery:

- a. A. buccalis

b. A. infraorbitalis

- c. A. sphenopalatina
- d. A. palatina descendens
- e. A. alveolaris inferior

1315. Obliterating atherosclerosis causes changes in the vessels of the lower extremities. A histological specimen of such a vessel evidently presents both internal and external elastic membranes, middle membrane contains a lot of myocytes. What vessel is affected in case of this disease?

a. Artery of muscular type

- b. Artery of elastic type
- c. Lymph node
- d. Artery of mixed type
- e. Vein with strongly developed muscles

1316. When water affects mucous membrane of the inferior nasal meatuses, this causes "diver reflex" that provokes:

- a. Bronchospasm

b. Reflectory apnea

- c. Reflectory dyspnea
- d. Cough
- e. Reflectory hyperpnea

1317. 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. No-spa
- b. Dibazol

c. Reserpine

d. Magnesium sulfate

e. Aprestin

1318. Cytogenetic examination of a patient with dysfunction of the reproductive system revealed normal karyotype 46,XX in some cells, but most cells have Klinefelters syndrome karyotype - 47,XXX. Such phenomenon of cell inhomogeneity is called:

a. Transposition

b. Inversion

c. Duplication

d. Heterogeneity

e. Mosaicism

1319. An 18-year-old boy applied to a geneticist. The boy has asthenic constitution: narrow shoulders, broad pelvis, nearly hairless face. Evident mental deficiency. The provisional diagnosis was Klinefelters syndrome. What method of clinical genetics will enable the doctor to confirm this diagnosis?

a. Genealogical

b. Dermatoglyphics

c. Cytogenetic

d. Twin study

e. Population-and-statistical

1320. A man permanently lives high in the mountains. What changes of blood characteristics can be found in his organism?

a. Increase of erythrocytes number

b. Decrease of reticulocytes number

c. Decrease of hemoglobin content

d. Erythroblasts in blood

e. Decrease of colour index of blood

1321. A female patient suffering from secondary syphilis got foci of skin depigmentation in the upper parts of her back. What pathological process is it?

a. Parakeratosis

b. Leukoderma

c. Leukoplasia

d. Metaplasia

e. Dysplasia

1322. 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. Octadine

d. Promedol

e. Phentolamine

1323. 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. triceps brachii

e. M. supinator

1324. 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. STI live vaccine

- b. Sabins vaccine
- c. Diphtheria and tetanus toxoids and pertussis vaccine
- d. BCG vaccine
- e. Salk vaccine

1325. In order to prevent massive haemorrhage in the region of oral cavity floor it is required to ligate an artery which is located within Pirogovs triangle. What artery is it?

- a. Maxillary artery
- b. Facial artery
- c. Ascending pharyngeal artery
- d. Lingual artery**
- e. Superior thyroid artery

1326. An electron microphotograph of duodenal epithelium clearly shows a cell with electron-dense granules in the basal pole. What cell is it?

- a. Endocrine**
- b. Parietal
- c. Prismatic with a limbus
- d. Goblet
- e. Poorly differentiated

1327. Chronic overdosage of glucocorticoids leads to the development of hyperglycemia. What process of carbohydrate metabolism is responsible for this effect?

- a. Glycogenolysis
- b. Pentose-phosphate cycle
- c. Gluconeogenesis**
- d. Aerobic glycolysis
- e. Glycogenesis

1328. 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. Non-specific resistance**
- b. Tolerance
- c. Humoral immunity
- d. Autoresponsiveness
- e. Cellular immunity

1329. 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. Complement-dependent cytotoxicity
- b. Antibody-dependent cytotoxicity
- c. Anaphylactic
- d. Immune complex
- e. Delayed**

1330. After a surgery on thyroid gland a patient complains of hoarse voice. What nerve has been damaged during the surgery?

- a. N. accessorius
- b. N. glossopharyngeus
- c. N. laryngeus superior
- d. N. hypoglossus
- e. N. laryngeus recurrens**

1331. 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 medications?

- a. Indirect synergism
- b. Direct antagonism**
- c. Indirect antagonism
- d. Direct synergism
- e. Unilateral antagonism

1332. As a result of a trauma a patient has developed traumatic shock. The patient is fussy, talkative, pale. AP- 140/90 mm Hg, Ps- 120 bpm. This condition is consistent with the following shock phase:

- a. Latent
- b. Terminal
- c. Torpid
- d. Erectile**
- e. -

1333. 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. Polycythemic hypervolemia
- b. Oligocythemic hypovolemia
- c. Polycythemic hypovolemia**
- d. Oligocythemic hypervolemia
- e. Simple hypovolemia

1334. After a hemorrhage into the brainstem a patient has lost reflex of myosis as a reaction to increase of illumination. What structure was damaged?

- a. Medial reticular nuclei
- b. Black substance
- c. Lateral reticular nuclei
- d. Vegetative nuclei of oculomotor nerve**
- e. Red nuclei

1335. 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 hepaticus sinister
- b. Ductus choledochus**
- c. Ductus hepaticus dexter
- d. Ductus cysticus
- e. Ductus hepaticus communis

1336. An electron microphotograph of an enamel organ shows a prismatic cell with developed granular endoplasmatic reticulum and Golgi complex. The apical part of the cell has Tomes process containing secretory granules and small vesicles. Specify the cell:

- a. Cell of intermediate layer of enamel organ
- b. Cell of enamel organ pulp
- c. Secretory active ameloblast**
- d. Pre-ameloblast
- e. External cell of an enamel organ

1337. A patient complains of difficulty in closing of jaws during chewing. He has been found to have atrophy of masticatory muscles. This indicates the dysfunction of the following nerve:

- a. N. vagus
- b. N. glossopharyngeus
- c. N. trigeminus**
- d. N. facialis
- e. N. ophthalmicus

1338. In the second week of being ill with viral hepatitis a patient presented with sleep disorder, headache, aggressiveness, unbearable skin itch. Objectively: AP drop, decrease in blood coagulation and reflex activity, bradycardia. What is the cause of these changes?

- a. Urobilinemia
- b. Stercobilinemia
- c. Hypercholesterolemia
- d. Hyperlipemia

e. Cholemia

1339. 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. *Klebsiella pneumoniae*
- b. *Neisseria meningitidis*
- c. *Streptococcus pneumoniae***
- d. *Neisseria gonorrhoeae*
- e. *Staphylococcus aureus*

1340. 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. 48(XXXY)
- b. 47(XXY)
- c. 48(XXYY)
- d. 47(???)**
- e. 46(XX)

1341. A man got into ice-cold water and died soon as a result of abrupt exposure to cold. In such cases an organism loses heat most intensively by the way of:

- a. Heat conduction and radiation
- b. Heat conduction**
- c. -
- d. Convection
- e. Radiation

1342. While examining a blood smear taken from a patient and stained by Romanovsky's method a doctor revealed some protozoa and diagnosed the patient with Chagas disease. What protozoan is the causative agent of this disease?

- a. *Leishmania tropica*
- b. *Trypanosoma brucei*
- c. *Trypanosoma cruzi***
- d. *Leishmania donovani*
- e. *Toxoplasma gondii*

1343. A 67-year-old patient has atherosclerosis of cardiac and cerebral vessels. Examination revealed hyperlipidemia. What class of blood plasma lipoproteids is most important in atherosclerosis pathogenesis?

- a. Chylomicrons
- b. Low-density lipoproteids**
- c. -
- d. High-density lipoproteids
- e. ?-lipoproteids

1344. After restoration of blood circulation in damaged tissue accumulation of lactate comes to a stop and speed of glucose consumption slows down. These metabolic changes are caused by activation of the following process:

- a. Glycogen biosynthesis
- b. Anaerobic glycolysis

c. Gluconeogenesis

d. Lipolysis

e. Aerobic glycolysis

1345. As a result of dysfunction of protein synthesis in liver a patient with hepatic insufficiency has disturbed synthesis of procoagulants, prothrombin, fibrinogen. Which of the listed syndromes can be expected in this patient?

a. Portal haemorrhagic syndrome

b. Acholia syndrome

c. Haemorrhagic

d. Hepatolienal syndrome

e. Cholaemia syndrome

1346. An elderly patient has chronic constipations induced by large intestine hypotonia. What drug should be administered?

a. Castor oil

b. Bisacodyl

c. Sodium sulphate

d. Novocaine amide

e. Atropine

1347. 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. Syncytium

c. Babes-Ernst bodies

d. Guarnieri bodies

e. Babes-Negri bodies

1348. A blood sample of a pregnant woman was typed. Erythrocyte-agglutination reaction was present with standard sera O?, ?(I), B?(III), reaction was absent with the serum A?(II). The blood under examination relates to the following group:

a. A?(II)

b. O?, ?(I)

c. -

d. AB(IV)

e. B?(III)

1349. As a result of a trauma a patient has damaged anterior roots of spinal cord. What structures have been affected?

a. Central processes of sensitive neurons of spinal ganglions

b. Axons of neurons of lateral horns

c. Axons of motoneurons and axons of neurons of lateral horns

d. Peripheral processes of sensitive spinal ganglions

e. Dendrites of neurons of spinal ganglions

1350. Specific prophylaxis involved application of a vaccine containing microorganisms and exotoxin detoxicated by formalin. It relates to the following type of vaccine:

a. Anatoxin

b. Chemical

c. Combined

d. Live

e. Genetically engineered

1351. Before the infiltration anaesthesia a patient had been tested for sensitivity to novocaine. The reaction turned out to be positive. Which of the below listed drugs can be used for anaesthetization in this case?

- a. Tetracaine
- b. Lidocaine**
- c. Trimecaine
- d. Anesthezin
- e. Procainamide hydrochloride

1352. A sample taken from the pharynx of a patient with angina was inoculated on the blood-tellurite agar. This resulted in growth of grey, radially striated (in form of rosettes) colonies up to 4-5 mm in diameter. Microscopically there can be seen gram-positive rods with club-shaped ends arranged in form of spread fingers. What microorganisms are these?

- a. Corynebacteria diphtheriae**
- b. Streptobacilli
- c. Diphtheroids
- d. Clostridium botulinum
- e. Streptococci

1353. 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. 4 l/min
- b. 6 l/min
- c. 7 l/min
- d. 10 l/min**
- e. 5 l/min

1354. A comatose patient has been delivered to a hospital. He has a 5-year history of type 2 diabetes mellitus. Objectively: breathing is deep and noisy, there is a smell of acetone around the patient. The concentration of glucose in blood is 15,2 millimole/l, of ketone bodies - 100 micromole/l. These disorders are typical for the following complication of this disease:

- a. Hypoglycemic coma
- b. Ketoacidotic coma**
- c. Hyperosmolar coma
- d. Hyperglycemic coma
- e. Hepatic coma

1355. 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. Glibenclamide**
- c. Insulin
- d. Acarbose
- e. Glibutidum

1356. There is a strict time limit for people to stay at a height of 8000 m above sea level without oxygen cylinders. Specify the life-limiting factor in this case:

- a. Humidity rate
- b. Rate of ultraviolet radiation
- c. Earth gravity
- d. Temperature
- e. Partial pressure of oxygen in air**

1357. A 67-year-old patient underwent extraction of a tumour of the right parotid region. Macroscopical examination revealed a soft encapsulated node up to 35 cm in diameter, the tissue was whitish-grey and included many small cysts. Microscopical examination revealed that the duct structures of large diameter were lined with bilayer prismatic epithelium, they had eosinophilic cytoplasm, the duct lumens contained papillary structures, the stroma was infiltrated with lymphocytes, there were some solitary lymphoid follicles. Specify the kind of tumour:

- a. Pleomorphic adenoma**

- b. Adenocystic carcinoma
- c. Adenolymphoma**
- d. Mucoepidermal tumour
- e. Monomorphic carcinoma

1358. Histological examination of myocardium of a 47-year-old patient with rheumatic heart disease (section material) revealed some big visually empty vacuoles within the cardiomyocytes. They turn black when stained with osmic acid, and yellow-red when stained with sudan III. What pathological process is it?

- a. Adipose degeneration**
- b. Hydropic degeneration
- c. Hyaline drop degeneration
- d. Dysproteinosis
- e. Carbohydrate degeneration

1359. Examination of a 40-year-old man ill with stenosing (without metastases) esophageal carcinoma revealed the following changes: atrophy of skeletal muscles and fatty tissue. His skin is sallow, epidermis is attenuated, heart has grown smaller. Myocardium and liver are brown. What is the most probable diagnosis?

- a. Myasthenia
- b. Brown atrophy
- c. Cancerous cachexia
- d. Alimentary cachexia**
- e. Addison's disease

1360. A 35-year-old patient diagnosed with sterility came to gynaecological department for diagnostic biopsy of endometrium. Microscopic examination revealed that mucous membrane is edematous, uterine glands are convoluted and filled with thick secretions. Such changes in the endometrium are caused by excess of the following hormone:

- a. Estrogen
- b. Somatotropin
- c. ACTH
- d. Testosterone
- e. Progesterone**

1361. A patient was delivered to a hospital with the fracture of mandible and considerable bleeding in the region of fracture. What artery is likely to be damaged?

- a. Superior alveolar artery
- b. Inferior alveolar artery**
- c. Lingual artery
- d. Ascending palatine artery
- e. Ascending pharyngeal artery

1362. A man got poisoned with mushrooms. They contain muscarine that stimulates muscarinic cholinergic receptors. What symptom is typical for poisoning with inedible mushrooms?

- a. Miosis**
- b. Bronchi dilation
- c. Mydriasis
- d. Arterial pressure rise
- e. Heart rate rise

1363. Osteoporosis 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. Collagenase
- b. Monoamine oxidase
- c. Lysyl oxidase**
- d. Lysyl hydroxylase

e. Prolyl hydroxylase

1364. Skin of patients with pigment xeroderma is very sensitive to the sun radiation, there is a risk of skin cancer development. The reason for this is hereditary deficiency of UF-endonuclease. As a result of this defect the following process is disturbed:

a. DNA reparation

b. Initiation

c. Transcription

d. DNA replication

e. Translation

1365. A patient has a slowly healing fracture. What medicine can be used to accelerate formation of connective tissue matrix?

a. Methyluracil

b. Cyclophosphan

c. Prednisolone

d. Methotrexate

e. Cyclosporine

1366. 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. Mental

b. Inferior labial

c. Lingual

d. Facial

e. Palatine

1367. An employee was working with radioactive substances and as a result of an incident he was irradiated with 4 Gy. He complains about headache, nausea, dizziness. What changes of blood formula can be expected 10 hours after irradiation?

a. Neutropenia

b. Leukopenia

c. Lymphocytosis

d. Agranulocytosis

e. Neutrophilic leukocytosis

1368. Gastrosocopy of a patient revealed lack of mucus coating the mucous membrane. This may be caused by the dysfunction of the following cells of gastric wall:

a. Cervical cells

b. Main exocrinocytes

c. Cells of prismatic glandular epithelium

d. Endocrinocytes

e. Parietal cells of gastric glands

1369. While a 24-year-old woman was waiting for tooth extraction, tonus of sympathetic part of autonomic nervous system rose. What reaction will the patient display?

a. Hyperperistalsis

b. Miotic pupils

c. Bronchus constriction

d. Hypersecretion of digestive juices

e. Increased frequency of heartbeat

1370. A sportsman needs to improve his sporting results. He was recommended a drug containing carnitine. What process is activated by this compound in the first place?

a. Transport of vitamin K

b. Transport of calcium ions

c. Transport of fatty acids

d. Transport of amino acids

e. Transport of glucose

1371. 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. Erythropoiesis

- b. Neutrophil cytopoiesis
- c. Eosinophil cytopoiesis
- d. Lymphopoiesis
- e. Basophil cytopoiesis

1372. A 46-year-old female patient needs a surgery in the maxillofacial region. It is known that the patient is disposed to increased hemocoagulation. What natural anticoagulant can be used in order to prevent thrombosis?

a. Hirudin

b. Heparin

- c. None of the listed drugs
- d. Fibrinolysin
- e. Sodium citrate

1373. In order to prevent wound infection associated with surgical procedures a patient was given a synthetic antiprotozoan drug with a high activity against *Helicobacter pylori*. Specify this drug:

a. Metronidazole

- b. Acyclovir
- c. Isoniazid
- d. Doxycycline hydrochloride
- e. Chingamin

1374. Roentgenologically confirmed obstruction of common bile duct resulted in preventing bile from inflowing to the duodenum. What process is likely to be disturbed?

a. Fat emulgaion

- b. Salivation inhibition
- c. Carbohydrate hydrolysis
- d. Protein absorption
- e. Hydrochloric acid secretion in stomach

1375. A patient with evident pneumosclerosis that developed after infiltrative pulmonary tuberculosis presents with respiratory failure. What is its pathogenetic type?

- a. Reflectory
- b. Obstructive
- c. Apneustic

d. Restrictive

e. Disregulative

1376. 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. Cholaemia

b. Increase in ALT and AST rate

- c. Hyperbilirubinemia
- d. Bilirubinuria
- e. Urobilinuria

1377. A 50-year-old male patient suffers from chronic bronchitis, complains about dyspnea during physical activity, sustained cough with sputum. After examination he was diagnosed with pulmonary emphysema. This complication is caused by:

- a. Decrease in alveolar ventilation
- b. Decrease in lung compliance

- c. Decrease in lung perfusion
- d. Decrease in lung elasticity**
- e. Ventilation-perfusion disbalance

1378. Microscopic examination of a parenchymatous organ revealed that its epithelial cords formed glomerular, fascicular and reticular zones. The central part of the organ was presented by accumulations of chromaffin cells. Specify this organ:

- a. Hypophysis
- b. Liver
- c. Epiphysis
- d. Thyroid gland
- e. Adrenal gland**

1379. 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. Acute endometritis
- b. Placental polyp
- c. Leiomyoma
- d. Cystic mole

e. Glandular hyperplasia of endometrium

1380. Microscopic study of an endocrine gland revealed that its parenchyma consisted of follicular structures. Their wall was formed by monolayer cubic epithelium, and their cavity was filled up with oxyphilic substance. What hormone is secreted by this gland?

- a. Aldosterone
- b. Thyroxin**
- c. Oxytocin
- d. Cortisol
- e. Parathyrin

1381. A 57-year-old patient experiences periodical uterine haemorrhages. Diagnostic biopsy of lining of uterus has revealed among the blood elements some glandular complexes of different forms and sizes made by atypic cells having hyperchromic nuclei with multiple mitoses (including pathological ones). What is the most likely diagnosis?

- a. Adenocarcinoma**
- b. Uterus fibromyoma
- c. Endometritis
- d. Glandular endometrium hyperplasia
- e. Chorioepithelioma

1382. After a car accident a patient has been diagnosed with a fracture of spine. He is unable to move his lower extremities. This form of motor disorder is called:

- a. Quadriplegia
- b. Paraplegia**
- c. Paresis
- d. Hemiplegia
- e. Paralysis

1383. 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. Conduction tracts
- b. Neuromuscular synapses
- c. Efferent nerves
- d. Afferent nerves
- e. Central synapses**

1384. 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. Dehydropholate reductase

- b. Pholate decarboxylase
- c. Pholate oxidase
- d. Deaminase
- e. Thiaminase

1385. A 14-year-old patient has been diagnosed with Hutchinsons triad: screwdriver-shaped teeth, parenchymatous keratitis and deafness. What disease are these signs typical for?

- a. Lepra
- b. Opisthorchiasis

c. Syphilis

- d. Tuberculosis
- e. Toxoplasmosis

1386. A microspecimen of heart shows rectangular cells from 50 to 120 mcm large with central position of nucleus, developed myofibrils. The cells are connected by intercalated discs. These cells are responsible for the following function:

- a. Endocrine
- b. Protective
- c. Regeneratory
- d. Function of impulse conduction

e. Function of heart contractions

1387. 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. Trigeminus

- c. Glossopharyngeal
- d. Sublingual
- e. Vagus

1388. A patient consulted an otolaryngologist about voice changes. Examination revealed a tumour within the posterior part of rima vocalis. This part is located between the following cartilages of larynx:

a. Cartilago corniculata

b. Cartilago arytenoidea

- c. Cartilago thyroidea
- d. Cartilago cricoidea
- e. Cartilago cuneiformis

1389. A man is in the state of rest. He has been forcing himself to breath deeply and frequently for 3-4 minutes. What effect will it have upon acid-bace balance of the organism?

a. There will be no change in acid-base balance

b. Respiratory alkalosis

- c. Metabolic acidosis
- d. Respiratory acidosis
- e. Metabolic alkalosis

1390. A histological specimen shows terminal secretory parts of glands made by conic cells with basophilic cytoplasm and a roundish nucleus in the centre. Specify the type of terminal secretory parts by the type of secretion:

a. Sebaceous

b. Serous

- c. Combined
- d. Seromucous
- e. Mucous

1391. A patient suffering from stomatitis was prescribed oral rinsing. Which antiseptic from the oxidant group is the most suitable for this purpose?

a. Potassium permanganate

- b. Alcoholic iodine solution
- c. Ethyl alcohol
- d. Chloramine
- e. Boric acid

1392. A few days before an operation a patient should be administered vitamin K or its synthetic analogue Vicasol. Vitamin K takes part in the following post-translational modification of the II, VII, IX, X blood clotting factors:

- a. Transamination
- b. Glycosylation
- c. Deamination
- d. Decarboxylation

e. Carboxylation

1393. 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. Ceruloplasmin

b. Prothrombin

- c. Heparin
- d. Haptoglobin
- e. Creatin

1394. 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. Complement-binding reaction
- d. Neutralization reaction
- e. Precipitation reaction

1395. 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. Bronchopneumonia

c. Chronic bronchitis

- d. Acute bronchitis
- e. Lobar pneumonia

1396. As a result of a chest trauma the costal cartilage was damaged. The cartilage regenerates due to the following layer of perichondrium:

- a. Collagen
- b. Elastic
- c. Sharpey's fibers

d. Chondrogenic

e. Fibrous

1397. Autopsy of a man, who died from typhoid fever on the 5th day of disease, revealed the following changes: aggregated follicles of ileum were enlarged and plethoric; they protruded over the mucous membrane, and multiple sulci and convolutions could be seen on their surface. Histological examination revealed plethority and edema of tissues, presence of granulomas composed of big cells with light cytoplasm and containing typhoid bacilli. These local changes are compliant with the

following period of typhoid fever:

a. Stage of medullary swelling

b. Stage of clean ulcers

c. Stage of ulceration

d. Stage of necrosis

e. Stage of ulcer healing

1398. A shepherd who has tended sheep together with dogs presents with chest pain and blood spitting. X-ray examination revealed a roundish neoplasm in his lungs. Immunological reactions confirmed the provisional diagnosis. Specify the helminth that might have caused this disease:

a. Broad tapeworm

b. Armed tapeworm

c. Common liver fluke

d. Echinococcus

e. Dwarf tapeworm

1399. 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. Glycine

b. Serotonin

c. Acetylcholine

d. Noradrenaline

e. Dopamine

1400. In the framework of complex treatment of gingivitis a patient has been administered a drug that stimulates leucopoiesis, accelerates wound healing, enhances the growth and proliferation of cells, has the anti-inflammatory effect. It is applied for treatment of leukopenias of different genesis, in the dental practice it is used for treatment of inflammatory diseases of the oral mucosa. Identify the drug:

a. Methotrexate

b. Coamide

c. Pentoxylum

d. Cyanocobalamin

e. Mercaptopurine

1401. A 69-year-old patient got a small plaque with subsequent ulceration on the skin of the lower eyelid. The formation was removed. Microscopic examination of dermis revealed complexes of atypical epithelial cells arranged perpendicularly to the basal membrane on the periphery. The cells were dark, of polygonal prismatic shape with hyperchromic nuclei with frequent mitoses. What is the histological form of carcinoma in this patient?

a. Undifferentiated

b. Adenocarcinoma

c. Basal cell carcinoma

d. Nonkeratinizing squamous cell carcinoma

e. Keratinizing squamous cell carcinoma

1402. After a severe stress a patient was found to have eosinopenia. A decrease in the eosinophil number can be explained by the changed concentration of the following hormones:

a. Glucocorticoids

b. Insulin

c. Vasopressin

d. Adrenaline

e. Mineralocorticoids

1403. A patient has wound abscess. Bacteriological examination of the wound content revealed a gram-negative bacillus which forms semi-transparent mucous colonies of blue-green colour with a pearlescent appearance on the beef-extract agar. Culture has a specific odour of violets or jasmine.

What type of pathogen was isolated from the patients wound?

- a. **P. aeruginosa**
- b. P. vulgaris
- c. S. pyogenes
- d. S. faecalis
- e. S. aureus

1404. A patient has been prescribed the salt-free diet. What changes to the salt taste sensitivity threshold should be expected?

- a. No changes
- b. Increase
- c. Little change
- d. Increase followed by a decrease
- e. **Decrease**

1405. A patient has enamel erosion. What vitamin should be administered for its treatment?

- a. **D3**
- b. K
- c. B1
- d. PP
- e. C

1406. Nucleolus organizers of human chromosomes 13-15, 21, 22 include about 200 gene clusters that synthesize RNA. These chromosomal regions contain the information on the following type of RNA:

- a. tRNA + rRNA
- b. tRNA
- c. **rRNA**
- d. mRNA
- e. snRNA

1407. For an unknown reason the fertilization membrane of an embryo dissolved in the fallopian tube in the first critical period. What complication of pregnancy is possible in this case?

- a. **Embryo implantation into the Fallopian tube**
- b. Invagination of the blastocyst wall
- c. Formation of two blastocysts
- d. Return of blastocyst back to the ampullary portion of the tube
- e. Embryonic death

1408. A patient is 59 years old and works as director of a private enterprise. After the inspection by tax authorities he developed intense burning retrosternal pain radiating to the left arm. After 15 minutes the patient returned to normal. What is the leading mechanism for the development of stenocardia in this patient?

- a. Coronary thrombosis
- b. **Increased level of blood catecholamines**
- c. Functional overload of heart
- d. Coronary atherosclerosis
- e. Intravascular aggregation of blood corpuscles

1409. A patient of neurological department has a sensitivity loss caused by the damage to pseudounipolar neurocytes. Pseudounipolar neurons are a kind of bipolar neurons and the only place of their localization in the human body is:

- a. **Spinal ganglions**
- b. Thalamic tubercle
- c. Retina
- d. Intramural vegetative ganglia
- e. Spiral ganglion

1410. Periodontitis induces the development of lipid peroxidation in the periodontal tissues, as well as an increase in malondialdehyde and hydrogen peroxide concentration in the oral cavity. Which of the following enzymes provides antioxidant protection?

a. Catalase

b. Amylase

c. Invertase

d. Maltase

e. Lactase

1411. Continuous treatment of cancer patients with methotrexate over time reduces the target cells sensitivity to the drug. In this case gene amplification of the following enzyme is observed:

a. Thioredoxin reductase

b. Dihydrofolate reductase

c. Deaminase

d. -

e. Thiaminase

1412. An attack of tachycardia was stopped by pressing on the eyeballs. Which of the following reflexes underlies this phenomenon?

a. Bainbridge reflex

b. Hering reflex

c. Aschner reflex

d. Holtz reflex

e. Bernard reflex

1413. A child is 6 years old. The permanent teeth have started to take the place of the primary teeth. What teeth are the first to emerge?

a. Lower first premolars

b. Upper medial incisors

c. Lower first molars

d. Lower canines

e. Upper first premolars

1414. A patient complains of frequent bowel movements and stool with blood admixtures ("raspberry jelly" stool). Microscopic examination revealed large mononuclear cells with absorbed red blood cells. What protozoon is this morphological structure typical for?

a. Campylobacter jejuni

b. Toxoplasma gondii

c. Giardia lamblia

d. Balantidium coli

e. Entamoeba histolytica

1415. Histological examination of the grayish-pink elastic nodule of 0,3 cm in diameter found by a surgeon at the root of the extracted tooth shows granulation tissue with cords of stratified squamous epithelium. What is the most likely diagnosis?

a. Acute apical periodontitis

b. Granulating pulpitis

c. Granulomatous periodontitis

d. Granulating periodontitis

e. Eosinophilic granuloma

1416. Examples of human-specific parasites are malaria plasmodium, enterobius vermicularis and some other. The source of invasion of such parasites is always a human. Such human-specific parasites cause diseases that are called:

a. Zoonotic

b. Anthroozoonotic

c. Anthroponotic

d. Infectious

e. Multifactorial

1417. A woman consulted a doctor about swelling and tenderness of the lower extremity, swollen veins and nodes on the medial surface of thigh. Which vein was affected?

- a. Small saphenous
- b. Great saphenous**
- c. Popliteal
- d. Tibial
- e. Femoral

1418. Microscopy of a smear obtained from a patient with acute purulent periostitis revealed gram-positive bacteria arranged in clusters resembling bunch of grapes. What microorganisms is this morphology typical for?

- a. Tetracocci
- b. Candida fungi
- c. Staphylococci**
- d. Sarcina
- e. Streptococci

1419. At the recruiting office US examination of a 19-year-old man revealed nephroptosis. Normally the kidneys should be located at the following vertebral level:

- a. IX-X thoracic
- b. XII thoracic and I lumbar
- c. IV-V lumbar
- d. IX-XII thoracic
- e. XI thoracic and III lumbar**

1420. A histological specimen represents an organ made up of skeletal cross-striated muscle tissue. The organ has cutaneous, intermediate, and mucosal sections. The skin of the organ is stratified squamous keratinizing epithelium passing into nonkeratinizing epithelium in the mucosal section. Specify this organ:

- a. Hard palate
- b. Gum
- c. Cheek
- d. Lip**
- e. Tongue

1421. A 40-year-old male has hearing impairment and paresis of facial muscles resulting from a blow to his head. He was diagnosed with a hematoma of cerebellopontine angle. What nerves had been damaged?

- a. VII, VIII pair of cranial nerves**
- b. V, VI pairs of cranial nerves
- c. VIII, IX pairs of cranial nerves
- d. IX, X pair of cranial nerves
- e. -

1422. Following the tooth extraction for acute pulpitis complicated by purulent periodontitis a patient developed osteomyelitis of mandible. 10 days later the patient died with symptoms of severe intoxication. Autopsy revealed a 2x2 cm large abscess of the right frontal lobe of brain, bilateral abscessed pneumonia, myeloid hyperplasia of spleen. What is the most likely diagnosis?

- a. Chroniosepsis
- b. Septicemia
- c. Secondary septic endocarditis
- d. -
- e. Pyosepticemia**

1423. It has been revealed that intense physical exercise causes activation of gluconeogenesis in liver of experimental rats. Which substance is glucose precursor in this case?

- a. Palmitate
- b. Stearate
- c. Urea
- d. Glycogen

e. Pyruvate

1424. Autopsy of a young man revealed some lung cavities with inner walls made up of granulation tissue with varying degrees of maturity; pronounced pneumosclerosis and bronchiectasis. Some cavities had caseation areas. What is your presumptive diagnosis?

- a. Bronchiectasis
- b. Acute cavernous tuberculosis
- c. Infiltrative tuberculosis
- d. Caseous pneumonia

e. Fibrous cavernous tuberculosis

1425. A 50-year-old woman with myocardial infarction has been delivered to the intensive care unit. Which enzymes activity will be most increased during the first two days?

- a. Alanine aminopeptidase
- b. Aspartate aminotransferase**
- c. LDH5
- d. LDH4
- e. Alanine aminotransferase

1426. Wilsons disease is a disorder of copper transport which leads to the accumulation of this metal in brain and liver cells. It is associated with a disturbance in the synthesis of the following protein:

- a. Transcobalamin
- b. Siderophilin
- c. Ceruloplasmin**
- d. Metallothionein
- e. Haptoglobin

1427. A 60-year-old man with a history of chronic intestinal obstruction has excessive protein putrefaction in the colon. What is the indicator of this process?

- a. Glycosuria
- b. Indicanuria**
- c. Hyperuricuria
- d. Bilirubinuria
- e. Creatinuria

1428. Depressions and emotional disorders result from noradrenaline, serotonin and other biogenic amines deficiency in brain. Concentration of these compounds in synapses can be increased by means of antidepressants that inhibit the activity of the following enzyme:

- a. Phenylalanine-4-monooxygenase
- b. Diamine oxidase
- c. D-amino acid oxidase
- d. Monoamine oxidase**
- e. L-amino acid oxidase

1429. A 70-year-old man has developed prostatic stomatitis. Apart of this he was found to have an evident lesion of mouth corners. Microscopical examination revealed large ovoid gram-positive cells. What microorganisms are most likely to be the leading etiological agent of such a lesion?

- a. Neisseria
- b. Candida fungi**
- c. Staphylococci
- d. Streptococci
- e. Corynebacteria

1430. Microscopy of a smear taken from the film that appeared on the peptone water 6 hours after

seeding and culturing of a fecal sample in a thermostat revealed mobile gram-negative bacteria curved in form of a comma that didn't make spores or capsules. What microorganisms were revealed?

- a. Spirochetes
- b. Clostridia
- c. Spirilla
- d. Vibrios**
- e. Corynebacteria

1431. Vestibular surface of the left lower incisor has a pink fungoid formation up to 2 cm large which is fixed to the supra-alveolar tissue by a wide pedicle. Histological examination revealed branched capillary vessels with multiple hemorrhages and foci of hemosiderosis. What is the most likely diagnosis?

- a. Giant cell epulis
- b. Cavernous hemangioma
- c. Angiomatous epulis**
- d. Fibrous epulis
- e. Gingival fibromatosis

1432. Oral mucosa of a patient was treated with hydrogen peroxide. Instead of foaming, the blood turned brown. That is possible in case of reduced concentration of the following enzyme:

- a. Acetyltransferase
- b. Catalase**
- c. Pseudocholinesterase
- d. Methemoglobin reductase
- e. Glucose-6-phosphate dehydrogenase

1433. During a surgery, the anesthesiologist used a ganglionic blocker for controlled hypotension. What drug was given the patient in this case?

- a. Pirilenum
- b. Pachycarpinum
- c. Benzohexonium
- d. Hygronium**
- e. Pentaminum

1434. During ventricular systole the muscle does not respond to additional stimulation because it is in the phase of:

- a. -
- b. Absolute adiabaphoria**
- c. Subnormal excitability
- d. Increased excitability
- e. Relative adiabaphoria

1435. A patient has herpetic conjunctivitis. What etiologic drug should be administered?

- a. Acyclovir**
- b. Tetracycline
- c. Furagin
- d. Ampicillin
- e. Methisazonum

1436. A patient with a long history of chronic periodontitis underwent removal of a maxillary cyst located at the root of the affected tooth. Microscopy shows that the bone wall is made up of fibrous tissue infiltrated by lymphocytes and plasma cells. The inner surface of the cyst is covered with stratified squamous epithelium with no signs of keratinization. What is the most likely diagnosis?

- a. Radicular cyst**
- b. Primordial cyst
- c. Follicular cyst
- d. Gingival fibromatosis
- e. Eosinophilic granuloma

1437. Anatomical dead space is the part of air that remains in the airways after the expiration.

Anatomical dead space will be reduced in the following situation:

- a. Lying patient is turned to his right side
- b. Tracheostomy**
- c. Patients head is flexed forward
- d. Breathing through the mouth
- e. Lying patient is turned to his left side

1438. Functioning of certain structures of the isolated heart was stopped by means of cooling. What structure was cooled providing that the heart first stopped contractions and then resumed them with a frequency twice lower than the initial one?

- a. Atrioventricular node
- b. His bundle branches
- c. Purkinjes fibers
- d. Sinoatrial node**
- e. His bundle

1439. Histological examination of a tissue sample revealed that the tissue had no blood vessels, and the cells were packed tightly together making layers. Specify this tissue:

- a. Epithelial**
- b. Cartilaginous
- c. Muscular
- d. Osseous
- e. Nervous

1440. A patient has petechial hemorrhages on the gums, hard and soft palate, buccal mucosa. This is caused by the dysfunction of the following blood corpuscles:

- a. Lymphocytes
- b. Monocytes
- c. Platelets**
- d. Erythrocytes
- e. Eosinophils

1441. Survey radiograph of facial skull of a 16-year-old girl shows some hole-like foci of cranial bone destruction. Histological examination of biopsy material revealed zones of destruction of bone trabeculae, proliferation of connective tissue with diffuse histiocytic infiltrate and a large number of eosinophilic leukocytes. Diagnose the disease:

- a. Eosinophilic granuloma**
- b. Cherubism
- c. Histiocytosis X
- d. Fibrous dysplasia
- e. Osteoclastoma

1442. A 77-year-old patient with atherosclerosis got pain in his right foot. The foot is enlarged, the skin is black and macerated, the demarcation zone is not defined clearly. What pathological process arose in the foot?

- a. Dry gangrene
- b. Noma
- c. Coagulation necrosis
- d. Wet gangrene**
- e. Sequestrum

1443. Certain infections caused by bacteria are treated with sulphanilamides that block the synthesis of bacterial growth factor. What is the mechanism of these drugs action?

- a. They are allosteric enzymes
- b. They inhibit the folic acid absorption
- c. They are antivitamins of p-aminobenzoic acid**
- d. They are involved in redox processes

e. They are allosteric enzyme inhibitors

1444. A 26-year-old patient was found to have a big furuncle of soft tissues of face by the root of nose and inferior eyelid. This disease can be seriously complicated by the infection spreading along veins of this region to the sinuses of dura brain mater. What sinus is most likely to be affected?

a. Cavernous

b. Occipital

c. Sigmoid

d. Superior sagittal

e. Petrosal

1445. A 12-year-old male patient has tetanic convulsions. Which gland function may be impaired in this case?

a. Hypophysis

b. Glandula pinealis

c. Glandulae parathyroidae

d. Glandula thyroidea

e. Thymus

1446. The total number of leukocytes in patients blood is $90 \times 10^9/l$. Leukogram: eosinophils - 0%, basophils - 0%, juvenile - 0%, stab neutrophils - 2%, segmentonuclear cells - 20%, lymphoblasts - 1%, prolymphocytes - 2%, lymphocytes - 70%, monocytes - 5%, Botkin-Gumprecht cells. Clinical examination revealed enlarged cervical and submandibular lymph nodes. Such clinical presentations are typical for the following pathology:

a. Chronic myeloleukosis

b. Lymphogranulomatosis

c. Acute lympholeukosis

d. Infectious mononucleosis

e. Chronic lympholeukosis

1447. A patient with chronic heart failure has been taking digoxin for several months on an outpatient basis. At a certain stage of treatment, he got symptoms of drug overdose. What effect underlies the development of this complication?

a. Adaptation

b. Functional cumulation

c. Sensibilization

d. Tachyphylaxis

e. Material accumulation

1448. A 60-year-old man consulted a doctor about an onset of chest pain. In blood serum analysis showed a significant increase in the activity of the following enzymes: creatine kinase and its MB-isoform, aspartate aminotransferase. These changes indicate the development of the pathological process in the following tissues:

a. Skeletal muscles

b. Lungs

c. Liver

d. Cardiac muscle

e. Smooth muscles

1449. Following treatment with a highly-efficient anti-tuberculosis drug a 48-year-old female developed optic nerve neuritis, memory impairment, cramps. Which of these anti-TB drugs had the patient taken?

a. Rifampicin

b. Kanamycin sulfate

c. Isoniazid

d. PASA

e. Ethambutol

1450. Following the estimation of a persons energy expenditures it was established that the respiratory quotient was equal to 1,0. This means that the compound that is mainly oxidized in the cells is:

- a. Proteins and carbohydrates
- b. Proteins
- c. Carbohydrates and fats
- d. Carbohydrates**
- e. Fats

1451. A patient from Prykarpattia (at the foot of the Carpathian mountains) with endemic goiter consulted a doctor about suppuration of gingival angles and loosening of teeth. What is a major factor of periodontitis development in this case?

- a. Malnutrition
- b. Violation of swallowing
- c. Stress effects
- d. Endocrine disorders**
- e. Hypersalivation

1452. A patient has the pronounced pain syndrome induced by neuralgia. What drug from the group of nonsteroidal anti-inflammatory drugs will reduce pain sensitivity?

- a. Lidocaine hydrochloride
- b. Ketamine hydrochloride
- c. Codeine phosphate
- d. Diclofenac sodium**
- e. Droperidol

1453. After examining the patient the doctor recommended him to eliminate rich meat and vegetable broth, spices, smoked products from the diet, since the patient was found to have:

- a. Reduced salivation
- b. Reduced motility of the gastrointestinal tract
- c. Reduced secretion of hydrochloric acid by the stomach glands
- d. Biliary dyskinesia
- e. Increased secretion of hydrochloric acid by the stomach glands**

1454. Microscopy of dental plaque revealed unicellular organisms. Their cytoplasm had two distinct layers, barely visible core, wide pseudopodia. The patient is most likely to have:

- a. Lamblia
- b. Trichomonas tenax
- c. Entamoeba gingivalis**
- d. Entamoeba histolytica
- e. Entamoeba coli

1455. Platelet adhesion at the site of vascular injury is of great importance for the mechanisms of primary hemostasis. Which factor plays a major part in this process?

- a. Fitzgeralds
- b. Rosenthals
- c. Hagemans
- d. Willebrands**
- e. Fletchers

1456. Enamel hypoplasia is caused by a dominant gene localized in the X chromosome. Mother has a normal enamel, and father has enamel hypoplasia. Which of children will have this anomaly?

- a. Only the sons
- b. Half of the daughters
- c. Half of the sons
- d. Only the daughters**
- e. All the children

1457. A patient consulted a doctor about an increased pain sensitivity of the ear skin and ear canal. Palpation behind the sternocleidomastoid muscle was painful. Such clinical presentations are typical for the irritation of the following nerve:

- a. N.occipitalis minor
- b. N.auricularis magnus**
- c. N.vagus
- d. Nn.supraclaviculares
- e. N.transversus colli

1458. Electrophoretic study of blood serum of a patient with pneumonia revealed an increase in one of the protein fractions. What fraction is it?

- a. γ -globulins**
- b. β -globulins
- c. Albumins
- d. α_2 -globulins
- e. α_1 -globulins

1459. After the transfusion of the concentrated red blood cells the patient developed posttransfusion shock. What is the leading mechanism of acute renal failure in this case?

- a. Impairment of the renal incretory function
- b. Glomerular filtration disorder**
- c. Tubular secretion disorder
- d. Urinary excretion disorder
- e. Tubular reabsorption disorder

1460. Histological specimen of mandible shows 10 tooth buds connected to the dental plate. Which element of tooth germ will develop out of them?

- a. Enamel organ**
- b. Enamel spindles
- c. Dental bulb
- d. Enamel pearls
- e. Dental sac

1461. A patient with diabetes mellitus developed ketoacidotic coma due to the acid-base disturbance. What type of disorder had arisen in this case?

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

1462. Throughout a year a 37-year-old woman periodically got infectious diseases of bacterial origin, their course was extremely lingering, remissions were short. Examination revealed low level of major classes of immunoglobulins. The direct cause of this phenomenon may be the following cell dysfunction:

- a. Lymphocytes
- b. Plasmocytes**
- c. Phagocytes
- d. Macrophages
- e. Neutrophils

1463. A hospital in Donetsk region admitted the patients - members of the same family - with eyelid and face edemata, fever, eosinophilia, headache, muscle pain. The disease developed on the 7-10 day after eating pork sausage sent by the patients relatives from Khmel'nitsky region. What is your provisional diagnosis?

- a. Teniasis
- b. Taeniarhynchosis
- c. Echinococcosis

d. Trichinosis

e. Cysticercosis

1464. After the extraction of the lower first premolar the patient had dentoalveolar haemorrhage. What artery did the bleeding occur from?

a. Lingual

b. Transverse facial artery

c. Mental

d. Buccal

e. Inferior alveolar

1465. As a result of an injury a child developed an abscess of adipose tissue of cheek. With time the process spread to the lateral surface of pharynx. The pus spread along the following fascia:

a. Temporal

b. -

c. Bucco-pharyngeal

d. Parotid

e. Masticatory

1466. A female patient presents with the ovarian hyperaemia, increased permeability of the blood-follicle barrier with the development of edema, infiltration of the follicle wall with segmental leukocytes. The follicle is large in volume. Its wall is thickened. What period of the sex cycle is the described situation typical for?

a. Period of relative rest

b. Preovulatory stage

c. Menstrual period

d. Postmenstrual period

e. Ovulation

1467. A 4-year-old girl died suddenly with symptoms of asphyxia. Autopsy revealed white spots on the buccal mucosa; large blotches of rash on the skin of face, trunk and extremities; conjunctivitis, edema with foci of necrosis on the laryngeal mucosa; giant-cell pneumonia on microscopy. What is the most likely diagnosis?

a. Influenza

b. Scarlet fever

c. Meningococcal infection

d. Typhus

e. Measles

1468. Inhibitory effect of GABA is due to the increased permeability of the postsynaptic membrane for chloride ions. This mediator is produced as a result of decarboxylation of the following amino acid:

a. Arginine

b. Glutamine

c. Glutamate

d. Aspartate

e. Asparagine

1469. A patient has an inflammation in the pterygopalatine fossa. The infection has spread into the nasal cavity. Which anatomical structure has the infection spread through?

a. Canalis pterygoideus

b. Foramen rotundum

c. Foramen sphenopalatinum

d. Canalis palatinus major

e. Canalis palatinus minor

1470. Degeneration of glycogen in liver is stimulated by glucagon. What secondary messenger (mediator) is thus formed in the cell?

a. c-AMP

- b. NO
- c. Triacylglycerol
- d. c-GMP
- e. CO

1471. Postmortem examination of a patient with a long history of rheumatism revealed thickening and shortening of the mitral valve leaflets with abundant thrombotic deposits. Histological examination of the valve leaflets confirmed sclerosis and revealed multiple foci of connective tissue disorganization in form of mucoid and fibrinoid swelling, as well as deendothelization foci. Endothelium defects were covered with thrombotic deposits of 1-2 mm. What type of valvular endocarditis is the case?

- a. Recurrent verrucous endocarditis
- b. Polypous-ulcerative endocarditis
- c. Fibroplastic endocarditis
- d. Diffuse valvulitis
- e. Acute verrucous endocarditis

1472. A 10-year-old child cut his leg with a piece of glass and was sent to a clinic for an anti-tetanus serum injection. In order to prevent the development of anaphylactic shock the Besredka desensitisation method was applied. What mechanism underlies this method?

- a. Stimulation of the immunological antigen tolerance
- b. Stimulation of antigen-specific IgG2 synthesis
- c. Binding to IgE fixed to mast cells
- d. Inhibited synthesis of mast cells mediators
- e. Binding of IgE receptors on mast cells

1473. A patient consulted a doctor about the inflammation of the ethmoid bone cells (ethmoiditis). Examination revealed the disorder of blood supply to the bone. The ethmoidal cells are normally supplied with blood by the branches of the following artery:

- a. A. transversa faciei
- b. A. cerebri anterior
- c. A. ophthalmica
- d. A. infraorbitalis
- e. A. facialis

1474. An 18-year-old patient complains of general weakness, fatigue, low spirits. The patient is of the asthenic constitution type. Ps- 68/min., AP- 90/60 mm Hg. She has been found to have primary neurocirculatory hypotension. What is the leading factor of the arterial pressure drop in this patient?

- a. Hypovolemia
- b. Decreased minute blood volume
- c. Decreased tonus of resistive vessels
- d. Decreased cardiac output
- e. Deposition of blood in the veins of the systemic circulation

1475. A histological specimen of mandible of an embryo shows a tooth germ with the dental papilla made up of small stellate basophilic cells. What tissue forms this part of the tooth germ?

- a. Reticular
- b. Cartilaginous
- c. Mesenchyme
- d. Epithelial
- e. Osseous

1476. A patient underwent lobectomy of the right middle lobe of a lung. What segments of the lung were affected?

- a. Apical, anterior
- b. Lateral and medial
- c. Apical posterior and anterior
- d. Basal posterior and lateral

e. Basal medial and anterior

1477. A patient with symptoms of acute heart failure, namely pallor, acrocyanosis and rapid shallow breathing, has been delivered to the emergency department. Which of these drugs is indicated in this case?

- a. Cordiamine
- b. Nitroglycerine
- c. Corglycon**
- d. Digitoxin
- e. Adrenalin hydrochloride

1478. During gastrulation the Hensens node remained underdeveloped in the embryo. Which axial organ will slow down its development?

- a. Neural groove
- b. Neural crests
- c. Chord**
- d. Mantle layer of the neural tube
- e. Neural tube

1479. Ionizing radiation or vitamin E deficiency may increase the permeability of lysosome membranes. What consequences may arise from this pathology?

- a. Intensive protein synthesis
- b. Partial or complete cell disintegration**
- c. Formation of cleavage spindle
- d. Restoration of the cytoplasmic membrane
- e. Intense energy synthesis

1480. Mother of a 10-year-old boy with purulent gingivitis consulted a dentist about the possibility of gingivitis treatment with fluoroquinolone drugs. The doctor gave a negative answer explaining it by the fact that fluoroquinolones:

- a. Damage dentin
- b. Have cauterizing effect on the mucous membranes
- c. Damage the cartilage tissue in children**
- d. Provoke gingival haemorrhage
- e. Provoke loss of calcium from bones and teeth

1481. A patient with arthritis and varicose veins has been taking a nonsteroidal anti-inflammatory drug for a long time, which caused the thrombosis of cutaneous veins. Which of the listed drugs might have caused this complication?

- a. Aspirin
- b. Ibuprofen
- c. Celecoxib**
- d. Indomethacin
- e. Phenylbutazone

1482. A 42-year-old man died with symptoms of severe intoxication and respiratory failure. A slide of lung tissue was heterogenous, with multiple microfocal hemorrhages and foci of emphysema. Histological examination of lungs revealed hemorrhagic abscessing bronchopneumonia; eosinophilic and basophilic granules in the cytoplasm of epithelial cells of bronchi. What is the most likely diagnosis?

- a. Parainfluenza
- b. Adenovirus infection
- c. Influenza**
- d. Respiratory syncytial virus infection
- e. Staphylococcal bronchopneumonia

1483. A 45-year-old female patient has neurosis with irritability, insomnia, amotivational anxiety. What tranquilizer will be able to eliminate all symptoms of the disease?

- a. Paracetamol
- b. Diazepam**
- c. Levodopa
- d. Piracetam
- e. Caffeine-sodium benzoate

1484. On the base of the clinical data a child was diagnosed with atypical pneumonia resistant to the effects of beta-lactam antibiotics. The patients sputum was cultured and incubated in a special medium, which resulted in growth of microorganisms forming microscopic colonies with a dense center (looking like fried eggs). What microorganism caused the disease?

- a. Chlamidia pneumoniae
- b. Klebsiella pneumoniae
- c. Mycoplasma pneumoniae**
- d. Streptococcus pneumoniae
- e. Legionella pneumophila

1485. A patient was taken to a hospital with dizziness, dry mouth, mydriatic pupils, accommodation disorder, tachycardia, difficult urination, intestinal atony. These symptoms might have been caused by overdose of the following drug:

- a. Captopril
- b. Prazosin
- c. Atropine sulfate**
- d. Furosemide
- e. Clonidine

1486. 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. Salmonellosis
- b. Yersiniosis
- c. Nonspecific ulcerous colitis
- d. Dysentery**
- e. Typhoid fever

1487. Before an exam a student complained of acute dental pain which grew less during the exam. What inhibition caused the pain abatement?

- a. External**
- b. Differentiating
- c. Declining
- d. Protective
- e. Delayed

1488. A patient with chronic heart failure had been taking digitoxin for several months, during digitalization the following symptoms developed: headache, nausea, diarrhea, loss of appetite, impaired color vision, bradycardia. What antidote should be administered to reduce the intoxication symptoms?

- a. Prednisolone
- b. Unithiol**
- c. Atropine sulfate
- d. Naloxone
- e. Adrenalin hydrochloride

1489. A woman got infected with rubella during pregnancy. The child was born with malformations, namely cleft lip and palate. The child's genotype is normal. These malformations are a manifestation of:

- a. Chromosomal mutations

b. Combinatory variability

c. Modification variability

d. Polyploidies

e. Aneuploidies

1490. A patient has been diagnosed with a haemorrhage in the region of the lateral sulcus of the brain. As a result, the blood flow is disturbed in the following artery:

a. A. communicans posterior

b. A. cerebri posterior

c. A. cerebri media

d. A. cerebri anterior

e. A. communicans anterior

1491. Cationic glycoproteins are the major components of parotid saliva. What amino acids are responsible for their positive charge?

a. Aspartate, arginine, glutamate

b. Glutamate, valine, leucine

c. Aspartate, glutamate, glycine

d. Cysteine, glycine, proline

e. Lysine, arginine, histidine

1492. A patient with mandibular osteomyelitis has been administered an antibiotic from the tetracycline group. Specify this drug:

a. Oxacillin

b. Amikacin

c. Streptomycin

d. Doxycycline hydrochloride

e. Rifampicin

1493. In course of a surgery the surgeon needs to expose spatium antescalenum. What structure forms the posterior border of this space?

a. M. longus colli

b. M. scalenus anterior

c. M. scalenus posterior

d. M. longus capitis

e. M. scalenus medius

1494. When processing a molar tooth with a dental cutter the dentist has by accident deeply wounded the patients cheek and damaged not only the mucosa but also a muscle. Which muscle was hurt?

a. Greater zygomatic muscle

b. Orbicular muscle of the mouth

c. Buccal muscle

d. Masticatory muscle

e. Mylohyoid muscle

1495. A patient complains of an increased sensitivity of the posterior third of his tongue as well as of a gustatory disturbance in this region. What nerve is damaged?

a. Accessory

b. Facial

c. Glossopharyngeal

d. Trigeminal

e. Hypoglossal

1496. Tooth extraction in a patient with chronic persistent hepatitis was complicated by a prolonged bleeding. What is the cause of hemorrhagic syndrome?

a. Increased fibrinolysis

b. Decreased production of thrombin

- c. Increased production of thromboplastin
- d. Decreased production of fibrin
- e. Increased synthesis of fibrinogen

1497. A physician is planning to diagnose an infectious disease by means of agglutination test. What is required for this reaction apart from the serum of a patient?

- a. Hemolytic serum
- b. Complement
- c. Diagnostic serum
- d. Anatoxin

e. Diagnosticum

1498. From the fecal sample of a patient *Shigella sonnei* were isolated. What additional studies are required to identify the source of infection?

- a. Neutralization reaction
- b. Precipitation reaction
- c. Complement-fixation reaction
- d. Antibigram

e. Phage-typing of the isolated pure culture

1499. Preventive examination of 1-1.5-year-old children living in an orphanage revealed focal thickening of ribs and wrists, bowed legs. The dentist pointed out delayed teething, wrong eruption order, irregular mineralization of the enamel and dentin, high-arched palate. What disease has developed in children?

- a. Osteomalacia
- b. Metastatic calcification

c. Rickets

- d. Metabolic calcification
- e. Dystrophic calcification

1500. A patient with a severe maxillofacial trauma has been delivered to the emergency department. What drug should be given this patient to relieve pain shock?

a. Promedol

- b. Mydocalm
- c. Sydnocarb
- d. Ibuprofen
- e. Pantogam

1501. A patient with acute heart failure refractory to cardiac glycosides was given an injection of dobutamine. What is the mechanism of action of this drug?

- a. Increase of n.vagus tonus
- b. Inhibition of phosphodiesterase activity
- c. Inhibition of K^+ , Na^+ -ATPase
- d. Complexation with membrane phospholipids

e. Stimulation of β -1-adrenergic receptors

1502. An examination of a 26-year-old patient involved histological analysis of bone marrow punctate which revealed a significant decrease in the number of megakaryocytes. At the same time the following blood corpuscles should be decreased in number:

- a. Eosinophils
- b. B-lymphocytes
- c. Neutrophils

d. Platelets

- e. Erythrocytes

1503. A patient has been diagnosed with sepsis. It was decided to treat him with a drug from the fluoroquinolone group. Specify this drug:

- a. Metronidazole

b. Ciprofloxacin

- c. Cefpirome
- d. Cephalexin
- e. Ampicillin

1504. When a wound heals, a scar takes its place. What substance is the main component of its connective tissue?

- a. Elastin
- b. Hyaluronic acid
- c. Chondroitin sulfate

d. Collagen

- e. Keratan sulfate

1505. After a person had drunk 1,5 liters of water, the amount of urine increased significantly, and its relative density decreased to 1,001. These changes are a result of decreased water reabsorption in the distal nephron portion due to reduced secretion of:

a. Vasopressin

- b. Renin
- c. Prostaglandins
- d. Angiotensin II
- e. Aldosterone

1506. During allergic rhinitis (inflammation of the nasal mucosa) the number of basophils in the connective tissue of the mucosa increases, which is accompanied by a tissue edema. This phenomenon is associated with the following function of tissue basophils:

- a. Heat production
- b. Phagocytosis

c. Histamine synthesis

- d. Production of intercellular substance
- e. Antibody formation

1507. A patient with a craniocerebral injury presents with respiration characterized by progressively deeper respiratory movements followed by a gradual decrease that results in a temporary stop in breathing. What pattern of abnormal respiration are these features typical for?

a. Cheyne-Stokes

- b. Biots
- c. Kussmauls
- d. Apneustic
- e. Gasping

1508. Calcification of the intercellular substance of bone tissue is accompanied by the deposition of hydroxyapatite crystals along the collagen fibers. This process requires the presence of alkaline phosphatase in the intercellular substance. What cell produces this enzyme?

a. Osteocyte

b. Osteoblast

- c. Chondroblast
- d. Chondrocyte
- e. Osteoclast

1509. A patient complains of toothache. On examination he has been diagnosed with pulpitis. Which factor played a main pathogenic role in the development of pain syndrome in this case?

- a. Vasospasm
- b. Inadequate stimulation of a mandibular nerve branch

c. Increased intratissular pressure in the dental pulp

- d. Activation of one of the components of the complement system
- e. Interleukin action

1510. Having recovered from angina a 23-year-old patient developed urinary syndrome (hematuria,

proteinuria, leukocyturia). Study of the puncture biopsy of a kidney revealed manifestations of intracapillary proliferative glomerulonephritis, and electron microscopy revealed large subepithelial deposits. What is the pathogenesis of this disease?

- a. Atopy, anaphylaxis with production of IgE and their fixation to the mast cells
- b. Granulomatosis
- c. Cytotoxic, cytolytic action of antibodies
- d. Cell-mediated cytotoxicity

e. Immunocomplex mechanism

1511. Following a cold, a patient developed numbness on the right side of his face. Examination revealed a disturbance of pain and temperature sensitivity on the right side of the face. What nerve is damaged?

a. Trigeminal

- b. Glossopharyngeal
- c. Hypoglossal
- d. Vagus
- e. Facial

1512. Children often have laboured nasal breathing which is caused by overdevelopment of lymphoid tissue of the pharyngeal mucous membrane. This phenomenon may cause enlargement of the following tonsils:

- a. Tonsilla lingualis
- b. All above-mentioned

c. Tonsilla pharyngea

- d. Tonsilla palatina
- e. Tonsilla tubaria

1513. A patient has sustained a traumatic injury of the greater pectoral muscle. This resulted in a decrease of:

a. Inspiratory reserve volume

- b. Functional residual lung capacity
- c. Residual volume
- d. Tidal volume
- e. Expiratory reserve volume

1514. Examination of the oral mucosa revealed a small nodule with papillary surface. Histological examination revealed conjugate papillary proliferations of stratified squamous epithelium without cellular atypism and underlying stroma represented by thin-walled vessels and loose connective tissue. What formation has developed in a patient?

- a. Basal cell carcinoma
- b. Epithelium hyperplasia

c. Papilloma

- d. Fibrolipoma
- e. Fibroma

1515. Injection of an anaesthetic before the tooth extraction resulted in development of anaphylactic shock accompanied by oliguria. What pathogenetic mechanism caused a decrease in diuresis in this case?

- a. Damage of glomerular filter
- b. Increase in hydrostatic pressure in the Bowman's capsule
- c. Increase in oncotic pressure of blood plasma
- d. Increase in vasopressin secretion

e. Decrease in hydrostatic pressure in the renal corpuscle capillaries

1516. The patient's mobile phone rang during EEG recording. What changes will be observed on the EEG?

a. Alpha rhythm will change into beta rhythm

- b. Beta rhythm will increase

- c. Alpha rhythm will change into delta rhythm
- d. Alpha rhythm will increase
- e. Beta rhythm will change into alpha rhythm

1517. Blood serum of a newborn contains antibodies to measles virus. What kind of immunity is this indicative of?

- a. Artificial active
- b. Heredoimmunity
- c. Natural passive**
- d. Natural active
- e. Artificial passive

1518. It is known that the gene responsible for the development of the MN blood groups has two allelic states. If the gene M is considered as the initial gene, the allelic gene N appeared due to:

- a. DNA repair
- b. Gene combinations
- c. DNA replication
- d. Crossing over
- e. Mutations**

1519. A patient with a pronounced icteritiousness of skin, sclera and mucous membranes has urine of dark beer colour and colourless feces. Direct bilirubin in blood is elevated, urine contains bilirubin. What type of jaundice is it?

- a. Excretory
- b. Parenchymatous
- c. Obstructive**
- d. Hemolytic
- e. Conjugation

1520. A 37-year-old patient has lost 5 kg in weight over the past three months, he complains of hand tremor, excessive sweating, exophthalmos, tachycardia. These changes might have been caused by the increased secretion of the following hormone:

- a. Thyrocalcitonin
- b. Cortisol
- c. Glucagon
- d. Thyroxine**
- e. Insulin

1521. Histological study of a microslide of human skin found only dense irregular connective tissue. Which layer of this organ was analysed?

- a. Reticular dermis**
- b. Epidermis
- c. Subcutaneous adipose tissue
- d. Basal layer of epidermis
- e. Papillary dermis

1522. A patient consulted an immunologist about diarrhea, weight loss within several months, low-grade fever, enlarged lymph nodes. The doctor suspected HIV infection. What immunocompetent cells must be studied in the first place?

- a. Helper T-lymphocytes**
- b. Plasma cells
- c. Monocytes
- d. B-lymphocytes
- e. Suppressor T-lymphocytes

1523. The operative dentistry department admitted a newborn girl who choked during sucking. Examination revealed cleft palate arising from non-union of the middle frontal process and maxillary process of the I-st branchial arch. The cleft was located in the palate between:

a. Os incisivum et processus palatinus maxillae

- b. Processus palatinus maxillae et lamina horizontalis os palatinum
- c. In the region of canalis incisivus
- d. Processus palatinus maxillae dextrae et sinistrae
- e. Lamina horizontalis os palatinum dextrum et sinistrum

1524. Analysis of biopsy material of urinary bladder mucosa revealed a tumour of epithelial origin. What kind of epithelium was the source of this tumour?

- a. Simple squamous
- b. Multinucleated ciliated

c. Stratified transitional

- d. Simple cubical
- e. Stratified squamous nonkeratinizing

1525. A 30-year-old patient with pneumonia has been administered a 3-day course of an antibiotic from the group of azalides that has bactericidal effect, prolonged action, the ability to bind to phagocytic cells and accumulate in the infection foci. What drug has been administered?

- a. Ciprofloxacin
- b. Isoniazid

c. Azithromycin

- d. Erythromycin
- e. Benzylpenicillin sodium salt

1526. Histological specimen of a decalcified tooth represents richly vascularized loose fibrous connective tissue containing a variety of cells. Pyriform odontoblasts of this region are arranged in several rows. What kind of dental structure is it?

- a. Root pulp
- b. Periodontium
- c. Vasodentin

d. Coronal pulp

- e. Mantle dentin

1527. A patient has air embolism as a result of a skin injury in the middle portion of the sternocleidomastoid muscle. Which cervical vein was injured?

- a. Posterior auricular vein

b. External jugular vein

- c. Transverse cervical vein
- d. Anterior jugular vein
- e. Internal jugular vein

1528. At a certain stage of development of a human embryo one can observe formation of a cavity in its structure, small light blastomeres on the periphery and large dark blastomeres at one of the poles. The embryo at this stage of development is called:

- a. Morula

b. Blastocyst

- c. Blastodisk
- d. Zygote
- e. Gastrula

1529. A patient has a history of chronic obstructive bronchitis. Blood gas analysis revealed the development of hypoxemia and hypercapnia on the background of dyspnea, tachycardia and cyanosis. What disorder of external respiration is observed in the patient?

- a. Hyperperfusion
- b. Hypoperfusion
- c. Hyperventilation

d. Hypoventilation

- e. Hyperdiffusion

1530. A patient has secretory dysfunction of the submandibular salivary gland. Which nerve is responsible for its vegetative innervation?

a. Chorda tympani

- b. N. petrosus major
- c. N. auriculotemporalis
- d. N. petrosus minor
- e. N. mandibularis

1531. It was established that the conduction velocity in the nerve fibers was equal to 120 m/sec. Specify these fibers:

- a. Preganglionic parasympathetic
- b. Postganglionic sympathetic
- c. Preganglionic sympathetic
- d. Postganglionic parasympathetic

e. Motoneuron axons

1532. After a diver had dived to a depth of 60 meters he got the following symptoms of CNS dysfunction: anxiety, euphoria, lack of attention, professional errors. These symptoms are associated with neurons being under a toxic effect of:

a. Oxygen

b. Nitrogen

- c. Ammonia
- d. Carbon dioxide
- e. Lactate

1533. A patient with marked manifestations of exsiccosis died in the infectious disease hospital. Postmortem examination results: the corpse with contracted muscles, dry skin and mucous membranes, thick and dark blood in veins, edematous plethoric mucosa, distended bowel loops, the lumen contains about 4 liters of rice-water fluid. What is the most likely diagnosis?

- a. Enteric fever
- b. Anthrax, intestinal form
- c. Yersiniosis

d. Cholera

e. Dysentery

1534. A patient consulted a doctor about loss of taste at the root of tongue. The doctor established that this was due to a nerve damage. What nerve was damaged?

- a. Trigeminal
- b. Superlaryngeal

c. Glossopharyngeal

- d. Vagus
- e. Facial

1535. Autopsy of a 52-year-old woman with a long history of chronic glomerulonephritis revealed significantly reduced in size, dense kidneys with a surface of fine granularity; fibrinous inflammation of serous and mucous membranes; dystrophic changes in parenchymatous organs; cerebral edema. The described changes of serous membranes and internal organs are caused by the following complication:

- a. Anaemia
- b. Thrombocytopenia

c. Uraemia

- d. DIC syndrome
- e. Sepsis

1536. The surgically excised connective tissue of the deformed mitral valve gives a basophilic reaction when stained with hematoxylin and eosin. When stained with toluidine blue it turns purple (metachromasia). What changes of the connective tissue can be detected by such reactions?

a. Petrification

- b. Connective tissue edema
- c. Fibrinoid necrosis of connective tissue
- d. Hyalinosis

e. Muroid edema

1537. In a bacteriological laboratory some bacterial smears had to be stained by Grams method. For this purpose the following reagents were prepared: gentian violet, Lugols solution, aqueous fuchsin solution. What other reagent is required?

a. Methylene blue solution

b. 96% ethanol

- c. 5% sulfuric acid
- d. 3% hydrogen peroxide
- e. Carbolic fuchsin

1538. In the perianal folds of a 5-year-old girl mother found white worms causing itch and anxiety, and took them to the laboratory. The study revealed white filament-like helminths 0,5-1 cm long, with pointed, sometimes twisted, ends. What diagnosis can be made?

a. Ascariasis

b. Diphyllbothriasis

- c. Difilobotrioz
- d. Opisthorchiasis
- e. Teniasis

1539. A pregnant women developed severe toxemia with exhausting recurrent vomiting throughout a day. By the end of the day she developed tetanic convulsions and bodily dehydration. The described changes were caused by the following type of acid-base disbalance:

a. Nongaseous excretory alkalosis

- b. Nongaseous metabolic acidosis
- c. Nongaseous excretory acidosis
- d. Gaseous acidosis
- e. Gaseous alkalosis

1540. During the formation of mantle dentin the synthetic activity of odontoblasts was disturbed, which will have an effect on the formation of the following fibers:

a. Radial collagen Korffs fibers

- b. Nerve
- c. Elastic
- d. Reticular
- e. Tangential collagen Ebners fibers

1541. A patient visited a dentist for acute dental pain in the lower left canine. He was diagnosed with pulpitis. What nerve innervates this tooth?

a. Inferior alveolar

- b. Zygomatic
- c. Palatal
- d. Superior alveolar
- e. Facial

1542. Phenylketonuria is a disease caused by a recessive gene that is localized in the autosome. The parents are heterozygous for this gene. They already have two sons with phenylketonuria and one healthy daughter. What is the probability that their fourth child will have the disease too?

a. 100%

b. 0%

c. 25%

d. 75%

e. 50%

1543. An unconscious patient had been delivered to a hospital by the ambulance. Objectively: absent

reflexes, occasional convulsions, irregular breathing. After a laboratory examination he was diagnosed with hepatic coma. What metabolite accumulation is essential for the development of the central nervous system disorders?

- a. Glutamine
- b. Bilirubin
- c. Ammonia**
- d. Urea
- e. Histamine

1544. As a result of an injury the patient is unable to move his tongue forward and downward. Which of the following muscles is damaged?

- a. Stylohyoid
- b. Hyoglossal
- c. Superior longitudinal
- d. Genioglossal**
- e. Inferior longitudinal

1545. When examining a child the dentist found the deposit on both tonsils and suspected atypical form of diphtheria. A smear was taken, and after the nutrient media inoculation the toxicity of the isolated pure culture was determined. What reaction was used to determine the toxigenicity of the isolated strain of diphtheria bacillus?

- a. Agglutination reaction on a glass slide
- b. Gel precipitation reaction**
- c. Hemolysis reaction
- d. Ring precipitation reaction
- e. Complement binding reaction

1546. A patient with inflammation of tongue mucosa (glossitis) complains of taste sensitivity disorder in the two anterior thirds of the tongue. This is caused by the lesion of the following nerve:

- a. Lesser petrosal
- b. Glossopharyngeal
- c. Tympanichord**
- d. Lingual
- e. Tympanic

1547. A patient with periodontitis has developed gingival edema. The gums are of dark red colour. What local circulation disorder prevails in the gums of the patient?

- a. Thrombosis
- b. Venous hyperemia**
- c. Ischemia
- d. Arterial hyperemia
- e. Embolism

1548. It is known that the pentose phosphate pathway occurring in the adipocytes of adipose tissue acts as a cycle. What is the main function of this cycle in the adipose tissue?

- a. NADPH₂ generation**
- b. Ribose-phosphate production
- c. Energy generation
- d. Glucose oxidation to end products
- e. Xenobiotic detoxification

1549. A 50-year-old patient has been examined by a dentist and found to have crimson smooth tongue. Blood analysis revealed a decrease in RBC level and hemoglobin concentration, colour index of 1,3, symptoms of megaloblastic hematopoiesis, degenerative changes in WBCs. What blood disorder was found in this patient?

- a. Hemolytic anemia
- b. B12-folic-acid-deficiency anemia**
- c. Aplastic anemia

- d. Myeloid leukemia
- e. Iron deficiency anemia

1550. In order to eliminate occupational risks dental workers underwent vaccination. The vaccine should protect them from a viral infection, whose pathogen may be found in blood of dental patients who had had this infection or who are its chronic carriers. What vaccine was used?

- a. Anti-rabies vaccine
- b. Inactivated hepatitis A vaccine
- c. Live measles vaccine
- d. Subunit influenza vaccine

e. Genetically engineered HBs antigen

1551. A patient with a malignant neoplasm on the upper jaw had been administered morphine hydrochloride for analgesia. The injection induced respiratory depression, pupil constriction, cyanosis, hypothermia, loss of consciousness. What antidote must be used?

- a. Droperidol
- b. Atropine sulfate

c. Naloxone

- d. Promedol
- e. Adrenalin hydrochloride

1552. A patient with rheumatoid arthritis has been given hydrocortisone for a long time. He has developed hyperglycemia, polyuria, glycosuria, thirst. These complications of treatment result from the activation of the following process:

- a. Glycolysis
- b. Glycogenesis
- c. Glycogenolysis
- d. Lipolysis

e. Gluconeogenesis

1553. Steatosis is caused by accumulation of triacylglycerols in hepatocytes. One of the mechanisms of this disease is to reduce the utilization of neutral fat VLDL. What lipotropic substances prevent the steatosis development?

a. Methionine, B6, B12

- b. Alanine, B1, PP
- c. Valine, B3, B2
- d. Isoleucine, B1, B2
- e. Arginine, B2, B3

1554. Histological study of the bronchial wall and adjacent lung segments revealed sheets and strands of squamous epithelium. The cells have moderately expressed symptoms of atypia: polymorphism, nuclear hyperchromatism, mitoses. In the center of the complex there are concentric pink formations. What is the most likely diagnosis?

- a. Undifferentiated carcinoma
- b. Adenocarcinoma
- c. Scirrhous
- d. Non-keratinizing squamous cell carcinoma

e. Keratinizing squamous cell carcinoma

1555. Autopsy of a man who died from intractable hemorrhage revealed necrosis of grouped and solitary follicles, dead tissues imbibed with bile and blood in the ileum; sequestration and rejection of necrotic masses with defect formation in the lower segment of the intestine. Which of the following diagnoses is most likely?

- a. Typhoid fever, necrosis stage
- b. Typhoid fever, ulcerative stage**
- c. Typhoid fever, clean ulcer stage
- d. Crohn's disease
- e. Abdominal typhoid salmonellosis

1556. A patient has acute laryngotracheitis with nonproductive cough that is very exhaustive.

Prescribe an antitussive drug:

- a. Ambroxol
- b. Herba Thermopsisidis
- c. Acetylcystein
- d. Mucaltin
- e. Glaucine**

1557. 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. Visceral
- b. Heterotopic
- c. Phantom
- d. Epicritic
- e. Protopathic**

1558. Histologically, the internal wall of a cyst localized on the upper jaw is lined with stratified squamous epithelium with underlying granulation tissue infiltrated by lymphocytes. The external layer is represented by loose fibrous connective tissue surrounded by cicatrical fibrous tissue. What diagnosis can be made?

- a. Simple granuloma
- b. Ameloblastoma
- c. Epithelial granuloma
- d. Cystic granuloma**
- e. Keratocyst

1559. A patient presents with dysfunction of shin muscles. He cannot raise his body by standing on tiptoe. Which muscle is affected?

- a. M. extensor digitorum longus
- b. M. tibialis posterior
- c. M. triceps surae**
- d. M. tibialis anterior
- e. M. flexor digitorum longus

1560. Microscopy of colonic biopsy material revealed a tumour made up of prismatic epithelium and forming atypical glandular structures of various shapes and sizes. The basal membrane of glands was destroyed. Tumour cells were polymorphic, with hyperchromatic nuclei and a large number of pathological mitoses. What is the most likely diagnosis?

- a. Mucosal carcinoma
- b. Undifferentiated carcinoma
- c. Basal cell carcinoma
- d. Adenocarcinoma**
- e. Solid carcinoma

1561. Curarelike substances (dithylinum) make it impossible for skeletal muscles to contract because they block:

- a. Ganglionic synapses
- b. Proprioceptors
- c. Central synapses
- d. Neuromuscular synapses**
- e. Membrane conduction of excitement

1562. A student who unexpectedly met his girlfriend developed an increase in systemic arterial pressure. This pressure change was caused by the intensified realization of the following reflexes:

- a. Conditional sympathetic**
- b. Conditional sympathetic and parasympathetic
- c. Unconditional sympathetic

- d. Conditional parasympathetic
- e. Unconditional parasympathetic

1563. Cytogenetic analysis established that the patient had the 47, XYY karyotype. The extra chromosome in the karyotype has a centromere located very close to one of the chromosome ends so that one chromosomal arm is much shorter than the other one. Such a chromosome is called:

- a. Telocentric
- b. Submetacentric
- c. Acrocentric**
- d. Submetacentric with a satellite
- e. Metacentric

1564. A female woman has been clinically diagnosed with gonorrhea. Which of the following studies can be used to confirm the diagnosis?

- a. Bacteriophage test
- b. Hemagglutination reaction
- c. Microscopy of the pathological material**
- d. Immobilization reaction
- e. Disinfection of laboratory animals

1565. In the experiment, an animal had its brain stem cut, which caused a rapid increase of extensor muscle tone (decerebrate rigidity). This condition arose because the muscles were no more under the control of the following brain structure:

- a. Red nucleus**
- b. Striatum
- c. Black substance
- d. Blue spot
- e. Gray tuber

1566. An animal had been intensively fed with carbohydrates. Histologic examination of its liver revealed a significant number of glycogen granules. Glycogen relates to the following group of cell structures:

- a. Special organelles
- b. Secretory granules
- c. Trophic granules**
- d. Pigment granules
- e. Excretory granules

1567. X-ray of a patient in the upright position revealed the presence of air in the stomach. What part of stomach is it located?

- a. Fundus**
- b. Body
- c. Lesser curvature region
- d. Cardia
- e. Pylorus

1568. Treatment of a patient with hereditary form of immunodeficiency involved gene therapy: the enzyme gene was introduced into the cells of the patient by means of a retrovirus. What property of the genetic code allows to use retroviruses as vectors of functional genes?

- a. Universality**
- b. Collinearity
- c. Redundancy
- d. Specificity
- e. Continuity

1569. A patient complains about retrosternal pain, dyspnea and palpitation. After examination he was diagnosed with coronary heart disease and prescribed verapamil. What is the mechanism of its action?

- a. It blocks sodium channels
- b. It blocks potassium channels
- c. It blocks calcium channels**
- d. It blocks β -adrenoreceptors
- e. It blocks α -adrenoreceptors

1570. After a thorough examination the patient who had returned from Central Asia to Ukraine was diagnosed with spring-summer encephalitis. Its pathogen might have entered the body through the bite of the following arthropod:

- a. Taiga tick
- b. Dog-louse**
- c. Argasid tick (*Ornithodoros papillipes*)
- d. Itch mite
- e. Mosquito

1571. A patient has been preliminarily diagnosed with paragonimiasis. This disease is caused by lung flukes. The causative agent entered into the patient's body through:

- a. Eating half-cooked or dried fish
- b. Contact with an infected cat
- c. Drinking raw water from open reservoirs
- d. Eating half-cooked lobsters and crabs**
- e. Eating unwashed vegetables

1572. A patient with periodontitis has been administered a glucocorticoid drug in form of an ointment. Specify this ointment:

- a. Erythromycin
- b. Ampicillin
- c. Decamine
- d. Prednisolone**
- e. Tetracycline

1573. Examination of a chemical plant worker who had had a poisoning revealed an increase in total bilirubin concentration at the expense of indirect fraction. Feces and urine are characterized by high stercobilin concentration. The level of direct bilirubin in blood plasma is normal. What type of jaundice is the case?

- a. Parenchymatous
- b. Hemolytic**
- c. Hepatic
- d. Obstructive
- e. Mechanical

1574. It is known that many hormones act through the adenylate cyclase system causing the enzyme activation by phosphorylation. What enzyme is activated by hormonal signals and catalyzes glycogen breakdown?

- a. Tyrosinase
- b. Phosphotransferase
- c. Phosphatase
- d. Glucosidase
- e. Phosphorylase**

1575. After the exposure to ionizing radiation a person was found to have a decrease in blood granulocyte level. What mechanism underlies these changes?

- a. Leukopoiesis inhibition**
- b. Increased passage of granulocytes into the tissues
- c. Autoimmune process development
- d. Increased disintegration of leucocytes
- e. Disturbed release of mature leukocytes from the bone marrow

1576. In a hot weather, the microclimate in hot rooms is often normalized by fans. At the same time heat radiation from the human body increases through:

- a. Conduction
- b. Radiation
- c. Evaporation
- d. Convection**
- e. Heat conduction

1577. In the dental practice, the vitality of tooth tissues is estimated by electric pulp test. What parameter is assessed?

- a. Accommodation
- b. Lability
- c. Chronaxie
- d. Productive time
- e. Threshold stimulus intensity**

1578. Reduced activity of antioxidant enzymes enhances peroxidation of cell membrane lipids. The reduction of glutathione peroxidase activity is caused by the following microelement deficiency:

- a. Selenium**
- b. Manganese
- c. Copper
- d. Cobalt
- e. Molybdenum

1579. A tumour pressing upon the vegetative nucleus of a cranial nerve causes saliva secretion by the parotid gland. What nucleus does the tumor press upon?

- a. N.dorsalis nervi vagi
- b. N.intermediolateralis
- c. N.salivatorius inferior**
- d. N.accessorius
- e. N.salivatorius superior

1580. A patient has a history of chronic heart failure. Which of the following hemodynamic parameters is a major symptom of cardiac decompensation development?

- a. Increased central venous pressure
- b. Increased peripheral vascular resistance
- c. Decreased stroke volume**
- d. Tachycardia development
- e. Tonogenic dilatation

1581. A patient has symptoms of atherosclerosis. What plasma lipid transport forms should have an increased concentration?

- a. IDL
- b. Chylomicrons
- c. HDL
- d. VLDL
- e. LDL**

1582. A specimen of the pia mater shows a vessel with no middle membrane in its wall, its outer membrane adheres to the surrounding tissues, the inner membrane is made up of the basal membrane and endothelium. Specify this vessel:

- a. Mixed artery
- b. Muscular artery
- c. Muscular vein with weakly developed muscular elements
- d. Fibrous vein**
- e. Arteriola

1583. In the armpits of a patient the small (1-1,5 mm), dorsoventrally flattened, wingless,

blood-sucking insects. Their larvae developed in the armpits too. What disease is caused by these insects?

- a. Phthiriasis
- b. Plague
- c. Chagas disease
- d. Relapsing fever
- e. Sleeping sickness

1584. Examination of a teenager revealed a congenital heart disease, namely the functioning of Botallus duct. In the prenatal period of development this duct connects the following organs:

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

1585. During manipulations aimed at treatment of mandible dislocation a physician should pay particular attention to a muscle that pulls a capsule and interarticular disc of temporomandibular articulation exteriorly. What muscle is it?

- a. M. temporalis
- b. M. masseter
- c. M. mylohyoideus
- d. M. pterygoideus medialis
- e. M. pterygoideus lateralis

1586. Some proteins of saliva have a protective function. Which of them protects the oral mucosa from the mechanical damage?

- a. Peroxidase
- b. Catalase
- c. Mucin
- d. Lysozyme
- e. Renin

1587. Examination of a patient revealed glycosuria and hyperglycemia. He complains of dry mouth, itchy skin, frequent urination, thirst. He has been diagnosed with diabetes mellitus. What is the cause of polyuria in this patient?

- a. Decreased cardiac output
- b. Increased urine osmotic pressure
- c. Decreased plasma oncotic pressure
- d. Increased plasma oncotic pressure
- e. Increased filtration pressure

1588. Experimenters irritate the peripheral segment of the intersected sympathetic nerve of an experimental dog. Which of the following changes will be observed?

- a. Increased gastric and intestinal motility
- b. Bronchiectasis
- c. Heart force decrease
- d. Heart rate decrease
- e. Pupil constriction

1589. In course of an experiment an animal had its cornea injured. What cells will provide the regeneration of stratified epithelium?

- a. Basal membrane cells
- b. Cells of the prickle-cell layer of corneal epithelium
- c. Basal epithelium cells
- d. Squamous cells
- e. Cells of proper substance of cornea

1590. A 26-year-old woman at 40 weeks gestation was admitted to the maternity ward. Examination revealed that the cervix was open, but uterine contractions were absent. The doctor gave her a hormonal drug to induce labor. Specify this drug:

- a. Hydrocortisone
- b. Testosterone
- c. Estrone
- d. ACTH

e. Oxytocin

1591. A 65-year-old patient had been treated for 3 days in the resuscitation unit for a cardiac pathology. Suddenly he developed ventricular fibrillation which turned out to be the immediate cause of death. Microscopy of the left ventricular myocard revealed a large focus of cardiomyocyte karyolysis demarcated by the zone of hyperaemia. What cardiac pathology was the cause of death?

- a. Acute myocarditis
- b. Acute myocardial infarction**
- c. Postinfarction cardiosclerosis
- d. Ischemic myocardial degeneration
- e. Diffuse cardiosclerosis

1592. As a result of a rapid change from horizontal to vertical body position a 16-year-old girl lost consciousness. What is the reason for it?

- a. Heart rate decrease
- b. Arterial pressure rise
- c. Increased venous return
- d. -

e. Decreased venous return

1593. 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 biogenic amines neutralization
- b. Protein synthesis inhibition
- c. Inhibition of transamination enzymes
- d. Activation of amino acid decarboxylation

e. Disorder of ammonia neutralization

1594. A patient has a systemic inflammatory lesion of connective tissue. Which anti-inflammatory drug will reduce all the inflammatory phases?

- a. Prednisolone**
- b. Phenylbutazone
- c. Indomethacin
- d. Contrycal
- e. Diclofenac sodium

1595. The aim of the morphological study was to investigate an endocrine gland with parenchyma consisting of epithelium and neural tissue. In the epithelial trabeculae the study revealed two types of cells: chromophile and chromophobe. Identify this organ:

- a. Adrenal gland
- b. Hypothalamus
- c. Parathyroid gland
- d. Thyroid gland

e. Pituitary gland

1596. A 20-year-old male got his tongue pierced. 5 months later a dense pale pink formation appeared in the zone of puncture. Biopsy revealed growing connective tissue with focal clusters of single polymorphonuclear neutrophils, fibroblasts, foreign body cells, lymphocytes and plasmocytes. What kind of pathological process developed in the tongue tissues?

- a. Tumour**

b. Nonspecific productive inflammation

- c. Circulatory disturbance
- d. Fibrinous exudative inflammation
- e. Purulent exudative inflammation

1597. Detection of X-chromatin in somatic cells is used for the quick diagnosis of hereditary diseases associated with a change in the sex chromosome number. Vast majority of a mans cells have three X-chromatin bodies. What is the mans karyotype?

- a. 47, XXY
- b. 48, XXXY
- c. 45, X
- d. 49, XXXXY**
- e. 46, XY

1598. DNA replication occurs during the cell division when a signal is received from the cytoplasm, and a certain portion of the DNA helix is unwound and divided into two chains. The helix is unwound by the following enzyme:

- a. DNA polymerase
- b. Helicase**
- c. Ligase
- d. RNA polymerase
- e. Restrictase

1599. After starting treatment for pulmonary tuberculosis a patient complained about red tears and urine. What drug could cause such changes?

- a. Benzylpenicillin potassium salt
- b. Biseptol-480
- c. Cefazolin
- d. Benzylpenicillin sodium salt
- e. Rifampicin**

1600. Carious cavities of a 29-year-old patient contain the parasitic protozoa. It is established that they relate to the Sarcodina class. Specify these singlecelled organisms:

- a. Amoeba proteus
- b. Lamblia intestinalis
- c. Entamoeba coli
- d. Entamoeba histolutica
- e. Entamoeba gingivalis**

1601. In some areas of South Africa many people have sickle cell disease characterized by red blood cells that assume an abnormal sickle shape due to the substitution of glutamic acid for valine in the hemoglobin molecule. What is the cause of this disease?

- a. Genomic mutation
- b. Transduction
- c. Disturbances of the mechanisms of genetic information transmission
- d. Crossing-over
- e. Gene mutation**

1602. Examination of an 18-year-old girl revealed the following features: ovarian hypoplasia, broad shoulders, narrow hips, shortening of the lower extremities, webbed neck. Mental development is normal. The patient has been diagnosed with Turner's syndrome. What chromosomal abnormality does this patient have?

- a. Trisomy 13
- b. Trisomy X
- c. Monosomy X**
- d. Trisomy 18
- e. Nullisomy X

1603. Mother and father are healthy. Mother underwent amniocentesis for fetal karyotyping. The fetal karyotype turned out to be 45, XO. What syndrome can be expected in a newborn baby?

- a. Patau's
- b. Edwards'
- c. Turner's
- d. Cri du chat
- e. "Superwoman"

1604. A physician collects the patient's history of the post-embryonic period of ontogenesis from birth to puberty. In this case we are talking about:

- a. Juvenile period
- b. Senium
- c. Advanced age
- d. The second period of adulthood
- e. The first period of adulthood

1605. Genealogical study of a family with hereditary enamel hypoplasia has revealed that the disease occurs in every generation. In women, the anomaly occurs more frequently than in men. Male patients only pass this trait to their daughters. What type of inheritance takes place in this case?

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

1606. A 58-year-old male patient consulted an urologist about acute pain during urination and decreased amount of the excreted urine. Urolithiasis was suspected. The concretions are most likely to be found in the following part of the urethra:

- a. Pars pelvina
- b. Pars intramuralis
- c. Pars prostatica
- d. Pars spongiosa
- e. Pars membranacea

1607. When examining the oral cavity of a 22-year-old patient, the dentist noticed a destroyed medial tubercle on the cutting edge of the right maxillary first molar. This tubercle is called:

- a. Hypocone
- b. Protocone
- c. Metacone
- d. Mesocone
- e. Paracone

1608. A patient with inflammation of tongue mucosa (glossitis) complains of taste sensitivity disorder in the two anterior thirds of his tongue. This is caused by the damage of the following nerve:

- a. Tympanic
- b. Lingual
- c. Glossopharyngeal
- d. Tympanichord
- e. Lesser petrosal

1609. As a result of injury of tongue a 32-year-old male had a heavy bleeding. The bleeding can be stopped by ligating an artery in the following topographic anatomic region (triangle):

- a. Pirogov's triangle
- b. Carotid triangle
- c. Omotracheal triangle
- d. Omotrapezoid triangle
- e. Omoclavicular triangle

1610. The operative dentistry department admitted a newborn girl who choked during sucking. Examination revealed cleft palate arising from non-union of the middle frontal process and maxillary process of the I-st branchial arch. The cleft was located in the palate between:

- a. Processus palatinus maxillae dextrae et sinistrae
- b. Processus palatinus maxillae et lamina horizontalis os palatinum
- c. In the region of canalis incisivus
- d. Os incisivum et processus palatinus maxillae**
- e. Lamina horizontalis os palatinum dextrum et sinistrum

1611. A 39-year-old patient consulted a dentist about having a dry area of the oral mucosa beneath the tongue on the right. The dentist revealed a compression of chorda tympani as it exits to the right infratemporal fossa through the following fissura:

- a. Sphenopetrosa
- b. Petrooccipitalis
- c. Tympanomastoidea
- d. Petrosquamosa
- e. Petrotympnica**

1612. A patient consulted a doctor about difficult chewing. On examination he was found to have the atrophy of the right temporal muscle and masticatory muscles. Upon opening the mouth, the patient's jaw deviates to the left. What nerve is affected?

- a. Inferior alveolar
- b. Facial
- c. Motor portion of the mandibular nerve**
- d. Maxillary
- e. Mandibulohyoid

1613. A 36-year-old patient presents with periodontitis of the mandibular molar. It was found that inflammation had spread to the lymph nodes. What lymph nodes were the first to be involved in the inflammatory process?

- a. Lateral cervical
- b. Mental
- c. Facial
- d. Submandibular**
- e. Anterior cervical

1614. Examination of a 23-year-old patient reveals that when his tongue is protruded, its tip deviates to the side. This is caused by the dysfunction of the following tongue muscle:

- a. Styloglossus
- b. Genioglossus**
- c. Superior longitudinal
- d. Hyoid
- e. Inferior longitudinal

1615. A 33-year-old patient complains of an impairment of skin sensitivity in the medial part of the dorsal and palmar surface of hand. Which nerve is damaged?

- a. N. medianus
- b. N. radialis
- c. N. ulnaris**
- d. N. musculocutaneus
- e. N. cutaneus antebrachii medialis

1616. A 2-year-old child has congenital spastic contraction of muscles on one side of neck, that is torticollis. What muscle is affected?

- a. Subcutaneous
- b. Sternothyroid
- c. Omohyoid
- d. Sternocleidomastoid**

e. Sternohyoid

1617. The emergency department admitted a 48-year-old male with a blunt abdominal injury on the right and a suspected rupture of liver. Which of these peritoneal structures can be expected to include blood accumulations?

- a. Omental sac
- b. Left paracolic gutter
- c. Superior iliocecal recess
- d. Intersigmoidal recess

e. Rectovesical pouch

1618. A histological specimen represents a structure of the oral cavity, which is formed by bone tissue. It is covered by mucous membrane consisting of keratinizing stratified squamous epithelium. The structure has fatty, glandular and marginal zone. In all parts of the lamina propria the collagen fibers form thick bundles that penetrate deep into the periosteum. What kind of structure is it?

- a. Lip
- b. Gingiva
- c. Hard palate
- d. Cheek
- e. Tongue

1619. Study of the histological specimen of a baby's primary tooth revealed hypoplasia (underdevelopment) of enamel. This abnormality is caused by the disruptions in the activity of the following cells:

- a. Odontoblasts
- b. Inner enamel epithelium
- c. Outer enamel epithelium
- d. Pulp cells of the enamel organ
- e. Cells of the stratum intermedium of the enamel organ

1620. In the histological specimen of a tooth germ the outer surface of the enamel organ is uneven, the cells of the inner layer show the reversal of polarity (inversion). These changes precede the beginning of the following process:

- a. Amelogenesis
- b. Pulp genesis
- c. Periodont development
- d. Cementogenesis
- e. Dentinogenesis

1621. Proliferation of connective tissue in the parenchyma of liver (fibrosis) caused by chronic diseases is typically accompanied by an impairment of blood circulation in the classic lobules. What is the direction of blood flow in these lobules?

- a. From the center to the periphery
- b. From the top to the base
- c. From the base to the top
- d. From the periphery to the center
- e. Around the lobule

1622. A 68-year-old female patient with a history of glaucoma has increased intraocular pressure with normal secretion of aqueous humor by ciliary body. The inadequate outflow of fluid from the anterior chamber is associated with the damage to the following structure of the eyeball wall:

- a. Choroid
- b. Ciliary body
- c. Venous sinus
- d. Ciliary muscle
- e. Posterior corneal epithelium

1623. The effect of some harmful factors caused focal damage to the gastric epithelium. What cells

are responsible for its regeneration?

- a. Endocrinocytes
- b. Mucocytes of the gland body
- c. Parietal exocrinocytes of glands
- d. Principal exocrinocytes of glands
- e. Cervical mucocytes of glands**

1624. Microscopic examination of a CNS body revealed the gray matter with three layers of neurons, namely molecular, ganglionic and granular layer. What are the neurons constituting the second layer?

- a. Large stellate
- b. Granule cells
- c. Basket
- d. Small stellate
- e. Piriform**

1625. In a specimen from the ovary stained with hematoxylin-eosin a follicle can be seen. The follicular epithelial cells are arranged in 1-2 layers and have cubic shape, around the oocyte the bright red membrane can be seen. Specify the follicle:

- a. Secondary
- b. Primordial
- c. Primary**
- d. Mature
- e. Atresial

1626. A histological specimen represents a blood vessel. Its inner tunica is composed of endothelium, subendothelium and internal elastic lamina. The middle tunica is rich in smooth muscle cells. What vessel is characterized by these morphological features?

- a. Elastic artery
- b. Amuscular vein
- c. Muscular vein
- d. Muscular artery**
- e. Capillary

1627. Physical activity caused an increase in the cardiac output in a patient with a transplanted heart. What regulative mechanism is responsible for these changes?

- a. Sympathetic conditioned reflexes
- b. Parasympathetic conditioned reflexes
- c. Sympathetic unconditioned reflexes
- d. Parasympathetic unconditioned reflexes
- e. Catecholamines**

1628. Stimulation of the peripheral segment of chorda tympani in an experimental animal resulted in the discharge of the following secretion from the parotid salivary fistula:

- a. A small amount of liquid saliva
- b. A small amount of viscous saliva
- c. A lot of viscous saliva
- d. A lot of liquid saliva**
- e. There is no saliva

1629. An animal has been given a weak solution of hydrochloric acid introduced into the duodenum through a tube. Which hormone concentration will increase in the animal?

- a. Glucagon
- b. Neurotensin
- c. Cholecystokinin (pancreozymin)
- d. Gastrin
- e. Secretin**

1630. Examination of a patient with a brain cortex injury revealed that he had lost the tactile

sensitivity. 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

1631. In the experiment, the permeability of cell membrane for potassium ions has been increased. What changes can be expected in the membrane state?

- a. Local response
- b. There will be no changes
- c. Depolarization
- d. Action potential
- e. Hyperpolarization

1632. A 36-year-old male patient has malabsorption of sodium ions from the intestinal lumen into blood. At the same time, absorption of the following substances REMAINS UNCHANGED:

- a. Water
- b. Chlorides
- c. Carbohydrates
- d. Proteins
- e. Fats

1633. A 32-year-old female has gingivitis accompanied by gingival hypoxia. At the same time, the level of the following metabolite of carbohydrate metabolism is greatly increased in periodontal tissues:

- a. Ribose-5-phosphate
- b. Glucose-6-phosphate
- c. NADPH
- d. Lactate
- e. Glycogen

1634. Examination of a patient revealed dermatitis, diarrhea, dementia. What vitamin deficiency is the cause of this condition ?

- a. Biotin
- b. Rutin
- c. Ascorbic acid
- d. Folic acid
- e. Nicotinamide

1635. Hormonal form of a certain vitamin induces genome level synthesis of Ca binding proteins and enterocytes thus regulating the intestinal absorption of Ca^{2+} ions required for dental tissue development. What vitamin is it?

- a. D3
- b. B1
- c. K
- d. E
- e. A

1636. A 23-year-old patient with acute pulpitis has elevated body temperature and an increase in the WBC count up to $14 \times 10^9/\text{L}$. The leucogram is as follows: basophils - 0, eosinophils - 2, monocytes - 0, immature neutrophils - 4, stab neutrophils - 8, segmented neutrophils - 56, lymphocytes - 26, monocytes - 4. How can we interpret these changes in the white blood cells?

- a. Neutrophilia with a regenerative left shift
- b. Neutrophilia with a hyperregenerative left shift
- c. Neutrophilic leukocytosis with a right shift
- d. Lymphocytosis
- e. Neutrophilia with a degenerative left shift

1637. A female patient with toxemia of pregnancy has hypersalivation resulting in a daily loss of 3-4 liters of saliva. What disorder of water-salt metabolism occurs in such cases?

- a. Hyperosmolar hypohydration
- b. Isoosmolar hypohydration
- c. Hyponatremia
- d. Hypokalemia
- e. Hypoosmolar hypohydration

1638. A 39-year-old patient underwent hematologic tests. The following results were obtained: RBC- $2,8 \times 10^{12}/L$, Hb- 80 g/L, color index - 0,85, reticulocytes - 0,1%, platelets - $160 \times 10^9/L$, WBC - $60 \times 10^9/L$. Basophils - 2, eosinophils - 8, promyelocytes - 5, myelocytes - 5, immature neutrophils - 16, stab neutrophils - 20, segmented neutrophils - 34, lymphocytes - 5, monocytes - 5. What form of blood pathology are these results indicative of?

- a. Chronic myeloid leukemia
- b. Hypoplastic anemia
- c. Hemolytic anemia
- d. Undifferentiated leukemia
- e. Acute myeloid leukemia

1639. A 49-year-old patient was found to have a disproportionate enlargement of hands, feet, nose, ears, superciliary arches and cheek bones. Blood test revealed hyperglycemia, impaired glucose tolerance. What is the most likely cause of this pathology development?

- a. Hypersecretion of growth hormone
- b. Insulin hyposecretion
- c. Glucocorticoid hypersecretion
- d. Vasopressin hyposecretion
- e. Posterior pituitary hormone hypersecretion

1640. A 46-year-old patient with diabetes had been admitted to a hospital in grave precomatose condition. Study of the acid-base balance revealed metabolic acidosis. What is the primary mechanism that underlies the revealed changes of the acid-base balance?

- a. Incomplete oxidation of metabolism products
- b. Disorder of blood buffer systems
- c. Reduction of SO_2 excretion
- d. Urinary excretion of alkaline components
- e. Disturbance of O_2 utilization by cells

1641. A 44-year-old patient with obstructive jaundice has been admitted to a hospital with the symptoms of cholemic syndrome. On the ECG arrhythmia shows up. What kind of arrhythmia is the patient most likely to have?

- a. Sinus tachycardia
- b. Ventricular premature contraction
- c. Atrioventricular block
- d. Sinus bradycardia
- e. Atrial premature contraction

1642. A 28-year-old liquidator of Chernobyl disaster consulted a doctor about marked weakness, skin hemorrhages, diarrhea. Blood test results: ESR- 25 mm/h, RBC- $2,4 \cdot 10^{12}/L$, WBC - $2,2 \times 10^9/L$, platelets - $70 \times 10^9/L$. What stage of acute radiation sickness are these presentations typical for?

- a. Prodromal stage
- b. Recovery stage
- c. Outcome of the disease
- d. Manifest illness stage
- e. Latent stage

1643. In a 52-year-old patient with chronic glomerulonephritis, the glomerular filtration rate (GFR) was reduced by 20% compared to normal. What causes the decrease in GFR in patients with chronic renal failure?

- a. Renal ischemia
- b. Renal artery thrombosis
- c. Tubulopathy
- d. Obstruction of the urinary tract

e. Reduced number of active nephrons

1644. A 10-year-old child cut his leg with a piece of glass and was sent to a clinic for an anti-tetanus serum injection. In order to prevent the development of anaphylactic shock, the Besredka desensitization method was applied. What mechanism underlies this method?

- a. Binding of IgE receptors on mast cells
- b. Binding to IgE fixed to mast cells**
- c. Stimulation of the immunological antigen tolerance
- d. Inhibited synthesis of mast cells mediators
- e. Stimulation of antigen-specific IgG2 synthesis

1645. Histologically, the internal wall of a maxillary cyst is lined with stratified squamous epithelium with underlying granulation tissue with infiltrating lymphocytes. The outer layer is represented by loose fibrous connective tissue surrounded by cicatricial fibrous tissue. What diagnosis can be made?

- a. Simple granuloma
- b. Keratocyst
- c. Ameloblastoma

d. Cystic granuloma

- e. Epithelial granuloma

1646. Examination of a patient revealed a hard palate tumor in form of a small dense gray node without clear boundaries. Histological study of the tumor after its removal revealed the following peculiarities: the tumor was constituted by small cubic cells with hyperchromatic nucleus forming alveoli, trabeculae, solid and cribriform structures. The tumor growth could be characterized as invasive. Specify the tumor:

- a. Mucoepidermoid carcinoma
- b. Malignant pleomorphic adenoma

c. Adenoid cystic carcinoma

- d. Adenolymphoma
- e. Monomorphic adenoma

1647. A 28-year-old patient had been diagnosed with multifragmental fracture of the right hip. On the third day after the injury he began to complain of pain in the right side of chest, difficult respiration. A day later the patient died of progressive heart and respiratory failure. Histological study of pulmonary and cerebral blood vessels revealed orange sudanophilic droplets that completely obstructed the vessels of microvasculature. What complication caused the death of the patient?

- a. Drug-induced embolism
- b. Gas embolism

c. Fat embolism

- d. Microbial embolism
- e. Thromboembolism

1648. A patient underwent radiography that revealed numerous smooth-walled roundish defects in both jaws. Histological study revealed osteolysis and osteoporosis accompanied by the phenomena of poor bone formation. The patient's urine contained Bence-Jones protein. What is the most likely diagnosis?

a. Multiple myeloma

- b. Chronic erythroleukemia
- c. Acute undifferentiated leukemia
- d. Acute myeloid leukemia
- e. Chronic myelogenous leukemia

1649. A bacteriological laboratory studied the home-made dried fish which had caused a severe food poisoning. Microscopy of the culture grown on the Kitt-Tarozzi medium revealed microorganisms

resembling a tennis racket. What is the most likely diagnosis?

- a. Dysentery
- b. Typhoid fever
- c. Salmonellosis
- d. Cholera
- e. Botulism**

1650. While studying blood and mucus samples from the nasopharynx, a bacteriologist took certain measures to conserve the pathogens in the material. Bacterioscopic study revealed the presence of gram-negative cocci looking like coffee beans and arranged in pairs or tetrads. Name the pathogen that was isolated by the bacteriologist:

- a. *Staphylococcus aureus*
- b. *Moraxella lacunata*
- c. *Acinetobacter calcoaceticus*
- d. *Neisseria meningitidis***
- e. *Neisseria gonorrhoeae*

1651. 6 hours after the initial inoculation of water sample into 1% peptone water, the growth of a culture in form of a thin pellicle on the medium surface was registered. Such cultural properties are typical for the causative agent of the following disease:

- a. Dysentery
- b. Pseudotuberculosis
- c. Plague
- d. Tuberculosis
- e. Cholera**

1652. After the sanitary and bacteriological study of tap water the following results were obtained: the total number of bacteria in 1,0 ml was 80, coli index was 3. How would you interpret the study results?

- a. Water is contaminated
- b. Water is highly contaminated
- c. Water is of doubtful quality
- d. Water is of highly doubtful quality
- e. Water is safe to be consumed**

1653. Examination of a 27-year-old donor who had not donated blood for a long time revealed HBs antibodies detected by ELISA method. In this case, the positive ELISA results indicate that the donor:

- a. Has chronic hepatitis B
- b. Has chronic hepatitis C
- c. Has acute hepatitis B
- d. Has acute hepatitis C
- e. Had hepatitis B**

1654. A patient had been provisionally diagnosed with syphilis. A laboratory assistant took the blood serum for an immunologic test based on the detection of antibodies preventing the movement of treponemes and causing their death. What reaction was used for the diagnosis?

- a. Precipitation
- b. Neutralization
- c. Complement binding
- d. Agglutination
- e. Immobilization**

1655. A 50-year-old patient with a hypertensive crisis had been administered magnesium sulfate, which led to an abrupt decrease in blood pressure. The side effects of magnesium sulfate can be avoided if the following drug is administered:

- a. Calcium chloride**
- b. Trilon B
- c. Sodium sulfate

- d. Sodium bromide
- e. Potassium chloride

1656. A patient with arterial hypertension has developed a bronchial asthma attack. Which of the following bronchodilators may provoke a hypertensive crisis?

- a. Isadrine
- b. Ephedrine hydrochloride**
- c. Aminophylline
- d. Salbutamol
- e. Berotec

1657. A patient in a collaptoid state has been given an injection of mesatonum for the correction of blood pressure. What is the mechanism of this drug action?

- a. It stimulates α -adrenergic receptors**
- b. It blocks α -adrenergic receptors
- c. It stimulates α -and β -adrenergic receptors
- d. It blocks β -adrenergic receptors
- e. It stimulates β -adrenergic receptors

1658. A 42-year-old female patient consulted a doctor about pain in the knee joints. Objectively there is swelling, redness, hyperthermia in the region of these joints. Laboratory testing revealed positive acute phase reactants. What drugs should be used to treat this patient?

- a. Antidepressants
- b. Narcotic analgesics
- c. Anti-inflammatory drugs**
- d. Antibiotics
- e. Sulfonamides

1659. Aparoxysm of tachycardia occurred in a patient undergoing a dental procedure. Which of the following drugs should be used to relieve it?

- a. Verapamil**
- b. Atropine
- c. Nitroglycerine
- d. Dipheninum
- e. Isadrinum

1660. To perform a scheduled surgery on the upper jaw, a surgeon decided to apply ataralgesia. What medications are used for this manipulation?

- a. General anesthetics
- b. Non-narcotic analgesics
- c. Sedatives
- d. Tranquilizers**
- e. Narcotic analgesics

1661. A 55-year-old male patient with acute heart failure has been administered a quick-relief cardiac glycoside. Which of the following drugs has been given to the patient?

- a. Adonisidum
- b. Celanid
- c. Milrinone
- d. Strophanthin**
- e. Digitoxin

1662. Examination of the oral cavity of a 19-year-old patient revealed a small gap between the maxillary and mandibular incisors. There was no contact between the front teeth. Specify the type of occlusion in this patient:

- a. Edge-to-edge occlusion
- b. Orthognathia
- c. Open occlusion**

- d. Closed bite
- e. Prognathism

1663. A 53-year-old patient with a long history of nephrolithiasis underwent nephrectomy. The kidney looks as a thin-walled sac filled with urine. Renal parenchyma is atrophied. Specify this complication of nephrolithiasis:

- a. Multicystic kidney disease
- b. Nephrosclerosis
- c. Pyelonephritis
- d. Pyonephrosis
- e. Hydronephrosis**

1664. To prevent the seasonal influenza epidemics in the city hospitals, sanitary epidemic station gave orders to immunize health care workers. Which of the following preparations should be used for immunization?

- a. Amantadine
- b. Subunit vaccine**
- c. Gamma-globulin
- d. Interferon
- e. Rimantadine

1665. A 36-year-old patient with diabetes mellitus had seizures with loss of consciousness after an insulin injection. What was the result of blood glucose test?

- a. 10 mmol/l
- b. 5,5 mmol/l
- c. 3,3 mmol/l
- d. 8,0 mmol/l
- e. 2,5 mmol/l**

1666. Following thyroid surgery, a 47-year-old female patient had fibrillary twitching of muscles in the arms, legs and face. These disorders can be treated by the introduction of the following hormone:

- a. Thyroid-stimulating hormone
- b. Parathyroid hormone**
- c. Thyrotropin
- d. Triiodothyronine
- e. Thyroxine

1667. A 43-year-old patient is to be administered an antibiotic from the penicillin group which would be resistant to penicillinase. What drug can be recommended?

- a. Ampicillin
- b. Oxacillin**
- c. Carbenicillin
- d. Amoxicillin
- e. Azlocillin

1668. A 49-year-old patient has psychotic manifestations in form of psychomotor agitation, auditory and visual hallucinations. What drug is indicated in the described case?

- a. Valerian tincture
- b. Chlordiazepoxide
- c. Sodium bromide
- d. Diazepam
- e. Haloperidol**

1669. A 58-year-old patient with essential hypertension complains about general health deterioration. She has been administered methyldopa. Specify the mechanism of this drug action:

- a. Blockade of α -adrenergic receptors
- b. Inhibition of angiotensin-converting factor
- c. Increase in acetylcholine synthesis

d. Blockade of β -adrenergic receptors

e. Inhibition of noradrenaline synthesis

1670. An animal sensitized with tuberculin had been administered tuberculin intraperitoneally. 24 hours later, during laparotomy, the animal was found to have venous congestion and peritoneal edema. Impression smears from the peritoneum contained a large number of lymphocytes and monocytes. What pathological process was detected in the animal?

a. Purulent inflammation

b. Serous inflammation

c. Allergic inflammation

d. Fibrinous inflammation

e. Aseptic inflammation

1671. A 42-year-old patient with tetanus developed an acute respiratory failure. What type of respiratory failure occurs in this case?

a. Perfusion impairment

b. Diffusion impairment

c. Restrictive impairment of alveolar ventilation

d. Obstructive impairment of alveolar ventilation

e. Disregulatory impairment of alveolar ventilation

1672. When students pass an exam, they often complain of having "dry mouth". The mechanism underlying the development of this condition is the activation of the following processes:

a. Unconditioned peripheral

b. Conditioned sympathetic

c. Conditioned parasympathetic

d. Unconditioned parasympathetic

e. Unconditioned sympathetic

1673. An injury to the occipital region resulted in apnoea. What could be the immediate cause of apnoea?

a. Medulla oblongata injury

b. Rapture between the mesencephalon and medulla oblongata

c. Traumatic shock

d. Spinal cord rapture below the 5th vertebra

e. Cerebellum injury

1674. A female with Rh-negative blood of A (II) type has a child with AB (IV) type who has been diagnosed with hemolytic disease resulting from Rh-conflict. What blood type may the baby's father have?

a. IV (AB), Rh-negative

b. III (B), Rh-negative

c. I (0), Rh-positive

d. II (A), Rh-positive

e. III (B), Rh-positive

1675. Calcification of the intercellular substance of bone tissue is accompanied by the deposition of hydroxyapatite crystals along the collagen fibers. This process requires the presence of alkaline phosphatase in the intercellular substance. What cell produces this enzyme?

a. Osteoblast

b. Osteoclast

c. Chondrocyte

d. Chondroblast

e. Osteocyte

1676. A 30-year-old patient with pneumonia has been administered a 3-day course of an antibiotic from the group of azalides that has bactericidal effect, prolonged action, the ability to bind to phagocytic cells and accumulate in the infection foci. What drug has been administered?

- a. Ciprofloxacin
- b. Azithromycin**
- c. Benzylpenicillin sodium salt
- d. Erythromycin
- e. Isoniazid

1677. Human X chromosome contains a dominant gene that is responsible for normal blood clotting. An autosomal dominant gene plays a similar role. Lack of any of these genes leads to the coagulation disorder. The form of interaction between these genes is called:

- a. Complementarity**
- b. Polymerism
- c. Pleiotropy
- d. Codominance
- e. Epistasis

1678. A 66-year-old male patient has liver carcinoma with syndrome of portal hypertension. What kind of portal hypertension does the patient have?

- a. -
- b. Intrahepatic**
- c. Subhepatic
- d. Suprahepatic
- e. Combined

1679. A 25-year-old patient with a hereditary enzymopathy (Gilbert's disease) has a disorder of bilirubin conjugation in liver. What enzyme is not synthesized in this patient?

- a. UDP-glucose pyrophosphorylase
- b. Ornithine carbamoyltransferase
- c. Amidophosphoribosyltransferase
- d. UDP-glucuronyl transferase**
- e. UDP-glycogen transferase

1680. A 60-year-old patient with a history of bronchial asthma has had several attacks during the day. What is the optimal drug to be used for their prevention?

- a. Dobutamine
- b. Methacinum
- c. Isadrinum
- d. Adrenaline hydrochloride
- e. Salbutamol**

1681. A 39-year-old patient with pyelonephritis has been found to have hyposthenuria combined with polyuria. According to this data, what process is most likely to be disrupted?

- a. Glomerular filtration
- b. Tubular excretion
- c. -
- d. Tubular reabsorption**
- e. Tubular secretion

1682. A patient with a toxic paralysis of the respiratory center has been repeatedly administered cordiamine for the center stimulation. What side effect may occur?

- a. Tonic convulsions
- b. Collapse
- c. Bronchospasm
- d. Clonus**
- e. Arrhythmia

1683. A 12-year-old child is of short stature, has disproportionate body structure and mental retardation. These characteristics might be caused by the hyposecretion of the following hormone:

- a. Somatotropin

- b. Glucagon
- c. Insulin
- d. Cortisol

e. Thyroxine

1684. A 48-year-old female patient with a history of cholelithiasis has recurring steatorrhea. What vitamin deficiency may develop as a complication of the current disease?

a. K

- b. C
- c. B12
- d. PP
- e. B6

1685. Transfusion of Rh-incompatible blood resulted in hemolytic jaundice development in the patient. What laboratory blood value confirms this type of jaundice?

a. Accumulation of unconjugated bilirubin

- b. Accumulation of urobilinogen
- c. Reduction of conjugated bilirubin
- d. Reduction of stercobilin
- e. Reduction of unconjugated bilirubin

1686. A 46-year-old patient consulted an oculist about drooping of the upper eyelid. On examination he was diagnosed with a brain tumor. The pathological process must have affected the nuclei of the following pair of cranial nerves:

- a. VI
- b. VII
- c. II
- d. IV

e. III

1687. A 36-year-old patient consulted an ophthalmologist about eye ache. The examination revealed the erosion of the cornea, that is the lack of superficial and spinous layers of the epithelium. What cells will provide regeneration of the damaged epithelium?

- a. Cells of the stratum corneum
- b. Cells of the stratum lucidum
- c. Cell of the stratum superficiale

d. Cells of the stratum basale

- e. Cells of the the stratum granulosum

1688. A 57-year-old patient with coronary artery disease has been administered an anti-anginal agent that activates guanylate cyclase and accumulates myocardial cGMP. What drug is it?

a. Isosorbide mononitrate

- b. Panangin
- c. Verapamil
- d. Validol
- e. Dipyridamole

1689. A 43-year-old female complains of weight loss, hyperhidrosis, low-grade fever, increased irritability. She has been found to have hyperfunction of the sympathetic-adrenal system and basal metabolism. These disorders can be caused by hypersecretion of the following hormone:

a. Aldosterone

b. Thyroxine

- c. Corticotropin
- d. Somatotropin
- e. Insulin

1690. Examination of a patient revealed glycosuria and hyperglycemia. He complains of dry mouth, itchy skin, frequent urination, thirst. He has been diagnosed with diabetes mellitus. What is the cause

of polyuria in this patient?

- a. Decreased plasma oncotic pressure
- b. Decreased cardiac output
- c. Increased plasma oncotic pressure
- d. Increased urine osmotic pressure**
- e. Increased filtration pressure

1691. A histological specimen represents the parenchyma composed of lymphoid tissue which forms the diffusely arranged lymph nodules with a central artery. What anatomic formation has the given morphological structure?

- a. Red bone marrow
- b. Tonsil
- c. Lymph node
- d. Spleen**
- e. Thymus

1692. Ultrasonography of a pregnant revealed no abnormalities in the cardiovascular system of the fetus, the ductus arteriosus had a normal function. What vessels does it connect?

- a. Umbilical vein and aorta
- b. Umbilical vein and umbilical artery
- c. Pulmonary trunk and superior vena cava
- d. Pulmonary trunk and inferior vena cava
- e. Pulmonary trunk and aorta**

1693. As a result of treatment of viral RNA with nitrous acid, UCA triplet mutated to UGA triplet. What kind of mutation occurred?

- a. Nucleotide insertion
- b. Inversion
- c. Nucleotide deletion
- d. Missense
- e. Transition**

1694. A 46-year-old patient consulted a doctor about pustular rash on the skin of the limbs. What antiseptic should be administered to the patient?

- a. Heparin
- b. Alcohol solution of iodine**
- c. Prednisolone
- d. Insulin
- e. Sibazon

1695. A 1-year-old child with the symptoms of affection of limb and trunk muscles had been admitted to a hospital. Examination revealed muscle carnitine deficiency. The biochemical basis of this pathology is a disruption of the following process:

- a. Transport of fatty acids to mitochondria**
- b. Substrate phosphorylation
- c. Oxidative phosphorylation
- d. Utilization of lactic acid
- e. Regulation of Ca^{2+} level in mitochondria

1696. For several days a 55-year-old female patient has had pain attacks in the right upper quadrant after eating fatty foods. Visually, there is yellowness of sclera and skin. The patient has acholous stool, beer-colored urine. What substance present in the patient's urine causes its dark color?

- a. Conjugated bilirubin**
- b. Unconjugated bilirubin
- c. Bilirubin glucuronides
- d. Stercobilin
- e. Ketone bodies

1697. One of the means of regulating enzyme activity in a human body is the covalent modification. Glycogen phosphorylase and glycogen synthetase activity is regulated by the following type of covalent modification:

a. Phosphorylation-dephosphorylation

- b. Methylation
- c. Sulfonation
- d. Hydrolysis
- e. ADP-ribosylation

1698. A 23-year-old patient with diabetes has hyperglycemia at the rate of 19 mmol/l which is clinically manifested by glucosuria, polyuria, polydipsia. Which of the listed below mechanisms is responsible for the development of glycosuria?

a. Tissue dehydration

b. Exceedence of glucose renal threshold

- c. Polyuria
- d. Non-enzymatic glycosylation of proteins
- e. Polydipsia

1699. A 25-year-old patient got an injury as a result of which a portion of the nail plate was removed. What structures will be responsible for its restoration?

a. Nail matrix

- b. Eponychium
- c. Nail sinus
- d. Subungual space
- e. Nail fold

1700. Experimental stimulation of the peripheral segment of the vagus nerve of a cat will result in the following changes:

- a. Increased respiratory rate
- b. Bronchiectasis
- c. Increased heart rate
- d. Dilated pupils

e. Decreased heart rate

1701. Arterial pH is 7,4; primary urine - 7,4; final urine - 5,8. Decrease in the pH of final urine is the result of the secretion of the following ions in the nephron tubules:

a. Hydrogen ions

- b. Hydrogen carbonate ions
- c. Creatinine
- d. Urea
- e. Potassium ions

1702. A 49-year-old male patient with myocardial infarction has been admitted to the cardiology department. What changes in the peripheral blood cells are induced by the necrotic changes in the myocardium?

a. Lymphopenia

b. Neutrophilic leukocytosis

- c. Eosinophilia
- d. Monocytosis
- e. Thrombocytopenia

1703. Alterations in protein digestion in the small intestine are induced by the impairment of trypsin and chymotrypsin activity. What enzyme deficiency may be the cause of this impairment?

a. Lipase

b. Enterokinase

- c. Amylase
- d. Pepsin
- e. Maltase

1704. Monoamine oxidase inhibitors are widely used in clinics as psychopharmacological drugs. They change the level of the following neurotransmitter in the synapses:

- a. L-glutamate
- b. Norepinephrine**
- c. ATP
- d. Acetylcholine
- e. Substance P

1705. In the area being the epicenter of the registered rabies cases among wild animals a 43-year-old man presented to a clinic and claimed to have been bitten by a stray dog. He was given a course of anti-rabies vaccine. This preparation relates to the following type of vaccines:

- a. Attenuated**
- b. Molecular
- c. Synthetic
- d. Toxoids
- e. Inactivated

1706. During examination of a 3-monthold infant a pediatrician revealed that the baby's oral mucosa and tongue were covered with a thick white deposit. In the material taken from the affected site a bacteriologist revealed the presence of yeast fungi giving the reasons for suspecting a fungal infection which occurs most often in children of this age, namely:

- a. Epidermophytosis
- b. Favus
- c. Candidiasis**
- d. Actinomycosis
- e. Trichophytia

1707. A boy has been diagnosed with a hydrocele (fluid collection within the scrotum).Which scrotum tunica contains this liquid?

- a. Internal spermatic fascia
- b. Tunica vaginalis**
- c. Tunica albuginea
- d. Tunica dartos
- e. External spermatic fascia

1708. Examination of a 6-year-old patient gave reasons to suspect the deterioration in airway patency. What is the most reliable research method to identify the pathology?

- a. Spirometabolography
- b. Pneumotachometry**
- c. Spirometry
- d. Pneumography
- e. Spirography

1709. A 24-year-old patient with catarrhal tonsillitis has ben administered a drug from the group of sulfonamides. Specify the mechanism of sulfonamide antibacterial action:

- a. Competitive antagonism of PABA**
- b. Reduction of membrane permeability
- c. Protein coagulation
- d. Inhibition of sulfhydryl groups of thiol enzymes
- e. Disruption of the cell wall protein synthesis

1710. A 39-year-old patient with arthritis of the temporomandibular joint has been administered diclofenac sodium. It must be kept in mind that the side effect of prolonged use of this drug is:

- a. Carcinogenicity
- b. Drug dependence
- c. Teratogenicity
- d. Ototoxicity
- e. Ulcerogenicity**

1711. A 36-year-old injured has an occipital bone injury causing damage to the sigmoid sinus. What part of the bone is damaged?

- a. Pars lateralis
- b. Pars basilaris
- c. -
- d. Squama
- e. Clivus

1712. A 40-year-old patient presents with abdominal pain, frequent loose stools with mucus and blood. Stool analysis revealed vegetative forms of some protozoa sized 30-40 microns, with short pseudopodia, containing large amounts of phagocytosed erythrocytes. What protozoan disease does the patient have?

- a. Giardiasis
- b. Toxoplasmosis
- c. Leishmaniasis
- d. Trichomoniasis
- e. Amebiasis

1713. A 49-year-old male has mitral stenosis. What is the leading mechanism of heart failure in this case?

- a. Pressure overload
- b. Myocardial tension
- c. Fluid overload
- d. Myocardial injury
- e. Volume overload

1714. A 42-year-old patient has an inflammation of the inner ear. After the examination, the doctor revealed the affection of the first neuron bodies of the auditory analyzer. Where are they localized?

- a. G. ciliare
- b. G. spirale
- c. G. geniculi
- d. G. vestibulare
- e. G. trigeminale

1715. Orthodontic treatment of a child proved to be ineffective due to the chronic mouth breathing since the nasal breathing is impaired. This is caused by the hypertrophy of the following tonsils:

- a. Pharyngeal
- b. Lingual
- c. Palatine and tubal
- d. Palatine
- e. Tubal

1716. A 34-year-old patient has a history of periodontitis. As a result of increased collagen degradation, there is a significantly increased urinary excretion of one of the amino acids. Which one?

- a. Alanine
- b. Valine
- c. Hydroxyproline
- d. Glycine
- e. Serine

1717. A 34-year-old injured is unable to nod his head (impaired flexion and extension of head). This is caused by the dysfunction of the following joint:

- a. Zygapophysial
- b. -
- c. Lateral atlanto-axial
- d. Median atlanto-axial
- e. Atlanto-occipital

1718. A 35-year-old patient had a cerebral injury that caused a hemorrhage in the region of the medial surface of the frontal gyrus and cingulate gyrus. What artery supplies blood to the area of the hemorrhage localization?

- a. Anterior communicating
- b. Anterior cerebral**
- c. Basilar
- d. Median cerebral
- e. Posterior cerebral

1719. Osteolaterism is characterized by a decrease in collagen strength caused by much less intensive formation of cross-links in the collagen fibrils. This phenomenon is caused by hypoactivity of the following enzyme:

- a. Prolyl hydroxylase
- b. Monoamino-oxidase
- c. Lysyl oxidase**
- d. Lysyl hydroxylase
- e. Collagenase

1720. In some anaerobic bacteria the pyruvate produced by glycolysis is converted to the ethyl alcohol (alcoholic fermentation). What is the biological significance of this process?

- a. ATP production
- b. NAD⁺ replenishment**
- c. ADP production
- d. Lactate production
- e. Providing the cells with NADPH

1721. A 36-year-old female patient who has been limiting the number of foodstuffs in her diet for 3 months presents with a decrease in body weight, deterioration of physical and mental health, face edemata. These changes may be caused by the deficiency of the following nutrients:

- a. Micronutrients
- b. Proteins**
- c. Fats
- d. Vitamins
- e. Carbohydrates

1722. A 29-year-old patient with bacterial pneumonia has been administered penicillin. What is the mechanism of its antimicrobial action?

- a. Inhibition of cell walls synthesis in the microorganisms**
- b. Inhibition of cholinesterase activity
- c. Antagonism of PABA
- d. Inhibition of SH-groups of microorganism enzymes
- e. Inhibition of intracellular protein synthesis

1723. Vitamin-like substance choline is contained in phospholipids which are the main components of biological membranes. What sulphur-containing amino acid serves as the donor of methyl groups for the synthesis of choline?

- a. Threonine
- b. Methionine**
- c. Glycine
- d. Serine
- e. Alanine

1724. During anesthesia of the oral mucosa a 37-year-old patient has had anaphylactic reaction (widespread vasodilation, increased vascular permeability with liquid exiting the blood vessels and penetrating in the tissues). What type of hypersensitivity reaction occurred in the patient?

- a. Type II (antibody-dependent)**
- b. Type IV (cell cytotoxicity)
- c. Type V (granulomatosis)

d. Type I (anaphylactic)

e. Type III (immune complex)

1725. Patients with erythropoietic porphyria (Gunther's disease) have teeth that fluoresce red on exposure to ultraviolet light; photosensitive skin; red urine. This disease is associated with the lack of the following enzyme:

a. Uroporphyrinogen decarboxylase

b. Ferrochelatase

c. Uroporphyrinogen-I synthase

d. Delta-aminolevulinate synthase

e. Uroporphyrinogen-III cosynthase

1726. A 36-year-old patient with a several year history of chronic pulpitis had undergone tooth extraction. Microscopic examination of the pulp revealed some deep-purple structureless areas which can be interpreted as:

a. Metabolic calcification

b. Lithiasis

c. Dental tartar

d. Dystrophic calcification

e. Metastatic calcification

1727. A 34-year-old patient underwent a tooth extraction. The tooth crown was of diamond shape and had four tubercles on the masticatory surface, the tooth had three roots. What tooth was extracted?

a. The second mandibular molar

b. The first maxillary molar

c. Second maxillary molar

d. The first mandibular molar

e. The third maxillary molar

1728. Examination of a 29-year-old patient revealed a dense, immobile, illdefined tumor-like formation in the lower jaw. The overlying mucosa was pale. Biopsy of the neoplasm revealed osteoid structures lined with atypical osteoblasts; numerous pathologic mitotic figures; a great number of thinwalled vessels. What is the most likely diagnosis?

a. Osteosarcoma

b. Exacerbation of chronic osteomyelitis

c. Primary jaw carcinoma

d. Ameloblastoma

e. Osteoblastoclastoma

1729. Microscopic examination of a skin tumor revealed that it invaded the underlying tissue, destroyed it and formed nests and cords of atypical epithelium which included some pearl-like formations. Specify the tumor:

a. Squamous cell non-keratinizing carcinoma

b. Adenocarcinoma

c. Medullary carcinoma

d. Keratinizing squamous cell carcinoma

e. Solid carcinoma

1730. A 38-year-old female patient complains of bleeding gums, halitosis, exposure of tooth necks. Objectively: the patient has gingivitis, plaque and tartar. Inflammation involves the alveolar part of gingiva with dental pockets. The bone tissue exhibits signs of bone resorption. What pathology does the patient have?

a. Parodontitis

b. Periodontitis

c. -

d. Gingivitis

e. Periostitis

1731. A 9-year-old child has multiple lesions of the oral mucosa in form of small painful hyperemic sores with a white deposit in the center; enlarged and painful submandibular lymph nodes. Microscopic examination of the affected region revealed a superficial defect covered by fibrin; edematous and hyperemic submucosa with inflammatory infiltration. What is the most likely diagnosis?

- a. Catarrhal gingivitis
- b. -
- c. Hypertrophic stomatitis
- d. Herpetic stomatitis

e. Aphthous stomatitis

1732. A 38-year-old female patient has been diagnosed with inflammation of the third branch of the trigeminal nerve. This branch exits the skull through the following foramen:

- a. Round
- b. Jugular
- c. Sphenotic

d. Oval

e. Spinous

1733. After restoration of maxillary incisors with artificial crowns a 44-year-old female was found to have a brownish overgrowth in form of a nodule of 15 mm in diameter. Histological study revealed that under the stratified squamous epithelium of gingiva there was a connective tissue mass with numerous sinusoidal vessels, oval-shaped mononuclear cells forming osteoid substance, and polynuclear giant cells that destroyed the alveolar ridge of the upper jaw. What is the most likely diagnosis?

a. Eosinophilic granuloma

b. Giant cell epulis

- c. Angiomatous epulis
- d. Fibromatous epulis
- e. Gingival fibromatosis

1734. In patients with glycogenolysis, that is von Gierke's disease, the conversion of glucose-6-phosphate into glucose is inhibited, which is accompanied by the improper breakdown of glycogen in the liver. The cause of this condition is the following enzyme deficiency:

a. Phosphoglucomutase

b. Glucose-6-phosphatase

- c. Glucose-6-phosphate dehydrogenase
- d. Glycogen phosphorylase
- e. Phosphofructokinase

1735. What vitamin is a component of glutamic acid decarboxylase, participates in the production of GABA, and its deficiency is manifested by seizures?

a. Ascorbic acid

b. Pyridoxine

- c. Tocopherol
- d. Cobalamin
- e. Folic acid

1736. A patient under examination is in a stage of rapid eye movement sleep. This is confirmed by the following waves registered by EEG:

- a. Alpha waves
- b. Theta waves
- c. Alpha spindles

d. Beta waves

e. Delta waves

1737. A 48-year-old patient has been found to have an increase in the concentration of thyroid hormones in blood. Microscopy of a biopsy sample from the thyroid gland is likely to reveal the following morphological changes affecting the following cells:

- a. Decrease in the thyrotrope height
- b. Decrease in the thyrocyte height
- c. Changes in hormone concentrations will have no effect on the morphology of the thyroid gland cells
- d. Increase in the thyrocyte height**
- e. Decrease in the parathyrocyte size

1738. During ABO blood grouping by using coliclons (diagnostic monoclonal antibodies), haemagglutination did not occur with any of the coliclons. What is the blood group of the patient under examination?

- a. -
- b. 0 (I)**
- c. B (III)
- d. A (II)
- e. AB (IV)

1739. During reproduction of some RNA-containing viruses that cause tumors in animals, genetic information can be transmitted in the opposite direction from the RNA to the DNA via a specific enzyme. The enzyme of reverse transcription is called:

- a. Topoisomerase
- b. Reverse transcriptase**
- c. Ligase
- d. DNA polymerase
- e. Primase

1740. In a hot weather, the microclimate in hot rooms is often normalized by fans. At the same time heat radiation from the human body increases through:

- a. Radiation
- b. Evaporation
- c. Heat conduction
- d. Conduction
- e. Convection**

1741. After arriving in the polar region, researchers from Australia have complained of nervous disorders, loss of appetite, aggravation of chronic diseases for 6 months. What process has been disrupted in extreme conditions?

- a. Stress
- b. Reparation
- c. Tolerance
- d. Tachyphylaxis
- e. Adaptation**

1742. A female who had been continuously taking antibiotics for an intestinal infection developed a complication manifested by inflammation of the oral mucosa and white deposit. Bacteriological study of the deposit samples revealed yeast fungi *Candida albicans*. Which of the following medications is indicated for the treatment of this complication?

- a. Furazolidone
- b. Polymyxin
- c. Biseptol
- d. Tetracycline
- e. Fluconazole**

1743. A histological specimen of submandibular salivary gland represents basket cells from which some processes radiate and embrace the secretory unit. Contraction of the processes of these cells helps in expelling secretions from the lumen of secretory units and moving them to the system of excretory ducts. Name these cells:

- a. Myoepithelial cells**
- b. Mucocytes
- c. Epithelial cells

- d. Adipocytes
- e. Serous cells

1744. After an infectious disease a 21- year-old patient exhibits the inability to rotate his head in the direction opposite to the affected region. What nerve has been damaged?

- a. Vagus
- b. Transverse cervical nerve
- c. Thoracodorsal
- d. Accessory**
- e. Infrascapular

1745. The surgically excised connective tissue of the deformed mitral valve gives a basophilic reaction when stained with hematoxylin and eosin. When stained with toluidine blue, it turns purple (metachromasia). What changes of the connective tissue can be detected by these reactions?

- a. Connective tissue edema
- b. Fibrinoid necrosis of connective tissue
- c. Muroid edema**
- d. Petrification
- e. Hyalinosis

1746. An animal had been intensively fed with carbohydrates. Histological examination of its liver revealed a significant number of glycogen granules. Glycogen relates to the following group of cell structures:

- a. Trophic granules**
- b. Excretory granules
- c. Special-purpose organelles
- d. Pigment granules
- e. Secretory granules

1747. If a trait is determined mostly by genetic factors, the percentage of concordance between the twins is much higher in monozygotic twins than in dizygotic ones. What is the percentage of blood group concordance in monozygotic twins?

- a. 0%
- b. 100%**
- c. 50%
- d. 75%
- e. 25%

1748. During auscultation a 26-year-old patient was asked to breathe deep. After 10 breaths the patient lost consciousness, which is associated with the development of the following condition:

- a. Polycythemia
- b. Reduced oxygen capacity of blood
- c. Carbon dioxide acidosis
- d. Erythropenia
- e. Respiratory alkalosis**

1749. A 49-year-old patient has a tumor of the ventral surface of the pons. An impaired blood flow will be observed in the following artery:

- a. A. cerebri media
- b. A. carotis interna
- c. A. basilaris**
- d. A. cerebri anterior
- e. A. communicans posterior

1750. Pyruvic acid as an intermediate metabolite of carbohydrate, lipid and amino acid metabolism can undergo oxidative decarboxylation. The cause of this process is the lack of the following nutrient in the diet:

- a. Pangamic acid

b. Thiamin

- c. Ascorbic acid
- d. Pyridoxine
- e. Citrine

1751. In case of some helminthiases, an affected person can detect helminth himself because mature segments of the causative agent are able to crawl out of the anus. This is typical for the following disease:

- a. Pork tapeworm infection
- b. Bothriocephaliasis
- c. Echinococcosis
- d. Beef tapeworm infection**
- e. Hymenolepiasis

1752. A patient has an inflammation in the pterygopalatine fossa. The infection has spread to the nasal cavity. What anatomic structure has the infection penetrated through?

- a. Foramen rotundum
- b. Canalis palatinus minor
- c. Canalis pterygoideus
- d. Foramen sphenopalatinum**
- e. Canalis palatinus major

1753. Histological examination of a tissue sample revealed that the tissue had no blood vessels, and the cells were packed tightly together making layers. Specify this tissue:

- a. Cartilaginous
- b. Nervous
- c. Muscular
- d. Epithelial**
- e. Osseous

1754. A 32-year-old patient has B2 hypovitaminosis. The specific symptoms such as epithelial, mucosal, skin and corneal lesions are most likely to be caused by the deficiency of:

- a. Cytochrome oxidase
- b. Cytochrome a1
- c. Flavin coenzymes**
- d. Cytochrome b
- e. Cytochrome c

1755. A 24-year-old injured has a fracture in the middle third of the II rib. The fracture is accompanied by the dysfunction of the following muscle:

- a. M. sternohyoideus
- b. M. sternocleidomastoideus
- c. M. scalenus posterior**
- d. M. scalenus medius
- e. M. subclavius

1756. Diphtheria exotoxin had been treated with 0,3-0,4% formalin and kept in a thermostat for 30 days at a temperature of 40°C. What preparation was obtained as a result of these manipulations?

- a. Diagnosticum
- b. Antitoxin
- c. Anatoxin**
- d. Therapeutic serum
- e. Diagnostic serum

1757. Examination of a 28-year-old patient with hepatocerebral degeneration revealed an impairment of ceruloplasmin synthesis. This defect is associated with the following organelles:

- a. Smooth endoplasmic reticulum
- b. Lysosomes

c. Golgi complex

d. Granular endoplasmic reticulum

e. Mitochondria

1758. In the uterine cavity an embryo was found that was not attached to the endometrium. What stage of embryonal development is it?

a. Gastrula

b. Blastocyst

c. Mulberry body

d. Zygote

e. Neurula

1759. A 31-year-old patient has deep caries of the fifth maxillary tooth on the right. Acute purulent inflammation in the region of the tooth apex has developed. There is marked edema with isolated neutrophils in the perifocal tissues and soft tissues of cheek and palate. Diagnose the pathologic process in the soft tissues of cheek and palate:

a. Acute suppurative periodontitis

b. Phlegmon

c. -

d. Acute serous inflammation

e. Acute suppurative periostitis

1760. Microscopy of a dental plaque revealed a large number of cocci arranged in pairs and strings, as well as Gram-positive bacilli which were likely to be the cause of cariogenesis. What microorganism associations are involved in the development of dental caries?

a. *S. mutans* streptococci and corynebacteria

b. *S. salivarius* streptococci and lactobacilli

c. *S. mutans* streptococci and lactobacilli

d. *S. aureus* and lactobacilli

e. *S. salivarius* streptococci and enterococci

1761. Autopsy of a dead man with no fixed abode revealed the aneurysm of the ascending aorta. Microscopy of the middle tunica of aorta revealed lymphocytic inflammatory infiltrates, plasma cells, fibroblast cells with some Pirogov-Langhans cells, endovasculitis. What disease should be suspected?

a. Tuberculosis

b. Syphilis

c. Rheumatism

d. Atherosclerosis

e. Essential hypertension

1762. A man visited Lebanon. Soon after return he felt pain and heaviness in the perineum and suprapubic region. On examination he was diagnosed with urogenital schistosomiasis. In what way could he become infected?

a. By eating undercooked meat of cattle

b. By eating undercooked meat of crayfish and crabs

c. By eating unwashed fruit and vegetables

d. By eating insufficiently salted fish

e. By swimming in contaminated waters

1763. Loose fibrous connective tissue of salivary glands contains oval averagesized cells which synthesize antibodies. The cells have round eccentric nucleus and "spoke-wheel" chromatin pattern made by small clumps of chromatin. What are these cells called?

a. Fibroblasts

b. Macrophages

c. Adipocytes

d. Neutrophils

e. Plasma cells

1764. A physician performs the anterior transverse cervical skin incision for urgent tracheotomy. He should keep in mind the probability of damaging the following vessel:

- a. V.jugularis interna
- b. V.jugularis externa
- c. Arcus venosus juguli**
- d. V.facialis
- e. V.thyroidea media

1765. A 12-year-old girl has a bleeding ulcer 5 mm in diameter which is localized on the mouth floor. The ulcer is surrounded by bright-red tissue that turns white when pressed. Microscopic examination of a biopsy sample reveals a tumor constituted by a number of large cavities filled with blood. The cavities are lined with endothelial cells. Between the cavities there is stroma represented by the loose connective tissue. What is the most likely diagnosis?

- a. Ulcerated melanoma
- b. Ulcerated cavernous hemangioma**
- c. Squamous cell non-keratinizing carcinoma
- d. Secondary rhabdomyosarcoma
- e. Osteoblastoclastoma

1766. For the treatment of periostitis a 35-year-old patient should be administered an antibiotic with a high ability to penetrate into the bone tissue. Specify this drug:

- a. Erythromycin
- b. Streptomycin
- c. Doxycycline hydrochloride**
- d. Chloramphenicol
- e. Kanamycin

1767. A patient with a severe maxillofacial trauma has been delivered to the emergency department. What drug should be given this patient to relieve pain shock?

- a. Sydnocarb
- b. Pantogam
- c. Mydocalm
- d. Promedol**
- e. Ibuprofen

1768. After using a toothpaste a 27- year-old patient has developed Quincke's edema. Administer a drug from the group of histamine H1-receptor antagonists for the treatment of this condition:

- a. Dimedrol**
- b. Digoxin
- c. Analgin
- d. Chlorpromazine
- e. Paracetamol

1769. A 47-year-old patient with symptoms of severe intoxication and respiratory failure died. A section of lung tissue had a mottled pattern with multiple small focal hemorrhages and foci of emphysema. Histological examination revealed hemorrhagic bronchopneumonia accompanied by abscess; the cytoplasm of bronchial epithelial cells had eosinophil and basophil inclusions. According to the section analysis, make your diagnosis:

- a. Adenovirus infection
- b. Respiratory syncytial
- c. Staphylococcal bronchopneumonia
- d. Influenza**
- e. Parainfluenza

1770. A 64-year-old male patient died with symptoms of acute cardiovascular failure. Autopsy results: the section of the anterior wall of the left ventricle showed a yellowish flaccid 1,5-2 cm focus surrounded by a reddish rim. The convoluted coronary arteries had lumen irregularly narrowed by 75%. The vessel intima was thickened, dense, covered with whitish plaques, crunched when cut.

What disease can you think of?

- a. Recurrent myocardial infarction
- b. Acute myocardial infarction**
- c. Postinfarction cardiosclerosis
- d. Continuously recurrent myocardial infarction
- e. Microfocal cardiosclerosis

1771. During an abdominal surgery a 46-year-old patient working at a meat processing plant was found to have a very dense roundish formation 11 cm in diameter which was localized in the right lobe of the liver. The cross-section of the formation has a porous appearance due to a large number of small vesicles with layers of dense connective tissue. The surrounding tissues have visible necrotic areas and proliferation of granulation tissue including many eosinophils and foreign body giant cells. What disease can be thought of in this case?

- a. Hepatic rhabdomyosarcoma
- b. Calculous cholecystitis
- c. Malaria
- d. Hepatitis
- e. Echinococcus multilocularis**

1772. During a hypertensive crisis a patient has had a hemorrhagic stroke resulting in a lack of voluntary movements, increased tendon reflexes and muscle tone of the left arm and leg. What is this motor dysfunction called?

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

1773. A 36-year-old patient underwent tooth extraction at a dental clinic. After two weeks the stratified squamous epithelium regenerated at this site. What organelles were involved in the restoration of the mucous membrane?

- a. Smooth EPR
- b. Mitochondria
- c. Centrosomes
- d. Postlysosomes
- e. Ribosomes**

1774. A 23-year-old patient consulted an oculist about vision impairment. Visual activity was corrected by means of lenticular lenses. Specify the type of dysfunction of the visual analyzer in this patient:

- a. Daltonism
- b. Myopia
- c. Hyperopia**
- d. Night-blindness
- e. Astigmatism

1775. A 36-year-old patient had had a traumatic brain injury which caused a swallowing impairment. Which part of brain was affected?

- a. Reticular formation
- b. Thalamus
- c. Mesencephalon
- d. Diencephalon
- e. Medulla oblongata**

1776. A 42-year-old patient with gastric ulcer has a disbalance between the aggressive and defensive factors. Which of the following factors contributes to the development of gastric ulcer?

- a. Hydrocarbonate
- b. Mucin

c. Helicobacter pylori

- d. Prostaglandin
- e. Prostacyclin

1777. A 45-year-old patient with an 8- year history of tuberculosis died in a hospital of chronic renal failure. At autopsy, the kidneys were enlarged, the cross-section surface looked greasy, histological study revealed profuse deposits of structureless homogeneous eosinophilic masses exhibiting marked metachromasia when stained with Congo red. What pathological process developed in the kidneys?

- a. Acute glomerulonephritis
- b. Hematogenous renal tuberculosis

c. Secondary amyloidosis

- d. Toxic nephritis against the background of antibiotic therapy
- e. Nephrosclerosis

1778. Autopsy of a dead 6-year-old child revealed a marked edema of the soft tissues of neck and enlarged tonsils. Pharyngeal mucosa was covered with numerous dense whitish-yellow pellicles exposing deep ulcers after their removal. Histological examination of the pharyngeal mucosa revealed necrosis of the upper epithelial layers, impregnation of the mucous membrane with the fibrinous exudate and moderate leukocyte infiltration. What infectious disease caused the death of the child?

- a. Parainfluenza
- b. Whooping cough
- c. Measles

d. Diphtheria

- e. Scarlet fever

1779. A severe injury in a 36-year-old patient resulted in a significant blood loss which was accompanied by a blood pressure drop. What hormones provide rapid recovery of blood pressure after the blood loss?

- a. Oxytocin
- b. Aldosterone
- c. Cortisol
- d. Sex hormones

e. Adrenalin, vasopressin

1780. Calcification of dental tissues is significantly influenced by osteocalcin protein which has an ability to bind calcium ions due to the presence of the following modified amino acid residues in the polypeptide chain:

- a. Carboxy asparagine
- b. Delta-aminopropionic
- c. Alanine
- d. Gamma-aminobutyric

e. Gamma-carbon glutamine

1781. A 47-year-old male patient consulted a dentist about difficult mouth opening (lockjaw). The patient has a history of a stab wound of the lower extremity. What infection can be manifested by these symptoms?

- a. Whooping cough
- b. Brucellosis

c. Tetanus

- d. Anaerobic wound infection
- e. Tularemia

1782. In the solution being used for perfusing the isolated heart of rat, the K⁺ concentration has been increased to 8 mmol/L. What changes in the heart are to be expected?

a. Diastolic arrest

- b. Heart force increase
- c. There will be no changes

- d. Heart rate increase
- e. Systolic arrest

1783. After a patient had taken a blocking agent, his heart rate (HR) increased. Pressing on the eyeballs didn't result in the expected reflexory decrease in heart rate. What exactly was blocked by the drug in the pacemaker cells?

- a. Fast Na⁺ channels
- b. M-cholinergic receptors**
- c. β -adrenergic receptors
- d. α 1-adrenergic receptors
- e. Ca²⁺-L-type channels

1784. A 36-year-old male patient frequently has herpes sores on the lips and oral mucosa. Infection recurrences are associated with the persistence of the virus in the body. The herpes simplex virus is most likely to reside in:

- a. Salivary glands
- b. Airway epithelium
- c. Gonads
- d. Nerve ganglia**
- e. Lymph nodes

1785. A 32-year-old patient undergoing dental examination was found to have some rash-like lesions resembling secondary syphilis in the oral cavity. The patient was referred for the serological study with the purpose of diagnosis confirmation. In order to detect antibodies in the serum, living *Treponema* were used as diagnosticum. What serological test was performed?

- a. Complement binding
- b. Neutralization
- c. Immobilization**
- d. Precipitation
- e. Passive hemagglutination

1786. A 69-year-old male patient got a small plaque with subsequent ulceration on the skin of the lower eyelid. The formation was removed. Microscopic examination of dermis revealed complexes of atypical epithelial cells arranged perpendicularly to the basal membrane on the periphery. The cells were dark, of polygonal prismatic shape with hyperchromic nuclei with a high mitotic rate. What is the histological form of carcinoma in this patient?

- a. Basal cell carcinoma**
- b. Nonkeratinizing squamous cell carcinoma
- c. Undifferentiated
- d. Adenocarcinoma
- e. Keratinizing squamous cell carcinoma

1787. A 35-year-old female patient has HIV at the AIDS stage. On the skin of the lower extremities and palatine mucosa there appeared rusty red spots, bright red nodules of various sizes. One of the nodules was taken for histological study. It revealed a lot of randomly distributed thin-walled vessels lined with endothelium, the bundles of spindle cells containing hemosiderin. What kind of tumor developed in the patient?

- a. Lymphangioma
- b. Fibrosarcoma
- c. Hemangioma
- d. Burkitt's lymphoma
- e. Kaposi's sarcoma**

1788. A dentist examined a 5-year-old boy and found him to have a saddle nose, high-arched palate, natiform skull. Both front maxillary incisors are peg-shaped and have a crescent-shaped notch in the cutting edge. Lymph nodes are not changed. What is the provisional diagnosis?

- a. Early congenital syphilis
- b. Fluorosis

c. Rickets

d. Late congenital syphilis

e. Tertiary syphilis

1789. A 36-year-old injured with a knife wound of neck has bleeding. The blood is dark. During the wound management it was revealed that a vessel in the anterior part of the neck below the hyoid bone was damaged. Identify this vessel:

a. V. jugularis externa

b. V. jugularis anterior

c. A. carotis externa

d. V. jugularis interna

e. A. carotis communis

1790. ECG of a 46-year-old patient shows an increase in the QRS duration. This might be caused by:

a. Conduction disturbances in the AV node

b. Increased atrial and ventricular excitability

c. Increased atrial activation time

d. Increased ventricular activation time

e. Increased atrial excitability

1791. A 36-year-old patient has gastric ulcer (with increased acidity). Which of the listed below drugs will reduce the secretion of hydrochloric acid with a minimum of side effects?

a. Almagel

b. -

c. Atropine

d. Pirenzepine

e. Famotidine

1792. A histological specimen represents an organ whose wall consists of the mucosa, submucosa, fibrocartilage and adventitious cartilage. The organ is lined by pseudostratified ciliary epithelium, the muscular layer of the mucosa is absent, the submucosa contains seromucous glands. Hyaline cartilage C-rings are present. What organ has the described morphological characteristics?

a. Trachea

b. Secondary bronchus

c. Larynx

d. Terminal bronchiole

e. Bronchiole

1793. A 28-year-old patient complains of frequent gingival haemorrhages. Blood test revealed the clotting factor II (prothrombin) deficiency. What phase of blood coagulation is impaired in this patient?

a. Thrombin generation

b. Fibrinolysis

c. -

d. Clot retraction

e. Vascular-platelet haemostasis

1794. A patient with alcohol-induced liver injury has an impairment of biotransformation of xenobiotics and endogenous toxic compounds. These changes are likely to be caused by hypoactivity of the following chromoprotein:

a. Cytochrome P-450

b. Cytochrome oxidase

c. Cytochrome c1

d. Cytochrome b

e. Hemoglobin

1795. A 4-year-old child has purulent inflammation of the middle ear. The pathological process has spread to the artery that borders the anterior wall of the tympanic cavity. What vessel is involved in the pathological process?

- a. A. auricularis posterior
- b. A. temporalis superficialis
- c. A. carotis externa
- d. A. meningeal media

e. A. carotis interna

1796. Activation of free radical processes is a universal mechanism that triggers cell death. What inhibitors of this process should be administered as a part of therapeutic interventions intended for the treatment of generalized periodontitis?

- a. Calciferol, naphthoquinone
- b. Riboflavin, pyridoxine

c. Tocopherol, ascorbate

- d. Thiamin, folate
- e. Cobalamin, pantothenic acid

1797. Microscopic examination of the biopsy sample taken from a deformed upper jaw bone revealed areas of bone resorption and replacement of bone tissue by randomly arranged bundles of mature collagen fibers with spindle and stellate cells; primitive structure of trabeculae; myxomatous foci. What is the most likely diagnosis?

- a. Osteoma
- b. Osteoporosis
- c. Osteosarcoma

d. Fibrous osteodysplasia

- e. Osteoblastosarcoma

1798. A 35-year-old patient complains of pain in the upper jaw, bleeding, a slight loosening of teeth. He has been diagnosed with periodontitis. What is a typical pathological process in this case?

- a. Bleeding
- b. Pain
- c. Redness

d. Inflammation

- e. Caries

1799. With the purpose of analgesia, a narcotic analgesic has been used with a benzodiazepine drug. What drug has been used to potentiate analgesia?

- a. Trifluoperazine
- b. Chlorprothixene

c. Diazepam

- d. Carbamazepine
- e. Imizinum

1800. Inadequate treatment of middle ear inflammation (mesotympanitis) has resulted in suppurative inflammation of the cells of temporal bone mastoid process (mastoiditis). The abscess has erupted into the bed of sternocleidomastoid muscle. This pathological process is localised in the following cervical fascia:

a. Lamina superficialis fasciae colli propriae

- b. Lamina profunda fasciae colli propriae
- c. Fascia prevertebralis
- d. Fascia endocervicalis
- e. Fascia colli superficialis

1801. Alveolar bleeding has been detected following the extraction of the maxillary second premolar. What artery causes this kind of bleeding, when damaged?

- a. Inferior alveolar artery
- b. Posterior superior alveolar artery

c. Middle superior alveolar artery

- d. Palatine artery
- e. Anterior superior alveolar artery

1802. A female patient has referred to a dentist with complains of bruise and swelling around her eye. Anamnesis is as follows: several days prior her 1st premolar tooth had been extracted, with infraorbital anesthesia administered; several days later hematoma appeared in the area of foramen intraorbitale. Branch of the following artery was damaged:

- a. Maxillary artery**
- b. Superficial temporal artery
- c. Masseteric artery
- d. Superior labial artery
- e. Facial artery

1803. A patient has lost his ability to recognize objects by their characteristic sounds (clock, bell, music). What part of his brain is damaged?

- a. Insula
- b. Lobus temporalis**
- c. Lobus frontalis
- d. Lobus occipitalis
- e. Lobus parietalis

1804. A patient complains of pain in the thorax during breathing, dyspnea, restriction of coughing movements, hiccup. What respiratory muscles are affected?

- a. Abdominal muscles
- b. Diaphragm**
- c. Serratus anterior muscle
- d. External intercostal muscles
- e. Internal intercostal muscles

1805. Having lost significant amount of body weight, a 70-year-old patient complains of dull pain in the lumbar area. In the result of examination he was diagnosed with floating kidney. What part of kidney supporting apparatus is most likely to be damaged?

- a. M. quadratus lumborum
- b. Capsula adiposa**
- c. M. Iliopsoas
- d. Capsula fibrosa
- e. Lig. hepatorenalis

1806. Examination of a 23-year-old patient reveals that when his tongue is protruded, its tip deviates to the side. This is caused by the dysfunction of the following tongue muscle:

- a. Hyoid
- b. Inferior longitudinal
- c. Styloglossus
- d. Genioglossus**
- e. Superior longitudinal

1807. A patient has air embolism as a result of a skin injury in the middle portion of the sternocleidomastoid muscle. Which cervical vein was injured?

- a. Posterior auricular vein
- b. Transverse cervical vein
- c. Anterior jugular vein
- d. Internal jugular vein
- e. External jugular vein**

1808. Otopyosis has caused tympanic cavity roof to be broken by pus. From tympanic cavity pus spreads to the following cranial fossa:

- a. Sphenopalatine fossa
- b. Middle cranial fossa**
- c. Anterior cranial fossa
- d. Posterior cranial fossa
- e. Orbit

1809. A 33-year-old patient complains of an impairment of skin sensitivity in the medial part of the dorsal and palmar surface of hand. Which nerve is damaged?

a. N. ulnaris

b. N. medianus

c. N. cutaneus antebrachii medialis

d. N. musculocutaneus

e. N. radialis

1810. A 2-year-old child has congenital spastic contraction of muscles on one side of neck, that is torticollis. What muscle is affected?

a. Sternocleidomastoid

b. Sternohyoid

c. Omohyoid

d. Sternothyroid

e. Subcutaneous

1811. Nucleoli of nuclei have been damaged due to tissue culture nuclear irradiation. Regeneration of the following organelles becomes hampered in cytoplasm:

a. Ribosomes

b. Endoplasmic reticulum

c. Golgi apparatus

d. Microtubules

e. Lysosomes

1812. A histological preparation shows organ, where lymphocytes form three types of lymphoid structures: lymph nodules, medullary cords and lymphatic sinuses. What organ is it?

a. Tonsil

b. Red bone marrow

c. Spleen

d. Thymus

e. Lymph node

1813. An electron microphotograph of duodenal epithelium clearly shows a cell with electron-dense granules in the basal pole. What cell is it?

a. Endocrine

b. Poorly differentiated

c. Parietal

d. Goblet

e. Prismatic with a limbus

1814. As a result of a development anomaly a newborn has malformation of major salivary glands. This anomaly is caused by the damage of the following embryonal structure:

a. Splanchnotom

b. Entoderm

c. Mesenchyme

d. Ectoderm

e. Somites

1815. The effect of some harmful factors caused focal damage of the gastric epithelium. What cells are responsible for its regeneration?

a. Cervical mucocytes of glands

b. Principal exocrinocytes of glands

c. Mucocytes of the gland body

d. Endocrinocytes

e. Parietal exocrinocytes of glands

1816. Microscopic examination of a CNS body revealed the gray matter with three layers of neurons, namely molecular, ganglionic and granular layer. What are the neurons constituting the second layer?

a. Granule cells

b. Piriform

c. Small stellate

d. Basket

e. Large stellate

1817. A histological preparation of lower jaw shows dentin being formed. Collagen fibers synthesized by odontoblasts are thin and situated perpendicular to dentinal tubules. What fibers are being produced in dentin?

a. Radial fibers

b. Sharpey's fibers

c. Perforating fibers

d. Tangential fibers

e. Parallel fibers

1818. Normal implantation of human embryo is possible only if uterus endometrium undergoes certain changes, with the following type of endometrium cells increasing in number:

a. Decidual cells

b. Endotheliocytes

c. Neurons

d. Fibroblasts

e. Macrophages

1819. There is a large amount of effusion in the pericardial cavity of a patient with exudative pericarditis. What cells cause such a phenomenon when their functional activity is disrupted?

a. Mesotheliocytes

b. Working cardiac myocytes

c. Endotheliocytes

d. Cardiac conduction cells

e. Fibroblasts

1820. A 40-year-old patient was revealed to have blood clotting time of 2 minutes under a stressful condition. It is primarily caused by the following hormon affecting hemocoagulation:

a. Somatotropin

b. Vasopressin

c. Cortisol

d. Aldosterone

e. Catecholamine

1821. Sharp decrease of lungs surfactant activity has been detected in a patient. It will result in the following:

a. Respiratory muscles work decreases

b. Airways resistance decreases

c. Alveoli will become prone to deflation

d. Pulmonary ventilation increases

e. Hyperoxemia

1822. A 38-year-old female patient has been brought into admission room with uterine bleeding. What will be revealed by blood test?

a. Eosinophilia

b. Leukocytosis

c. Increased color index of blood

d. Decrease of packed cell volume

e. Decreased erythrocyte sedimentation rate

1823. The patient's lower pair of mesencephalon quadrigeminal bodies has been damaged due to hemorrhage. What reflex is lost?

a. Tactile stimulation orienting response

b. Light signals orienting response

c. Aural signals orienting response

d. Statokinetic reflex - ocular nystagmus

e. Head-righting reflex

1824. There is high content of proteins and erythrocytes in urine. This can be caused by increased:

a. Hydrostatic pressure of primary urine in capsule

b. Oncotic pressure of blood plasma

c. Effective filtration pressure

d. Hydrostatic blood pressure in glomerular capillaries

e. Permeability of renal filter permeability

1825. Certain brain structures of test animals have been subjected to electrostimulation, as an experiment, resulting in development of polyphagia (abnormal desire to consume excessive amounts of food) in test animals. Electrodes have been inserted in the following brain structures:

a. Supraoptic nuclei of hypothalamus

b. Ventromedial nuclei of hypothalamus

c. Lateral nuclei of hypothalamus

d. Adenohypophysis

e. Red nuclei

1826. Experimental studies revealed steroid hormones to have an effect on protein synthesis. They influence synthesis of the following substances:

a. Specific messenger RNA

b. Specific transfer RNA

c. Specific ribosomal RNA

d. Guanosine triphosphate

e. Adenosine triphosphate

1827. A female patient has scalded her hand with boiling water. The affected skin area became red, swollen and painful. This effect is caused by accumulation of the following substance:

a. Histamine

b. Thiamine

c. Asparagine

d. Glutamine

e. Lysine

1828. Mother had noticed her 5-year-old child's urine to become dark in colour. Bile pigments in urine were not detected. The diagnosis of alkaptonuria was made. What pigment is deficient?

a. Oxyphenylpyruvate oxidase

b. Phenylpyruvate decarboxylase

c. Phenylalanine hydroxylase

d. Tyrosinase

e. Homogentisic acid oxidase

1829. Biogenic amines, such as histamine, serotonin, dopamine and others, are highly active substances affecting various physiological functions. What transformation process of amino acids results in biogenic amines being produced in somatic tissues?

a. Deamination

b. Oxidation

c. Reductive amination

d. Decarboxylation

e. Transamination

1830. There are various diseases that cause sharp increase of active oxygen, leading to cell membranes destruction. Antioxidants are used to prevent it from happening. The most potent natural antioxidant is:

a. Glucose

b. Fatty acids

c. Glycerol

d. Alpha-tocopherol

e. Vitamin D

1831. In the process of metabolism human body produces active oxygen forms, including superoxide anion radical O_2^- . This anion is inactivated by the following enzyme:

a. Catalase

b. Glutathione peroxidase

c. Glutathione reductase

d. Superoxide dismutase

e. Peroxidase

1832. A 34-year-old patient has low endurance of physical loads. At the same time skeletal muscles have increased concentration of glycogen. This is caused by the reduced activity of the following enzyme:

a. Phosphofructokinase

b. Glucose-6-phosphate dehydrogenase

c. Glycogen phosphorylase

d. Glycogen synthase

e. Glucose-6-phosphatase

1833. A patient has been prescribed pyridoxal phosphate. What processes are corrected with this drug?

a. Oxidative decarboxylation of keto acids

b. Synthesis of purine and pyrimidine bases

c. Protein synthesis

d. Transamination and decarboxylation of amino acids

e. Deamination of amino acids

1834. A 60-year-old man consulted a doctor about an onset of chest pain. In blood serum analysis showed a significant increase in the activity of the following enzymes: creatine kinase and its MB isoform, aspartate aminotransferase. These changes indicate the development of the pathological process in the following tissues:

a. Skeletal muscles

b. Lungs

c. Cardiac muscle

d. Liver

e. Smooth muscles

1835. A nuclear power plant disaster fighter had absorbed radiation dose of 5 Gy; in a week he was diagnosed with blood agranulocytosis. What pathogenetic mechanism is principal in its origination?

a. Increased leucocytes disintegration

b. Increased granulocytes transfer into tissues

c. Leukopoiesis suppression

d. Disruption of mature leucocytes emerging from bone marrow

e. Autoimmune process development

1836. A patient with liver cirrhosis has been given intravenously 500,0 ml of 5% glucose solution along with other drugs. There is a high risk of the following water-electrolytic balance disruption:

a. Hyperosmolar dehydration

b. Hyposmolar hypohydration

c. Iso-osmolar hypohydration

d. Hyperosmolar hypohydration

e. Hyposmolar dehydration

1837. A 32-year-old patient has purulent wound in the lower third of forearm. Smear of purulent wound content has been made. What cells will be generally detected, if it is stained using

Romanovsky-Giemsa stain?

- a. Erythrocyte
- b. Basocyte
- c. Eosinophil
- d. Lymphocyte
- e. Neutrophil**

1838. A patient has oliguria caused by acute renal failure. What daily amount of urine corresponds with this symptom?

- a. 1500-2000 ml
- b. 500-1000 ml
- c. 50-100 ml
- d. 100-500 ml**
- e. 1000-1500 ml

1839. A 7-year-old child suffers from acute disease. A pediatrician observed the following during examination: pharynx mucosa is hyperemic, edematous, swollen, covered with large amount of mucus. Buccal mucosa has whitish discoloured spots. On the next day the child came out in rash with large spots covering the skin of his face, neck and torso. What kind of inflammation causes changes in pharynx mucosa?

- a. Catarrhal**
- b. Serofibrinous
- c. Hemorrhagic
- d. Fibrinous
- e. Serous

1840. Histological examination of the grayishpink elastic nodule of 0,3 cm in diameter found by a surgeon at the root of the extracted tooth shows granulation tissue with cords of stratified squamous epithelium. What is the most likely diagnosis?

- a. Acute apical periodontitis
- b. Granulating periodontitis
- c. Eosinophilic granuloma
- d. Granulating pulpitis
- e. Granulomatous periodontitis**

1841. Histological examination of a lymph node removed from the posterior triangle of neck of an 18-year-old patient revealed some cell agglomerations that included single multinuclear Reed-Sternberg cells, major Hodgkin's cells, minor Hodgkin's cells and many lymphocytes, single plasmatic cells, eosinophils. What is the most likely diagnosis?

- a. Burkitts tumour
- b. Nodular lymphoma
- c. Lymphogranulomatosis**
- d. Lymphocytic lymphoma
- e. Chronic lymphoid leukosis

1842. Autopsy of a man who died from intrainestinal hemorrhage revealed necrosis of grouped and solitary follicles, dead tissues imbibed with bile and blood in the ileum; sequestration and rejection of necrotic masses with defect formation in the lower segment of the intestine. Which of the following diagnoses is most likely?

- a. Crohn's disease
- b. Typhoid fever, ulcerative stage**
- c. Typhoid fever, necrosis stage
- d. Typhoid fever, "clean ulcer" stage
- e. Abdominal typhoid salmonellosis

1843. An autopsy of the body of an aged man, who was suffering from acute intestinal disorder during his last 2 weeks, has revealed the following change in the rectum and sigmoid colon: brown and green film covering the mucosa is detected. The intestinal wall is thickened; the cavity sharply narrows

down. Microscopy reveals mucosa necrosis of varying depth, necrotic tissue is pierced through with fibrin threads, leucocytic infiltration is observed. What diagnosis is most probable?

- a. Catharrhal colon
- b. Follicular colitis
- c. -

d. Fibrinous colitis

- e. Ulcerative colitis

1844. A 28-year-old patient had been diagnosed with multifragmental fracture of the right hip. On the third day after the injury he began to complain of pain in the right side of chest, difficult respiration. A day later the patient died of progressive heart and respiratory failure. Histological study of pulmonary and cerebral blood vessels revealed orange sudanophilic droplets that completely obstructed the vessels of microvasculature. What complication caused the death of the patient?

- a. Thromboembolism

b. Fat embolism

- c. Drug-induced embolism
- d. Gas embolism
- e. Microbial embolism

1845. A female patient with heavy poisoning caused by sepsis has died. "Tiger heart" was revealed during autopsy. Microscopic investigation allowed to detect lipides in the cardiac myocytes cytoplasm. What morphogenetic development mechanism is the main cause of this kind of dystrophy?

- a. -

b. Decomposition

- c. Transformation
- d. Infiltration
- e. Pathological synthesis

1846. A patient, who works as a milkmaid, has made an appointment with a dentist with complaints of aphtha-shaped rash on the mucosa of oral cavity. The doctor detected rash on her hands in the area of nail plates. What agent causes this disease?

- a. Coxsackie B virus

b. Foot-and-mouth disease virus

- c. Vesicular stomatitis virus
- d. Cytomegalovirus
- e. Herpesvirus

1847. 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. Brain tunics

- b. Renal glomeruli
- c. Lymph nodes
- d. Urogenital tracts
- e. Cardiac valves

1848. A pregnant woman complains of vaginal mucosa irritation, itching and genital tracts secretion. Bacterioscopy of vaginal smears revealed large gram-positive oval oblong cells that form pseudomycelium. What is the most probable channel of infection?

- a. Vector-borne transmission
- b. Wound infection
- c. Sexual transmission
- d. Contact infection

e. Endogenous infection

1849. There are several cases of children from boarding school suffering from sore throat. Microscopy of tonsil smears stained according to Neisser method has revealed thin yellow bacilli with dark brown

grains on their ends placed in the shape of Roman numeral five. What infection can be suspected in this case?

- a. Scarlet fever
- b. Diphtheria**
- c. Listeriosis
- d. Infectious mononucleosis
- e. Tonsillitis

1850. A patient has been hospitalised with provisional diagnosis of hepatitis B. To make a diagnosis, serological reaction is used, which is based on antigen reacting with antibody chemically bound with peroxidase or alkaline phosphatase. What is the name of this serological reaction?

- a. Immunofluorescence test
- b. Radioimmunoassay
- c. Enzymoimmunoassay**
- d. Complement binding assay
- e. Immobilization test

1851. To perform conduction anesthesia a patient had been administered a drug used in dental surgery. It was followed by the symptoms of poisoning: central nervous system excitation with following paralysis, and acute cardiovascular insufficiency (collapse). Additionally there were allergic reactions (itching, swelling, erythema). Name this drug.

- a. Lidocaine**
- b. Thiopental sodium
- c. Pipocuronium bromide
- d. Tubocurarin chloride
- e. Suxamethonium chloride

1852. A patient in a collaptoid state has been given an injection of mesatonum for the correction of blood pressure. What is the mechanism of this drug action?

- a. It stimulates β -adrenergic receptors
- b. It blocks β -adrenergic receptors
- c. It stimulates α - and β -adrenergic receptors
- d. It stimulates α -adrenergic receptors**
- e. It blocks α -adrenergic receptors

1853. A 42-year-old female patient consulted a doctor about pain in the knee joints. Objectively there is swelling, redness, hyperthermia in the region of these joints. Laboratory testing revealed positive acute phase reactants. What drugs should be used to treat this patient?

- a. Antidepressants
- b. Narcotic analgesics
- c. Anti-inflammatory drugs**
- d. Antibiotics
- e. Sulfonamides

1854. A patient being treated for tuberculosis is suffering from hearing deterioration. What drug causes this complication?

- a. Kanamycin sulphate
- b. Isonicotinic acid hydrazide (Isoniazid)
- c. Streptomycin**
- d. Ethionamide
- e. Rifampicin

1855. A 55-year-old male patient with acute heart failure has been administered a quick-relief cardiac glycoside. Which of the following drugs has been given to the patient?

- a. Digitoxin
- b. Adonisidum
- c. Strophanthin**
- d. Celanid

e. Milrinone

1856. A patient complains about retrosternal pain, dyspnea and palpitation. After examination he was diagnosed with coronary heart disease and prescribed verapamil. What is the mechanism of its action?

- a. It blocks sodium channels
- b. It blocks calcium channels**
- c. It blocks β -adrenoreceptors
- d. It blocks α -adrenoreceptors
- e. It blocks potassium channels

1857. A doctor has prescribed clonidine for rapid relief of hypertensive crisis. What group does this drug belong to according to its mechanism of action?

- a. β -adrenergic blocking agent
- b. Selective α_1 -adrenoceptor agonist
- c. Selective α_1 -adrenergic blocking agent
- d. Central α_2 -adrenoceptor agonist**
- e. Nonselective α -adrenoceptor agonist

1858. Examination of the oral cavity of a 19-year-old patient revealed a small gap between themaxillary and mandibular incisors. There was no contact between the front teeth. Specify the type of occlusion in this patient:

- a. Closed bite
- b. Prognathism
- c. Orthognathia
- d. Edge-to-edge occlusion
- e. Open occlusion**

1859. A 39-year-old patient has been suffering from gastric ulcer for the last 4 years. His condition exacerbates in spring and autumn: he suffers from pain in epigastrium, heartburn, nausea, constipation. What nosological term can be applied to the period between two exacerbations?

- a. Typical pathological process
- b. Good health
- c. Pathological process
- d. Pathological reaction
- e. Pathological state**

1860. A patient has sustained a traumatic injury of the greater pectoral muscle. This resulted in a decrease of:

- a. Inspiratory reserve volume**
- b. Tidal volume
- c. Functional residual lung capacity
- d. Residual volume
- e. Expiratory reserve volume

1861. Denture installation has caused excessive salivation in patient. It is caused by the following reflexes:

- a. Unconditioned**
- b. Conditioned and unconditioned
- c. -
- d. Local
- e. Conditioned

1862. A 53-year-old patient with a long history of nephrolithiasis underwent nephrectomy. The kidney looks as a thin-walled sac filled with urine. Renal parenchyma is atrophied. Specify this complication of nephrolithiasis:

- a. Nephrosclerosis
- b. Hydronephrosis**

- c. Pyonephrosis
- d. Pyelonephritis
- e. Multicystic kidney disease

1863. Microscopy of smear preparation stained with methylene blue revealed bacilli with clublike expansions on their ends similar to *C. diphtheriae*. What additional method of staining should be used to verify this assumption?

- a. Zdrodovsky
- b. Aujeszky
- c. Kozlovsky
- d. Ziehl-Neelsen
- e. Neisser

1864. A patient from Prykarpattia (at the foot of the Carpathian mountains) with endemic goiter consulted a doctor about suppurative gingivitis and loosening of teeth. What is a major factor of periodontitis development in this case?

- a. Stress effects
- b. Violation of swallowing
- c. Malnutrition
- d. Endocrine disorders
- e. Hypersalivation

1865. A 38-year-old man died all of a sudden. 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. Adipose degeneration
- b. Calcification
- c. Protein degeneration
- d. Karyolysis
- e. Carbohydrate degeneration

1866. A patient at the early stage of diabetes mellitus was found to have polyuria. What is its cause?

- a. Ketonemia
- b. Hypercholesterolemia
- c. Hyperkalemia
- d. Hyperglycemia
- e. Hypocholesterolemia

1867. Microscopy of perianal folds scrape has revealed colourless eggs in the shape of asymmetrical ovals sized 50x23 micrometers. Name the kind of helminth.

- a. Pin worm (*Enterobius*)
- b. Hookworm (*Ancylostoma duodenale*)
- c. Dwarf tapeworm (*Hymenolepis nana*)
- d. Whipworm (*Trichuris*)
- e. Ascarid (*Ascaris lumbricoides*)

1868. A female patient presents with the ovarian hyperaemia, increased permeability of the blood-follicle barrier with the development of edema, infiltration of the follicle wall with segmental leukocytes. The follicle is large in volume. Its wall is thickened. What period of the sex cycle is the described situation typical for?

- a. Preovulatory stage
- b. Menstrual period
- c. Period of relative rest
- d. Postmenstrual period
- e. Ovulation

1869. The total number of leukocytes in patient's blood is $90 \times 10^9/l$. Leukogram: eosinophils - 0%, basophils - 0%, juvenile - 0%, stab neutrophils - 2%, segmentonuclear cells - 20%, lymphoblasts - 1%,

prolymphocytes - 2%, lymphocytes - 70%, monocytes - 5%, Botkin-Gumprecht cells. Clinical examination revealed enlarged cervical and submandibular lymph nodes. Such clinical presentations are typical for the following pathology:

- a. Chronic myeloleukosis
- b. Chronic lympholeukosis**
- c. Lymphogranulomatosis
- d. Acute lympholeukosis
- e. Infectious mononucleosis

1870. A 67-year-old patient has atherosclerosis of cardiac and cerebral vessels. Examination revealed hyperlipidemia. What class of blood plasma lipoproteids is most important in atherosclerosis pathogenesis?

- a. β -lipoproteids
- b. Chylomicrons
- c. Low-density lipoproteids**
- d. High-density lipoproteids
- e. -

1871. A 42-year-old patient with tetanus developed an acute respiratory failure. What type of respiratory failure occurs in this case?

- a. Restrictive impairment of alveolar ventilation
- b. Perfusion impairment
- c. Diffusion impairment
- d. Disregulatory impairment of alveolar ventilation**
- e. Obstructive impairment of alveolar ventilation

1872. A patient, who has been suffering from severe injury of thorax, went into shock followed by symptoms of acute renal failure. What is the primary mechanism of acute renal failure development in this case?

- a. Increase of pressure in renal arteries
- b. Decrease of oncotic blood pressure
- c. Disruption of urinary outflow
- d. Increase of pressure in glomerular capsule
- e. Arterial pressure drop**

1873. A histologic study of a red bonemarrow puncture sample had been conducted in the course of examination of a 35-year-old patient, and significant megakaryocyte number depletion was detected. What peripheral blood changes will result from that?

- a. Thrombocytosis
- b. Leukocytosis
- c. Thrombocytopenia**
- d. Agranulocytosis
- e. Leukopenia

1874. A 5-year-old child with diagnosis of diphtheria has been hospitalised in severe condition in a contagious isolation ward. Tracheostomy had to be performed on the child to prevent asphyxiation. This operation was carried out in the following neck triangle (trigonum):

- a. Caroticum
- b. Submandibulare
- c. Omotracheoideum
- d. Omotracheale**
- e. Omoclaviculare

1875. A histological preparation of cerebellum transverse section shows large number of multipolar neurons in the grey matter. What morphological feature allows to identify them as multipolar?

- a. Shape of perikaryon
- b. Cell size
- c. Length of cellular processes

d. Shape of axon terminals

e. Number of cellular processes

1876. A patient is diagnosed with seborrheic dermatitis caused by vitamin H (biotin) deficiency. Observed is activity disruption of the following enzyme:

a. Aminotransferases

b. Carbamoyl phosphate synthetase

c. Pyruvate decarboxylase

d. Alcohol dehydrogenase

e. Acetyl-CoA carboxylase

1877. Human X chromosome contains a dominant gene that is responsible for normal blood clotting. An autosomal dominant gene plays a similar role. Lack of any of these genes leads to the coagulation disorder. The form of interaction between these genes is called:

a. Polymerism

b. Epistasis

c. Complementarity

d. Codominance

e. Pleiotropy

1878. A 56-year-old female patient is registered in a psychoneurologic dispensary due to her suffering from epilepsy, specifically, minor attacks (pti mal). What drug is most efficient in this case?

a. Sodium valproate

b. Trihexyphenidyl

c. Phenytoin

d. Levodopa

e. Phenobarbital

1879. Glucose content of blood stays at sufficient level after one week of starvation. Is it caused by activation of the following process:

a. Glycogenolysis

b. Glycolysis

c. Gluconeogenesis

d. Tricarboxylic acid cycle

e. Glycogen phosphorylase

1880. As a result of a trauma a patient has developed traumatic shock. The patient is fussy, talkative, pale. AP- 140/90 mm Hg, Ps-120 bpm. This condition is consistent with the following shock phase:

a. Latent

b. Torpid

c. -

d. Erectile

e. Terminal

1881. A 60-year-old patient with a history of bronchial asthma has had several attacks during the day. What is the optimal drug to be used for their prevention?

a. Salbutamol

b. Adrenaline hydrochloride

c. Methacinum

d. Dobutamine

e. Isadrinum

1882. A 12-year-old child is of short stature, has disproportionate body structure and mental retardation. These characteristics might be caused by the hyposecretion of the following hormone:

a. Cortisol

b. Insulin

c. Thyroxine

d. Somatotropin

e. Glucagon

1883. An injured person with a wound of forearm radial surface has been brought to a surgical department. Venous bleeding of the wound is observed. What blood vessel is damaged?

- a. Vv. ulnares
- b. Vv. brachiales
- c. V. basilica
- d. V. intermedia cubiti
- e. V. cephalica**

1884. A patient has been diagnosed with bacillary dysentery. What drug of those listed below should be prescribed?

- a. Acyclovir
- b. Amoxicillin**
- c. Isonicotinic acid hydrazide (Isoniazid)
- d. Benzylpenicillin sodium salt
- e. Itraconazole

1885. A patient with acute retention of urine has been brought to an admission room. During examination a doctor found out that the patient has urethral obturation caused by pathology of the surrounding organ. Name this organ.

- a. Testicle
- b. Spermatic cord
- c. Epididymis
- d. Prostate**
- e. Seminal vesicle

1886. A patient underwent lobectomy of the right middle lobe of a lung. What segments of the lung were affected?

- a. Apical posterior and anterior
- b. Lateral and medial**
- c. Basal medial and anterior
- d. Apical, anterior
- e. Basal posterior and lateral

1887. A patient was taken to a hospital with dizziness, dry mouth, mydriatic pupils, accommodation disorder, tachycardia, difficult urination, intestinal atony. These symptoms might have been caused by overdose of the following drug:

- a. Furosemide
- b. Captopril
- c. Prazosin
- d. Atropine sulfate**
- e. Clonidine

1888. A connective tissue preparation stained with hematoxylin-eosin shows isogenous cell groups surrounded with basophilic intercellular substance. No fibrous structures detected. What type of connective tissue is it?

- a. Loose fibrous tissue
- b. Splenial bone tissue
- c. Elastic cartilage tissue
- d. Dense fibrous tissue
- e. Hyaline cartilage tissue**

1889. A patient has addressed a doctor with complaint of gastric ulcer exacerbation. The following membrane cytoceptors should be blocked in the course of the patient's complex therapy:

- a. α -adrenergic receptor
- b. H1-histamine
- c. H2-histamine**

- d. β 1-adrenergic receptor
- e. β 2-adrenergic receptor

1890. A 36-year-old patient consulted an ophthalmologist about eye ache. The examination revealed the erosion of the cornea, that is the lack of superficial and spinous layers of the epithelium. What cells will provide regeneration of the damaged epithelium?

- a. Cells of the stratum lucidum
- b. Cell of the stratum superficiale
- c. Cells of the stratum corneum
- d. Cells of the the stratum granulosum
- e. Cells of the stratum basale**

1891. A 25-year-old woman has died when giving birth. The histological study of her kidneys has revealed the following in the epithelium of nephron tubules: condensation of nucleus chromatin, nuclei breaking down into lumps, and lysis, along with plasmorrhesis and cytolysis. What pathologic process was revealed in the epithelium of kidney tubules?

- a. Hydropic degeneration
- b. Fatty degeneration
- c. Hyalinosis
- d. Necrosis**
- e. Amyloidosis

1892. A 43-year-old female complains of weight loss, hyperhidrosis, low-grade fever, increased irritability. She has been found to have hyperfunction of the sympatheticadrenal system and basal metabolism. These disorders can be caused by hypersecretion of the following hormone:

- a. Corticotropin
- b. Somatotropin
- c. Thyroxine**
- d. Insulin
- e. Aldosterone

1893. A 30-year-old driver complains of allergic rhinitis that usually exacerbates in spring. He has been administered an antihistamine drug with a slight sedative effect and 24-hour period of action. Which of the listed drugs has been administered?

- a. Loratadine**
- b. Heparin
- c. Oxytocin
- d. Vicasol
- e. Dimedrol

1894. A patient suffers from a severe lifethreatening generalised septic infection. What group of chemotherapeutical drugs should be prescribed in this case?

- a. Chloramphenicol group
- b. Macrolides
- c. Tetracyclines
- d. Sulfanilamides
- e. Cephalosporines**

1895. A patient, who had been eating only polished rice, developed polyneuritis caused by thiamine deficiency. What compound can be indicative of this kind of avitaminosis when excreted with urine?

- a. Phenylpyruvate
- b. Pyruvic acid**
- c. Methylmalonic acid
- d. Malate
- e. Uric acid

1896. As a result of treatment of viral RNA with nitrous acid, UCA triplet mutated to UGA triplet. What kind of mutation occurred?

a. Transition

- b. Missense
- c. Inversion
- d. Nucleotide insertion
- e. Nucleotide deletion

1897. To prevent possible negative effect upon the gastric mucus a patient with rheumatoid arthritis was administered a nonsteroid anti-inflammatory drug - a COX-2 selective inhibitor. Specify this drug:

a. Celecoxib

- b. Acetylsalicylic acid
- c. Ibuprofen
- d. Butadion
- e. Analgin

1898. A 46-year-old patient consulted a doctor about pustular rash on the skin of the limbs. What antiseptic should be administered to the patient?

- a. Prednisolone
- b. Insulin

c. Alcohol solution of iodine

- d. Sibazon
- e. Heparin

1899. As a result of dysfunction of protein synthesis in liver a patient with hepatic insufficiency has disturbed synthesis of procoagulants, prothrombin, fibrinogen. Which of the listed syndromes can be expected in this patient?

- a. Cholaemia syndrome

b. Haemorrhagic

- c. Hepatolienal syndrome
- d. Portal haemorrhagic syndrome
- e. Acholia syndrome

1900. A patient suffering from stenocardia takes 100 mg of acetylsalicylic acid daily. What is the effect of acetylsalicylic acid in this patient?

- a. Cholesterol rate reduction

b. Inhibition of thrombocyte aggregation

- c. Dilatation of coronary vessels
- d. Inhibition of blood coagulation
- e. Prothrombin rate reduction

1901. A 49-year-old male patient with myocardial infarction has been admitted to the cardiology department. What changes in the peripheral blood cells are induced by the necrotic changes in the myocardium?

- a. Thrombocytopenia
- b. Lymphopenia
- c. Monocytosis
- d. Eosinophilia

e. Neutrophilic leukocytosis

1902. In the area being the epicenter of the registered rabies cases among wild animals a 43-year-old man presented to a clinic and claimed to have been bitten by a stray dog. He was given a course of anti-rabies vaccine. This preparation relates to the following type of vaccines:

- a. Inactivated
- b. Toxoids
- c. Synthetic

d. Attenuated

- e. Molecular

1903. In Western Europe nearly half of all congenital malformations occur in the children conceived in

the period when pesticides were used extensively in the region. Those congenital conditions result from the following influence:

- a. Carcinogenic
- b. Mutagenic
- c. Mechanical
- d. Teratogenic**
- e. Malignization

1904. Tooth extraction in a patient with chronic persistent hepatitis was complicated by a prolonged bleeding. What is the cause of hemorrhagic syndrome?

- a. Increased production of thromboplastin
- b. Increased synthesis of fibrinogen
- c. Increased fibrinolysis
- d. Decreased production of thrombin**
- e. Decreased production of fibrin

1905. A patient has been hospitalized with skull trauma. His examination established absence of volitional movements of his head and neck muscles. What part of brain can cause this effect if damaged?

- a. Upper part of postcentral gyrus
- b. Inferior frontal (Broca's) gyrus
- c. Lower part of postcentral gyrus
- d. Upper part of precentral gyrus
- e. Lower part of precentral gyrus**

1906. A 12-year-old male patient has tetanic convulsions. Which gland function may be impaired in this case?

- a. Glandulae parathyroidae**
- b. Glandula thyroidea
- c. Glandula pinealis
- d. Thymus
- e. Hypophysis

1907. A 45-year-old female patient has neurosis with irritability, insomnia, amotivational anxiety. What tranquilizer will be able to eliminate all symptoms of the disease?

- a. Diazepam**
- b. Piracetam
- c. Levodopa
- d. Caffeine-sodium benzoate
- e. Paracetamol

1908. 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. Glycine
- b. Acetylcholine**
- c. Dopamine
- d. Noradrenaline
- e. Serotonin

1909. A preparation of endocrine gland demonstrates cortical and medullary substances divided with connective tissue layer. In the cortical substance parenchyma cells make up three zones: they form rounded clusters in the superficial zone, parallel strands in the middle one, and in the deep zone cell strands form net-like structure. What gland is it?

- a. Adrenal**
- b. Hypophysis
- c. Hypothalamus
- d. Epiphysis

e. Thyroid

1910. Orthodontic treatment of a child proved to be ineffective due to the chronic mouth breathing since the nasal breathing is impaired. This is caused by the hypertrophy of the following tonsils:

- a. Tubal
- b. Palatine
- c. Palatine and tubal
- d. Pharyngeal**
- e. Lingual

1911. A patient complains of feeling of pain in his upper jaw and teeth. Physical examinations reveals painful feeling when supraorbital incisure area is pressed. What nerve is damaged?

- a. Trochlear nerve
- b. Facial nerve
- c. The 1st branch of trigeminal nerve
- d. The 3rd branch of trigeminal nerve
- e. The 2nd branch of trigeminal nerve**

1912. A patient with mandibular osteomyelitis shows the signs of plexus dentalis inferior damage and innervation disruption of his mandibular teeth and gums. What nerve provides this innervation with its branches?

- a. N. maxillaris
- b. N. buccalis
- c. N. facialis
- d. N. alveolaris inferior**
- e. N. lingualis

1913. A patient has some vesicles on the mucous membrane of the oral cavity, lips and nose. A dentist suspected vesicular stomatitis. What analysis will allow to confirm the diagnosis?

- a. Allergy test
- b. Contamination of animals with the vesicular fluid
- c. Microscopy of the vesicular fluid
- d. Recovery of virus from the vesicular fluid**
- e. Recovery of bacteria from the vesicular fluid

1914. Periodontitis induces the development of lipid peroxidation in the periodontal tissues, as well as an increase in malondialdehyde and hydrogen peroxide concentration in the oral cavity. Which of the following enzymes provides antioxidant protection?

- a. Catalase**
- b. Maltase
- c. Invertase
- d. Lactase
- e. Amylase

1915. Osteolaterism is characterized by a decrease in collagen strength caused by much less intensive formation of cross-links in the collagen fibrils. This phenomenon is caused by hypoactivity of the following enzyme:

- a. Monoamino-oxidase
- b. Lysyl hydroxylase
- c. Collagenase
- d. Lysyl oxidase**
- e. Prolyl hydroxylase

1916. After the transfusion of the concentrated red blood cells the patient developed posttransfusion shock. What is the leading mechanism of acute renal failure in this case?

- a. Impairment of the renal incretory function
- b. Glomerular filtration disorder**
- c. Tubular secretion disorder

d. Tubular reabsorption disorder

e. Urinary excretion disorder

1917. A 50-year-old patient has been referred for treatment of neck lymphadenitis. His individual penicillin sensitivity was tested. In 30 seconds full-body fever raised in the patient and his arterial blood pressure dropped to 0 mm Hg, followed by cardiac arrest. Resuscitation was unsuccessful. Autopsy revealed acute venous hyperemia of viscera. Histological study revealed mast cells (tissue basocytes) degranulation in the skin (at the area of injections), myocardium and lungs. What kind of hypersensitivity reaction occurred in patient?

a. Complement-mediated cytotoxic

b. Delayed-type hypersensitivity

c. Anaphylactic

d. Immune complex-mediated

e. -

1918. A young man has the following symptoms: purulent acne on the face; wrinkled, hyperemic skin; eyebrows and eyelashes are falling out. A doctor has made a diagnosis of demodicosis (demodectic mange). What preventive measures can be recommended?

a. Maintaining personal hygiene

b. Repellents

c. Donor blood check-up

d. Processing premises with insecticides

e. Protection from mite bites

1919. 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. Thiaminase

b. Pholate oxidase

c. Pholate decarboxylase

d. Dehydropholate reductase

e. Deaminase

1920. A patient has secretory dysfunction of the submandibular salivary gland. Which nerve is responsible for its vegetative innervation?

a. N.auriculotemporalis

b. N.petrosus major

c. N.petrosus minor

d. Chorda tympani

e. N.mandibularis

1921. A patient complains of decreased ability to produce proper pressure with his masticatory muscles. What method of study allows checking the patient's complaint?

a. Electromyography

b. Dynamometry

c. Gnathodynamometry

d. Sphygmography

e. Masticatiography

1922. A child is 6 years old. The permanent teeth have started to take the place of the primary teeth. What teeth are the first to emerge?

a. Upper medial incisors

b. Lower canines

c. Lower first premolars

d. Upper first premolars

e. Lower first molars

1923. Examination of the oral mucosa revealed a small nodule with papillary surface. Histological

examination revealed conjugate papillary proliferations of stratified squamous epithelium without cellular atypism and underlying stroma represented by thin-walled vessels and loose connective tissue. What formation has developed in a patient?

- a. Fibrolipoma
- b. Fibroma
- c. Papilloma**
- d. Epithelium hyperplasia
- e. Basal cell carcinoma

1924. A 9-year-old child has multiple lesions of the oral mucosa in form of small painful hyperemic sores with a white deposit in the center; enlarged and painful submandibular lymph nodes. Microscopic examination of the affected region revealed a superficial defect covered by fibrin; edematous and hyperemic submucosa with inflammatory infiltration. What is the most likely diagnosis?

- a. Aphthous stomatitis**
- b. Herpetic stomatitis
- c. -
- d. Catarrhal gingivitis
- e. Hypertrophic stomatitis

1925. An irregular-shaped dense grey and white focus has appeared on the patient's oral cavity mucosa, raising above mucosa surface. The patient considers it to be denture-caused damage of mucosa. Microscopy has revealed the following: hyperplasia, hyperkeratosis, parakeratosis, acanthosis of stratified epithelium of mucosa; underlying connective tissue has lymphoplasmacytic infiltration. What pathology is it?

- a. Syphilitic papula
- b. Lupus erythematosus
- c. Candidosis
- d. Ichthyosis
- e. Leukoplakia**

1926. After restoration of maxillary incisors with artificial crowns a 44-year-old female was found to have a brownish overgrowth in form of a nodule of 15 mm in diameter. Histological study revealed that under the stratified squamous epithelium of gingiva there was a connective tissue mass with numerous sinusoidal vessels, oval-shaped mononuclear cells forming osteoid substance, and polynuclear giant cells that destroyed the alveolar ridge of the upper jaw. What is the most likely diagnosis?

- a. Angiomatous epulis
- b. Fibromatous epulis
- c. Giant cell epulis**
- d. Gingival fibromatosis
- e. Eosinophilic granuloma

1927. A rounded whitish-pink tumor nodule with diameter of 6 cm has been removed from uterine cavity. Microscopy revealed it to consist of chaotically arranged smooth muscle fibers with large amount of stroma threaded through with nerves and blood vessels. What diagnosis is most probable?

- a. Fibromyoma**
- b. Desmoid
- c. Rhabdomyoma
- d. Hibernoma
- e. Granular cell (Abrikosov's) tumor

1928. Wilson's disease is a disorder of copper transport which leads to the accumulation of this metal in brain and liver cells. It is associated with a disturbance in the synthesis of the following protein:

- a. Metallothionein
- b. Haptoglobin
- c. Siderophilin
- d. Ceruloplasmin**

e. Transcobalamin

1929. The patient's examination in a hospital specialised in diseases of nervous system has revealed absence of light-induced miosis. It is caused by damage of the following brain structures:

- a. Hypothalamus nuclei
- b. Reticular nuclei of medulla oblongata
- c. Red nuclei of mesencephalon
- d. Reticular nuclei of mesencephalon

e. Vegetative nuclei of the 3rd pair of cranial nerves

1930. A patient with pituitary tumor complains of increased daily diuresis (polyuria). Glucose concentration in blood plasma equals 4,8 mmol/l. What hormone can be the cause of this if its secretion is disturbed?

- a. Natriuretic hormone
- b. Aldosterone

c. Vasopressin

- d. Insulin
- e. Angiotensin I

1931. During ABO blood grouping by using coliclons (diagnostic monoclonal antibodies), haemagglutination did not occur with any of the coliclons. What is the blood group of the patient under examination?

- a. B (III)
- b. A (II)

c. 0 (I)

- d. AB (IV)
- e. -

1932. A newborn boy has been diagnosed with hydrocephalus. Doctors consider it to be caused by teratogenic factors. What germ layers are affected by teratogen?

- a. Endoderm and mesoderm
- b. All embryo germ layers

c. Ectoderm

- d. Endoderm
- e. Mesoderm

1933. During ventricular systole the muscle does not respond to additional stimulation because it is in the phase of:

a. -

b. Absolute adiaphoria

- c. Increased excitability
- d. Relative adiaphoria
- e. Subnormal excitability

1934. A patient is diagnosed with acute morphine hydrochloride poisoning. Choose the oxidant drug to be prescribed for gastric lavage.

- a. Cerigel
- b. Chlorhexidine digluconate
- c. Chloramine
- d. Sulfocamphocainum (Procaine + Sulfocamphoric acid)

e. Potassium permanganate

1935. Microelectrode technique allowed to register a potential following "all-or-none" law and being able of undecremental spreading. Specify this potential:

- a. Inhibitory postsynaptic potential
- b. Receptor potential
- c. Excitatory postsynaptic potential
- d. Rest potential

e. Action potential

1936. A woman with A (II), Rh-negative blood had a child with B (III), Rh-positive blood. The child was diagnosed with congenital anaemia of newborns. What is the most likely cause of its development?

- a. Hereditary chromosomal pathology
- b. Intrauterine intoxication
- c. Intrauterine infection

d. Rhesus incompatibility

- e. ABO-incompatibility

1937. Throughout a year a 37-year-old woman periodically got infectious diseases of bacterial origin, their course was extremely lingering, remissions were short. Examination revealed low level of major classes of immunoglobulins. The direct cause of this phenomenon may be the following cell dysfunction:

a. Plasmocytes

- b. Neutrophils
- c. Lymphocytes
- d. Macrophages
- e. Phagocytes

1938. A patient is diagnosed with pancreatic diabetes with associated hyperglycemia. Glycemia rate can be assessed retrospectively (4-8 weeks prior to examination) by measuring concentration of the following blood plasma protein:

- a. Ceruloplasmin

b. Glycated hemoglobin

- c. Fibrinogen
- d. Albumin
- e. C-reactive protein

1939. When examining a patient with a suspicion of food toxicoinfection, a doctor on duty has detected symptoms characteristic of botulism. The patient named the meals he had eaten the day before. What is the most probable cause of infection?

a. Homemade canned meat

- b. Sour cream from local dairy factory
- c. Fried eggs
- d. Strawberries from suburban vegetable garden
- e. Custard pastry from private bakery

1940. A histological preparation of multirooted tooth reveals polygonal cells with processes in the root bifurcation area. What cells and what dental tissues are characterised by these morphologic features?

- a. Enameloblasts, enamel
- b. Odontoblasts, enamel

c. Cementocytes, cement

- d. Fibroblasts, pulp
- e. Cementocytes, dentine

1941. A 26-year-old woman at 40 weeks' gestation was admitted to the maternity ward. Examination revealed that the cervix was open, but uterine contractions were absent. The doctor gave her a hormonal drug to induce labor. Specify this drug:

- a. ACTH

b. Oxytocin

- c. Estrone
- d. Hydrocortisone
- e. Testosterone

1942. A patient consulted an immunologist about diarrhea, weight loss within several months, low-grade fever, enlarged lymph nodes. The doctor suspected HIV infection. What immunocompetent cells must be studied in the first place?

- a. Plasma cells
- b. Helper T-lymphocytes**
- c. B-lymphocytes
- d. Suppressor T-lymphocytes
- e. Monocytes

1943. Pyrogenal administered to a rabbit, in the course of an experiment, resulted in increase of its body temperature. What substance of those named below acts as a secondary pyrogen that is a part of feverinducing mechanism?

- a. Histamine
- b. Pseudomonas polysaccharide (Piromen)
- c. Interleukin 1**
- d. Bradykinin
- e. Immunoglobulin

1944. Phenylketonuria is a disease caused by a recessive gene that is localized in the autosome. The parents are heterozygous for this gene. They already have two sons with phenylketonuria and one healthy daughter. What is the probability that their fourth child will have the disease too?

- a. 25%**
- b. 50%
- c. 100%
- d. 75%
- e. 0%

1945. X-chromatin test of somatic cells is used for quick diagnostics of hereditary diseases caused by variations of sex chromosomes number. What is the karyotype of a male, whose cells mostly contain one X-chromatin body?

- a. 47, XXY**
- b. 46, XY
- c. 49, XXXXY
- d. 48, XXXY
- e. 45, X0

1946. A female patient suffering from coronary artery disease has been prescribed amiodarone that has antianginal action. What other action does this drug have?

- a. Analgesic
- b. Anti-inflammatory
- c. Anti-shock
- d. Antiarrhythmic**
- e. Local anaesthetic

1947. 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. Lingual artery**
- b. Facial artery
- c. Maxillary artery
- d. Ascending pharyngeal artery
- e. Superior thyroid artery

1948. Histological study of a microslide of human skin found only dense irregular connective tissue. Which layer of this organ was analysed?

- a. Basal layer of epidermis
- b. Reticular dermis**
- c. Subcutaneous adipose tissue
- d. Papillary dermis
- e. Epidermis

1949. A patient has been preliminarily diagnosed with paragonimiasis. This disease is caused by lung

flukes. The causative agent entered into the patient's body through:

- a. Drinking raw water from open reservoirs
- b. Eating half-cooked lobsters and crabs**
- c. Contact with an infected cat
- d. Eating unwashed vegetables
- e. Eating half-cooked or dried fish

1950. 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. Ascaridiasis
- d. Enterobiasis
- e. Echinococcosis**

1951. A preparation of intestine reveals complex branching tubuloalveolar glands with their ends in submucous layer. What organ is it?

- a. Jejunum
- b. Colon
- c. Cecum
- d. Duodenum**
- e. Ileum

1952. After examining the patient the doctor recommended him to eliminate rich meat and vegetable broth, spices, smoked products from the diet, since the patient was found to have:

- a. Reduced secretion of hydrochloric acid by the stomach glands
- b. Reduced salivation
- c. Biliary dyskinesia
- d. Increased secretion of hydrochloric acid by the stomach glands**
- e. Reduced motility of the gastrointestinal tract

1953. A 60-year-old patient has taken a drug to relieve angina pectoris attack; in several minutes pain felt in the breastbone area abated, but it was followed by feeling of vertigo, headache, tinnitus, and hyperemia of face. What drug has he taken?

- a. Validol
- b. Verapamil
- c. Amiodarone
- d. Nitroglycerine**
- e. Nifedipine

1954. A young couple has a child with encephalopathy. A doctor determined this disease to be caused by mitochondrial DNA disorder. In what way are mitochondrial pathologies inherited?

- a. From father to son
- b. From both parents to all their children
- c. From mother to son
- d. From father to daughter
- e. From mother to all her children**

1955. When examining a female patient a doctor observed the following: misshapen auricles, elevated palate, teeth growth disorder; mental retardation; no disruption of reproductive function. Provisional diagnosis is the "super woman" syndrome. Point out the karyotype of this disease.

- a. (47, XXX)**
- b. (47, YYY)
- c. (45, X0)
- d. (47, XYY)
- e. (47, XXY)

1956. A patient has temporal bone fracture caused by an accident. What muscle functioning is disrupted?

- a. M. pterygoideus medialis
- b. M. temporalis
- c. M. masseter**
- d. M. pterygoideus lateralis
- e. M. risorius

1957. Peripheral nerve trauma causes muscle atrophy; bones become porous and brittle; sores appear on skin and mucosa. What function of nervous system is damaged?

- a. Higher nervous activity
- b. Trophic**
- c. Sensory
- d. Motor
- e. Vegetative

1958. Diphtheria exotoxin had been treated with 0,3-0,4% formalin and kept in a thermostat for 30 days at a temperature of 40°C. What preparation was obtained as a result of these manipulations?

- a. Antitoxin
- b. Therapeutic serum
- c. Diagnostic serum
- d. Anatoxin**
- e. Diagnosticum

1959. A patient with acute cardiac failure has been taking cardiac glycoside drug for a long time. He has developed the following symptoms: nausea, fatigue, extrasystole. What is the cause of this symptoms?

- a. Drug addiction
- b. Material cumulation**
- c. Acquired tolerance
- d. Idiosyncrasy
- e. Functional cumulation

1960. Preventive examination of a 55-year-old patient revealed type II diabetes mellitus. An endocrinologist revealed an increase in body weight and liver enlargement. The man is non-smoker and doesn't abuse alcohol but likes to have a good meal. Histological examination by means of diagnostic liver puncture revealed that the hepatocytes were enlarged mostly on the lobule periphery, their cytoplasm had transparent vacuoles showing positive reaction with sudan III. What liver pathology was revealed?

- a. Alcohol hepatitis
- b. Portal liver cirrhosis
- c. Acute viral hepatitis
- d. Chronic viral hepatitis
- e. Fatty hepatosis**

1961. Squamous part of temporal bone and the artery situated on its inner surface have been damaged in the result of inflicted gunshot wound. What artery is it?

- a. Posterior deep temporal artery
- b. Middle collateral artery**
- c. Superficial temporal artery
- d. Middle temporal artery
- e. Anterior deep temporal artery

1962. Activation of certain hemostasis system factors is done through calcium ions attachment. What structural component allows this attachment?

- a. Gamma-aminobutyric acid
- b. Hydroxyproline
- c. Mono amino dicarboxylic acids

d. Gamma-carboxyglutamic acid

e. Gamma-oxybutyric acid

1963. Tooth temperature increases during its preparation due to dental borer friction, which may cause painful sensations. What is the threshold of teeth thermal sensitivity?

a. 31-40 °C

b. 51-60 °C

c. 10-20 °C

d. 41-50 °C

e. 21-30 °C

1964. A patient suffering from pericarditis with rapid progression has developed acute cardiac tamponade. What regulation mechanism is most likely to compensate for this pathology?

a. Homeometric

b. Heterometric

c. Tachycardia

d. Inotropic effect of catecholamines

e. Vasoconstriction

1965. A patient with incised wound of trapezius muscle has been referred to a traumatology department. What cervical fascia forms sheath of this muscle?

a. Visceral part of lamina pretrachealis

b. Muscular part of lamina pretrachealis

c. Lamina superficialis

d. Lamina prevertebralis

e. Vagina carotica

1966. A 36-year-old patient underwent tooth extraction at a dental clinic. After two weeks the stratified squamous epithelium regenerated at this site. What organelles were involved in the restoration of the mucous membrane?

a. Ribosomes

b. Postlysosomes

c. Mitochondria

d. Smooth ER

e. Centrosomes

1967. A dentist has detected symptoms of parodontosis in a patient. What antiprotozoal drug should be prescribed?

a. Mykoseptin

b. Furazolidone

c. Levamisole

d. Griseofulvin

e. Metronidazole

1968. A 36-year-old patient had had a traumatic brain injury which caused a swallowing impairment. Which part of brain was affected?

a. Thalamus

b. Medulla oblongata

c. Diencephalon

d. Mesencephalon

e. Reticular formation

1969. A 43-year-old patient has acute pancreatitis with concomitant disruption of common bile duct patency. What condition can it result in?

a. Hepatocellular jaundice

b. Hemolytic jaundice

c. Mechanical jaundice

d. Hepatic coma

e. Portal hypertension

1970. An inflammatory process in tissues is characterised by hyperemia and edema. What leukocytes situated in connective tissue provide for vasodilatation and increased blood vessel capacity under these conditions?

- a. Eosinophils
- b. Neutrophils
- c. Basophils**
- d. T-lymphocytes
- e. B-lymphocytes

1971. Postmortem examination of a patient with a long history of rheumatism revealed thickening and shortening of the mitral valve leaflets with abundant thrombotic deposits. Histological examination of the valve leaflets confirmed sclerosis and revealed multiple foci of connective tissue disorganization in form of mucoid and fibrinoid swelling, as well as deendothelization foci. Endothelium defects were covered with thrombotic deposits of 1-2 mm. What type of valvular endocarditis is the case?

- a. Diffuse valvulitis
- b. Polypous-ulcerative endocarditis
- c. Acute verrucous endocarditis
- d. Fibroplastic endocarditis
- e. Recurrent verrucous endocarditis**

1972. Autopsy of a dead 6-year-old child revealed a marked edema of the soft tissues of neck and enlarged tonsils. Pharyngeal mucosa was covered with numerous dense whitish-yellow pellicles exposing deep ulcers after their removal. Histological examination of the pharyngeal mucosa revealed necrosis of the upper epithelial layers, impregnation of the mucous membrane with the fibrinous exudate and moderate leukocyte infiltration. What infectious disease caused the death of the child?

- a. Measles
- b. Diphtheria**
- c. Scarlet fever
- d. Parainfluenza
- e. Whooping cough

1973. A patient was suffering from primary tuberculosis 5 years ago. Radiography has revealed a sharply margined nodular shadow with diameter of 4 cm in the 2nd segment of the right lung. Focus was surgically removed. Histological study has revealed the following: the focus of caseous necrosis surrounded by the thick capsule of connective tissue. What kind of secondary tuberculosis has occurred in patient?

- a. Tuberculoma**
- b. Fibro-cavernous tuberculosis
- c. Cirrhotic tuberculosis
- d. Caseous pneumonia
- e. Acute cavernous tuberculosis

1974. When examining the child's oral cavity, a dentist has noticed growth of the child's first permanent canines. How old is the child?

- a. 7
- b. 6
- c. 10
- d. 9
- e. 13**

1975. Calcification of dental tissues is significantly influenced by osteocalcin protein which has an ability to bind calcium ions due to the presence of the following modified amino acid residues in the polypeptide chain:

- a. Alanine

- b. Carboxy asparagine
- c. σ -aminopropionic
- d. γ -carbon glutamine**
- e. γ -aminobutyric

1976. A 47-year-old male patient consulted a dentist about difficult mouth opening (lockjaw). The patient has a history of a stab wound of the lower extremity. What infection can be manifested by these symptoms?

- a. Anaerobic wound infection
- b. Tularemia
- c. Brucellosis
- d. Whooping cough
- e. Tetanus**

1977. An autopsy of the body of a 56-yearold man, who was suffering from secondary tuberculosis, has revealed large areas of sclerosis in the I-II segments of the right lung. Tissue surrounding affected areas is pale, soft, convex; crunches when cut; does not recede. Specify the changes occurring in the tissues surrounding sclerosis focus.

- a. Abscess
- b. Focal emphysema**
- c. Pneumothorax
- d. Bronchiectasis
- e. Atelectasis

1978. Microscopy of dental plaque revealed unicellular organisms. Their cytoplasm had two distinct layers, barely visible core, wide pseudopodia. The patient is most likely to have:

- a. Entamoeba gingivalis**
- b. Trichomonas tenax
- c. Entamoeba coli
- d. Entamoeba histolytica
- e. Lamblia

1979. The patient's condition after blood transfusion has been aggravated by posttransfusion shock. Name the type of allergic reaction causing this pathology.

- a. Cytotoxic**
- b. Immune complex
- c. Receptor-mediated
- d. Delayed-type hypersensitivity
- e. Anaphylactic

1980. Patient's eye accommodation process has been disrupted. What muscle is damaged?

- a. Musculus rectus inferior
- b. Musculus ciliaris**
- c. Musculus dilatator pupillae
- d. Musculus sphincter pupillae
- e. Musculus rectus superior

1981. A histological specimen represents an organ whose wall consists of the mucosa, submucosa, fibrocartilage and adventitious cartilage. The organ is lined by pseudostratified ciliary epithelium, the muscular layer of the mucosa is absent, the submucosa contains seromucous glands. Hyaline cartilage C-rings are present. What organ has the described morphological characteristics?

- a. Secondary bronchus
- b. Bronchiole
- c. Trachea**
- d. Terminal bronchiole
- e. Larynx

1982. Continuous treatment of cancer patients with methotrexate over time reduces the target cell's

sensitivity to the drug. In this case gene amplification of the following enzyme is observed:

- a. Deaminase
- b. Thiaminase
- c. Dihydrofolate reductase**
- d. Thioredoxin reductase
- e. -

1983. To conduct serum diagnostics of typhoid fever a test is carried out, when diagnosticums of three types of microorganisms are being added into different solutions of patient's serum; then agglutinate formation is checked. Name the author of this kind of test.

- a. Sachs-Witebsky
- b. Widal**
- c. Ouchterlony
- d. Wassermann
- e. Wright

1984. In course of an experiment researchers stimulate a branch of a sympathetic nerve that innervates heart. What changes in cardiac activity should be registered?

- a. Increase in heart force
- b. Increase in arterial pressure
- c. Decrease in heart force
- d. Increase in heart rate
- e. Increase in heart rate and heart force**

1985. A patient has chronic rhinitis. Nasal cavity mucosa swelling causes disruption of the olfactory nerve receptors placed in the nasal cavity olfactory region. What formation allows for olfactory nerve endings to enter into anterior cranial fossa?

- a. Foramen sphenopalatinum
- b. Foramen incisivum
- c. Foramen ethmoidale anterior
- d. Foramen ethmoidale posterior
- e. Lamina cribrosa os ethmoidale**

1986. Ability to divide is characteristic of procariotic and eukaryotic cells. Procariotic cell division is different from that of eukaryotic, but there is one molecular process that is the basis of both types of division. Name this process.

- a. DNA replication**
- b. Reparation
- c. Gene amplification
- d. Translation
- e. Transcription

1987. An isolated heart of a mammal has had diastolic arrest in the process of perfusion with an ion-rich solution. Solution had excess of the following ions:

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

1988. A patient with hypoparathyreosis has multiple carious lesions of teeth. This pathology is caused by insufficiency of the following hormone:

- a. Triiodothyronine
- b. Thyroxin
- c. Calcitonin**
- d. Thyroid-stimulating hormone
- e. Somatotropin

1989. As a result of a rapid change from horizontal to vertical body position a 16- year-old girl lost consciousness.What is the reason for it?

- a. Increased venous return
- b. Arterial pressure rise
- c. -
- d. Decreased venous return**
- e. Heart rate decrease

1990. A patient has myocardial infarction. The first several hours of such medical condition will be characterized by significant increase of activity of the following enzyme in his blood serum:

- a. Lactate dehydrogenase-5
- b. Alanine-aminotransferase
- c. Lactate dehydrogenase-4
- d. Aspartate aminotransferase
- e. Creatine phosphokinase**

1991. A 54-year-old patient with viral hepatitis has complication of hepatic coma caused by massive necrosis of liver epithelial cells. What kind of hepatic coma is it characteristic of?

- a. Ketoacidotic
- b. Parenchymatous**
- c. Mixed type
- d. Shunt
- e. Porto-caval

1992. A 9-month-old infant is on bottle feeding. Formula used in feeding has insufficient content of vitamin B6. The infant has seizures possibly caused by disruption in production of the following substance in the body:

- a. Gamma aminobutyric acid (GABA)**
- b. Histamine
- c. ?-alanine
- d. Dopamine
- e. Serotonin

1993. Novocaine acts as an anesthetic by making nerve fibers unable to conduct stimulation. What mechanism of action regarding membrane's permeability to ions does this drug have?

- a. Sodium ion-selective channels blockade**
- b. Calcium ion-selective channels blockade
- c. Sodium-proton pump blockade
- d. Sodium-potassium pump blockade
- e. Potassium ion-selective channels blockade

1994. There is a 7-year-old child with complains of cough, lacrimation, rhinitis, skin rash, photophobia and three-day-long fever as high as 38°C. Physical examination has revealed the following: conjunctivitis; bright red maculopapular rash covering the skin of face, neck and torso; hyperemic pharynx; serous purulent secretions from the nose; dry rales in the lungs. What is the most probable diagnosis?

- a. Adenovirus infection
- b. Chicken pox
- c. Scarlet fever
- d. Rubella
- e. Measles**

1995. Carious cavities of a 29-year-old patient contain parasitic protozoa. It is determined that they relate to the Sarcodina class. Specify these singlecelled organisms:

- a. *Lambliia intestinalis*
- b. *Entamoeba gingivalis***
- c. *Entamoeba histolytica*
- d. *Entamoeba coli*

e. Amoeba proteus

1996. A puncture sample taken from the lymph node of a patient with preliminary diagnosis of protozoan disease has been investigated. The preparation was processed with Giemsa stain and the following was detected: crescent-shaped bodies with pointed tips, blue cytoplasm and red nuclei. What protozoa have been detected in the preparation?

a. Trypanosoma

b. Toxoplasma

c. Dermatotropic Leishmania

d. Plasmodium malariae

e. Viscerotropic Leishmania

1997. It is necessary to perform urinary bladder catheterization of an adult man. Resistance to the catheter can occur in the following structure or part of urethra:

a. Membranous part

b. Spongiose part

c. Internal urethral orifice

d. External urethral orifice

e. Prostatic part

1998. A woman addressed a dentist with complains of bruise and swelling around her eye. Anamnesis is as follows: several days prior her 1st premolar tooth had been extracted, with infraorbital anesthesia administered; several days later hematoma appeared in the area of foramen intraorbitale. Branch of the following artery was damaged:

a. Masseteric artery

b. Maxillary artery

c. Superficial temporal artery

d. Facial artery

e. Superior labial artery

1999. A patient consulted a doctor about difficult chewing. On examination he was found to have atrophy of the right temporal muscle and masticatory muscles. Upon opening the mouth, the patient's jaw deviates to the left. What nerve is affected?

a. Maxillary

b. Mandibulohyoid

c. Facial

d. Inferior alveolar

e. Motor portion of the mandibular nerve

2000. Examination of a 23-year-old patient reveals that, when his tongue is protruded, its tip deviates to the side. This is caused by the dysfunction of the following tongue muscle:

a. Inferior longitudinal

b. Styloglossus

c. Hyoid

d. Superior longitudinal

e. Genioglossus

2001. It is required to anaesthetize right lower molars. The proper injection site for the conduction anaesthesia is:

a. The region of the oval foramen

b. The region of the right mandibular foramen

c. The region of the right mental foramen

d. The gums to the right of mandible

e. The region of suborbital foramen

2002. A patient consulted a doctor about an inflammation of the ethmoid bone cells (ethmoiditis). Examination revealed the disorder of blood supply to the bone. Ethmoidal cells are normally supplied with blood through the branches of the following artery:

- a. A. cerebri anterior
- b. A. transversa faciei
- c. A. infraorbitalis
- d. A. facialis

e. A. ophthalmica

2003. Due to a cranial trauma leading to damage of the eye socket superior wall a patient has lost the ability to lift the upper eyelid and look upwards. What nerve is most likely damaged?

- a. N. ophthalmicus
- b. R. superior n.oculomotorii**
- c. N. trochlearis
- d. R. inferior n.oculomotorii
- e. N. abducens

2004. A woman with a tumour of the pancreas has developed mechanic jaundice due to compression of a bile-excreting duct. Which duct is compressed?

- a. Ductus choledochus**
- b. Ductus hepaticus communis
- c. Ductus hepaticus sinister
- d. Ductus hepaticus dexter
- e. Ductus cysticus

2005. On the longitudinal section of a tooth there are tubules visible in the dentin. What is inside these tubules?

- a. Elastic fibers
- b. Processes of odontoblasts**
- c. Odontoblast bodies
- d. Processes of ameloblasts
- e. Fibroblasts

2006. Study of the histological specimen of a baby's primary tooth revealed hypoplasia (underdevelopment) of enamel. This abnormality is caused by the disruptions in the activity of the following cells:

- a. Outer enamel epithelium
- b. Pulp cells of the enamel organ
- c. Inner enamel epithelium**
- d. Cells of the stratum intermedium of the enamel organ
- e. Odontoblasts

2007. Proliferation of connective tissue in the parenchyma of liver (fibrosis) caused by chronic diseases is typically accompanied by an impairment of blood circulation in the classic lobules. What is the direction of blood flow in these lobules?

- a. From the top to the base
- b. From the base to the top
- c. From the center to the periphery
- d. Around the lobule
- e. From the periphery to the center**

2008. A histological preparation shows organ, where lymphocytes form three types of lymphoid structures: lymph nodules, medullary cords and lymphatic sinuses. What organ is it?

- a. Lymph node**
- b. Thymus
- c. Red bone marrow
- d. Tonsil
- e. Spleen

2009. During formation of mantle dentin in a deciduous tooth there occurred a disruption of odontoblast secretory activity. Such disruption will affect the formation of the following fibers:

- a. Elastic fibers
- b. Reticular fibers
- c. Von Korff's radial collagen fibers**
- d. Ebner's tangential collagen fibers
- e. Nerve fibers

2010. A microspecimen of heart shows rectangular cells from 50 to 120 micrometer 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 impulse conduction
- b. Protective
- c. Regeneratory

d. Function of heart contractions

- e. Endocrine

2011. Histological investigation of a 40-year-old man's thymus revealed the following: decreased part of parenchymatous elements, increased part of adipose and loose connective tissues, high concentration of thymic bodies with total organ weight remaining the same. Name this phenomenon:

- a. Thymic atrophy
- b. Age-related thymic involution**
- c. Thymic hypotrophy
- d. Accidental thymic involution
- e. Thymic dystrophy

2012. A heart microslide demonstrates cells in the shape of pale chords, which have few myofibrilla, glycogen inclusions and eccentric nuclei. Name these cells:

- a. Leading transitional cells
- b. Leading pacemaker cells

c. Purkinje's fibers

- d. Endocrine cells
- e. Contractile cells

2013. In the preparation of a 10-day-old human embryo there are 2 contacting sacs visible (amniotic and vitelline). Name the structure situated at the place of the contact:

- a. Extraembryonic mesoderm
- b. Embryonic shield**
- c. Fornix of the vitelline sac
- d. Fundus of the amniotic sac
- e. Amniotic pedicle

2014. A patient has petechial hemorrhages on the gums, hard and soft palate, buccal mucosa. This is caused by the dysfunction of the following blood corpuscles:

- a. Monocytes
- b. Eosinophils

c. Platelets

- d. Lymphocytes
- e. Erythrocytes

2015. A patient with gastric juice hypersecretion has been recommended to exclude from the diet rich broths and vegetable infused water. A doctor recommended it, because these food products stimulate production of the following hormone:

- a. Cholecystokinin
- b. Secretin

c. Gastrin

- d. Somatostatin
- e. Neurotensin

2016. After a hemorrhage into the brainstem a patient has lost reflex of myosis as a reaction to

increase of illumination. What structure was damaged?

- a. Red nuclei
- b. Black substance
- c. Lateral reticular nuclei
- d. Medial reticular nuclei
- e. Vegetative nuclei of oculomotor nerve**

2017. An oculist detected increased time of darkness adaptation of a patient's eye. What vitamin deficiency can cause such symptom?

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

2018. Examination of a patient revealed dermatitis, diarrhea, dementia. What vitamin deficiency is the cause of this condition?

- a. Ascorbic acid
- b. Biotin
- c. Rutin
- d. Nicotinamide**
- e. Folic acid

2019. A woman has scalded her hand with boiling water. The affected area of her skin became red, swollen and painful. This effect is caused by accumulation of the following substance:

- a. Histamine**
- b. Thiamine
- c. Asparagine
- d. Glutamine
- e. Lysine

2020. There are various diseases that cause sharp increase of active oxygen, thus leading to cell membranes destruction. Antioxidants are used to prevent it from happening. The most potent natural antioxidant is:

- a. Glucose
- b. Fatty acids
- c. Glycerol
- d. α -tocopherol**
- e. Vitamin D

2021. A pregnant woman developed severe toxemia with exhausting recurrent vomiting throughout a day. By the end of the day she developed tetanic convulsions and bodily dehydration. The described changes were caused by the following type of acid-base disbalance:

- a. Nongaseous excretory acidosis
- b. Nongaseous excretory alkalosis**
- c. Gaseous acidosis
- d. Gaseous alkalosis
- e. Nongaseous metabolic acidosis

2022. A 49-year-old patient was found to have a disproportionate enlargement of hands, feet, nose, ears, superciliary arches and cheek bones. Blood test revealed hyperglycemia, impaired glucose tolerance. What is the most likely cause of this pathology development?

- a. Posterior pituitary hormone hypersecretion
- b. Vasopressin hyposecretion
- c. Glucocorticoid hypersecretion
- d. Hypersecretion of growth hormone**
- e. Insulin hyposecretion

2023. A patient suffers from mutation of a gene that corresponds with hemoglobin synthesis. This condition led to development of sickle cell disease. Name the pathological hemoglobin characteristic of this disease:

- a. HbA
- b. HbA1
- c. Bart-Hb
- d. HbS**
- e. HbF

2024. A patient, who had suffered severe blood loss three days ago, underwent blood test. The following data was obtained in leukogram: leukocytes $12 \times 10^9/l$, basophils - 0, eosinophils 3, myelocytes - 0, juvenile - 3, stab neutrophils - 12, segmented neutrophils - 62, lymphocytes - 16, monocytes 4. What change of leukocyte content occurred in this case?

- a. Absolute lymphopenia
- b. Absolute monocytopenia
- c. Neutrophilia with degenerative leftshift
- d. Neutrophilia with right-shift
- e. Neutrophilia with regenerative leftshift**

2025. After the traumatic tooth extraction a patient is complaining of severe 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. Phantom
- c. Epicritic
- d. Visceral
- e. Protopathic**

2026. Due to recurring vomiting a patient has lost significant amount of gastric juice, which led to development of acid-base dysbalance. What type of acid-base dysbalance has developed?

- a. Metabolic acidosis
- b. Nongaseous alkalosis**
- c. Nongaseous acidosis
- d. Gaseous acidosis
- e. Gaseous alkalosis

2027. Microscopy of an extracted tooth has revealed a focus of enamel destruction at the dentinoenamel junction. Within this focus accumulation of microorganisms occurs; calcium salts disappear from enamel columns; intercolumn substance and enamel columns are partially destroyed. What diagnosis is the most likely?

- a. Cemental caries
- b. Superficial caries**
- c. Deep caries
- d. Median caries
- e. Fluorosis

2028. A patient with a long history of chronic periodontitis underwent removal of a maxillary cyst located at the root of the affected tooth. Microscopy shows that the bone wall is made up of fibrous tissue infiltrated by lymphocytes and plasma cells. The inner surface of the cyst is covered with stratified squamous epithelium with no signs of keratinization. What is the most likely diagnosis?

- a. Gingival fibromatosis
- b. Radicular cyst**
- c. Primordial cyst
- d. Follicular cyst
- e. Eosinophilic granuloma

2029. An autopsy of the body of an elderly man, who was suffering from acute intestinal disorder during his last 2 weeks of life, has revealed the following change in the rectum and sigmoid colon:

brown and green film covering the mucosa is detected. The intestinal wall is thickened; the cavity sharply narrows down. Microscopy reveals mucosa necrosis of varying depth, necrotic tissue is pierced through with fibrin threads, leucocytic infiltration is observed. What diagnosis is the most probable?

- a. Fibrinous colitis
- b. Ulcerative colitis
- c. -
- d. Follicular colitis
- e. Catharrhal colon

2030. Macroscopic examination of lung tissue revealed areas of high airiness with small bubbles. Histological examination revealed thinning and rupture of alveolar septa accompanied by formation of large diversiform cavities. What disease was revealed in the lung?

- a. Pulmonary emphysema
- b. Cavernous tuberculosis
- c. Fibrosing alveolitis
- d. Chronic bronchitis
- e. Multiple bronchiectasis

2031. A 28-year-old patient had been diagnosed with multifragmental fracture of the right hip. On the third day after the injury he began to complain of pain in the right side of the chest, difficult respiration. One day later the patient died of progressive heart and respiratory failure. Histological study of the pulmonary and cerebral blood vessels revealed orange sudanophilic droplets that completely obstructed the vessels of microvasculature. What complication caused the death of the patient?

- a. Microbial embolism
- b. Thromboembolism
- c. Gas embolism
- d. Drug-induced embolism
- e. Fat embolism

2032. 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 composed of tuberculous granulation tissue and the external one was consisted of connective tissue. What is the most likely diagnosis?

- a. Tuberculoma
- b. Fibrous focal tuberculosis
- c. Fibrous cavernous tuberculosis
- d. Acute focal tuberculosis
- e. Acute cavernous tuberculosis

2033. Autopsy of a man who died from ethylene glycol poisoning revealed that his kidneys are a little bit enlarged, edematic; 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 glomerulonephritis
- b. Acute pyelonephritis
- c. Necrotic nephrosis
- d. Acute tubular-interstitial nephritis
- e. Lipoid nephrosis

2034. While studying blood and mucus samples from the nasopharynx, a bacteriologist took certain measures to conserve the pathogens in the material. Bacterioscopic study revealed the presence of gram-negative cocci resembling coffee beans and arranged in pairs or tetrads. Name the pathogen that was isolated by the bacteriologist:

- a. Neisseria meningitidis
- b. Neisseria gonorrhoeae

- c. *Acinetobacter calcoaceticus*
- d. *Moraxella lacunata*
- e. *Staphylococcus aureus*

2035. In a microslide of the patient's regional lymph node stained with Giemsa method a doctor detected thin microorganisms with 12-14 uniform tendrils with pointed tips, 10-13 micrometers in length, pale pink in color. In this case they can be identified as infectious agents of the following disease:

- a. Leishmaniasis
- b. Syphilis**
- c. Leptospirosis
- d. Trypanosomiasis
- e. Relapsing fever

2036. There are several cases of children from boarding school suffering from sore throat. Microscopy of tonsil smears stained according to Neisser method has revealed thin yellow bacilli with dark brown grains on their ends situated in the shape of the Roman numeral five. What infection can be suspected in this case?

- a. Scarlet fever
- b. Diphtheria**
- c. Listeriosis
- d. Infectious mononucleosis
- e. Tonsillitis

2037. In a maternity hospital a newborn should receive vaccination against tuberculosis. What vaccine should be chosen?

- a. STI vaccine
- b. DPT vaccine
- c. Tuberculin
- d. BCG vaccine**
- e. EV vaccine

2038. A patient had been provisionally diagnosed with syphilis. A laboratory assistant took the blood serum for an immunologic test based on the detection of antibodies preventing the movement of treponemes and causing their death. What reaction was used to make the diagnosis?

- a. Neutralization
- b. Immobilization**
- c. Agglutination
- d. Complement binding
- e. Precipitation

2039. A 50-year-old patient with hypertensive crisis had been administered magnesium sulfate, which led to abrupt decrease in blood pressure. The side effects of magnesium sulfate can be prevented if the following drug is administered:

- a. Sodium sulfate
- b. Calcium chloride**
- c. Trilon B
- d. Potassium chloride
- e. Sodium bromide

2040. A schizophrenic patient has been prescribed aminazine. What pharmacodynamic action of this drug justifies its prescription in this case?

- a. Hypotensive
- b. Antipsychotic**
- c. Hypothermic
- d. Antiemetic
- e. Muscle relaxant

2041. A patient has a slowly healing fracture. What medicine can be used to accelerate formation of connective tissue matrix?

- a. Cyclosporine
- b. Methyluracil**
- c. Cyclophosphan
- d. Prednisolone
- e. Methotrexate

2042. A 17-year-old girl has attempted to commit suicide by overdosing on phenobarbital. Upon arrival at the site an emergency doctor urgently performed gastric lavage on the patient and introduced bemegride and solution of sodium hydrocarbonate intravenously. The doctor introduced sodium hydrocarbonate to:

- a. Inactivate phenobarbital
- b. Wake up the patient
- c. Stimulate respiration
- d. Normalise blood pressure
- e. Increase renal excretion of phenobarbital**

2043. Genetic information is stored in DNA but does not participate directly in protein synthesis within DNA cells. What process ensures transfer of genetic information into polypeptide chain?

- a. Formation of iRNA
- b. Replication
- c. Formation of rRNA
- d. Formation of tRNA
- e. Translation**

2044. A woman who had been consuming alcohol excessively during her pregnancy had a child with cleft palate and upper lip. These presentations are indicative of some chromosomal anomalies. What process do they result from?

- a. Ontogenesis
- b. Teratogenesis**
- c. Mutagenesis
- d. Carcinogenesis
- e. Phylogenesis

2045. A 67-year-old patient has ordered a full functional denture. It was necessary to extract the left upper canine. After infraorbital anesthesia the patient presented with a progressing hematoma in the frontal part of the face. The patient was found to have an injury of an artery that is the branch of:

- a. A. temporalis superficialis
- b. A. facialis
- c. A. maxillaris**
- d. A. ophthalmica
- e. A. labialis superior

2046. A patient has sustained a traumatic injury of the greater pectoral muscle. This resulted in the decrease of:

- a. Inspiratory reserve volume**
- b. Tidal volume
- c. Functional residual lung capacity
- d. Residual volume
- e. Expiratory reserve volume

2047. A 53-year-old patient with a long history of nephrolithiasis underwent nephrectomy. The kidney resembles a thin-walled sac filled with urine. Renal parenchyma is atrophied. Specify this complication of nephrolithiasis:

- a. Pyonephrosis
- b. Pyelonephritis
- c. Hydronephrosis**

- d. Multicystic kidney disease
- e. Nephrosclerosis

2048. The contents of vesicles that appeared on the mucous membrane of a patient with variola has been sent to a virological laboratory. Which of the listed changes were revealed during the smear microscopy?

- a. Syncytium
- b. Paschen bodies**
- c. Guarnieri bodies
- d. Babes-Negri bodies
- e. Babes-Ernst bodies

2049. A child with signs of rickets has been prescribed a certain liposoluble vitamin drug by pediatrician and dentist. This drug affects the metabolism of phosphorus and calcium in the body and facilitates calcium accumulation in bone tissue and dentine. If its content in the body is insufficient, there develop disruptions of ossification process, dental structure and occlusion. Name this drug:

- a. Ergocalciferol**
- b. Tocopherol acetate
- c. Thyroidin
- d. Menadione (Vicasolum)
- e. Retinol acetate

2050. During bacteriological examination of the purulent discharge obtained from a postoperative wound an inoculation on meat infusion agar has been performed. The inoculation has resulted in large colorless mucous colonies that in 24 hours with exposure to sunlight developed green-blue pigmentation and smell of honey or jasmine. Bacterioscopy revealed gram-negative lophotrichia. What bacterial culture is contained in purulent discharge?

- a. *Brucella abortus*
- b. *Pseudomonas aeruginosa***
- c. *Klebsiella pneumoniae*
- d. *Proteus vulgaris*
- e. *Streptomyces griseus*

2051. Due to a stroke (cerebral hemorrhage) a patient has lost the ability of voluntary movement of the head and neck muscles. Brain examination revealed the hematoma to be situated within the genu of internal capsule. What conduction pathway is damaged?

- a. Tr.thalamo-corticalis
- b. Tr.cortico-nuclearis**
- c. Tr.cortico-thalamicus
- d. Tr.cortico-spinalis
- e. Tr.cortico-fronto-pontinus

2052. A woman presents with ovarian hyperaemia, increased permeability of the blood-follicle barrier with development of edema, infiltration of the follicle wall with segmental leukocytes. The follicle is large in volume. Its wall is thickened. The described situation is typical for the following period of the sex cycle:

- a. Menstrual period
- b. Ovulation
- c. Preovulatory stage**
- d. Postmenstrual period
- e. Period of relative rest

2053. The total number of leukocytes in the patient's blood is $90 \times 10^9/l$. Leukogram: eosinophils - 0%, basophils - 0%, juvenile - 0%, stab neutrophils - 2%, segmented neutrophils - 20%, lymphoblasts - 1%, prolymphocytes 2%, lymphocytes - 70%, monocytes 5%, Botkin-Gumprecht cells. Clinical examination revealed enlarged cervical and submandibular lymph nodes. Such clinical presentations are typical of the following pathology:

- a. Chronic lympholeukosis**

- b. Lymphogranulomatosis
- c. Chronic myeloleukosis
- d. Infectious mononucleosis
- e. Acute lympholeukosis

2054. A patient has a history of chronic heart failure. Which of the following hemodynamic parameters is a major symptom of cardiac decompensation development?

- a. Tachycardia development
- b. Increased peripheral vascular resistance
- c. Increased central venous pressure
- d. Decreased stroke volume**
- e. Tonogenic dilatation

2055. After a serious psychoemotional stress a 48-year-old patient suddenly developed acute heart ache irradiating to the left arm. Nitroglycerine relieved the pain attack after 10 minutes. What is the leading pathogenetic mechanism of this process development?

- a. Dilatation of peripheral vessels
- b. Compression of coronary vessels
- c. Increase in myocardial oxygen consumption
- d. Spasm of coronary arteries**
- e. Obstruction of coronary vessels

2056. A patient with chronic hepatitis complains of increased sensitivity to barbiturates that previously induced no symptoms of intoxication. What hepatic function is disrupted and primarily responsible for such reaction in this patient?

- a. Hemodynamic
- b. Bilification
- c. Metabolic**
- d. Hemopoietic
- e. Phagocytic

2057. Having completed work in a laboratory, a student must tidy up the workspace, perform disinfection of the workbench and tools. What chemicals should be used for disinfection?

- a. Chloramine**
- b. Formalin
- c. Ether
- d. Chloroform
- e. Hydrochloric acid

2058. A histological preparation of cerebellum transverse section shows large number of multipolar neurons in the grey matter. What morphological feature allows to identify them as multipolar?

- a. Cell size
- b. Number of cellular processes**
- c. Shape of axon terminals
- d. Length of cellular processes
- e. Shape of perikaryon

2059. A patient is diagnosed with seborrheic dermatitis caused by vitamin H (biotin) deficiency. Observed is activity disruption of the following enzyme:

- a. Alcohol dehydrogenase
- b. Pyruvate decarboxylase
- c. Acetyl-CoA carboxylase**
- d. Aminotransferases
- e. Carbamoyl phosphate synthetase

2060. A 56-year-old woman is registered with a psychoneurologic dispensary due to her suffering from epilepsy, specifically, minor attacks (pti mal). What drug is the most efficient in this case?

- a. Phenytoin

b. Sodium valproate

- c. Trihexyphenidyl
- d. Phenobarbital
- e. Levodopa

2061. Glucose content of blood keeps at sufficient level after one week of starvation. Is it caused by activation of the following process:

a. Glycogen phosphorylase

b. Gluconeogenesis

- c. Glycogenolysis
- d. Glycolysis
- e. Tricarboxylic acid cycle

2062. A 60-year-old patient with a history of bronchial asthma has had several attacks during the day. What is the optimal drug to be used for attacks prevention?

a. Methacinum

b. Salbutamol

- c. Adrenaline hydrochloride
- d. Isadrinum
- e. Dobutamine

2063. In the armpits of a patient there are small (1-1,5 mm), dorsoventrally flattened, wingless, blood-sucking insects. Their larvae developed in the armpits too. What disease is caused by these insects?

a. Phthiriasis

- b. Chagas' disease
- c. Relapsing fever
- d. Plague
- e. Sleeping sickness

2064. A student, who unexpectedly met his girlfriend, developed an increase in systemic arterial pressure. This pressure change was caused by the intensified realization of the following reflexes:

- a. Unconditional parasympathetic
- b. Unconditional sympathetic
- c. Conditional parasympathetic
- d. Conditional sympathetic and parasympathetic

e. Conditional sympathetic

2065. After the exposure to ionizing radiation a person was found to have a decreased blood granulocyte level. What mechanism underlies these changes?

a. Leikopoiesis inhibition

- b. Autoimmune process development
- c. Disrupted release of mature leukocytes from the bone marrow
- d. Increased disintegration of leucocytes
- e. Increased passage of granulocytes into the tissues

2066. A patient with acute retention of urine has been brought to an admission room. During examination a doctor found out that the patient has urethral obturation caused by pathology of the surrounding organ. Name this organ.

a. Prostate

- b. Seminal vesicle
- c. Epididymis
- d. Spermatic cord
- e. Testicle

2067. A connective tissue preparation stained with hematoxylin-eosin shows isogenous cell groups surrounded with basophilic intercellular substance. No fibrous structure can be detected. What type of connective tissue is it?

- a. Dense fibrous tissue
- b. Elastic cartilage tissue
- c. Hyaline cartilage tissue**
- d. Loose fibrous tissue
- e. Splenic bone tissue

2068. What factor results in maximal dilation of the gemomicrocirculatory pahtway vessels and their increased permeability?

- a. Serotonin
- b. Histamine**
- c. Vasopressin
- d. Endothelin
- e. Noradrenaline

2069. A 46-year-old patient consulted an oculist about drooping of the upper eyelid. On examination he was diagnosed with a brain tumor. The pathological process must have affected the nuclei of the following pair of cranial nerves:

- a. III**
- b. IV
- c. VII
- d. VI
- e. II

2070. A 36-year-old patient consulted an ophthalmologist about eye ache. The examination revealed the erosion of the cornea, specifically, the lack of superficial and spinous layers of the epithelium. What cells will provide regeneration of the damaged epithelium?

- a. Cells of the stratum corneum
- b. Cells of the stratum lucidum
- c. Cell of the stratum superficiale
- d. Cells of the stratum basale**
- e. Cells of the the stratum granulosum

2071. On the 4th day of treatment with diclofenac sodium a 55-year-old patient has developed gastric hemorrhage due to an ulcer appearing on the gastric mucosa. Ulcerogenic action of this drug is caused by decreased secretion of:

- a. Prostaglandin E2**
- b. Prostaglandin E1
- c. Thromboxane
- d. Cyclic endoperoxides
- e. Leukotriene

2072. A 43-year-old woman complains of weight loss, hyperhidrosis, low-grade fever, increased irritability. She has been found to have hyperfunction of the sympathetic-adrenal system and basal metabolism. These disorders can be caused by hypersecretion of the following hormone:

- a. Somatotropin
- b. Insulin
- c. Aldosterone
- d. Thyroxine**
- e. Corticotropin

2073. During examination a patient presents with the following: hypertrophy and inflammation of lymphoid tissue, mucosa swelling between the arches of the soft palate. What tonsil is situated there?

- a. Tonsilla palatina**
- b. Tonsilla tubaria
- c. -
- d. Tonsilla lingualis
- e. Tonsilla pharyngealis

2074. Cytochemical investigation has revealed high content of hydrolytic enzymes in cytoplasm. This phenomenon indicates high activity of the following organelles:

- a. Endoplasmic reticulum
- b. Cytocentrum
- c. Lysosomes**
- d. Polysomes
- e. Mitochondria

2075. A patient suffering from parkinsonism has been prescribed levodopa, which resulted in rapid improvement of the patient's condition. What mechanism of action is characteristic of this drug?

- a. Anticholinesterase action
- b. Stimulation of muscarinic receptors
- c. Block of muscarinic receptors
- d. Stimulation of dopamine receptors
- e. Stimulation of dopamine synthesis**

2076. A blood test was performed for a patient with allergic rhinitis. Blood smear stained after Romanowsky reveals large number of cells with the following structure: segmented nucleus consists of 2-3 segments; cytoplasm is filled with bright-pink oxyphil granularity; granules are large. Name these cells:

- a. Basocytes
- b. Neutrophils
- c. Lymphocytes
- d. Monocytes
- e. Eosinophils**

2077. For several days a 55-year-old woman has been suffering from pain attacks in the right upper quadrant after eating fatty foods. Visually, there is yellowness of sclera and skin. The patient has acholic stool, beer-colored urine. What substance present in the patient's urine causes its dark color?

- a. Bilirubin glucuronides
- b. Conjugated bilirubin**
- c. Unconjugated bilirubin
- d. Ketone bodies
- e. Stercobilin

2078. A patient with diabetes mellitus has been delivered to a hospital unconscious. BP is low, Kussmaul's respiration is observed, the smell of acetone can be detected from the patient's mouth. What mechanism is leading in the coma development in this case?

- a. Accumulation of urea
- b. Accumulation of ketone bodies in blood**
- c. Accumulation of sodium ions
- d. Accumulation of potassium ions
- e. Accumulation of chlorine ions

2079. A 45-year-old woman has addressed a doctor with complaints of rapid mood swings, tearfulness, apathy. Antidepressants prescribed for her treatment are monoamine oxidase inhibitors. These drugs have a certain effect on catecholamines, which results in their medicinal action. Name this effect:

- a. Increased deamination
- b. Neutralization activation
- c. Inhibition of back transfer
- d. Increased concentration**
- e. Decreased concentration

2080. Pupil dilation occurs when a person steps from a light room into a dark one. What reflex causes such reaction?

- a. Metasympathetic reflex
- b. Sympathetic conditioned reflex

c. Sympathetic unconditioned reflex

d. Parasympathetic unconditioned reflex

e. Parasympathetic conditioned reflex

2081. A 49-year-old man with myocardial infarction has been admitted to a cardiology department. What changes in the peripheral blood cells are induced by the necrotic changes in the myocardium?

a. Neutrophilic leukocytosis

b. Eosinophilia

c. Lymphopenia

d. Thrombocytopenia

e. Monocytosis

2082. A patient with limb fracture should be prescribed a depolarizing muscle relaxant for brief surgical invasion. Name this drug:

a. Tubocurarin chloride

b. Atropine sulfate

c. Azamethonium bromide (Pentaminum)

d. Dithylinum

e. Cytisinum (Cytitonum)

2083. In the area that is the epicenter of the registered rabies cases among wild animals a 43-year-old man arrived at a clinic and claimed to have been bitten by a stray dog. He was given a course of anti-rabies vaccine. This preparation belongs to the following type of vaccines:

a. Molecular

b. Inactivated

c. Attenuated

d. Toxoids

e. Synthetic

2084. A 25-year-old man presents with tumorous growth situated in the area of the body of the maxilla, which results in face deformation. Biopsy material consists of fibrous tissue containing juvenile bone trabeculae, spindle and stellate cells. There is no clear margin between the normal bone tissue and lesion focus, capsule is absent. No pathologic changes can be detected in the other organs. Make the diagnosis:

a. Odontogenic fibroma

b. Osteoclastoma

c. Simple fibrous dysplasia

d. Osteosarcoma

e. Ossifying fibroma

2085. In Western Europe nearly half of all congenital malformations occur in the children conceived in the period, when pesticides were used extensively in the region. Those congenital conditions result from the following influence:

a. Mutagenic

b. Mechanical

c. Carcinogenic

d. Malignization

e. Teratogenic

2086. A 40-year-old woman suffering from diffuse toxic goiter presents with constant increase of her body temperature. What mechanism results in such clinical presentation?

a. Separation of oxidation and phosphorylation in cell mitochondria

b. Increased catabolism of protein in cells

c. Increased cell sensitivity to catecholamines

d. Increased excitability of nerve cells

e. Increased breakdown of glycogen in hepatic cells

2087. A 19-year-old young man has been examined in a nephrological hospital. Increased potassium

content was detected in secondary urine of the patient. Such changes have been most likely caused by the increased secretion of the following hormone:

- a. Glucagon
- b. Testosterone
- c. Oxytocin
- d. Adrenalin
- e. Aldosterone**

2088. A person with dental disease cannot always pinpoint the location of the affected tooth. What principle of excitatory diffusion in nerve centers causes such phenomenon?

- a. Divergence
- b. Irradiation**
- c. Occlusion
- d. Reverberation
- e. Dominant

2089. Injection of an anaesthetic before the tooth extraction resulted in development of anaphylactic shock accompanied by oliguria. What pathogenetic mechanism caused the decrease in diuresis in this case?

- a. Increase in hydrostatic pressure in the Bowman's capsule
- b. Increase in oncotic pressure of blood plasma
- c. Increase in vasopressin secretion
- d. Decrease in hydrostatic pressure in the renal corpuscle capillaries**
- e. Damage of the glomerular filter

2090. A patient has vesicles on the mucous membrane of the oral cavity, lips and nose. A dentist suspected vesicular stomatitis. What analysis will allow to confirm the diagnosis?

- a. Allergy test
- b. Contamination of animals with the vesicular fluid
- c. Microscopy of the vesicular fluid
- d. Recovery of virus from the vesicular fluid**
- e. Recovery of bacteria from the vesicular fluid

2091. A patient complains of toothache. On examination he has been diagnosed with pulpitis. Which factor played the main pathogenic role in the development of pain syndrome in this case?

- a. Inadequate stimulation of the mandibular nerve branch
- b. Vasospasm
- c. Increased intratissular pressure in the dental pulp**
- d. Activation of one of the components of the complement system
- e. Interleukin action

2092. Periodontitis induces development of lipid peroxidation in the periodontal tissues, as well as increase in malondialdehyde and hydrogen peroxide concentration in the oral cavity. Which of the following enzymes provides antioxidant protection?

- a. Catalase**
- b. Maltase
- c. Invertase
- d. Lactase
- e. Amylase

2093. Osteolaterism is characterized by a decrease in collagen strength caused by significantly 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. Collagenase
- c. Monoamine oxidase
- d. Prolyl hydroxylase
- e. Lysyl oxidase**

2094. On examination a patient was revealed to have a large amount of mucus accumulated in the nasal cavity. The mucus covers the mucosa and blocks the olfactory receptors. Where exactly are these receptors situated in a nasal cavity?

a. Superior nasal concha

b. Inferior nasal concha

c. -

d. Common nasal meatus

e. Middle nasal concha

2095. A histological specimen of kidney shows a structure consisting of a glomerulus of fenestrated capillaries and a bilayer epithelial capsule. Specify this structure:

a. Receiving tube

b. Renal corpuscle

c. Distal tubule

d. Proximal tubule

e. Henle's loop

2096. A patient with symptoms of acute heart failure, namely pallor, acrocyanosis and rapid shallow breathing, has been delivered to an emergency department. Which of these drugs is indicated in this case?

a. Nitroglycerine

b. Adrenalin hydrochloride

c. Digitoxin

d. Cordiamine

e. Corglycon

2097. After the transfusion of the concentrated red blood cells the patient developed posttransfusion shock. What is the leading mechanism of the acute renal failure in this case?

a. Glomerular filtration disorder

b. Tubular secretion disorder

c. Impairment of the renal incretory function

d. Urinary excretion disorder

e. Tubular reabsorption disorder

2098. A victim of an earthquake has been remaining under debris for 7 days without food or water. What type of starvation is it?

a. Complete

b. Quantitative

c. Incomplete

d. Qualitative

e. Complete with continued hydration

2099. A 50-year-old patient has been referred for treatment of neck lymphadenitis. His individual penicillin sensitivity was tested. In 30 seconds fullbody fever raised in the patient and his arterial blood pressure dropped to 0mm Hg followed by cardiac arrest. Resuscitation was unsuccessful. Autopsy revealed acute venous hyperemia of viscera. Histological study revealed mast cells (tissue basocytes) degranulation in the skin (at the area of injections), myocardium and lungs. What kind of hypersensitivity reaction occurred in the patient?

a. -

b. Anaphylactic

c. Complement-mediated cytotoxic

d. Delayed-type hypersensitivity

e. Immune complex-mediated

2100. A 78-year-old patient suffering from atherosclerosis has been delivered to a surgical ward with signs of acute abdomen. Laparoscopy revealed blackened and flaccid small intestine loops; demarcation line is not clear. Diagnose the changes that occurred in the patient's small intestine:

a. Ischemic stroke complicated with humid gangrene

- b. Hemorrhagic infarction complicated with dry gangrene
- c. Hemorrhagic infarction complicated with humid gangrene**
- d. Ischemic stroke complicated with dry gangrene
- e. -

2101. A histological specimen of mandible of an embryo shows a tooth germ with the dental papilla made up of small stellate basophilic cells. What tissue forms this part of the tooth germ?

- a. Mesenchyme**
- b. Reticular
- c. Osseous
- d. Cartilaginous
- e. Epithelial

2102. During examination of a child's oral cavity a dentist noted the appearance of the first permanent molars on the child's lower jaw. How old is the child?

- a. 10-11
- b. 12-13
- c. 4-5
- d. 8-9
- e. 6-7**

2103. Examination of a 29-year-old patient revealed a dense, immobile, illdefined tumor-like formation in the lower jaw. The overlying mucosa was pale. Biopsy of the neoplasm revealed osteoid structures lined with atypical osteoblasts; numerous pathologic mitotic figures; a great number of thinwalled vessels. What is the most likely diagnosis?

- a. Exacerbation of chronic osteomyelitis
- b. Osteoblastoclastoma
- c. Osteosarcoma**
- d. Ameloblastoma
- e. Primary jaw carcinoma

2104. Microscopic examination of a skin tumor revealed that it invaded the underlying tissue, destroyed it and formed nests and cords of atypical epithelium, which include pearl-like formations. Specify the tumor:

- a. Keratinizing squamous cell carcinoma**
- b. Solid carcinoma
- c. Medullary carcinoma
- d. Adenocarcinoma
- e. Squamous cell non-keratinizing carcinoma

2105. Histological examination of the myocardium of a 47-year-old patient with rheumatic heart disease (section material) revealed big visually empty vacuoles within the cardiomyocytes. They turn black, when stained with osmic acid, and yellow-red, when stained with sudan III. What pathological process is it?

- a. Dysproteinosis
- b. Adipose degeneration**
- c. Hydropic degeneration
- d. Hyaline droplet degeneration
- e. Carbohydrate degeneration

2106. A 38-year-old woman complains of bleeding gums, halitosis, exposure of tooth necks. Objectively: the patient has gingivitis, plaque and tartar. Inflammation involves the alveolar part of gingiva with dental pockets. The bone tissue exhibits signs of bone resorption. What pathology does the patient have?

- a. Periodontitis
- b. Periostitis
- c. Parodontitis**
- d. Gingivitis

e. -

2107. Vestibular surface of the left lower incisor has a pink fungoid formation up to 2 cm large, which is fixed to the supra-alveolar tissue by a wide pedicle. Histological examination revealed branched capillary vessels with multiple hemorrhages and foci of hemosiderosis. What is the most likely diagnosis?

- a. Cavernous hemangioma
- b. Angiomatous epulis**
- c. Giant cell epulis
- d. Fibrous epulis
- e. Gingival fibromatosis

2108. Routine investigation of microbiological sanitary condition of air in a hospital is performed once in 3 months. What microorganism is the sanitary indicator of air condition in an enclosed space?

- a. S.aureus**
- b. E.faecalis
- c. C.perfringens
- d. P.aeruginosa
- e. E.coli

2109. In the course of evolution there developed molecular mechanisms for correction of damaged DNA molecules. This process is called:

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

2110. The patient's examination in a hospital specialised in diseases of nervous system has revealed absence of light-induced miosis. It is caused by the damage of the following brain structures:

- a. Reticular nuclei of mesencephalon
- b. Red nuclei of mesencephalon
- c. Vegetative nuclei of the 3rd pair of cranial nerves**
- d. Hypothalamus nuclei
- e. Reticular nuclei of medulla oblongata

2111. A doctor noted in the patient's case history, that the wound entry hole is situated in the submandibular triangle. What anatomical landmark binds this area?

- a. M.omohyoideus
- b. Lower jaw edge**
- c. M.sternocleidomastoideus
- d. Neck midline
- e. M.trapezius

2112. A patient during examination presents with prolongation of the II heart sound. The II heart sound occurs due to:

- a. Opening of mitral valve
- b. Opening of semilunar valve
- c. Closure of semilunar valve**
- d. Opening of tricuspid valve
- e. Closure of tricuspid valve

2113. A patient with pituitary tumor complains of increased daily diuresis (polyuria). Glucose concentration in blood plasma equals 4,8 mmol/l. What hormone can be the cause of this, if its secretion is disturbed?

- a. Aldosterone
- b. Insulin
- c. Angiotensin I

d. Vasopressin

e. Natriuretic hormone

2114. A patient with heart failure and tachycardia has been prescribed digoxin. After 5 days of taking digoxin the patient's heart rate was normalized. After 2 weeks the patient addressed a doctor due to continuous decrease of heart rate down to 52/min. What phenomenon has caused such changes of heart rate?

a. Idiosyncrasy

b. Tolerance

c. Allergy

d. Cumulation

e. Tachyphylaxis

2115. A woman suffering from essential hypertension had suddenly lost consciousness; she was delivered to a resuscitation unit in a comatose state with the diagnosis of disturbed cerebral circulation. The patient died one day after her hospitalization. Autopsy revealed a cavity in the left hemisphere of the brain. The cavity is 5x4 cm in size and filled with blood clots and liquid blood. What hemorrhage is it according to the mechanism of its origin?

a. Diapedetic hemorrhage

b. Hemorrhage caused by vessel erosion

c. Hemorrhage caused by vessel rupture

d. Hemorrhagic extravasation

e. Petechial hemorrhage

2116. During ABO blood grouping by using zoliclons (diagnostic monoclonal antibodies), hemagglutination did not occur with any of the zoliclons. What is the blood group of the patient under examination?

a. 0 (I)

b. B (III)

c. -

d. AB (IV)

e. A (II)

2117. Autopsy of a young man revealed lung cavities with inner walls made up of granulation tissue of varying degree of maturity, pronounced pneumosclerosis and bronchiectasis. Some cavities had caseation areas. What is your presumptive diagnosis?

a. Bronchiectasis

b. Fibrous cavernous tuberculosis

c. Caseous pneumonia

d. Infiltrative tuberculosis

e. Acute cavernous tuberculosis

2118. A 42-year-old woman has been administered propranolol for the ischemic heart disease. Yet she has been found to have a concomitant condition that renders propranolol to be contraindicated. What disease is it?

a. Duodenal ulcer

b. Myasthenia

c. Cholecystitis

d. Arterial hypertension

e. Bronchial asthma

2119. During exacerbation of peptic gastric ulcer disease a patient complains of heart pain. What vegetative reflex can cause these painful sensations?

a. Viscerodermal reflex

b. Dermatovisceral reflex

c. Motor visceral reflex

d. Viscerovisceral reflex

e. Visceromotor reflex

2120. A man submerged into the icecold water and died soon as a result of abrupt exposure to cold. In such cases an organism loses heat most intensively by the way of:

- a. Convection
- b. Radiation
- c. Heat conduction**
- d. Heat conduction and radiation
- e. No correct answer

2121. A person performs flexionextension movements of the forearm with the elbow resting on a table. What type of muscle contraction occurs in the m.biceps brachii?

- a. Auxotonic
- b. Smooth muscle tetanus
- c. Serrated muscle tetanus
- d. Isotonic**
- e. Isometric

2122. A patient is diagnosed with acute morphine hydrochloride poisoning. Choose the oxidant to be prescribed for gastric lavage:

- a. Sulfocamphocainum (Procaine + Sulfocamphoric acid)
- b. Chloramine
- c. Potassium permanganate**
- d. Cerigel
- e. Chlorhexidine digluconate

2123. A woman had been taking synthetic hormones during her pregnancy. Her newborn girl presents with excessive hairiness which has formal resemblance to adrenogenital syndrome. This sign of variability is called:

- a. Heterosis
- b. Replication
- c. Mutation
- d. Recombination
- e. Phenocopy**

2124. Microelectrode technique allowed to register a potential following "all-or-none" law and capable of undecremental spreading. Specify this potential:

- a. Rest potential
- b. Excitatory postsynaptic potential
- c. Action potential**
- d. Inhibitory postsynaptic potential
- e. Receptor potential

2125. A concerned mother addressed a pediatrician with complaints of her child suffering from frequent stomachaches, loss of appetite, nausea, constipation. Feces analysis detected rounded eggs with double capsules and oncospheres localized in their centers. The child was diagnosed with hymenolepiasis. Specify the type of infection transmission, considering that the invasion intensity was extremely high:

- a. Immediate contagion
- b. Autoinvasion**
- c. Sexual
- d. Alimentary
- e. Contamination

2126. Sulfanilamides are applied as antimicrobial agents in clinical practice. Sulfanilamide treatment, however, can result in hemolytic anemia development in patients that suffer from genetic defect of the following enzyme of pentose phosphate metabolism in erythrocytes:

- a. Glucose-6-phosphate dehydrogenase**
- b. Transketolase
- c. Pyruvate kinase

- d. Transaldolase
- e. Hexokinase

2127. An autopsy is performed on the body of a 58-year-old woman, who suffered from diabetes mellitus. On histological examination of kidneys the following was revealed: segmental homogenous oxyphilic deposits are detected in the glomerules; arteriole walls are diffusely thickened, homogenous, oxyphilic. Diagnose the morphologic changes that occurred in the renal glomerules and vessels:

- a. Amyloidosis
- b. Hyaline droplet degeneration
- c. Hyalinosis**
- d. Mucoid degeneration
- e. Fibrinoid degeneration

2128. Under the influence of physical factors there can develop defects in a DNA molecule. Ultraviolet irradiation, for instance, can cause development of dimers. Dimers are two adjacent pyrimidine bases joined together. Name these bases:

- a. Adenine and guanine
- b. Guanine and thymine
- c. Adenine and thymine
- d. Guanine and cytosine
- e. Thymine and cytosine**

2129. For pain relief a patient has taken simultaneously a tablet of paracetamol and a tablet of diclofenac sodium. What type of drug interaction did the patient use for self-treatment?

- a. Competitive antagonism
- b. Non-competitive antagonism
- c. Potentiated synergism
- d. Synergic antagonism
- e. Additive synergism**

2130. Ketoacidosis that develops due to accumulation of ketone bodies in blood serum is a primary complication of diabetes mellitus. What acid-base disbalance develops during this condition?

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

2131. During auscultation a 26-year-old patient was asked to breathe deep. After 10 breaths the patient lost consciousness, which is associated with the development of the following condition:

- a. Carbon dioxide acidosis
- b. Polycythemia
- c. Reduced oxygen capacity of blood
- d. Respiratory alkalosis**
- e. Erythropenia

2132. When examining a patient presumptively diagnosed with food toxicoinfection, a doctor on duty has detected symptoms characteristic of botulism. The patient named the meals he ate the day before. What is the most probable cause of infection?

- a. Custard pastry from a private bakery
- b. Strawberries from a suburban vegetable garden
- c. Fried eggs
- d. Homemade canned meat**
- e. Sour cream from a local dairy factory

2133. A patient has an inflammation in the pterygopalatine fossa. The infection has spread into the nasal cavity. Which anatomical structure has the infection spread through?

a. Foramen sphenopalatinum

- b. Canalis palatinus major
- c. Canalis pterygoideus
- d. Canalis palatinus minor
- e. Foramen rotundum

2134. Phenylketonuria is a disease caused by a recessive gene that is localized in an autosome. Parents are heterozygous for this gene. They already have two sons with phenylketonuria and one healthy daughter. What is the probability that their fourth child will have the disease too?

- a. 0%
- b. 75%
- c. 100%

d. 25%

- e. 50%

2135. A 32-year-old patient has B2 hypovitaminosis. The specific symptoms such as epithelial, mucosal, skin and corneal lesions are the most likely to be caused by the deficiency of:

a. Flavin coenzymes

- b. Cytochrome oxidase
- c. Cytochrome c
- d. Cytochrome b
- e. Cytochrome a1

2136. A 40-year-old patient suffers from intolerance of dairy food products. This condition has likely developed due to insufficiency of the following digestive enzyme:

- a. Maltase
- b. Lipase

c. Lactase

- d. Invertase
- e. Amylase

2137. A patient has been diagnosed with severe B12-deficient anemia with hemopoiesis. Anamnesis states total gastrectomy. What cells allow to confirm this diagnosis, if they are absent in the peripheral blood?

a. Megalocytes

- b. Ovalocytes
- c. Anulocytes
- d. Normocytes
- e. Microcytes

2138. In order to prevent wound infection associated with surgical procedures a patient was given a synthetic antiprotozoan drug with a high activity against Helicobacter pylori. Specify this drug:

- a. Doxycycline hydrochloride
- b. Acyclovir
- c. Isoniazid

d. Metronidazole

- e. Chingamin

2139. Roentgenologically confirmed an obstruction of common bile duct that prevents bile from inflowing to the duodenum. What process is likely to be disturbed?

- a. Protein absorption
- b. Hydrochloric acid secretion in stomach
- c. Salivation inhibition

d. Fat emulgaion

- e. Carbohydrate hydrolysis

2140. A doctor examines a 17-year-old girl. The following is detected: pharyngitis, cervical lymphadenopathy, fever. The preliminary diagnosis is infectious mononucleosis. What method of

investigation allows to confirm this diagnosis at the disease onset?

- a. Determining antibodies IgM to Epstein-Barr virus
- b. Determining antibodies IgG to Epstein-Barr virus
- c. Determining the amount of C-reactive protein
- d. Sabin-Feldman dye test
- e. Microscopy of blood smear according to Giemsa method

2141. A 60-year-old patient has taken a drug to relieve angina pectoris attack; in several minutes the pain felt in the breastbone area abated, but it was followed by feeling of vertigo, headache, tinnitus, and hyperemia of face. What drug has the patient taken?

- a. Nifedipine
- b. Validol
- c. Nitroglycerine
- d. Verapamil
- e. Amiodarone

2142. For relief of hypertensive crisis a doctor has administered a patient a drug that apart from antihypertensive effect has also sedative, spasmolytic and anticonvulsive action. The drug was taken parenterally. When it is taken enterally it acts as a laxative and cholagogue. What drug was administered?

- a. No-spa
- b. Apressin
- c. Dibazolam
- d. Reserpine
- e. Magnesium sulfate

2143. A 13-year-old girl has been prescribed a certain drug for treatment of megaloblastic anemia. This drug stimulates a transfer from megaloblastic haemopoiesis to normoblastic, participates in synthesis of purine and pyrimidine bases, activates protein and methionine synthesis. What drug does the patient take?

- a. Haemostimulinum
- b. Ferric sulfate
- c. Cyanocobalamin
- d. Erythropoietin
- e. Rosehip tea

2144. A patient in a grave condition has been delivered into an admission ward. Examination revealed pupil mydriasis, no reaction to the light, considerable reddening and dryness of skin and mucous membranes. What drug might have caused the intoxication symptoms?

- a. Adrenalin hydrochloride
- b. Proserin
- c. Atropine sulphate
- d. Pilocarpine hydrochloride
- e. Dithylinum

2145. When examining a female patient a doctor observed the following: misshapen auricles, elevated palate, teeth growth disorder; mental retardation; no disruption of reproductive function. Provisional diagnosis is the "super woman" syndrome. Point out the karyotype of this disease:

- a. (47, XXY)
- b. (47, XYY)
- c. (45, X0)
- d. (47, XXX)
- e. (47, YYY)

2146. Histological preparation of skin demonstrates dense unformed connective tissue. What layer of this organ is formed by such tissue?

- a. Papillary dermis
- b. Epidermis

c. Reticular dermis

- d. Hypodermis
- e. Basal membrane

2147. During ascent into mountains at the altitude of 5000 meters the group of climbers has developed the following complaints: dyspnea, increased heart rate, headache, vertigo, tinnitus. What is the cause of such symptoms?

- a. Hypothermia
- b. Hypokalemia

c. Hypoxemia

- d. Erythropenia
- e. Leucopenia

2148. As a result of an injury a child developed an abscess of the buccal adipose tissue. With time the process spread to the lateral surface of pharynx. Pus spread along the following fascia:

a. -

b. Bucco-pharyngeal

- c. Masticatory
- d. Temporal
- e. Parotid

2149. The most common disease of economically developed countries is dental caries. Over 95% of population is afflicted with this disease. Carious demineralization of hard dental tissues is caused primarily by:

a. Organic acids

- b. Extreme conditions
- c. Vitamin C deficiency
- d. Metabolic disorder
- e. Malnutrition

2150. A patient has been administered conduction anesthesia with novocaine in preparation for tooth extraction. After the anesthesia administration the patient developed swelling and hyperemia around the injection site, skin itch, general fatigue, motor agitation. Name the developed complication:

- a. Drug dependence
- b. Inflammation
- c. Idiosyncrasy
- d. Tachyphylaxis

e. Allergy

2151. Due to a contusion suffered in a traffic accident a patient has lost vision. Ophthalmoscopy revealed no changes of the eyeball. What artery is damaged in this case?

a. Posterior cerebral artery

- b. Medial cerebral artery
- c. Central retinal artery
- d. Ophthalmic artery
- e. Anterior cerebral artery

2152. During a foot trauma both cuboid and cuneiform bones have been crushed. As a result the foot must be amputated at the following joint:

- a. Tarsometatarsal
- b. Intermetatarsal
- c. Cuneonavicularis
- d. Talloccuralis

e. Transversa

2153. Specify the calcium-binding enamel protein, which plays a significant part in carious destruction of enamel, when its function is disrupted:

- a. Calcitonin

- b. Parotin
- c. Calmodulin
- d. Osteocalcin
- e. Amelogenin**

2154. A patient has a skull fracture located in front of the foramen magnum. What bone is damaged?

- a. Pars squamosa ossis occipitalis
- b. Pars lateralis ossis occipitalis
- c. Pars basilaris ossis occipitalis**
- d. Pars squamosa ossis temporalis
- e. Pars petrosa ossis temporalis

2155. A 36-year-old patient underwent tooth extraction at a dental clinic. After two weeks the stratified squamous epithelium regenerated at the site of extraction. What organelles were involved in the restoration of the mucous membrane?

- a. Centrosomes
- b. Smooth EPR
- c. Mitochondria
- d. Ribosomes**
- e. Postlysosomes

2156. A 30-year-old patient after a case of viral hepatitis type B has developed complaints of continuous nasal hemorrhages. What drug would be the most advisable for treatment of this condition?

- a. Asparcam
- b. Menadione (Vicasolum)**
- c. Folic acid
- d. Nadroparin calcium (Fraxiparine)
- e. Dipyridamol

2157. A patient is being prepared for a surgery - partial mandibular resection. What drug should be administered to decrease salivation?

- a. Atropine sulfate**
- b. Armine
- c. Lobeline
- d. Tubocurarin chloride
- e. Carbacholine

2158. A dentist has detected symptoms of parodontosis in a patient. What antiprotozoal drug should be prescribed?

- a. Furazolidone
- b. Metronidazole**
- c. Griseofulvin
- d. Levamisole
- e. Mykoseptin

2159. An oral surgery unit admitted a woman with a phlegmon on the anterior surface of neck in the region of carotid triangle. What muscle demarcates the posterior wall of this triangle?

- a. Sternohyoid
- b. Thyrohyoid
- c. Sternocleidomastoid**
- d. Omohyoid
- e. Sternothyroid

2160. When processing amolar tooth with a dental cutter a dentist has accidentally deeply wounded the patient's cheek and damaged not only the mucosa but also a muscle. Which muscle was injured?

- a. Greater zygomatic muscle
- b. Orbicular muscle of the mouth

- c. Mylohyoid muscle
- d. Buccal muscle**
- e. Masticatory muscle

2161. During microscopy of a renal biopsy material there are tubules revealed in the cortical substance. The tubules are approximately 60 micrometers in diameter; their wall consists of tall cuboidal epithelium with pronounced apical frame and basal folds. Name these structures:

- a. Proximal tubules**
- b. Capsule of renal corpuscle
- c. Henle's loop
- d. Collection duct
- e. Distal tubules

2162. A man has developed downturning mouth and smoothed out nasolabial fold due to influenza complication. What nerve is damaged?

- a. Facial nerve**
- b. Mandibular nerve
- c. Oculomotor nerve
- d. Trochlear nerve
- e. Maxillary nerve

2163. Calcification of dental tissues is significantly influenced by osteocalcin protein that can bind calcium ions due to the presence of the following modified amino acid residues in the polypeptide chain:

- a. γ -aminobutyric
- b. Alanine
- c. γ -carbon glutamine**
- d. Carboxy asparagine
- e. γ -aminopropionic

2164. A 65-year-old patient had been treated for 3 days in a resuscitation unit for a cardiac pathology. Suddenly he developed ventricular fibrillation that became the immediate cause of death of this patient. Microscopy of the left ventricular myocard revealed a large focus of cardiomyocyte karyolysis demarcated by the zone of hyperaemia. What cardiac pathology was the cause of death?

- a. Diffuse cardiosclerosis
- b. Postinfarction cardiosclerosis
- c. Ischemic myocardial degeneration
- d. Acute myocarditis
- e. Acute myocardial infarction**

2165. To drain the oral cavity a dentist places a tampon between the cheek and the 2nd upper molar. This way secretion of the following salivary gland WILL NOT be able to accumulate in the oral cavity:

- a. Parotid gland**
- b. Sublingual gland
- c. Labial glands
- d. Lingual gland
- e. Submandibular gland

2166. Microscopy of an extracted tooth has revealed the following: odontoblasts and pulpocytes are decreased in size and number; thickened connective fibers of the pulp are stretched between the cells that remain. What general pathological process is likely to be occurring in the tooth pulp?

- a. Amyloidosis
- b. Adipose degeneration
- c. Atrophy**
- d. Local hyalinosis
- e. Local hemosiderosis

2167. A 28-year-old patient complains of frequent gingival hemorrhages. Blood test revealed the

clotting factor II (prothrombin) deficiency. What phase of blood coagulation is impaired in this patient?

- a. -
- b. Vascular-platelet haemostasis
- c. Thrombin generation**
- d. Fibrinolysis
- e. Clot retraction

2168. During perfusion of an isolated heart of a mammal with a high ion content solution the cardiac arrest in diastole occurred. The cardiac arrest was caused by the following ions present excessively in the solution:

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

2169. Which of the named below is the substrate of activated Christmas factor that takes part in blood coagulation?

- a. Factor X**
- b. Fibrinogen
- c. Thrombin
- d. Fibrin
- e. Vitamin K

2170. Students have been remaining for a long time in a badly ventilated room. They developed respiratory changes caused by irritation of their peripheral chemoreceptors that react primarily to:

- a. Increase of hydrogen ion concentration in arterial blood
- b. Decrease of hydrogen ion concentration in arterial blood
- c. Increase of oxygen tension in arterial blood
- d. Decrease of carbon dioxide tension in arterial blood
- e. Decrease of oxygen tension in arterial blood**

2171. A 2-year-old child presents with mental development retardation, intolerance of proteins, severe hyperammonemia against the background of low blood urea content. This condition is caused by the congenital deficiency of the following mitochondrial enzyme:

- a. Carbamoyl phosphate synthetase**
- b. Succinate dehydrogenase
- c. Monoamine oxidase
- d. Malate dehydrogenase
- e. Citrate synthase

2172. A woman is diagnosed with Turner's syndrome (karyotype 45, X0). How many autosomal pairs would her somatic cells contain?

- a. 24
- b. 44
- c. 45
- d. 22**
- e. 23

2173. Corticosteroid analogues induce breakdown of muscle proteins into free amino acids. Under such conditions these amino acids become involved with the following processes:

- a. Gluconeogenesis in liver**
- b. Synthesis of higher fatty acids
- c. Decarboxylation
- d. Glycogenolysis
- e. Glycolysis in muscles

2174. Microscopy of an autopsy material sampled from lungs has revealed that alveolar lumen is

filled with exudate consisting mostly of erythrocytes. What type of pneumonia is the most likely to be the cause?

- a. Staphylococcal pneumonia
- b. Pneumococcal pneumonia
- c. Typhoid pneumonia
- d. Measles pneumonia
- e. Influenza virus pneumonia**

2175. A patient diagnosed with acute respiratory failure has been administered artificial lung ventilation in the conditions of high partial oxygen pressure. This measure resulted in aggravation of the patient's condition and development of respiratory distress syndrome. Name the likely cause of this complication:

- a. Pulmonary congestion
- b. Intense oxidation of lung surfactant**
- c. Fibrosis
- d. Inflammatory process
- e. Atelectasis

2176. Parkinson's disease is caused by disrupted dopamine synthesis. What brain structure synthesizes this neurotransmitter?

- a. Hypothalamus
- b. Substantia nigra**
- c. Quadrigeminal plate
- d. Pallidum
- e. Red nuclei

2177. A diet must include fats. Fats perform plastic function in an organism due to their inclusion in:

- a. Cell ion channel
- b. Cell end-organs
- c. Glycocalyx
- d. Cell membranes**
- e. Cell ion pumps

2178. A 50-year-old man addressed a hospital with complaints of memory disorders, painful sensations along the nerve trunks, decreased mental ability, circulatory disorders and dyspepsia. Anamnesis states excessive alcohol consumption. What vitamin deficiency can result in such signs?

- a. Retinol
- b. Niacin
- c. Thiamine**
- d. Calciferol
- e. Riboflavin

2179. Specify the type of jaundice, during which there is no direct bilirubin in blood, and urine urobilinogen level is high:

- a. -
- b. Suprarenal**
- c. Subhepatic
- d. Hepatic
- e. Mechanical

2180. After long-term antibiotic treatment a patient has developed whitish spots on the oral mucosa. Gram-positive oval budding cells were detected in the smear preparations. What causative agents were detected?

- a. Staphylococci
- b. Actinomycece
- c. Tetracocci
- d. Candida fungi**
- e. Sarcinae

2181. Indigenous population of Pamir has the following characteristic features: high rate of base metabolism, elongated tubular bones, wide rib cage, high blood oxygen capacity due to increased number of erythrocytes, high hemoglobin content. What type of ecological adaptation is it?

a. Mountain

- b. Arctic
- c. Subtropical
- d. Tropical
- e. Temperate

2182. A 30-year-old man died from electrocution. What was the cause of death?

- a. Acute respiratory failure
- b. Acute renal failure

c. Central respiratory arrest

- d. Shock
- e. Internal hemorrhage

2183. Chromosomal complement of a woman contains a chromosome with arms p and q of equal length. What morphological type does this chromosome belong to?

- a. Telocentric
- b. Subacrocentric
- c. Acrocentric
- d. Submetacentric

e. Metacentric

2184. A patient with damaged muscles of the lower limbs has been delivered to a first-aid center. What cells enable reparative regeneration of muscle fibers and restoration of muscle function?

- a. Endotheliocytes
- b. Plasmocytes
- c. Adipocytes
- d. Fibroblasts

e. Myosatellitocytes

2185. Patients suffering from xeroderma pigmentosum have extremely photosensitive skin due to disrupted excision repair. Specify the process that is affected in such patients:

- a. Synthesis of protein primary structure
- b. Intron extraction and exon connection
- c. Synthesis of iRNA
- d. Maturation of iRNA

e. Repair of DNA molecule

2186. A doctor has determined disruption of pain and temperature sensitivity of the mucosa of the anterior 2/3 of the patient's tongue. Gustatory sensitivity is retained. The patient suffers from the functional disorder of the following cranial nerve:

- a. Facial nerve
- b. Hypoglossal nerve

c. Trigeminal nerve

- d. Vagus nerve
- e. Glossopharyngeal nerve

2187. Significant amount of biogenic amines in body tissues can be subject to oxidative deamination due to the action of the following enzyme:

a. Monoamine oxidase

- b. D-amino acid oxidase
- c. L-amino acid dehydrogenase
- d. Isomerase
- e. Transaminase

2188. A victim has a deep incised wound in the area of external surface of the gonial angle. What

muscle is damaged in this case?

- a. M. masseter
- b. M. buccinator
- c. M. depressor anguli oris
- d. M. orbicularis oris
- e. M. zygomaticus

2189. Autopsy of the body of a 46-yearold man, who had been suffering from typhoid fever and died of intestinal hemorrhage, has revealed sequestration areas, tissue rejection in the areas of lymphoid follicle clusters. What stage of typhoid fever is it?

- a. Dirty ulcers
- b. Clean ulcers
- c. Necrosis
- d. Brain-like swelling of the follicles
- e. Healing

2190. During autopsy of the body of a patient, who had died due to heart failure, the following has been detected: myogenic dilatation of the heart left ventricle, microfocal cardiosclerosis, vasculitis, Aschoff bodies with disorganization of connective tissue, myocarditis. Make the diagnosis:

- a. Myocardial ischemic dystrophy
- b. Rheumatic productive myocarditis
- c. Cardiac infarction
- d. Rheumatic exudative myocarditis
- e. Systemic lupus erythematosus

2191. A 30-year-old man addressed a doctor with complaints of enlarged submandibular lymph nodes. Anamnesis states that the patient previously had been treated for acute apical periodontitis of the 36th and 46th teeth. Histologically the following could be detected in the removed lymph node: hyperemia, edema, increased amount of plasmocytes and plasmablasts in the medullary area and germinal centers of follicles. What can cause such changes in lymph nodes?

- a. Metastasis of a malignant tumor
- b. Immunodeficiency state
- c. Antigenic stimulation
- d. Granulomatous inflammation
- e. Lymphoma

2192. A 35-year-old woman complains of swollen neck. Subtotal thyroidectomy is performed. On histological examination of the removed part of the thyroid gland the following was detected: atrophy of parenchyma, moderate sclerosis development, diffuse infiltration by lymphocytes and plasma cells leading to formation of lymphatic follicles. What pathology has developed in the thyroid gland?

- a. Follicular adenoma
- b. Papillary carcinoma of the thyroid gland
- c. Diffuse toxic goiter
- d. Hashimoto's thyroiditis
- e. Riedel's thyroiditis

2193. A 12-year-old patient suffering from acute leukemia presents with fever up to 39, 80C, acute pain in the throat. Examination of the oral cavity has revealed swollen tonsils, their surface is covered in deep lesions with uneven margins, numerous petechial hemorrhages in the pharyngeal mucosa and around the tonsils. Determine the type of tonsillitis that complicates the disease progress in this case:

- a. Necrotic
- b. Fibrinous
- c. Purulent
- d. Lacunar
- e. Catarrhal

2194. Heterozygous parents with A (II) and B (III) blood groups according to AB0 system gave birth to

a child. What is the probability of the child having 0 (I) blood group?

- a. 100%
- b. 50%
- c. 0%
- d. 25%**
- e. 75%

2195. During dehelminthization a patient expelled long fragments of a segmented helminth. In some segments their width exceeds their length; there is a rosettelike uterus in the segment center. Name the helminth:

- a. Echinococcus
- b. Hymenolepis nana
- c. Taenia solium
- d. Taeniarhynchus saginatus
- e. Diphylobotrium latum**

2196. Carious cavities of a 29-year-old patient contain parasitic protozoa. It is established that they belong to the Sarcodina class. Specify these protozoa:

- a. Amoeba proteus
- b. Lamblia intestinalis
- c. Entamoeba coli
- d. Entamoeba histolutica
- e. Entamoeba gingivalis**

2197. According to the law of constancy of chromosome numbers, most animal species have definite and constant chromosome number. The mechanism that maintains this constancy during sexual reproduction of organisms is called:

- a. Meiosis**
- b. Amitosis
- c. -
- d. Regeneration
- e. Schizogony

2198. At a certain stage of human ontogenesis, physiological bond occurs between circulatory systems of the mother and the fetus. This function is being carried out by the following provisory organ:

- a. Yolk sac
- b. Serous tunic
- c. Allantois
- d. Placenta**
- e. Amnion

2199. It is necessary to perform urinary bladder catheterization of an adult man. Resistance to the catheter can occur in the following structure or part of the urethra:

- a. Spongiose part
- b. Prostatic part
- c. Membranous part**
- d. External urethral orifice
- e. Internal urethral orifice

2200. A woman has come to a dentist with complaints of bruising and swelling around her eye. Anamnesis is as follows: several days prior her 1st premolar tooth had been extracted, with infraorbital anaesthesia administered; several days later hematoma appeared in the area of foramen intraorbitale. The branch of the following artery was damaged:

- a. Masseteric artery
- b. Maxillary artery**
- c. Superficial temporal artery
- d. Facial artery

e. Superior labial artery

2201. A patient consulted a doctor about an increased pain sensitivity of the ear skin and ear canal. Palpation behind the sternocleidomastoid muscle was painful. Such clinical presentations are typical of the irritation of the following nerve:

- a. N. occipitalis minor
- b. N. vagus
- c. N. transversus colli
- d. N. auricularis magnus**
- e. Nn. supraclaviculares

2202. In a 12-year-old patient an inflammatory process in the internal ear spread to the meninges, diffusely affecting them. A doctor suspects the process to have spread through the connection between the subarachnoid space of the brain and perilymphatic space of the internal ear. What anatomic structure became the pathway for the spreading inflammation?

- a. Fossa subarcuata
- b. Hiatus canalis n. petrosi minoris
- c. Fissura petrosquamosa
- d. Aqueductus vestibuli**
- e. Hiatus canalis n. petrosi majoris

2203. A woman with essential hypertension has been hospitalized. The patient presents with aneurysm of a. communicans posterior of the cerebrum arterial circle. What vessels of arterial circle are normally joined with this artery?

- a. A. carotis externa et a. cerebri anterior
- b. A. carotis interna et a. cerebri media
- c. A. carotis interna et a. cerebri posterior**
- d. A. cerebri anterior et a. cerebri media
- e. A. cerebri media et a. cerebri posterior

2204. In the skin biopsy material in the epidermis there are cells with processes and cytoplasm that contains dark brown granules. Name these cells:

- a. Keratinocytes
- b. Intraepidermal macrophages
- c. Melanocytes**
- d. Merkel's cells
- e. Lymphocytes

2205. Gastrosocopy of a patient revealed the lack of mucus in the coating of the mucous membrane. This can be caused by the dysfunction of the following cells of gastric wall:

- a. Main exocrinocytes
- b. Parietal cells of gastric glands
- c. Cells of prismatic glandular epithelium**
- d. Cervical cells
- e. Endocrinocytes

2206. Alcoholic intoxication is accompanied by disturbed motor coordination and equilibrium due to the damage caused to structural elements of the cerebellum. Functional disturbance of the following cells occurs in the first place:

- a. Granule cells
- b. Basket cells
- c. Pyriform cells**
- d. Stellate cells
- e. Fusiform cells

2207. Histologic specimen demonstrates an oral cavity organ with mucosa covered with keratinized stratified squamous epithelium. Specify this organ or its part:

- a. Uvula

- b. Soft palate
- c. Inferior surface of tongue
- d. Labial mucosa

e. Gum

2208. During gastrulation an embryo proceeds from histiotrophic to hematotrophic nutrition. What provisory organ makes it possible at first?

- a. Amnion
- b. Allantois
- c. Trophoblast
- d. Yolk sac

e. Chorion

2209. One of the coats of a hollow organ has anastomotic fibers with nuclei. The fibers consist of cells that form intercalated disks at the places of contact. What tissue forms this coat?

- a. Cross-striated skeletal muscle
- b. Loose fibrous connective tissue
- c. Dense irregular connective tissue

d. Cross-striated cardiac muscle

e. Unstriated muscle

2210. A 30-year-old woman has decreased enzyme content in the pancreatic juice. This condition can be caused by insufficient secretion of the following hormone:

- a. Secretin
- b. Somatostatin

c. Cholecystokinin-pancreozymin

- d. Gastric inhibitory polypeptide
- e. Vasoactive intestinal peptide

2211. Electric current has affected skeletal muscle fiber resulting in depolarisation of the membrane. Depolarisation develops due to the following ions penetrating the membrane:

- a. Ca^{2+}
- b. HCO_3^-

c. Na^+

- d. Cl^-
- e. K^+

2212. Psychological evaluation determined that a person is able to quickly adapt to changing situation, has good memory, is emotionally stable, possesses of high working ability. This person is the most likely to be:

a. Phlegmatic with melancholic traits

b. Sanguine

- c. Melancholic
- d. Choleric
- e. Phlegmatic

2213. An oculist has detected increased time of darkness adaptation of a patient's eye. What vitamin deficiency can cause such symptom?

- a. E
- b. K
- c. D

d. A

e. C

2214. A patient suffers from diabetes mellitus with fasting hyperglycemia over 7,2 mmol/l. What blood plasma protein would allow to assess the patient's glycemia level retrospectively (4-8 weeks prior to examination)?

a. Ceruloplasmin

b. Glycated hemoglobin

- c. Fibrinogen
- d. Albumin
- e. C-reactive protein

2215. A patient is in the state of hypoglycemic coma. What hormone can cause this condition if overdosed?

- a. Cortisol
- b. Progesterone

c. Insulin

- d. Somatotropin
- e. Corticotropin

2216. A 24-year-old patient has been administered glutamic acid to treat epilepsy. Medicinal effect in this case occurs not due to glutamate itself, but due to the product of its decarboxylation:

- a. Dopamine
- b. Taurine
- c. Histamine 4-monooxygenase
- d. Serotonin

e. γ -aminobutyric acid

2217. Mucin aggregates retain water, which results in their viscosity and protective action. It is possible because mucin structure contains:

- a. Glucose
- b. Glycosaminoglycans**
- c. Disaccharides
- d. Homopolysaccharides
- e. Oligosaccharides

2218. Along with normal hemoglobin types there can be pathological ones in the body of an adult. Specify one of them:

- a. HbA1
- b. HbF

c. HbS

- d. HbA2
- e. HbO2

2219. Chronic overdosage of glucocorticoids leads to the development of hyperglycemia. What process of carbohydrate metabolism is responsible for this effect?

- a. Aerobic glycolysis
- b. Glycogenolysis

c. Gluconeogenesis

- d. Pentose-phosphate cycle
- e. Glycogenesis

2220. After anaesthetic application during tooth extraction the patient developed marked soft tissue edema of the upper and lower jaw, skin rash on the face, reddening, and itching. What pathological process results in such reaction to the anaesthetic?

- a. Circulatory deficiency
- b. Disturbed lymph drainage
- c. Toxic action of a drug
- d. Inflammation

e. Allergy

2221. Due to morbid affection of the supraoptic and paraventricular nuclei of the hypothalamus a 40-year-old patient has developed polyuria (10-12 liters per day) and polydipsia. The following hormone is deficient, thus leading to this disturbance:

- a. Oxytocin

- b. Somatotropin
- c. Thyrotropin
- d. Vasopressin**
- e. Corticotropin

2222. A patient with glossitis presents with disappearance of lingual papillae, reddening and burning pain in the tongue. Blood test: erythrocytes $2, 2 \times 10^{12}/l$, hemoglobin — 103 g/l, color index — 1,4. What type of anemia is it?

- a. α -thalassemia
- b. Iron deficiency
- c. B12 folate-deficient**
- d. β -thalassemia
- e. Iron refractory

2223. A patient with chronic renal failure presents with reduced inulin clearance of 60 ml/min. The following renal function is disturbed:

- a. Reabsorption in the proximal tubular segment of the nephron
- b. Tubular secretion
- c. Glomerular filtration**
- d. Reabsorption in the distal tubular segment of the nephron
- e. Reabsorption in the tubules of collecting duct

2224. Histological investigation of an extracted tooth revealed presence of necrotic detritus with fatty acid crystals and numerous microbe colonies in the pulp chamber. What diagnosis is the most likely?

- a. Complicated chronic pulpitis
- b. Chronic pulpitis
- c. Pulp gangrene**
- d. Serous pulpitis
- e. Purulent pulpitis

2225. Autopsy of a man with tuberculosis has 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. Acute focal tuberculosis
- b. Acute cavernous tuberculosis
- c. Fibrous focal tuberculosis
- d. Tuberculoma
- e. Fibrous cavernous tuberculosis**

2226. Histological investigation of renal biopsy material taken from a patient with tuberculosis has revealed chaotically located chromatin granules in the focus of caseous necrosis. These changes are the result of:

- a. Apoptosis
- b. Karyorrhexis**
- c. Karyopyknosis
- d. Karyolysis
- e. Mitotic activity of nuclei

2227. During inspection of dental tools for sterility in one case gram-positive cocci were detected. They were situated in clusters and yielded positive plasma coagulation reaction; the cocci were fermenting mannitol in anaerobic conditions and exhibiting lecithinase activity. What microorganism was detected?

- a. *Corinebacterium xerosis*
- b. Staph. aureus**
- c. *St. saprophiticus*
- d. *St. epidermidis*
- e. *Str. pyogenes*

2228. Analysis of sputum taken from a patient with suspected pneumonia revealed slightly elongated gram-positive diplococci with tapered opposite ends. What microorganisms were revealed in the sputum?

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

2229. Microscopic examination of pus sample taken from mandibular fistula canal and stained by Gram's method has revealed druses with gram-positive coloring in the center and cone-shaped structures with gram-negative coloring. Such morphology is characteristic of the agent of:

- a. Staphylococcal osteomyelitis
- b. Fusobacteriosis
- c. Candidiasis
- d. Anaerobic infection
- e. Actinomycosis**

2230. A puncture sample has been taken from the inguinal lymph nodes of a patient provisionally diagnosed with plague. The sample was inoculated into hard nutrient medium. What shape will the colonies have, if the diagnosis is confirmed?

- a. "Dewdrops"
- b. "Mercury drops"
- c. "Lace handkerchief"**
- d. "Shagreen leather"
- e. "Lion's mane"

2231. To perform conduction anesthesia a patient had been administered a drug used in dental surgery. The patient developed the symptoms of poisoning: central nervous system excitation followed by paralysis and acute cardiovascular insufficiency (collapse). Additionally there were allergic reactions (itching, swelling, erythema). Name this drug:

- a. Tubocurarin chloride
- b. Pipecuronium bromide
- c. Suxamethonium chloride
- d. Thiopental sodium
- e. Lidocaine**

2232. Enzymes and other active substances regulating connective tissue density and permeability are being produced in connective tissue cells. What enzyme drug is used to make the connective tissue growths looser and more permeable?

- a. Amylase
- b. Cocarboxylase
- c. Cholinesterase
- d. Lydase**
- e. Lipase

2233. A schizophrenic patient has been prescribed aminazine. What pharmacodynamic action of this drug justifies its prescription in this case?

- a. Muscle relaxant
- b. Hypotensive
- c. Antiemetic
- d. Hypothermic
- e. Antipsychotic**

2234. A patient with maxillofacial joint arthritis has come to a dentist. The dentist prescribed an ointment with an antiinflammatory agent that is a pyrazolone derivative. Name this agent:

- a. Mefenamic acid
- b. Indometacin

c. Diclofenac sodium

d. Butadion (Phenylbutazone)

e. Ibuprofen

2235. A 55-year-old man with acute heart failure has been administered a quickrelief cardiac glycoside. Which of the following drugs has been given to the patient?

a. Celanid

b. Milrinone

c. Adonisidum

d. Digitoxin

e. Strophanthin

2236. A patient suffering from ciliary arrhythmia with anamnesis of bronchial asthma should be prescribed an antiarrhythmic drug. What antiarrhythmic drug is CONTRAINDICATED in this case?

a. Nifedipine

b. Novocainamide (Procainamide)

c. Ajmaline

d. Verapamil

e. Anaprilin (Propranolol)

2237. A 35-year-old woman is diagnosed with faucial diphtheria. The patient died with signs of acute heart failure. On autopsy: heart cavities are enlarged in the diameter, heartmuscle is dull, flaccid, striped on section, with yellowish areas under the endocardium. What type of degeneration was detected in cardiac hystiocytes?

a. Carbohydrate

b. Hyaline droplet

c. Hydropic

d. Fatty

e. Ballooning

2238. A 67-year-old patient has ordered a full functional denture. It was necessary to extract his left upper canine. After infraorbital anaesthesia the patient presented with progressing hematoma in the frontal part of his face. The patient was found to have an injury of the artery that is the branch of:

a. A. ophthalmica

b. A. labialis superior

c. A. facialis

d. A. temporalis superficialis

e. A. maxillaris

2239. A woman, who had undergone mastectomy due to breast cancer, was prescribed a course of radiation therapy. What vitamin preparation has marked antiradiation effect due to its antioxidant activity?

a. Tocopherol acetate

b. Riboflavin

c. Folic acid

d. Cyanocobalamin

e. Ergocalciferol

2240. Often the cause of secondary immunodeficiency is an infectious affection of an organism, when agents reproduce directly in the cells of immune system and destroy them. Specify the diseases, during which the described above occurs:

a. Tuberculosis, mycobacteriosis

b. Dysentery, cholera

c. Q fever, typhus

d. Infectious mononucleosis, AIDS

e. Poliomyelitis, viral hepatitis type A

2241. Premature babies often develop respiratory distress syndrome. This pathology is caused by the

deficiency of a certain component of the blood-air barrier. Name this component:

- a. Alveolar basement membrane
- b. Alveolocytes
- c. Capillary endothelium
- d. Endothelial basement membrane
- e. Surfactant**

2242. A forensic laboratory received clothes of a citizen, who a day before was reported missing. The clothes were found in a shed, there are red stains identified as blood by an expert. What reaction should be performed to determine whether these red stains are dried human blood?

- a. Circular precipitation**
- b. Flocculation
- c. Agglutination
- d. Enzyme immunoassay
- e. Complement binding

2243. A patient has a history of chronic heart failure. Which of the following hemodynamic parameters is a major symptom of cardiac decompensation development?

- a. Increased central venous pressure
- b. Decreased stroke volume**
- c. Tonogenic dilatation
- d. Tachycardia development
- e. Increased peripheral vascular resistance

2244. A 45-year-old patient with essential hypertension, who has been taking an antihypertensive drug for 4 days, notes that his blood pressure is normalized; however the patient complains of sleepiness and sluggishness. What drug is the patient taking?

- a. Clonidine (Clonidine)**
- b. Captopril
- c. Apressin (Hydralazine)
- d. Enalapril
- e. Prazosin

2245. Due to trauma the patient's parathyroid glands have been removed, which resulted in inertness, thirst, sharp increase of neuromuscular excitability. Metabolism of the following substance is disturbed:

- a. Manganese
- b. Molybdenum
- c. Zinc
- d. Calcium**
- e. Chlorine

2246. A doctor has established significant growth retardation, disproportional body build, and mental deficiency of a child. What is the most likely cause of this pathology?

- a. Genetic defects
- b. Hypopituitarism
- c. Insufficient nutrition
- d. Hyperthyroidism
- e. Hypothyroidism**

2247. To terminate hypertensive crisis the patient was administered solution of magnesium sulfate. What route of drug administration should be chosen?

- a. Intra-arterial
- b. Intravenous**
- c. Rectal
- d. Duodenal
- e. Oral

2248. A specimen presents an endocrine system organ covered with capsule made of connective tissue. Septa branch off from the capsule inwards and divide the organ into lobules. Each lobule consists of two cell types: neurosecretory pinealocytes (polygonal cells with processes) located in the center and gliocytes (astrocytes) located at the periphery. What organ is represented in this specimen?

- a. Thyroid gland
- b. Adrenal medulla
- c. Pituitary gland
- d. Hypothalamus
- e. Epiphysis**

2249. After introduction of adrenaline the patient's blood glucose level increased. It is caused by intensified:

- a. Glycogenolysis in the liver**
- b. Glycolysis in the skeletal muscles
- c. Glycogenolysis in the muscles
- d. Glycogen synthesis
- e. Glycolysis in the liver

2250. A 20-year-old young man, who started to train systematically in athletics, has the following resting-state blood values: erythrocytes — $5,5 \times 10^{12}/l$, reticulocytes — 12%, hemoglobin — 160 g/l, color index — 1,03. Such blood values indicate erythropoiesis stimulation due to the following occurring in the process of his training:

- a. Hypercapnia
- b. Hyperventilation
- c. Hyperglycemia
- d. Hypoxemia**
- e. Physical activity

2251. In the armpits of a patient there are small (1-1,5 mm), dorsoventrally flattened, wingless, blood-sucking insects. Their larvae have been developing in the armpits as well. What disease is caused by these insects?

- a. Sleeping sickness
- b. Plague
- c. Relapsing fever
- d. Phthiriasis**
- e. Chagas' disease

2252. To treat peptic ulcer disease of the stomach a patient has been prescribed famotidine. Specify the mechanism of action of this drug:

- a. Effect on cell membrane transport system
- b. H₂ histamine receptors block**
- c. Antienzyme action
- d. Effect on ion channels of cell membranes
- e. Physicochemical interaction

2253. A student, who unexpectedly met his girlfriend, developed an increase in systemic arterial pressure. This pressure change was caused by the intensified realization of the following reflexes:

- a. Unconditioned parasympathetic
- b. Unconditioned sympathetic
- c. Conditioned parasympathetic
- d. Conditioned sympathetic and parasympathetic
- e. Conditioned sympathetic**

2254. A connective tissue specimen stained with hematoxylin-eosin shows isogenous cell groups surrounded with basophilic intercellular substance. No fibrous structures are detected. What type of connective tissue is it?

- a. Loose fibrous tissue

- b. Splenic bone tissue
- c. Elastic cartilage tissue
- d. Dense fibrous tissue

e. Hyaline cartilage tissue

2255. A 36-year-old patient consulted an ophthalmologist about eye ache. The examination revealed erosion of the cornea, that is the lack of superficial and spinous layers of the epithelium. What cells will provide regeneration of the damaged epithelium?

a. Cells of stratum basale

- b. Cells of stratum granulosum
- c. Cells of stratum superficiale
- d. Cells of stratum lucidum
- e. Cells of stratum corneum

2256. A patient undergoing treatment with nitrofurans has imbibed a small amount of alcohol, which resulted in severe poisoning. The poisoning developed due to:

a. Accumulation of acetic aldehyde

- b. Neural disorder
- c. Disturbed renal function
- d. Cardiovascular collapse
- e. Allergic reaction

2257. During development of a frostbite the exposed skin becomes pale and its temperature drops. What mechanism is the basis of these developments?

- a. Decreased heart rate
- b. Closure of arteriovenous anastomoses
- c. Dermal and subcutaneous vasodilatation
- d. Visceral vasoconstriction

e. Reflex vasoconstriction

2258. A patient during fasting developed ketoacidosis as a result of increased fatty acids decomposition. This decomposition can be inhibited with:

- a. Glucagon
- b. Thyroxin
- c. Cortisol

d. Insulin

e. Adrenaline

2259. Examination of a patient revealed glycosuria and hyperglycemia. He complains of dry mouth, itchy skin, frequent urination, thirst. He has been diagnosed with diabetes mellitus. What is the cause of polyuria in this patient?

- a. Decreased cardiac output
- b. Increased plasma oncotic pressure
- c. Decreased plasma oncotic pressure
- d. Increased filtration pressure

e. Increased urine osmotic pressure

2260. Due to overdosage of a vasodilator a 58-year-old patient has developed acute vascular insufficiency. What drug would be advisable for termination of this pathological condition?

a. Aethimizolum (Methylamide)

b. Mesaton (Phenylephrine)

- c. Dopamine
- d. Euphyllin (Aminophylline)
- e. Cordiamin

2261. To treat chronic heart failure a patient takes digoxin. What diuretic can increase digoxin toxicity due to increased excretion of K⁺ ions?

a. Silibor

- b. Lisinopril
- c. Spironolactone
- d. Panangin

e. Hydrochlorothiazide

2262. A patient, who had been eating only polished rice, developed polyneuritis caused by thiamine deficiency. What compound can be indicative of this kind of avitaminosis when excreted with urine?

- a. Methylmalonic acid
- b. Malate

c. Pyruvic acid

- d. Uric acid
- e. Phenylpyruvate

2263. A doctor examined a patient, studied the patient's blood analyses and concluded that the peripheral organs of immunogenesis are damaged. What organs are the most likely to be affected?

- a. Kidneys
- b. Thymus

c. Tonsils

- d. Red bone marrow
- e. Yellow bone marrow

2264. In what organ biotransformation (metabolic transformation) of most medicinal agents occurs upon their introduction into an organism?

- a. Kidneys
- b. Skin
- c. Lungs

d. Liver

- e. Intestine

2265. A patient has been diagnosed with bicuspid valve insufficiency. Where is this valve located?

a. Between the left atrium and left ventricle

- b. Between the left and right atria
- c. At the aortic orifice
- d. Between the left and right ventricles
- e. Between the right atrium and right ventricle

2266. In the epicenter of the registered rabies cases among wild animals a 43-year-old man came to a clinic and claimed to have been bitten by a stray dog. He was given a course of anti-rabies vaccine. This preparation belongs to the following type of vaccines:

- a. Toxoids
- b. Synthetic
- c. Inactivated
- d. Molecular

e. Attenuated

2267. In Western Europe nearly half of all congenital malformations occur in the children conceived in the period when pesticides were used extensively in the region. These congenital conditions are the result of the following factor:

a. Teratogenic

- b. Malignization
- c. Mechanical
- d. Mutagenic
- e. Carcinogenic

2268. Gastrulation is the period of embryogenesis, when germinal layers are formed, resulting in three-layered structure of an embryo. What gastrulation mechanism is characteristic of a human embryo?

- a. Delamination and epiboly

b. Delamination and immigration

- c. Epiboly
- d. Invagination
- e. Immigration and invagination

2269. A 19-year-old young man has been examined in a nephrological hospital. Increased potassium content was detected in secondary urine of the patient. Such alterations are the most likely to be caused by the increased secretion of the following hormone:

- a. Glucagon
- b. Testosterone
- c. Oxytocin
- d. Adrenaline

e. Aldosterone

2270. A 12-year-old boy has tetanic convulsions. What gland can be functionally impaired in this case?

- a. Glandula thyroidea
- b. Hypophysis

c. Glandulae parathyroidae

- d. Thymus
- e. Glandula pinealis

2271. A man came to a surgeon with complains of pain in his lower right abdomen. On deep palpation the doctor detected a painful area in the right inguinal region. What part of the intestine is the most likely to be affected with pathological process?

- a. Rectum

b. Cecum

- c. Descending colon
- d. Transverse colon
- e. Sigmoid colon

2272. During investigation of skin epithelium it was determined, that it consists of several cellular layers. Epithelial cells of the external layer have no nuclei. What type of epithelium is it?

- a. Multirow columnar epithelium

b. Keratinized stratified squamous epithelium

- c. Transitional epithelium
- d. Non-keratinized stratified squamous epithelium
- e. Multirow ciliary epithelium

2273. A histological specimen shows terminal secretory parts of glands made of conic cells with basophilic cytoplasm and a roundish nucleus in the centre. Specify the type of terminal secretory parts by the type of secretion:

- a. Seromucous

b. Serous

- c. Combined
- d. Sebaceous
- e. Mucous

2274. Electron diffraction pattern of a spermatozoon clearly presents a sheathlike structure localized in the spermiocalypotrotheca and participating in dissolution of ovular membranes. Name this structure:

a. Acrosome

- b. Microtubules
- c. Segmented columns
- d. Axoneme
- e. Centriole

2275. A patient complains of toothache. On examination he has been diagnosed with pulpitis. Which

factor played the main pathogenic role in the development of pain syndrome in this case?

- a. Increased intratissular pressure in the dental pulp
- b. Inadequate stimulation of the mandibular nerve branch
- c. Interleukin action
- d. Activation of one of the complement system components
- e. Vasospasm

2276. The patient's saliva has been tested for antibacterial activity. What saliva component has antibacterial properties?

- a. Ceruloplasmin
- b. Amylase
- c. Lysozyme
- d. Parotin
- e. Cholesterol

2277. A patient with a bleeding knife wound in the area of carotid triangle has been delivered to a hospital. Blood flowing from the wound is dark. What vessel is injured?

- a. Facial artery
- b. Facial vein
- c. External jugular vein
- d. Internal carotid artery
- e. Internal jugular vein

2278. A patient with symptoms of acute heart failure, namely pallor, acrocyanosis, and rapid shallow breathing, has been delivered to an emergency department. Which of these drugs is indicated in this case?

- a. Corglycon
- b. Cordiamine
- c. Adrenalin hydrochloride
- d. Nitroglycerine
- e. Digitoxin

2279. A victim of an earthquake has been remaining under debris for 7 days without food or water. What type of starvation is it?

- a. Quantitative
- b. Complete with continued hydration
- c. Complete
- d. Qualitative
- e. Incomplete

2280. Micromanipulator was used to extract one of the two centrioles of centrosome (cell center) from hepatocyte (liver cell). What process will STOP OCCURRING in this cell?

- a. Lipid synthesis
- b. Division
- c. Glycogen synthesis
- d. Energy exchange
- e. Protein biosynthesis

2281. During an experiment aimed as study of respiration regulation processes the peripheral chemoreceptors of test animals were stimulated, which resulted in changed respiratory rate and depth. Where are these receptors localized?

- a. Capillary bed, aortic arch, carotid sinus
- b. Capillary bed, carotid sinus
- c. Atria, carotid sinus
- d. Aortic arch, carotid sinus
- e. Capillary bed, aortic arch

2282. After an abortion a 25-year-old woman developed oliguria, anuria, and increasing azotemia.

The patient died of acute renal failure. Autopsy revealed degeneration and necrosis of the convoluted renal tubules epithelium. What disease was the cause of death in this case?

a. Acute necrotizing nephrosis

- b. Chronic glomerulonephritis
- c. Rapidly progressive glomerulonephritis
- d. Renal amyloidosis
- e. Acute pyelonephritis

2283. A child with a foreign body in the lungs has been hospitalized. What bronchus is the most likely to contain this foreign body, if its diameter approximates to 1,5 cm?

a. Right primary bronchus

- b. Left primary bronchus
- c. Right segmental bronchus
- d. Left segmental bronchus
- e. Lobar bronchus

2284. During examination of the oral cavity at the vestibular surface of the lower right incisor there was detected a rounded growth on the thin pedicle. Histologically: in the connective tissue there are numerous thin-walled sinusoids, hemorrhage areas, hemosiderin foci, and giant cells resembling osteoclasts. Make the diagnosis:

a. Cavernous hemangioma

b. Giant cell epulis

- c. Angiomatous epulis
- d. Granular cell ameloblastoma
- e. Gingival fibromatosis

2285. A 35-year-old man has come to a dentist with complaints of decreased density of the dental tissue and increased brittleness of his teeth during consumption of hard food. Laboratory analysis measured Ca/P correlation in the enamel sample. What value of Ca/P indicates increased demineralization?

a. 1,5

b. 0,9

- c. 1,85
- d. 1,67
- e. 2,5

2286. During examination a dentist noticed bowl-shaped defects on the frontal surface of the patient's canines in the cervical area. Microscopically the pulp is covered with compacted dentin, slightly atrophied and sclerosed. What pathological process occurs in the patient?

a. Cuneiform defects

- b. Median caries
- c. Deep caries
- d. Stage of chalky white spots
- e. Superficial caries

2287. A patient complains of frequent bowel movements and stool with blood admixtures ("raspberry jelly" stool). Microscopic examination revealed large mononuclear cells with absorbed red blood cells. What protozoon is this morphological structure typical of?

a. Entamoeba histolytica

- b. Campylobacter jejuni
- c. Balantidium coli
- d. Toxoplasma gondii
- e. Giardia lamblia

2288. During teeth examination on the lateral surface of the first upper molar there was detected a cone-shaped carious cavity with base oriented towards the tooth surface and apex — towards the tooth center. Softened dentin is visible at the floor of the carious cavity. Make the diagnosis:

a. -

b. Dentin caries

- c. Cement caries
- d. Enamel caries
- e. Tooth erosion

2289. After restoration of maxillary incisors with artificial crowns a 44-year-old woman was found to have a brownish growth in the form of a node 15mm in diameter. Histological study revealed that under the stratified squamous epithelium of the gingiva there was a connective tissue mass with numerous sinusoidal vessels, oval-shaped mononuclear cells forming osteoid substance, and polynuclear giant cells that destroyed the alveolar ridge of the upper jaw. What is the most likely diagnosis?

a. Giant cell epulis

- b. Angiomatous epulis
- c. Eosinophilic granuloma
- d. Gingival fibromatosis
- e. Fibromatous epulis

2290. A woman is diagnosed with fatty tissue inflammation located between the leaves of broad ligament of the uterus. Name this anatomical structure:

- a. Myometrium
- b. Perimetrium

c. Parametrium

- d. Endometrium
- e. Mesometrium

2291. Normal metabolic rate and energy expenditure should be taken into account when actual basal metabolic rate of a patient is being determined by means of indirect calorimetry. Normal metabolic rate can be determined most accurately based on the patient's:

- a. Respiratory coefficient and body surface area
- b. Body surface area and weight

c. Sex, age, height and weight

- d. Height and respiratory coefficient
- e. Respiratory coefficient and caloric coefficient of oxygen

2292. On microscopic examination of leftovers of the canned meat eaten by a patient with severe food toxicoinfection the following was detected: gram-positive bacilli with subterminal staining defect and configuration alteration of bacilli generally resembling a tennis racket. What agent was detected?

- a. *S. aureus*
- b. *S. enteritidis*
- c. *P. vulgaris*

d. *C. botulinum*

- e. *E. coli*

2293. The patient's examination in a hospital specialised in diseases of the nervous system has revealed absence of light-induced miosis. It is caused by the damage of the following brain structures:

- a. Hypothalamus nuclei
- b. Reticular nuclei of medulla oblongata
- c. Red nuclei of mesencephalon
- d. Reticular nuclei of mesencephalon

e. Vegetative nuclei of the 3rd pair of cranial nerves

2294. A newborn boy has been diagnosed with hydrocephalus. Doctors consider it to be caused by teratogenic factors. What germ layers are affected by the teratogen?

- a. Endoderm
- b. Mesoderm
- c. All embryo germ layers
- d. Endoderm and mesoderm

e. Ectoderm

2295. A patient on the 2nd day after cardiac infarction presents with acute decrease of systolic blood pressure down to 60 mm Hg with tachycardia 140/min., dyspnea, loss of consciousness. What mechanism is essential in the pathogenesis of shock developed in this case?

- a. Development of paroxysmal tachycardia
- b. Development of anaphylactic reaction to myocardial proteins
- c. Increased myocardial excitability caused by products of necrotic disintegration
- d. Decreased circulating blood volume

e. Decreased cardiac output

2296. For biochemical diagnostics of cardiac infarction it is necessary to determine activity of a number of enzymes and their isoenzymes in the blood. What enzyme assay is considered to be optimal for confirming or ruling out cardiac infarction at the early stage, after the patient develops thoracic pain?

- a. LDH1 isoenzyme
- b. Creatine kinase MM isoenzyme
- c. Creatine kinase MB isoenzyme**
- d. LDH5 isoenzyme
- e. Cytoplasmic isoenzyme of aspartate aminotransferase

2297. A 56-year-old man presents with parathyroid tumor. The following is observed: muscle weakness, osteoporosis, bone deformation, nephroliths consisting of oxalates and phosphates. The patient's condition is caused by:

- a. Increased secretion of thyroxin
- b. Increased secretion of parathyroid hormone**
- c. Increased secretion of calcitonin
- d. Decreased secretion of parathyroid hormone
- e. Decreased secretion of calcitriol

2298. There is increased activity of AST, LDH1, LDH2, and CPK in the patient's blood. Pathological process most likely occurs in the:

- a. Adrenal glands
- b. Heart**
- c. Kidneys
- d. Skeletal muscles
- e. Liver

2299. A patient suffering from acute vascular purpura is prescribed a first-generation antihistamine with local anaesthetic, antispasmodic, and sedative action. Specify this drug:

- a. Dibazol (Bendazol)
- b. Dimedrol (Diphenhydramine)**
- c. Dithylin
- d. Diazolin (Mebhydrolin)
- e. Droperidol

2300. A patient with autoimmune thyroiditis has been prescribed a peptide hormonal agent. Specify this agent:

- a. Triquilar
- b. Tamoxifen
- c. Trimethoprim
- d. Triamcinolone
- e. L-thyroxin**

2301. A 42-year-old woman, who has been keeping to a vegetarian diet for a long period of time, consulted a doctor. Examination revealed negative nitrogen balance in the patient. What factor is the most likely cause of such a condition?

- a. Excessive amount of fats in the diet
- b. Insufficient amount of dietary fiber
- c. Insufficient amount of proteins in the diet**

- d. Insufficient amount of fats in the diet
- e. Decreased rate of metabolic processes

2302. Cytogenetic analysis allowed to determine the patient's karyotype — 47, XY, +21/46, XY. Name this condition:

- a. Genocopy
- b. Phenocopy
- c. Deletion
- d. Translocation
- e. Mosaicism**

2303. A patient, who after a trauma suffers from impeded active flexion of elbow, consulted a traumatologist. What muscle is the most likely to be damaged?

- a. M. pectoralis major
- b. M. coracobrachialis
- c. M. latissimus dorsi
- d. M. biceps brachii**
- e. M. deltoideus

2304. In the patient's feces there were eggs of Fasciola hepatica. The doctor, however, refrained from making diagnosis and insisted on a repeat of analysis, with beef liver excluded from the patient's diet. What led the doctor to make such decision?

- a. Absent symptoms of invasion
- b. Insufficient qualification of a laboratory assistant
- c. Lack of trust towards the investigation method
- d. Possible phenomenon of transient eggs**
- e. Uncertainty regarding the analysis precision

2305. A patient presents with dysfunction of the 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. γ -aminobutyric acid**
- b. Dopamine
- c. Histamine
- d. Acetylcholine
- e. Serotonin

2306. Red bone marrow has been damaged under radioactive emission of 5 Gy. What determines the red bone marrow sensitivity towards ionizing radiation?

- a. High content of free radicals in the cells
- b. Radiosensitizers in the cells
- c. Destructive effect of radiotoxins on DNA synthesis
- d. Intensive cell division**
- e. High content of peroxides in the cells

2307. A 40-year-old patient suffers from intolerance of dairy products. This condition has likely developed due to insufficiency of the following digestive enzyme:

- a. Invertase
- b. Amylase
- c. Lipase
- d. Maltase
- e. Lactase**

2308. A patient has been diagnosed with severe B12-deficient anemia with hemopoiesis disturbance. Anamnesis states total gastrectomy. What cells allow to confirm this diagnosis, if they are absent in the peripheral blood?

- a. Ovalocytes
- b. Microcytes

c. Megalocytes

d. Normocytes

e. Anulocytes

2309. To prevent wound infection associated with surgical procedures a patient was given a synthetic antiprotozoan drug demonstrating high activity against *Helicobacter pylori*. Specify this drug:

a. Acyclovir

b. Isoniazid

c. Doxycycline hydrochloride

d. Chingamin

e. Metronidazole

2310. A specimen of intestine demonstrates complex branching tubuloalveolar glands with their ends embedded in the submucous layer. What organ is it?

a. Jejunum

b. Colon

c. Cecum

d. Duodenum

e. Ileum

2311. After examining a patient a doctor recommended him to exclude rich meat and vegetable broths, spices, and smoked products from the diet, since the patient was found to have:

a. Reduced motility of the gastrointestinal tract

b. Reduced secretion of hydrochloric acid by the stomach glands

c. Increased secretion of hydrochloric acid by the stomach glands

d. Reduced salivation

e. Biliary dyskinesia

2312. Roentgenologically confirmed obstruction of common bile duct resulted in preventing bile from inflowing to the duodenum. What process is likely to be disturbed?

a. Hydrochloric acid secretion in stomach

b. Salivation inhibition

c. Protein absorption

d. Carbohydrate hydrolysis

e. Fat emulgaion

2313. Typical signs of food poisoning caused by *C. botulinum* include diplopia, swallowing and respiration disorders. These signs develop due to:

a. Adenylate cyclase activation

b. Adhesion of the agent to enterocyte receptors

c. Enterotoxin action

d. Enterotoxic shock development

e. Exotoxin action

2314. A patient in a grave condition has been delivered to an admission ward. Examination revealed pupil mydriasis, no reaction to the light, considerable reddening and dryness of skin and mucous membranes. What drug could have caused the intoxication symptoms?

a. Atropine sulphate

b. Adrenalin hydrochloride

c. Dithylinum

d. Pilocarpine hydrochloride

e. Proserin

2315. A patient consulted a therapist with complaints of pain in the chest, cough, fever. X-ray revealed eosinophilic infiltrates in the lungs, further investigation of which allowed to detect presence of larvae. What helminthiasis is it characteristic of?

a. Fascioliasis

b. Echinococcosis

c. Ascariasis

- d. Cysticercosis
- e. Trichiniasis

2316. As a result of an injury a child developed an abscess of adipose tissue of the cheek. With time the process spread to the lateral surface of the pharynx. Pus had spread along the following fascia:

a. -

b. Bucco-pharyngeal

- c. Masticatory
- d. Temporal
- e. Parotid

2317. Brain investigation by means of nuclear magnetic resonance revealed the patient to have a hematoma in the genu of the internal capsule. What pathway is damaged in this case?

- a. Tr. cortico-thalamicus
- b. Tr. thalamo-corticalis
- c. Tr. cortico-spinalis
- d. Tr. cortico-fronto-pontinus

e. Tr. cortico-nuclearis

2318. Cytochemical investigation revealed high content of hydrolytic enzymes in the cytoplasm. This phenomenon indicates the activity of the following organelles:

- a. Mitochondria
- b. Endoplasmic reticulum

c. Lysosomes

- d. Polysomes
- e. Cell center

2319. A victim of a traffic accident has lost thoracic respiration but retains diaphragmal. The spinal cord is most likely to be damaged at:

a. VI-VII cervical segments

- b. XI-XII cervical segments
- c. I-II sacral segments
- d. I-II lumbar segments
- e. I-II cervical segments

2320. Preventative examination of a 55-year-old patient revealed type II diabetes mellitus. An endocrinologist detected an increase in body weight and liver enlargement. The man is a non-smoker and does not abuse alcohol but likes to have a "hearty meal". Histological examination by means of diagnostic liver puncture revealed that the hepatocytes were enlarged mostly on the lobule periphery, their cytoplasm had transparent vacuoles that reacted positively with sudan III. What liver pathology was revealed?

- a. Acute viral hepatitis
- b. Alcohol hepatitis
- c. Portal liver cirrhosis

d. Fatty hepatosis

- e. Chronic viral hepatitis

2321. On microscopic examination of a surgical biopsy material (part of the lip with an ulcer) near the ulcer margins and under the ulcer floor in the connective tissue of mucosa there are epithelial complexes composed of atypical stratified epithelium with pathological mitotic figures. Within these complexes there are accumulations of bright pink concentric formations. What pathology is it?

- a. Papilloma
- b. Squamous cell nonkeratinous carcinoma

c. Squamous cell keratinous carcinoma

- d. Transitional cell carcinoma
- e. Basal cell carcinoma

2322. During examination of a patient with a periodontal disease it would be advisable to investigate functional state of blood vessels of the dentomaxillary area. What method can be applied in this case?

a. Rheography

- b. Sphygmography
- c. Electroodontodiagnostics
- d. Chronaximetry
- e. Gnathodynamometry

2323. A patient with displaced fracture of the right coronoid process of mandible has been delivered to a first-aid center. What muscle had displaced the coronoid process?

a. Left masticatory muscle

b. Right temporal muscle

- c. Right lateral pterygoid muscle
- d. Right masticatory muscle
- e. Right medial pterygoid muscle

2324. A patient with bronchial asthma has developed a bronchial spasm during the visit to a dentist. Name the drug necessary to arrest the spasm:

a. Anaprilin (Propranolol)

b. Bisoprolol

c. Naphthizin

d. Mesaton (Phenylephrine)

e. Salbutamol

2325. Microscopy of an oval cell, 150 micron in size, revealed the following: cytoplasm has yolk inclusions but no centrioles. Name this cell:

a. Fibroblast

b. Macrophage

c. Leucocyte

d. Myocyte

e. Oocyte

2326. A worker of a cattle farm consulted a surgeon about fever up to 40°C, headache, weakness. Objective examination of his back revealed hyperemia and a dark red infiltration up to 5 cm in diameter with black bottom in its center, which was surrounded with pustules. What disease are these presentations typical of?

a. Furuncle

b. Abscess

c. Plague

d. Tularemia

e. Anthrax

2327. The autopsy of a 37-year-old man has revealed the following: in the aorta on the smooth glossy ivory-colored intima there are yellowish-gray spots blending with each other, which form stripes that do not protrude from the intima surface. Microscopy reveals swelling and destruction of elastic membranes, diffuse impregnation of aortic wall with orange granules (if stained with Sudan III), orange coloring of macrophage cytoplasm and nonstriated muscle elements. Specify this process:

a. Liposclerosis of the aorta

b. Atherocalcinosis of the aorta

c. Imbibition of the aorta with cadmium salts

d. Lipoidosis of the aorta

e. Atheromatosis of the aorta

2328. A patient with acute bronchitis has been prescribed sulfanilamide drugs for treatment. In an hour after administration the patient developed itching and vesicles filled with light transparent liquid on the face, palms and soles. Name the mechanism of immune response:

a. Immune complex-mediated hypersensitivity

b. -

c. Antibody-mediated cytotoxicity

d. Cell cytotoxicity

e. Reaginic reaction

2329. A 47-year-old man consulted a dentist about difficult mouth opening (trismus). The patient has a history of a stab wound of the lower extremity. What infection can be manifested by these symptoms?

a. Brucellosis

b. Anaerobic wound infection

c. Tularemia

d. Tetanus

e. Whooping cough

2330. A 69-year-old patient developed a small plaque with subsequent ulceration on the skin of the lower eyelid. The formation was removed. Microscopic examination of dermis revealed complexes of atypical epithelial cells arranged perpendicularly to the basal membrane on the periphery. The cells were dark, of polygonal prismatic shape, and had hyperchromic nuclei with frequent mitoses. What is the histological form of carcinoma in this patient?

a. Undifferentiated carcinoma

b. Basal cell carcinoma

c. Nonkeratinizing squamous cell carcinoma

d. Keratinizing squamous cell carcinoma

e. Adenocarcinoma

2331. A 68-year-old man, who had been suffering from essential hypertension for a long time, was delivered to a resuscitation unit with hemiplegia. The patient died after 7 hours. On autopsy: in the right cerebral hemisphere there is a cavity 5x5 cm in size with uneven margins, filled with dark red blood clots. What cerebral circulation disorder developed in the patient?

a. Hemorrhagic infiltration

b. Petechial hemorrhage

c. Local venous hyperemia

d. Hematoma

e. Thrombosis

2332. What factor results in the highest energy expenditure under the normal vital activity conditions?

a. Decrease of environment temperature

b. Increase of environment temperature

c. Action of skeletal muscles

d. Mental work

e. Food rich in calories

2333. To drain the oral cavity a dentist places a tampon between the cheek and the 2nd upper molar. This way secretion of the following salivary gland WILL NOT be able to accumulate in the oral cavity:

a. Lingual gland

b. Labial glands

c. Submandibular gland

d. Sublingual gland

e. Parotid gland

2334. During thermal stimulation it is characteristic of oral cavity blood vessels to:

a. Dilate in response to both cold and hot stimuli

b. Respond with constriction to cold stimuli

c. Respond depending on the vessel functional condition

d. Respond with constriction to hot stimuli

e. Present no response towards thermal stimuli

2335. After the cerebral hemorrhage a patient developed aphasia — lost the ability to articulate

words. The hemorrhage is localized in the:

- a. Inferior frontal gyrus
- b. Middle frontal gyrus
- c. Second temporal convolution
- d. First temporal convolution
- e. Superior frontal gyrus

2336. To assess the rate of collagen diKrok sintegration during certain connective tissue disturbances, it is necessary to measure the urine content of the following:

- a. Oxyproline
- b. Proline
- c. Urea
- d. Lysine
- e. Ornithine

2337. Deaf parents with genotypes DD^{ee} and dd^{EE} gave birth to a girl with normal hearing. Specify the form of D and E genes interaction:

- a. Complementary interaction
- b. Epistasis
- c. Overdominance
- d. Polymery
- e. Complete dominance

2338. A 33-year-old man has a cystic growth connected to the 2nd molar of the lower jaw. Within the cystic cavity there is a rudimentary tooth. On microscopy: inner cystic surface is covered with stratified squamous epithelium, there are groups of mucin-producing cells. What diagnosis is the most likely?

- a. Follicular ameloblastoma
- b. Follicular cyst
- c. Primordial cyst
- d. Periodontitis
- e. Radicular cyst

2339. In the course of an experiment researchers stimulate a branch of the sympathetic nerve that innervates heart. What alterations of cardiac activity should be registered?

- a. Decrease in heart force
- b. Increase in heart force
- c. Increase in arterial pressure
- d. Increase in heart rate and heart force
- e. Increase in heart rate

2340. A patient with a nasal trauma presents with skull fracture that circles the piriform opening. What bone is damaged?

- a. Nasal
- b. Maxillary
- c. Ethmoid
- d. Frontal
- e. Lacrimal

2341. During tooth brushing it is not uncommon for oral mucosa to be injured. However, bleeding quickly stops on its own. What substances in saliva quickly staunch the flow of blood during minor oral injuries?

- a. Lysozyme and mucin
- b. Procoagulants
- c. Amylolytic enzymes
- d. Lipolytic enzymes
- e. Mineral substances

2342. The autopsy of a 45-year-old man, who worked in organic acids production and died from uremia, has revealed reduced and completely destroyed crowns of the upper and lower incisors. Microscopy detects destruction of dentin and enamel, the pulp is covered with dense replacing dentin. What pathological process occurred in the teeth in this case?

- a. Cuneiform defects
- b. Hypercementosis
- c. Fluorosis
- d. Teeth erosion
- e. Necrosis of the hard tooth tissues**

2343. During postmortem examination of a 9-month-old infant it was determined that the cause of death was cerebral edema. What water-electrolyte imbalance is the most likely cause of the edema development?

- a. Hypoosmolar hyperhydration**
- b. Isoosmolar dehydration
- c. Hyperosmolar dehydration
- d. Isoosmolar hyperhydration
- e. Hyperosmolar hyperhydration

2344. An accident had resulted in a 65-year-old man drowning in a lake. Resuscitation measures allowed to restore his respiration and cardiac function. What factor prolongs the period of apparent death?

- a. Hyperthermia
- b. Elderly age
- c. -
- d. Hypothermia**
- e. Prolonged preagony and agony

2345. An athlete (a long-distance runner) during competition has developed acute heart failure. This pathology developed due to:

- a. Coronary blood flow disturbance
- b. Pericardial pathology
- c. Pressure overload
- d. Volume overload**
- e. Direct damage to myocardium

2346. In postabsorptive state glycogen synthesis is increased in liver and muscles. The synthesis involves the following substance:

- a. Adenosine triphosphate (ATP)
- b. Uridine triphosphate (UTP)**
- c. Cytidine triphosphate (CTP)
- d. Guanosine triphosphate (GTP)
- e. Thymidine triphosphate (TTP)

2347. A 50-year-old man, who has been suffering for a long time from viral hepatitis, developed mental impairments, impairments of consciousness, and motor disturbances (tremor, ataxia, etc.). What is the mechanism of such condition?

- a. Disturbed lipid exchange in the liver
- b. Alterations in the lipid composition of blood
- c. Insufficient phagocytic function of stellate macrophages
- d. Decreased synthesis of albumins and globulins in the liver
- e. Decreased detoxification function of the liver**

2348. A 30-year-old man had suffered a thoracic trauma in a traffic accident, which resulted in disturbance of external respiration. What ventilatory failure can be observed in this case?

- a. Mixed type
- b. Extrapulmonary restrictive**
- c. Obstructive

- d. Pulmonary restrictive
- e. Dysregulatory

2349. A girl is diagnosed with primary microcephaly that is a monogenic autosomal recessive disease. Her natural brother develops normally. What genotypes do the parents of these children have?

- a. AA x AA
- b. AA x aa
- c. AABB x AABB
- d. Aa x Aa**
- e. aa x aa

2350. A patient diagnosed with botulism has been prescribed antitoxin serum for treatment. What immunity will be formed in the given patient?

- a. Antimicrobial active immunity
- b. Antitoxic active immunity
- c. Antitoxic passive immunity**
- d. Antimicrobial passive immunity
- e. Infection immunity

2351. An 84-year-old patient suffers from parkinsonism. One of the pathogenetic development elements of this disease is deficiency of a certain mediator in some of the brain structures. Name this mediator:

- a. Adrenaline
- b. Histamine
- c. Acetylcholine
- d. Dopamine**
- e. Noradrenaline

2352. High-altitude dwellers typically demonstrate chronically intensified respiration and decreased pCO₂ value of blood. What mechanism is leading in the compensation of their acid-base imbalance?

- a. Decreased renal reabsorption of bicarbonate**
- b. Decreased pulmonary ventilation
- c. -
- d. Increased pulmonary ventilation
- e. Increased ammonia excretion with urine

2353. A patient has suffered a head injury. On examination there is a subcutaneous hematoma in the temporal area. What vessel was damaged, thus resulting in hematoma development?

- a. A. maxillaris
- b. A. buccalis
- c. A. occipitalis
- d. A. temporalis superficialis**
- e. A. auricularis posterior

2354. Due to severe pain syndrome a patient has been prescribed a narcotic analgesic. Specify the prescribed drug:

- a. Analgin (Metamizole)
- b. Dimexid
- c. Indometacin
- d. Morphine**
- e. Nimesulid

2355. A 50-year-old man came to a hospital with complaints of memory disorders, painful sensations along the nerve trunks, decreased mental ability, circulatory disorders and dyspepsia. Anamnesis states excessive alcohol consumption. What vitamin deficiency can result in such symptoms?

- a. Thiamine**
- b. Retinol
- c. Riboflavin

- d. Calciferol
- e. Niacin

2356. A young man has been performing physical exercises, holding a weight for a long time. What kind of muscle contraction is the most characteristic of these exercises?

- a. Isotonic
- b. Asynchronous
- c. Isovolumetric
- d. Isometric**
- e. Single

2357. A patient presents with lymphocytic-monocytic leukogram pattern. It is characteristic of:

- a. -
- b. Chronic inflammatory process**
- c. Allergies
- d. Acute inflammatory process
- e. Chronic radiation sickness

2358. A patient has been hospitalised with provisional diagnosis of diphyllbothriasis. What food products can be the cause of this condition?

- a. Fruit and vegetables
- b. Fish**
- c. Beef
- d. Pork
- e. Milk and eggs

2359. During examination of a woman she was found to have a luminal narrowing of the right jugular foramen (foramen jugulare). What cranial bones form this foramen?

- a. Temporal and cuneiform
- b. Occipital and frontal
- c. Temporal and occipital**
- d. Occipital and cuneiform
- e. Cuneiform and palatine

2360. What coenzyme of flavin-dependent dehydrogenases participates in the reactions of tricarboxylic acid cycle?

- a. Flavin mononucleotide (FMN)
- b. Thymidine diphosphate (TDP)
- c. Heme
- d. Flavin adenine dinucleotide (FAD)**
- e. Nicotinamide-adenine dinucleotide (NAD⁺)

2361. A patient is diagnosed with inflammatory process in the area of the excretory duct of submandibular gland. This duct opens to:

- a. Linea terminalis
- b. Recessus gingivalis
- c. Vestibulum oris
- d. Foramen caecum linguae
- e. Caruncula sublingualis**

2362. A patient suffering from arthritis is prescribed a COX2 selective inhibitor with anti-inflammatory action. Specify this drug:

- a. Celecoxib**
- b. Dimexid
- c. Analgin (Metamizole)
- d. Indometacin
- e. Butadion (Phenylbutazone)

2363. A patient has undergone recurring blood tests that revealed sharp fluctuations of glucose

content: significant increase in absorptive state and significant decrease in postabsorptive state.

What pathology can be the cause of it?

a. Endemic goiter

b. Aglycogenosis (glycogenosis type 0)

c. Diabetes mellitus type II

d. Diabetes mellitus type I

e. Acromegaly

2364. A person found oneself in an emotionally straining situation. As the result the blood adrenaline level has risen, therefore increasing the strength of cardiac contractions. In what way does adrenaline increase the strength of cardiac contractions?

a. Activates cardiac β -adrenergic receptors

b. Decreases tone of vagus nerves

c. Decreases excitability of pacemaker cells

d. Activates peripheral chemoreceptors

e. Activates vascular baroreceptors

2365. During a brain surgery stimulation of the cerebral cortex resulted in tactile and thermal sensations in the patient. What gyrus was stimulated?

a. Postcentral gyrus

b. Parahippocampal gyrus

c. Precentral gyrus

d. Superior temporal gyrus

e. Cingulate convolution

2366. A patient suffering from malaria has developed hemolytic anemia after taking primaquine antimalarial drug. Hereditary insufficiency of the following enzyme in erythrocytes will be observed in this case:

a. Glucose 6-phosphate dehydrogenase

b. Lipase

c. Phosphofructokinase

d. Fructose 1-phosphate aldolase

e. Triosephosphate isomerase

2367. Bacilli were extracted from the investigated sample. The bacilli are curved, extremely mobile, gramnegative, form no spores or capsules, have anaerobic form of respiration. They form transparent smooth colonies in alkaline agar, ferment saccharose and mannose into acid, produce exotoxin, fibrinolysin, collagenase, and hyaluronidase. What agent was extracted?

a. Blue pus bacillus

b. Colibacillus

c. Dysentery bacillus

d. Comma bacillus

e. Proteus

2368. A 30-year-old man with glomerulonephritis has developed nephrotic syndrome. What symptom invariably accompanies nephrotic syndrome?

a. Low urine specific gravity

b. Glucosuria

c. Proteinuria

d. Anemia

e. Azotemia

2369. Ulcer disease of the duodenum has been detected in a 38-year-old man. A treatment was prescribed after which the patient considered himself to be healthy. However, half a year later the patient developed pain in the epigastrium, heartburn, and insomnia. The patient's condition can be estimated as a:

a. Latent period

b. Pathological state

- c. Remission
- d. Development of chronic disease
- e. Relapse**

2370. Autosomal nondisjunction had occurred in a woman during meiosis. An ovum with the third copy of the 18th chromosome was formed. The ovum was impregnated by normal spermatozoon. The resulting child will suffer from:

- a. Patau's syndrome
- b. Klinefelter's syndrome

c. Edwards' syndrome

- d. Turner's syndrome
- e. Down's syndrome

2371. Amino acids join to each other in ribosomes of granular endoplasmic reticulum. Knowing the sequence of amino acids and applying genetic code, it is possible to determine the sequence of nucleotides in:

- a. Carbohydrates
- b. rRNA
- c. Introns
- d. Proteins

e. mRNA

2372. A patient suffers from an inflammatory process in the area of the lower wall of orbital cavity. What anatomical structure makes it possible for the inflammatory process to spread to the pterygopalatine fossa?

a. Inferior orbital fissure

- b. Supraorbital incisure
- c. Optic canal
- d. Posterior ethmoidal foramen
- e. Superior orbital fissure

2373. In 8 days after a surgery the patient developed tetanus. The surgeon suspects this condition to be caused by suture material contaminated by tetanus agent. The material is delivered to a bacteriological laboratory. What nutrient medium is required for primary inoculation of the suture material?

- a. Egg-yolk salt agar
- b. Hiss medium
- c. Endo agar
- d. Sabouraud agar

e. Kitt-Tarozzi medium

2374. A patient is diagnosed with deformed posterior portion of the nasal septum. What bone is deformed?

a. Vertical plate of palatine bone

b. Vomer

- c. Lateral pterygoid plate
- d. Medial pterygoid plate
- e. Perpendicular plate of ethmoid bone

2375. A patient suffers from disturbed blood supply of superior lateral surface of the cerebral hemispheres. What blood vessel is damaged?

a. Medial cerebral artery

- b. Posterior cerebral artery
- c. Posterior communicating artery
- d. Anterior communicating artery
- e. Anterior cerebral artery

2376. A victim of an accident has hemorrhage in the area of lateral surface of the mastoid process.

What branch of the external carotid artery supplies this area with blood?

- a. A. facialis
- b. A. temporalis superficialis
- c. A. auricularis posterior**
- d. A. maxillaris
- e. A. pharyngea ascendens

2377. A 33-year-old man presents with disturbed pain and thermal sensitivity after a spinal cord trauma. The following ascending tract is injured:

- a. Dorsal spinocerebellar
- b. Spinothalamic**
- c. Anterior corticospinal
- d. Lateral corticospinal
- e. Ventral spinocerebellar

2378. A patient is diagnosed with pancreatitis. Starch decomposition disturbance occurs in the patient's intestine due to deficiency of the following pancreatic enzyme:

- a. Tripsin
- b. Lipase
- c. Carboxypeptidase
- d. Amylase**
- e. Chymotrypsin

2379. Histologic specimen of a tooth slice shows a tissue consisting of intercellular substance permeated with tubules, in which cellular processes of odontoblasts are situated. What tissue is presented in this histologic specimen?

- a. Periodontium
- b. Dentin**
- c. Pulp
- d. Enamel
- e. Cement

2380. To test teeth sensitivity they are sprayed with cold or hot water. What structure of cerebral cortex provides subjective estimation of this thermal test?

- a. First temporal convolution
- b. Middle frontal gyrus
- c. Central fissure
- d. Posterior central gyrus**
- e. Precentral gyrus

2381. During oral cavity examination a dentist noticed eruption of the permanent canines in a child. The child grows and develops normally. Determine the child's age:

- a. 9-10 years
- b. 11-13 years**
- c. 6-7 years
- d. 13-16 years
- e. 8-9 years

2382. Autopsy of a 58-year-old man, who had been suffering from rheumatic heart disease and died of cardiopulmonary decompensation, revealed gray diffuse film- and fiber-shaped coating in his pericardium. What type of inflammation is characteristic of this pericarditis?

- a. Serous
- b. Diphtheritic fibrinous
- c. Suppurative
- d. Croupous fibrinous**
- e. Hemorrhagic

2383. During examination of the patient's oral cavity a dentist noticed deformation of the teeth and a

crescent indentation on the upper right incisor. The teeth are undersized, barrel-shaped — tooth cervix is wider than its edge. The patient uses a hearing aid, suffers from visual impairment. What type of syphilis affects teeth in such a way?

- a. Secondary
- b. Neurosyphilis
- c. Primary
- d. Early congenital
- e. Late congenital**

2384. Autopsy of a 45-year-old man revealed the following: wrinkled shagreen-resembling intima in the ascending aorta; elastic staining is negative. Wall of the left ventricle is up to 1,5 cm in width; no myocardial alterations. Specify the most probable disease of the aorta:

- a. Aortic failure
- b. -
- c. Atherosclerosis of the aorta
- d. Rheumatic vasculitis
- e. Syphilitic mesaortitis**

2385. A patient has developed a painful sore with soft ragged edges in the oral cavity. Microscopically there is lymphocytic infiltration with epithelioid and giant multinucleate Langhans cells in the sore floor. What diagnosis is the most likely?

- a. Ulcerative stomatitis (Vincent's stomatitis)
- b. Syphilis
- c. Tuberculosis**
- d. Ulcer-cancer
- e. Gangrenous stomatitis

2386. Lateral X-ray of the occipital bone area demonstrates fracture of the occipital condyle. Integrity of the following anatomical structure is disturbed:

- a. Canalis caroticus
- b. Foramen stylomastoideum
- c. Foramen mastoideum
- d. Canalis nervi hypoglossi**
- e. Foramen ovale

2387. In the process of embryogenesis of dentomaxillary system there was an enamel disturbance detected. What source of tooth development is damaged in this case?

- a. Oral cavity epithelium**
- b. Dental bulb
- c. Mesoderm
- d. Mesenchyme
- e. Dental sacculle

2388. The autopsy of the body of a man, who suffered from toxic diphtheria and died on the 9th day from the onset of disease with signs of cardiac decompensation, has revealed the following: dilated cardiac cavities, dull flaccid myocardium, myocardial section is variegated. Microscopy revealed fatty degeneration of cardiac hystiocytes, large foci of myocytolysis, stromal edema with scant lymphocytic and macrophageal infiltration. Specify the type of myocarditis in this case:

- a. Septic
- b. Interstitial
- c. Granulomatous
- d. Focal intermediate exudative
- e. Alterative**

2389. A doctor has made a diagnosis of gingivitis and recommended the patient to rinse the oral cavity with an oxidizing agent. Specify this agent:

- a. Boric acid
- b. Phenol

c. Brilliant green

d. Hydrogen peroxide

e. Salicylic acid

2390. In dental practice atropine sulfate is used to decrease salivation. This drug belongs to the following group:

a. Muscle relaxants

b. Muscarinic antagonists

c. β -adrenoceptor antagonists

d. α -adrenergic agonists

e. Ganglionic blockers

2391. A patient has developed a grayish-white dense protruding focus on the oral mucosa. Histologically there are hyperkeratosis, parakeratosis, and acanthosis of epithelium with lymphocytic and plasmocytic infiltration of underlying connective tissue in this area. What pathology has developed in the oral mucosa?

a. -

b. Leukoplakia

c. Leukoderma

d. Hyalinosis

e. Local tumor-like amyloidosis

2392. ?1. Several patients with similar complaints came to the doctor. They all present with weakness, pain in the intestines, indigestion. Feces analysis revealed the need for urgent hospitalization of the patient, who had microbial cysts with four nuclei detected in his samples. Such cysts are characteristic of the following protozoon:

a. *Lambli*a

b. *Entamoeba histolytica*

c. *Entamoeba coli*

d. *Balantidium*

e. *Trichomonad*

2393. A patient was diagnosed with a monogenic hereditary disease. Name this disease:

a. Hypertension

b. Poliomyelitis

c. Hymenolepiasis

d. Hemophilia

e. Peptic ulcer disease of the stomach

2394. According to the law of constancy of chromosome numbers, most animal species have definite and constant chromosome number. The mechanism that maintains this constancy during sexual reproduction of organisms is called:

a. Schizogony

b. Regeneration

c. —

d. Meiosis

e. Amitosis

2395. At a certain stage of human ontogenesis, physiological bond occurs between circulatory systems of the mother and the fetus. This function is being carried out by the following provisory organ:

a. Placenta

b. Amnion

c. Allantois

d. Serous tunic

e. Yolk sac

2396. According to the data collected by WHO researchers, every year there are approximately 250

million malaria cases occur in the world. This disease can be encountered predominantly in tropical and subtropical areas. The spread of this disease matches the natural habitat of the following genus of mosquitoes:

- a. *Mansonia*
- b. *Culiseta*
- c. *Culex*
- d. *Aedes*

e. *Anopheles*

2397. A hunter was drinking raw water from a pond. He risks infection with the following type of trematodiasis:

- a. Paragonimiasis
- b. Opisthorchiasis

c. Fascioliasis

- d. Clonorchiasis
- e. Dicrocoeliasis

2398. A patient complains of urine excretion that occurs during sexual intercourse. What organ is affected?

- a. Epididymis
- b. Urinary bladder
- c. Testicle
- d. Seminal vesicles

e. Prostate

2399. After facial trauma the patient developed a buccal hematoma. What salivary gland has its outflow blocked by the hematoma?

- a. Lingual
- b. Buccal
- c. Sublingual
- d. Submandibular

e. Parotid

2400. A woman complains of painful chewing, especially when she moves her lower jaw backwards. What muscles are affected?

- a. Anterior bundles of the temporal muscles
- b. Lateral pterygoid muscles
- c. Masseter muscles

d. Posterior bundles of the temporal muscles

- e. Medial pterygoid muscles

2401. A patient complains of painful chewing, especially when his lower jaw moves forward and to the side. It indicates functional disorder of the following muscles:

- a. Mylohyoid muscles
- b. Temporal muscles
- c. Medial pterygoid muscles
- d. Masseter muscles

e. Lateral pterygoid muscles

2402. A patient consulted a doctor about an increased pain sensitivity of the ear skin and ear canal. Palpation behind the sternocleidomastoid muscle was painful. Such clinical presentations are typical of the irritation of the following nerve:

- a. Nn. supraclaviculares
- b. N. occipitalis minor

c. N. auricularis magnus

- d. N. vagus
- e. N. transversus colli

2403. Due to sustained trauma the patient presents with unevenly dilated pupils (anisocoria). What muscle is blocked?

- a. Musculus rectus superior
- b. Musculus rectus inferior
- c. Musculus ciliaris
- d. Musculus rectus lateralis
- e. Musculus sphincter pupillae**

2404. Microphotogram made with electron microscope shows alveolar cells that compose blood-air barrier. Name this cells:

- a. Alveolar macrophages
- b. Alveolar secretory epithelial cells
- c. Alveolar respiratory epithelial cells**
- d. Clara cells (club cells)
- e. Villous epithelial cells

2405. During experiment, the myotome was destroyed in the rabbit fetus. This manipulation will result in malformation of the following structure:

- a. Axial skeleton
- b. Smooth muscles
- c. Serous membranes
- d. Skeletal muscles**
- e. Dermal connective tissue

2406. Electronic microscopy of a kidney shows tubules paved with cuboidal epithelium. In the epithelium there are light and dark cells. The light cells contain few organelles; their cytoplasm forms folds. These cells provide reabsorption of water from primary urine into blood. The dark cells structurally and functionally resemble gastric parietal cells. What tubules are shown on the microslide?

- a. Collecting tubules**
- b. Distal tubules
- c. Descending limb of loop of Henle
- d. Ascending limb of loop of Henle
- e. Proximal tubules

2407. Gastrosocopy of a patient revealed the lack of mucus in the coating of the mucous membrane. This can be caused by the dysfunction of the following cells of the gastric wall:

- a. Parietal cells of gastric glands
- b. Cervical cells
- c. Endocrinocytes
- d. Cells of prismatic glandular epithelium**
- e. Main exocrinocytes

2408. At the cemento-enamel junction there are non-calcified areas, through which infection often penetrates into the tooth. Name these structures:

- a. Odontoblasts
- b. Tomes' dentinal fiber
- c. Enamel prisms
- d. Ameloblasts
- e. Enamel tufts**

2409. A slide mount of an ovary presents a rounded structure with glandular cells that contain lipid droplets. Name this structure:

- a. Primordial ovarian follicle
- b. Mature ovarian follicle
- c. Corpus albicans
- d. Corpus luteum**
- e. Primary ovarian follicle

2410. A microspecimen of heart shows rectangular cells from 50 to 120 micrometer in size 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 impulse conduction
- b. Protective
- c. Regenerative
- d. Function of heart contractions**
- e. Endocrine

2411. After inhalation of dust a person develops cough, which results from stimulation of:

- a. Pulmonary chemoreceptors
- b. Juxta-capillary receptors
- c. Irritant receptors**
- d. Pulmonary thermoreceptors
- e. Nociceptors

2412. Electric current has affected skeletal muscle fiber resulting in depolarization of the membrane. Depolarization develops due to the following ions penetrating the membrane:

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

2413. An experimental animal, a dog, received a weak solution of hydrochloric acid through a tube inserted into the duodenum. Primarily it will result in increased secretion of the following hormone:

- a. Secretin**
- b. Histamine
- c. Neurotensin
- d. Cholecystokinin
- e. Gastrin

2414. A woman presents with edemas. In her urine there is a large amount of protein excreted. What nephron segment is functionally disturbed in this case?

- a. Distal convoluted tubule
- b. Proximal convoluted tubule
- c. Renal corpuscle**
- d. Descending limb of loop of Henle
- e. Ascending limb of loop of Henle

2415. A patient suffers from diabetes mellitus with fasting hyperglycemia over 7.2 mmol/L. What blood plasma protein would allow to assess the patient's glycemia level retrospectively (4-8 weeks prior to examination)?

- a. Glycated hemoglobin**
- b. Fibrinogen
- c. Ceruloplasmin
- d. C-reactive protein
- e. Albumin

2416. The patient exhausted by starvation presents with intensification of the following process in the liver and kidneys:

- a. Bilirubin synthesis
- b. Urea synthesis
- c. Gluconeogenesis**
- d. Hippuric acid synthesis
- e. Uric acid synthesis

2417. Mucin aggregates retain water, which results in their viscosity and protective action. It is

possible because mucin structure contains:

- a. Oligosaccharides
- b. Glucose
- c. Homopolysaccharides
- d. Disaccharides
- e. Glycosaminoglycans**

2418. A diabetes mellitus patient developed unconsciousness and convulsions after administration of insulin. What result of blood glucose analysis is the most likely in this case?

- a. 10 mmol/L
- b. 5.5 mmol/L
- c. 3.3 mmol/L
- d. 8 mmol/L
- e. 1.5 mmol/L**

2419. Chronic overdosage of glucocorticoids leads to the development of hyperglycemia. What process of carbohydrate metabolism is responsible for this effect?

- a. Glycogenesis
- b. Gluconeogenesis**
- c. Aerobic glycolysis
- d. Glycogenolysis
- e. Pentose-phosphate cycle

2420. A patient with glossitis presents with disappearance of lingual papillae, reddening and burning pain in the tongue. Blood test: erythrocytes - $2.2 \cdot 10^{12}/l$, hemoglobin - 103 g/l, color index - 1.4. What type of anemia is it?

- a. Iron refractory
- b. B12 folate-deficiency**
- c. α -thalassemia
- d. Iron deficiency
- e. β -thalassemia

2421. A pregnant woman developed severe toxemia with exhausting recurrent vomiting throughout a day. By the end of the day she developed tetanic convulsions and dehydration. The described changes were caused by the following type of acid-base imbalance:

- a. Nonrespiratory metabolic acidosis
- b. Nonrespiratory excretory acidosis
- c. Respiratory alkalosis
- d. Respiratory acidosis
- e. Nonrespiratory excretory alkalosis**

2422. A 13-year-old girl is an in-patient at the hematology department of the regional children's hospital. She was diagnosed with iron-deficiency anemia. What type of hypoxia does this patient have?

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

2423. A 55-year-old man was diagnosed with acute glomerulonephritis. Name the main mechanism of anemia development in this case:

- a. Decreased tubular reabsorption
- b. Decreased erythropoietin synthesis**
- c. Decreased synthesis of renal prostaglandins
- d. Decreased glomerular filtration
- e. Renal azotemia

2424. A man, who for a long time has been suffering from chronic mandibular osteomyelitis, died of chronic kidney disease. Autopsy revealed large lardaceous kidneys. What process had occurred in the kidneys?

- a. Glomerulonephritis
- b. Arterial nephrosclerosis
- c. Renal amyloidosis**
- d. Necrotic nephrosis
- e. Contracted kidney

2425. Macroscopic examination of lung tissue revealed areas of high airiness with small bubbles. Histological examination revealed thinning and rupture of alveolar septa accompanied by formation of large diversiform cavities. What disease was revealed in the lung?

- a. Multiple bronchiectasis
- b. Chronic bronchitis
- c. Fibrosing alveolitis
- d. Pulmonary emphysema**
- e. Cavernous tuberculosis

2426. On autopsy of a 69-year-old woman, who for a long time had been suffering from hypertension, the pathologist determined that both of her kidneys are dense, markedly diminished, with a wrinkled surface. These changes are indicative of:

- a. Hypoplasia
- b. Atrophy due to inadequate blood supply**
- c. Senile renal atrophy
- d. Compression atrophy
- e. Dysfunctional atrophy

2427. Autopsy of a man who died of ethylene glycol poisoning revealed that his kidneys are slightly enlarged, edematic; their capsule can be easily removed. Cortical substance is broad and light gray. Medullary substance is dark red. What pathology did this man develop?

- a. Lipoid nephrosis
- b. Necrotic nephrosis**
- c. Acute glomerulonephritis
- d. Acute pyelonephritis
- e. Acute tubular-interstitial nephritis

2428. Significant shortcoming of microscopy in infection diagnostics is its insufficient information value due to morphological similarity between many species of microorganisms. What immunoassay can significantly increase informativity of this method?

- a. Immune-enzyme assay
- b. Coombs' test
- c. Fluorescence immunoassay**
- d. Opsonization
- e. Radioimmunoassay

2429. What drugs are used for specific treatment of diphtheria?

- a. Native plasma
- b. Placental gamma globulin
- c. Antitoxic serum**
- d. Antibiotics
- e. Anatoxin

2430. An ophthalmologist suspects blennorrhea (gonococcal conjunctivitis) in a child with signs of suppurative keratoconjunctivitis. What laboratory diagnostics should be conducted to confirm the diagnosis?

- a. Biological analysis and allergy test
- b. Microscopy and serum diagnostics
- c. Serum diagnostics and allergy test

d. Biological analysis and phagodiagnosics

e. Microscopy and bacteriological analysis

2431. Analysis of sputum taken from a patient with suspected pneumonia revealed slightly elongated gram-positive diplococci with tapered opposite ends. What microorganisms were revealed in the sputum?

a. Streptococcus pneumoniae

b. Klebsiella pneumoniae

c. Neisseria gonorrhoeae

d. Neisseria meningitidis

e. Staphylococcus aureus

2432. In a closed community it is necessary to determine community members immunity to diphtheria and verify the need for their vaccination. What investigation is necessary in this case?

a. Determine antitoxin titer by means of indirect hemagglutination assay

b. Determine diphtheria antibody titer

c. Determine community members immunity to diphtheria bacillus

d. Check medical records for vaccination

e. Test community members for diphtheria bacillus carriage

2433. For two weeks a woman has been taking the mixture for neurasthenia, which was prescribed by a neurologist. Her general state slightly improved but shortly she started complaining of rhinitis, conjunctivitis, skin rashes, fatigue, and memory impairment. What group of drugs can have such side effect?

a. Bromine salts

b. Motherwort preparations

c. Hop preparations

d. Adaptogens

e. Valerian preparations

2434. A patient developed burning sensation in the oral cavity and white fuzzy coating on the tongue. Oral thrush is diagnosed. What drug of those listed below should be used?

a. Gentamicin

b. Nystatin

c. Griseofulvin

d. Amphotericin

e. Tetracycline

2435. A dental patient was prescribed a psychosedative for his fear of pain. What drug would be the most effective in this case?

a. Lithium carbonate

b. Aminazine

c. Diazepam

d. Valerian tincture

e. Sodium bromide

2436. A patient with skin burns was delivered to a hospital. To clean the wound from necrotic tissues and mucus the doctor prescribed an enzymatic drug for topical treatment. Name this drug:

a. Asparaginase

b. Pancreatin

c. Tripsin

d. Pepsin

e. Streptokinase

2437. A patient suffering from ciliary arrhythmia with anamnesis of bronchial asthma should be prescribed an antiarrhythmic drug. What antiarrhythmic drug is CONTRAINDICATED in this case?

a. Novocainamide (Procainamide)

b. Anaprilin (Propranolol)

- c. Verapamil
- d. Ajmaline
- e. Nifedipine

2438. A newborn failed to take his first breath. Autopsy revealed that despite unobstructed airways the lungs of the newborn were unable to stretch. What is the most likely cause of this condition?

- a. Alveolar enlargement
- b. Absence of surfactant**
- c. Bronchial rupture
- d. Bronchial narrowing
- e. Pleural thickening

2439. A 35-year-old woman is diagnosed with faucial diphtheria. The patient died with signs of acute heart failure. On autopsy: heart cavities are enlarged in the diameter, heart muscle is dull, acid, striped on section, with yellowish areas under the endocardium. What type of degeneration was detected in cardiac myocytes?

- a. Ballooning
- b. Carbohydrate
- c. Fatty**
- d. Hyaline droplet
- e. Hydropic

2440. During acute inflammation of parotid gland, there is damage to the cells of secretory segments observed. What cells are damaged in this case?

- a. Serous cells, cells with basal striation, stellate cells
- b. Albuminous cells, serous cells, mucous cells
- c. Serous cells, myoepithelial cells**
- d. Seromucous cells
- e. Brush-bordered epithelial cells, cells with basal striation

2441. A child with signs of rickets has been prescribed a certain liposoluble vitamin drug by the pediatrician and dentist. This drug affects the metabolism of phosphorus and calcium in the body and facilitates calcium accumulation in bone tissue and dentine. If its content in the body is insufficient, there develop disorders of ossification process, dental structure, and occlusion. Name this drug:

- a. Ergocalciferol**
- b. Tocopherol acetate
- c. Thyroidin
- d. Menadione (Vicasolum)
- e. Retinol acetate

2442. A patient with parodontitis was prescribed a fat-soluble vitamin that actively participates in redox processes in the organism. This antioxidant is a growth factor, has antixerophthalmic action, and contributes to maintenance of normal vision. In dental practice it is used to accelerate mucosal re-epithelization during parodontitis. Name this substance:

- a. Cyanocobalamin
- b. Retinol acetate**
- c. Tocopherol acetate
- d. Ergocalciferol
- e. Menadione (Vicasolum)

2443. A patient has deep lacerated wound with uneven edges. The wound is suppurating; its edges present with moist granulation tissue that does not protrude above the wound level. Name the type of wound healing:

- a. Direct closure of the epithelial defect
- b. Wound organization
- c. Healing by primary intention
- d. Healing under the scab
- e. Healing by secondary intention**

2444. Often the cause of secondary immunodeficiency is an infectious affection of an organism, when agents reproduce directly in the cells of immune system and destroy them. Specify the diseases, during which the described above occurs:

- a. Dysentery, cholera
- b. Q fever, typhus
- c. Tuberculosis, mycobacteriosis
- d. Poliomyelitis, viral hepatitis type A

e. Infectious mononucleosis, AIDS

2445. A 30-year-old woman complains of intense thirst and dryness of the mouth that developed after a severe emotional shock. Laboratory analysis revealed increase of the patient's blood sugar level up to 10 mmol/L. What endocrine gland is affected in the patient?

a. Pancreas

- b. Gonads
- c. Pineal gland
- d. Adrenal glands
- e. Thyroid gland

2446. A 45-year-old man came to the hospital complaining of sensory loss in the posterior 1/3 of his tongue. Which pair of the cranial nerves is functionally disturbed?

- a. VIII
- b. X

c. IX

- d. V
- e. XII

2447. A patient presents with disturbed patency of the airways at the level of small and medium bronchial tubes. What acidbase imbalance can the patient develop?

a. Respiratory acidosis

- b. Metabolic acidosis
- c. Acid-base balance remains unchanged
- d. Metabolic alkalosis
- e. Respiratory alkalosis

2448. Due to trauma the patient's parathyroid glands have been removed, which resulted in inertness, thirst, sharp increase of neuromuscular excitability. Metabolism of the following substance is disturbed:

a. Zinc

b. Calcium

- c. Chlorine
- d. Manganese
- e. Molybdenum

2449. A patient presents with high content of vasopressin (antidiuretic hormone) in the blood. What changes in the patient's diuresis will occur?

a. Natriuria

b. Oliguria

- c. Anuria
- d. Polyuria
- e. Glycosuria

2450. To terminate hypertensive crisis the patient was administered solution of magnesium sulfate. What route of drug administration should be chosen?

a. Intravenous

- b. Rectal
- c. Intra-arterial
- d. Oral
- e. Duodenal

2451. A patient presents with osteoporosis; hypercalcemia and hypophosphatemia are observed in the patient's blood. What is the cause of this condition?

- a. Increased thyroxin secretion
- b. Increased corticosteroid secretion
- c. Inhibited corticosteroid secretion
- d. Increased parathormone secretion**
- e. Inhibited parathormone secretion

2452. During their expedition to the Middle East, the students found a 7-centimeterlong arthropod. Its body consists of cephalothorax with 4 pairs of ambulatory legs and segmented abdomen with two venom glands in its last segment. The gland openings are located on the tip of the hookshaped sting. The animal was identified as a nocturnal predator, its venom is dangerous for humans. It belongs to the following order:

- a. Aranei
- b. Solpugae
- c. Aphaniptera
- d. Scorpiones**
- e. Acarina

2453. The patient, who for a long time has been keeping to an unbalanced lowprotein diet, developed fatty liver infiltration. Name the substance, absence of which in the diet can lead to this condition:

- a. Arachidonic acid
- b. Biotin
- c. Alanine
- d. Cholesterol
- e. Methionine**

2454. After introduction of adrenaline the patient's blood glucose level increased. It is caused by intensified:

- a. Glycolysis in the skeletal muscles
- b. Glycolysis in the liver
- c. Glycogenolysis in the liver**
- d. Glycogen synthesis
- e. Glycogenolysis in the muscles

2455. A student, who unexpectedly met his girlfriend, developed an increase in systemic arterial pressure. This pressure change was caused by the intensified realization of the following reflexes:

- a. Conditional sympathetic**
- b. Conditional sympathetic and parasympathetic
- c. Unconditional sympathetic
- d. Unconditional parasympathetic
- e. Conditional parasympathetic

2456. It is necessary to decrease pumping ability of the patient's heart. What membrane cytoceptors must be blocked to achieve this effect?

- a. Nicotinic acetylcholine receptors
- b. β -adrenergic receptors**
- c. α -and β -adrenergic receptors
- d. α -adrenergic receptors
- e. Muscarinic acetylcholine receptors

2457. Oxidative decarboxylation of pyruvic acid is catalyzed by a multienzyme complex with several functionally linked coenzymes. Name this complex:

- a. Thymidine diphosphate (TDP), flavin adenine dinucleotide (FAD), coenzyme A (CoASH), nicotinic amide adenine dinucleotide (NAD), lipoic acid**
- b. Nicotinic amide adenine dinucleotide (NAD), pyridoxal-5-phosphate, thymidine diphosphate (TDP), methylcobalamin, biotin
- c. Lipoic acid, tetrahydrofolic acid, pyridoxal-5-phosphate, methylcobalamin

- d. Coenzyme A (CoASH), flavin adenine dinucleotide (FAD), pyridoxal-5-phosphate, tetrahydrofolic acid, carnitine
- e. Flavin adenine dinucleotide (FAD), tetrahydrofolic acid, pyridoxal-5-phosphate, thymidine diphosphate (TDP), choline

2458. To take a sample of cerebrospinal fluid for analysis, a doctor makes a puncture into subarachnoid space. To prevent damage to the spinal cord, the needle must be inserted between the two following vertebrae:

- a. III and IV lumbar**
- b. XII thoracic and I lumbar
- c. IV and V thoracic
- d. I and II lumbar
- e. XI and XII thoracic

2459. Resuscitation unit received a patient with acute poisoning caused by unidentified medicine. To quickly excrete the poison from the patient's body, forced diuresis was induced. What substance was used to perform this procedure?

- a. Hydrochlorothiazide
- b. Spironolactone
- c. Dithylinum (Suxamethonium chloride)
- d. Furosemide**
- e. Omeprazole

2460. It is known that in metabolism of catecholamine mediators the special role belongs to monoamine oxidase (MAO). How does this enzyme activate these mediators (noradrenaline, adrenaline, dopamine)?

- a. Methyl group removal
- b. Amino group attachment
- c. Oxidative deamination**
- d. Carboxylation
- e. Hydrolysis

2461. A patient with acute pancreatitis presents with significantly increased urine diastase content. What proteolysis inhibitor must be included into complex therapy of this patient?

- a. Pancreatine
- b. Festal
- c. Contrykal (Aprotinin)**
- d. Digestal
- e. Mezym forte

2462. A bacteriological laboratory received a sample of dried sh from an outbreak of food poisoning. Inoculation of the sample on Kitt-Tarozzi medium revealed microorganisms resembling tennis racket. These microorganisms are causative agents of the following disease:

- a. Typhoid fever
- b. Botulism**
- c. Dysentery
- d. Salmonellosis
- e. Diphtheria

2463. A man with signs of intestinal obstruction was delivered to a hospital. In the process of treatment, roundworms 25-40 cm in size were extracted from the patient's intestine. Determine the species of this helminth:

- a. Trichocephalus trichiurus
- b. Ancylostoma duodenale
- c. Ascaris lumbricoides**
- d. Strongyloides stercoralis
- e. Enterobius vermicularis

2464. A patient suffering from acute bronchitis with difficult expectoration was prescribed acetylcysteine. What drug action will provide curative effect?

- a. Activation of bronchial ciliated epithelium
- b. Alkalinization of sputum
- c. Stimulation of the bronchial glands
- d. Mucoproteins depolymerization**
- e. Reflex stimulation of bronchiolar peristalsis

2465. A patient with ischemic heart disease presents with increased blood plasma content of triglycerides and very low density lipoproteins. What drug should be prescribed?

- a. Amiodarone
- b. Famotidine
- c. Fenofibrate**
- d. Lisinopril
- e. Dobutamine

2466. In what organ biotransformation (metabolic transformation) of most medicinal agents occurs upon their introduction into an organism?

- a. Lungs
- b. Liver**
- c. Intestine
- d. Kidneys
- e. Skin

2467. Among organic substances of a cell there is a polymer composed of dozens, hundreds, and thousands of monomers. This molecule is capable of self-reproduction and can be an information carrier. X-ray structure analysis shows this molecule to consist of two complementary spiral threads. Name this compound:

- a. Carbohydrate
- b. Hormone
- c. RNA
- d. Cellulose
- e. DNA**

2468. In Western Europe nearly half of all congenital malformations occur in the children conceived in the period, when pesticides were used extensively in the region. Those congenital conditions result from the following influence:

- a. Mechanical
- b. Teratogenic**
- c. Malignization
- d. Carcinogenic
- e. Mutagenic

2469. A 30-year-old breastfeeding woman keeps to the diet that daily provides her with 1000 mg of calcium, 1300 mg of phosphorus, and 20 mg of iron. How should the daily dosages of minerals in this diet be adjusted?

- a. Decrease iron intake
- b. Increase phosphorus intake**
- c. Decrease urine intake
- d. Increase calcium intake
- e. Increase iron intake

2470. A patient presents with damaged fibers of the ninth pair of cranial nerves (glossopharyngeal nerve). What gustatory sensation will be disturbed in this case?

- a. Sourness
- b. All gustatory sensations
- c. Sweetness
- d. Saltiness

e. Bitterness

2471. A 49-year-old man presents with facial edema, significant proteinuria, hypoproteinemia, dysproteinemia, and hyperlipidemia. What provisional diagnosis can be made?

a. Nephrotic syndrome

- b. Prostatitis
- c. Cystitis
- d. Pyelonephritis
- e. Urolithiasis

2472. A dentist prescribed the patient with maxillofacial arthritis diclofenac sodium. What is the mechanism of action of this drug?

- a. Catalase inhibition
- b. Opiate receptors block
- c. Phosphodiesterase activation

d. Cyclooxygenase-2 inhibition

- e. Opiate receptors activation

2473. A surgeon must amputate the damaged part of the patient's foot along the line of Lisfranc joint. What ligament must be cut in this case?

- a. Calcaneonavicular ligament
- b. Talonavicular ligament
- c. Talocalcaneal ligament

d. Medial interosseous tarsometatarsal ligament

- e. Bifurcated ligament

2474. A histological specimen shows terminal secretory parts of glands made of conical cells with basophilic cytoplasm and a roundish nucleus in the centre. Specify the type of terminal secretory parts by the type of secretion:

- a. Combined
- b. Sebaceous

c. Serous

- d. Mucous
- e. Seromucous

2475. Microscopy of a plaque-like structure extracted from the lateral surface of the tongue of a man with dentures revealed significant thickening of the epithelial layer along with processes of parakeratosis, hyperkeratosis, and acanthosis; in the connective tissue there are small round cell infiltrations. Make the diagnosis of the given pathological state:

- a. Chronic glossitis
- b. Atrophic (Hunter's) glossitis
- c. Ichthyosis
- d. Chronic stomatitis

e. Leukoplakia

2476. A patient is registered for regular check-ups. Laboratory analyses for viral hepatitis diagnostics are made. In the blood serum only antibodies to HbsAg are detected. Such result is indicative of:

- a. Acute viral hepatitis type B
- b. Viral hepatitis type A
- c. Chronic viral hepatitis type C

d. Past case of viral hepatitis type B

- e. Acute viral hepatitis type C

2477. To treat tuberculosis, an antibiotic that colors urine red is prescribed. Name this antibiotic:

- a. Erythromycin
- b. Nitroxoline
- c. Cefotaxime

d. Rifampicin

e. Amoxicillin

2478. Holocrine secretion is characteristic of sebaceous glands. What structural components ensure renewal of the cells of these glands?

- a. Stratified squamous epithelium of the excretory duct
- b. Nonstratified cuboidal epithelium of the excretory duct
- c. Sebocytes
- d. Myoepithelial cells
- e. Germinative layer cells**

2479. During experiment the processes of food and water hydrolysis products absorption were studied. It was determined that these processes mainly occur in the following gastrointestinal segment:

- a. Small intestine**
- b. Large intestine
- c. Oral cavity
- d. Rectum
- e. Stomach

2480. Detoxification of bilirubin occurs in the membranes of endoplasmic reticulum of hepatocytes. Bilirubin is secreted by hepatocytes into bile for the most part as:

- a. Bilirubin monoglucuronide
- b. Unconjugated bilirubin
- c. Bilirubin diglucuronide**
- d. Indirect reacting bilirubin
- e. —

2481. A patient developed a tender red nodule in the lower jaw area. Histologically there is accumulation of purulent exudate in several hair follicles. What clinicopathological type of inflammation is observed?

- a. Carbuncle**
- b. Furuncle
- c. Hypostatic abscess
- d. Abscess
- e. Phlegmon

2482. Autopsy of a man, who died suddenly with signs of acutely disturbed cerebral circulation, revealed aneurysm rupture of the medial cerebral artery and a round cavity 4 cm in diameter filled with blood in his frontal lobe. Name this type of hemorrhage:

- a. —
- b. Hematoma**
- c. Hemorrhagic infiltration
- d. Petechiae
- e. Contusion

2483. During examination of a child's oral cavity a dentist noted the appearance of the first permanent molars on the child's lower jaw. How old is the child?

- a. 12-13
- b. 6-7**
- c. 8-9
- d. 4-5
- e. 10-11

2484. During examination of the oral cavity at the vestibular surface of the lower right incisor there was detected a rounded growth on the thin pedicle. Histologically: in the connective tissue there are numerous thin-walled sinusoids, hemorrhage areas, hemosiderin foci, and giant cells resembling osteoclasts. Make the diagnosis:

- a. Granular cell ameloblastoma

- b. Gingival ?bromatosis
- c. Cavernous hemangioma
- d. Giant cell epulis**
- e. Angiomatous epulis

2485. During teeth examination on the lateral surface of the ?rst upper molar there was detected a cone-shaped carious cavity with base oriented towards the tooth surface and apex - towards the tooth center. Softened dentin is visible at the ?oor of the carious cavity. Make the diagnosis:

- a. Tooth erosion
- b. —
- c. Enamel caries
- d. Cement caries
- e. Dentin caries**

2486. A patient on the 2nd day after cardiac infarction presents with acute decrease of systolic blood pressure down to 60 mm Hg with tachycardia 140/min., dyspnea, loss of consciousness. What mechanism is essential in the pathogenesis of shock developed in this case?

- a. Development of anaphylactic reaction to myocardial proteins
- b. Decreased cardiac output**
- c. Decreased circulating blood volume
- d. Increased myocardial excitability caused by products of necrotic disintegration
- e. Development of paroxysmal tachycardia

2487. After the water supply system had been put into operation in a new residential area, the medical of?cers of sanitary and epidemiological station measured total microbial number in the water. Name the maximum permissible value of this indicator for potable water:

- a. 500
- b. 1000
- c. 10
- d. 400
- e. 100**

2488. A woman had been taking synthetic hormones during her pregnancy. Her newborn girl presents with excessive hairiness which has formal resemblance to adrenogenital syndrome. This sign of variability is called:

- a. Replication
- b. Phenocopy**
- c. Recombination
- d. Mutation
- e. Heterosis

2489. Breakdown of cyclic adenosine monophosphate (cAMP) and cyclic guanosine monophosphate (cGMP) into simple, non-cyclic nucleoside monophosphates is catalyzed by the following enzyme:

- a. Glucose 6-phosphatase
- b. Glycogen phosphorylase
- c. Phosphodiesterase**
- d. Protein kinase
- e. Adenylate cyclase

2490. In the course of experiment the vagus nerve of the test animal was severed, which resulted in the animal developing constant tachycardia. What effect of parasympathetic nervous system on cardiac performance is demonstrated by this experiment?

- a. Inhibition**
- b. Stimulus summation
- c. Mixed effect
- d. Paradoxical response
- e. Stimulation

2491. A 42-year-old woman, who has been keeping to a vegetarian diet for a long period of time, consulted a doctor. Examination revealed negative nitrogen balance in the patient. What factor is the most likely cause of such a condition?

- a. Insufficient amount of fats in the diet
- b. Decreased rate of metabolic processes
- c. Insufficient amount of dietary fiber
- d. Excessive amount of fats in the diet
- e. Insufficient amount of proteins in the diet**

2492. A patient came to the traumatologist with complaints of developing difficulties during active extension of elbow. What muscle is the most likely to be damaged?

- a. M. deltoideus
- b. M. pectoralis minor
- c. M. triceps brachii**
- d. M. coracobrachialis
- e. M. latissimus dorsi

2493. A patient complains of acute spastic abdominal pain, frequent urge to defecate, liquid bloody feces with mucus. Laboratory analysis of fecal smear revealed inconstant in shape organisms with erythrocytes. What is the most likely diagnosis?

- a. Amebiasis**
- b. Intestinal trichomoniasis
- c. Lambliasis
- d. Balantidiasis
- e. Schistosomiasis

2494. A patient presents with dysfunction of the 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. Serotonin
- b. Acetylcholine
- c. Histamine
- d. γ -aminobutyric acid**
- e. Dopamine

2495. In hot weather the bus passengers asked to open the roof hatches. What way of heat transfer is activated in this situation?

- a. Conduction
- b. Conduction and radiation
- c. Sweat evaporation
- d. Convection**
- e. Radiation

2496. At the end of winter a student, who had been lately in the state of nervous tension, developed a case of URTI after overexposure to cold. What is the cause of this disease?

- a. Nervous stress
- b. Improper diet
- c. Hypovitaminosis
- d. Pathogenic agent**
- e. Overexposure to cold

2497. A 38-year-old woman developed an attack of bronchial asthma. What bronchial spasmolytic for emergency medical aid is a beta-2-adrenergic agonist?

- a. Salbutamol**
- b. Ipratropium bromide
- c. Atropine
- d. Platyphyllin
- e. Adrenaline

2498. During examination the doctor performs auscultation to assess the functioning of the patient's mitral valve. Where can the sound of this valve be auscultated?

- a. At the edge of the sternum over the 5th costal cartilage on the left
- b. At the apex of the heart**
- c. At the edge of the sternum in the 2nd intercostal space on the right
- d. At the edge of the sternum over the 5th costal cartilage on the right
- e. At the edge of the sternum in the 2nd intercostal space on the left

2499. A patient was diagnosed with Klinefelter's syndrome. The patient with this disease will have the karyotype (47, XXY). How many sex chromosomes are in this complement?

- a. One
- b. Zero
- c. Three**
- d. Two
- e. Forty four

2500. Oral examination reveals marked reddening of mucosa at the root of the tongue. What structure is involved in the inflammatory process?

- a. Veil of palate
- b. Pharyngeal tonsil
- c. Palatine tonsil
- d. Tonsil of torus tubaris

e. Lingual tonsil

2501. A trauma patient has wound in the temporal region, with trickle of bright-red blood streaming from it. What blood vessel is damaged?

- a. A. facialis
- b. A. auricularis posterior
- c. A. maxillaris
- d. A. temporalis superficialis**
- e. A. occipitalis

2502. On histological examination of biopsy material taken from the liver of a woman, who for a long time had been suffering from viral hepatitis type B, the pathologist detected diffuse hepatic fibrosis with formation of porto-portal and portocentral fibrotic septa and disturbance of the liver lobular structure (development of pseudolobules). What process can be characterized by the given morphological changes?

- a. Chronic hepatitis
- b. Acute hepatitis
- c. Cholestasis
- d. Hepatic cirrhosis**
- e. Hepatocellular carcinoma

2503. Examination of histological specimen of oral mucosa reveals non-keratinized stratified squamous epithelium with lymphocyte infiltrations. What structure of oral cavity is the most likely to be represented by this mucosa specimen?

a. Tonsil

- b. Cheek
- c. Gums
- d. Hard palate
- e. Lip

2504. A victim of a traffic accident has lost thoracic respiration but retains diaphragmal. The spinal cord is most likely to be damaged at:

- a. XI-XII cervical segments
- b. I-II cervical segments
- c. VI-VII cervical segments**
- d. I-II lumbar segments

e. I-II sacral segments

2505. During examination a neurologist taps the tendon under the patient's kneecap with a reflex hammer to evaluate reflex extension of the knee. This response is provoked by stimulation of the following receptors:

- a. Articular receptors
- b. Golgi tendon organ
- c. Muscle spindles**
- d. Tactile receptors
- e. Nociceptors

2506. An experiment was conducted to study major indicators of hemodynamics. What hemodynamics indicator would be the same for both systemic and pulmonary circulation?

- a. Mean arterial pressure
- b. Linear blood flow velocity
- c. Diastolic blood pressure
- d. Volumetric blood flow rate**
- e. Vascular resistance

2507. A 50-year-old man declined anaesthesia during dental manipulations. Due to severe pain he developed anuria caused by acute increase in production of:

- a. Adrenaline**
- b. Thymosin
- c. Glucagon
- d. Thyroxine
- e. Renin

2508. 30 minutes after dental treatment the patient developed red itching spots on the face and oral mucosa. The patient was diagnosed with urticaria. What bioactive substance with vasodilating and pruriginous effect is produced during this type of allergic reaction?

- a. Histamine**
- b. Leukotriene B₄
- c. Bradykinin
- d. Interleukin-1
- e. Prostaglandin E₂

2509. A patient has been administered conduction anesthesia with novocaine in preparation for tooth extraction. After the anesthesia administration the patient developed swelling and hyperemia around the injection site, skin itch, general fatigue, motor agitation. Name the developed complication:

- a. Idiosyncrasy
- b. Drug dependence
- c. Inflammation
- d. Allergy**
- e. Tachyphylaxis

2510. A 26-year-old woman presents with skin rashes and itching after eating citrus fruits. Prescribe her a drug that is an H₁histamine receptor antagonist:

- a. Menadione (Vicasolum)
- b. Acetylsalicylic acid
- c. Dimedrol (Diphenhydramine)**
- d. Analgin (Metamizole)
- e. Paracetamol

2511. A patient with acne is prescribed doxycycline hydrochloride. What should the patient be warned against, regarding administration of this drug?

- a. Take with large amount of liquid, preferably milk
- b. Course of treatment should not exceed 1 day
- c. Do not take with vitamin preparations

d. Avoid prolonged exposure to the sun

e. Take before eating

2512. A patient with megaloblastic anemia was taking a water-soluble vitamin. Name this substance:

a. Pyridoxine

b. Cyanocobalamin

c. Tocopherol acetate

d. Thiamine chloride

e. Ascorbic acid

2513. Biological material taken from a patient contains several species of microorganisms (staphylococci and streptococci) that are causative agents of the patient's disease. Name this type of infection:

a. Consecutive infection

b. Coinfection

c. Superinfection

d. Reinfection

e. Mixed infection

2514. After spinal trauma the patient presents with absence of voluntary movements and tendon reflexes; sensitivity is retained only in the lower extremities. What is the mechanism of these disturbances and what part of the spine was injured?

a. Peripheral paralysis, cervical spine

b. Spinal shock, cervical spine

c. Spinal shock, thoracic spine

d. Central paralysis, coccyx

e. —

2515. A man has developed downturned mouth and smoothed out nasolabial fold due to influenza complication. What nerve is damaged?

a. Maxillary nerve

b. Trochlear nerve

c. Oculomotor nerve

d. Facial nerve

e. Mandibular nerve

2516. A patient with electrical injury to the neck area developed pathologic fixed sideways flexion of the head towards the injured area, while the face is fixed away from the injury. What neck muscle sustained scarring?

a. Anterior scalene muscle

b. Omohyoid muscle

c. Digastric muscle

d. Sternocleidomastoid muscle

e. Trapezius muscle

2517. Chronic inflammation of gingiva resulted in excessive growth of connective tissue fibers. What cell elements are leading in the development of this condition?

a. Osteoblasts

b. Macrophages

c. Osteoclasts

d. Fibroblasts

e. Fibrocytes

2518. A worker of a cattle farm consulted a surgeon about fever up to 40°C, headache, weakness. Objective examination of his back revealed hyperemia and a dark red infiltration up to 5 cm in diameter with black bottom in its center, which was surrounded with pustules. What disease are these presentations typical of?

a. Furuncle

- b. Abscess
- c. Plague
- d. Tularemia

e. Anthrax

2519. A 20-year-old woman came to the doctor with complaints of general weight loss, loss of appetite, weakness, skin discoloration resembling bronze tan. In addition to hyperpigmentation, examination in the hospital revealed bilateral adrenal tuberculosis. What substance leads to skin hyperpigmentation, when accumulated excessively?

- a. Bilirubin
- b. Lipofuscin
- c. Adrenochrome

d. Melanin

e. Hemozoin

2520. During cell analysis, their cytoplasm was determined to have high content of aminoacyl tRNA synthetase. This enzyme ensures the following process:

- a. Elongation
- b. Repair

c. Amino acid activation

- d. Transcription
- e. Replication

2521. What enzyme has demineralization effect, i.e. intensifies decomposition of mineral components of the tooth tissues?

a. Acid phosphatase

- b. Glucose 6-phosphatase
- c. Phosphotransferase
- d. Glycogen phosphorylase
- e. Alkaline phosphatase

2522. Histologic specimen of renal cortex shows renal corpuscle and renal tubules. It is known that reabsorption of substances occurs in the renal tubules. What nephron tissue takes part in this process?

a. Cartilaginous tissue

b. Epithelial tissue

- c. Reticular tissue
- d. Connective tissue proper
- e. Mucous tissue

2523. A 45-year-old man with a history of left-sided croupous pneumonia died of multiple traumas received as the result of a car accident. On autopsy in the lower lobe of his left lung its posterolateral wall is attached to the chest wall with fibrous adhesions. The lobe is diminished, dense, fleshy on section, grayish-pink in color; its pieces sink, when placed in water. Histological analysis reveals diffuse excessive growth of fibrous connective tissue in these areas. Name this complication of croupous pneumonia:

a. Carneous degeneration

- b. Gangrene
- c. Abscess
- d. Atelectasis
- e. Emphysema

2524. A 16-year-old girl, who has been starving herself for a long time to lose weight, developed an edema. This phenomenon is mainly caused by:

- a. Deceleration of glomerular filtration rate
- b. Decreased production of vasopressin in the hypothalamus
- c. Hypoglycemia due to glycogen synthesis disturbance
- d. Venous congestion and increased venous pressure

e. Hypoproteinemia due to protein synthesis disturbance

2525. A patient with knife wound of the neck presents with hemorrhage. Initial wound management revealed damage to the vessel that is located along the lateral edge of the sternocleidomastoid muscle. Name this vessel:

- a. V. jugularis anterior
- b. A. carotis interna
- c. V. jugularis interna
- d. V. jugularis externa**
- e. A. carotis externa

2526. Erythrocytes of the patient with hemolytic anemia present with significant decrease of pyruvate kinase activity. What metabolic process is disturbed in this case?

- a. Glycolysis**
- b. Gluconeogenesis
- c. Glycogen synthesis
- d. Pentose-phosphate pathway of glucose oxidation
- e. Glycogenolysis

2527. To determine functional state of the patient's liver, the analysis of animal indican excreted with urine was conducted. This substance is produced in the process of detoxification of putrefaction products of a certain amino acid, which takes place in the large intestine. Name this amino acid:

- a. Serine
- b. Cysteine
- c. Valine
- d. Glycine

e. Tryptophan

2528. When determining comparative tissue radiosensitivity, it was revealed that different tissues have different level of sensitivity toward ionizing radiation. What tissue of those listed below is the most radiosensitive?

- a. Muscular
- b. Nerve
- c. Cartilaginous
- d. Bone

e. Hematopoietic

2529. Oral examination revealed dark yellow and brown spots and stripes on the labial and lingual surfaces of the patient's teeth; more than the half of the dental surface is affected; enamel and dentin are destroyed. What diagnosis is the most likely?

- a. Cuneiform defect
- b. Dystrophic calcification
- c. Metastatic calcification
- d. Dental calculus

e. Fluorosis

2530. A 28-year-old patient complains of frequent gingival hemorrhages. Blood test revealed the clotting factor II (prothrombin) deficiency. What phase of blood coagulation is impaired in this patient?

- a. Clot retraction
- b. Vascular-platelet haemostasis
- c. Thrombin generation**
- d. Fibrinolysis
- e. —

2531. Longitudinal tooth section shows a tissue that makes up the tooth basis and consists of collagen fibers, mineralized matrix, and tubules that hold dentinal fibers. This tissue develops from:

- a. Peripheral part of dental papilla**
- b. Internal cells of enamel organ

- c. Intermediate cells of enamel organ
- d. Dental sacculle
- e. External cells of enamel organ

2532. In the course of experiment it is necessary to detect muscle excitation. For this purpose the following measurement should be made:

- a. Mechanomyogram
- b. Contraction duration
- c. Ion concentration
- d. Electromyogram**
- e. Contraction strength

2533. Increased stimulation rate of isolated heart of a rabbit leads to incomplete relaxation of the heart ventricles due to:

- a. Increased potassium content in cardiomyocytes
- b. Increased potassium content in the interstitial tissue
- c. Increased sodium content in cardiomyocytes
- d. Inhibition of K⁺ Na⁺ pump
- e. Calcium accumulation in cardiomyocytes**

2534. Several hours after the dental trauma the tooth pulp presents with hyperemic vessels, marked tissue edema with isolated neutrophils, lymphocytes, and minor dystrophic changes of nerve fibers. Make the diagnosis:

- a. Serous pulpitis**
- b. Gangrenous pulpitis
- c. Fibrous pulpitis
- d. Granulating pulpitis
- e. Suppurative pulpitis

2535. Fetal malformations can be caused by such maternal diseases as rubella, syphilis, toxoplasmosis, cytomegaly, herpes, and chlamydiosis. These malformations belong to the following type of variability:

- a. Epimutational
- b. Modification**
- c. Combinative
- d. Mutational
- e. Genomic imprinting

2536. Beriberi is a classical example of thiamine deficiency. Active form of this vitamin is synthesized by an enzyme belonging to the following group:

- a. Transferases**
- b. Hydrolases
- c. Isomerase
- d. Lyases
- e. Oxidoreductases

2537. A 25-year-old man has lost all sensitivity due to damage of his peripheral nerves. Name this disorder:

- a. —
- b. Anesthesia**
- c. Hypoesthesia
- d. Ataxia
- e. Hyperesthesia

2538. A 60-year-old woman with hepatocirrhosis developed hemorrhagic syndrome. What mechanism leads to the development of this condition?

- a. Increased portal venous pressure
- b. Reduction of hepatic glycogen stores

c. Emergence of neurotoxins in the blood

d. Decreased synthesis of prothrombin and fibrinogen

e. Decreased blood oncotic pressure

2539. A woman is diagnosed with Turner's syndrome (karyotype 45, X0). How many autosomal pairs would her somatic cells contain?

a. 44

b. 45

c. 24

d. 23

e. 22

2540. Blood serum of the patient has milky appearance. Biochemical analysis revealed high content of triacylglycerols and chylomicrons. This condition is caused by hereditary defect of the following enzyme:

a. Adipose tissue hormone-sensitive lipase

b. Phosphodiesterase

c. Phospholipase

d. Pancreatic lipase

e. Lipoprotein lipase

2541. Dopamine precursor - L-dopa (L-dioxyphenylalanine (DOPA)) - is used in treatment of Parkinson's disease. This active substance is produced from the following amino acid:

a. Alanine

b. Histidine

c. Tryptophan

d. Tyrosine

e. Cysteine

2542. An 84-year-old patient suffers from parkinsonism. One of the pathogenetic development elements of this disease is deficiency of a certain mediator in some of the brain structures. Name this mediator:

a. Acetylcholine

b. Dopamine

c. Noradrenaline

d. Adrenaline

e. Histamine

2543. A patient has suffered a head injury. On examination there is a subcutaneous hematoma in the temporal area. What vessel was damaged, thus resulting in the hematoma development?

a. A. buccalis

b. A. occipitalis

c. A. maxillaris

d. A. auricularis posterior

e. A. temporalis superficialis

2544. Due to severe pain syndrome a patient has been prescribed a narcotic analgesic. Specify the prescribed drug:

a. Dimexid

b. Indometacin

c. Analgin (Metamizole)

d. Nimesulid

e. Morphine

2545. A tumor is detected in one of the regions of the patient's brain, resulting in the patient's inability to maintain normal body temperature. What brain structure is damaged?

a. Thalamus

b. Striatum

c. Substantia nigra

d. Hypothalamus

e. Cerebellum

2546. An experiment was conducted to measure the threshold of tactile receptors stimulation with various stimuli. What stimulus will have the lowest threshold?

a. Photoc stimulus

b. Chemical stimulus

c. Mechanical stimulus

d. Cold stimulus

e. Heat stimulus

2547. A 50-year-old man came to a hospital with complaints of memory disorders, painful sensations along the nerve trunks, decreased mental ability, circulatory disorders and dyspepsia. Anamnesis states excessive alcohol consumption. What vitamin deficiency can result in such symptoms?

a. Thiamine

b. Retinol

c. Riboflavin

d. Calciferol

e. Niacin

2548. Auscultation reveals that in the patient's II intercostal space along the parasternal line on the right the II heart sound is better heard than the I heart sound. What valve produces this sound when closing?

a. Tricuspid valve

b. Bicuspid and tricuspid valves

c. Semilunar pulmonary valve

d. Bicuspid valve

e. Semilunar aortic valve

2549. Miners' work at the coal-face often leads to development of anthracosis. What type of respiratory failure arises along with this disease?

a. Obstructive

b. Thoracic

c. Diaphragmatic

d. Restrictive

e. Dysregulatory

2550. A lancelet embryo is at the developmental stage during which its cells multiply, while its general volume remains practically unchanged. What developmental stage is it?

a. Cleavage

b. Organogenesis

c. Gastrulation

d. Histogenesis

e. Neurulation

2551. Histologic specimen of endometrium demonstrates isolated epithelial cells with chromosomes that form a "plate" located in the equatorial plane of the cell. What stage of the cell cycle is it?

a. Prophase

b. Interphase

c. Metaphase

d. Anaphase

e. Telophase

2552. During ultrasound a patient with atherosclerosis was diagnosed with bilateral stenosis of the renal arteries. Specify the bioactive substance that is the key pathogenetic link in the development of arterial hypertension in this case:

a. Renin

- b. Vasopressin
- c. Thyroxin
- d. Cortisol
- e. Adrenaline

2553. A 72-year-old man with hepatocirrhosis developed hepatic coma. Its development is caused by the substances, that are being neutralized in the liver, entering into general circulation through portacaval shunts (portal hypertension syndrome) and necrosis of hepatic cells. What type of hepatic coma is characterized by these presentations?

- a. Mixed**
- b. Shunt
- c. Ketoacidotic
- d. Hepatocellular
- e. Parenchymatous

2554. After a traf?c accident a man presents with severe blood loss, consciousness disturbance, low blood pressure, as well as compensatory activation of the reninangiotensin system, which results in:

- a. Hyperproduction of aldosterone**
- b. Intensi?cation of erythropoiesis
- c. Intensi?cation of heart contractions
- d. Hyperproduction of vasopressin
- e. Increased blood coagulation

2555. Laboratory analysis revealed UDPglucuronyl transferase de?ciency in the patient. What blood values can con?rm this enzymopathy?

- a. Hyperbilirubinemia**
- b. Phenylketonuria
- c. Uremia
- d. Ketoacidosis
- e. Indicanuria

2556. Examination revealed the patient to have decreased secretory function of the nasal cavity glands. What nerve provides parasympathetic innervation of these glands?

- a. N. petrosus major**
- b. N. petrosus minor
- c. N. chorda tympani
- d. N. maxillaris
- e. N. petrosus profundus

2557. A 67-year-old man was delivered to a cardiology department with complaints of periodical pains in his heart, dyspnea caused by even slight exertion, cyanosis and edemas. ECG shows additional excitations of heart ventricles. Name this type of rhythm disturbance:

- a. Extrasystole**
- b. Tachycardia
- c. Fibrillation
- d. Flutter
- e. Bradycardia

2558. A 40-year-old woman is being treated at the therapeutics department. Her temperature chart shows cyclic fevers alternating with periods of temperature normalization that last for several days. What type of temperature pro?le is it?

- a. Febris remittens
- b. Febris intermittent
- c. Febris recurrens**
- d. Febris continua
- e. —

2559. A patient with heatstroke was delivered to the admission room. What compensatory reactions

develop in the patient's body in such case?

- a. Increased heart rate
- b. Peripheral vasoconstriction
- c. Peripheral vasodilatation**
- d. Coronary vasospasm
- e. Persistent hyperglycemia

2560. During a brain surgery stimulation of the cerebral cortex resulted in tactile and thermal sensations in the patient. What gyrus was stimulated?

- a. Precentral gyrus
- b. Postcentral gyrus**
- c. Parahippocampal gyrus
- d. Cingulate convolution
- e. Superior temporal gyrus

2561. Cells of sensory spinal ganglions are a part of reflex arches. What type of neurons are these cells?

- a. Multipolar
- b. Unipolar
- c. —
- d. Pseudounipolar**
- e. Bipolar

2562. A patient with damaged muscles of the lower limbs has been delivered to a restaid center. What cells enable reparative regeneration of muscle fibers and restoration of muscle function?

- a. Adipocytes
- b. Endotheliocytes
- c. Plasmocytes
- d. Myosatellitocytes**
- e. Fibroblasts

2563. 2 days after a hunter cut a ground squirrel's body, he developed fever up to 39°C, his lymph nodes enlarged. Later he developed pneumonia with serohemorrhagic exudate that contained egg-shaped microorganisms with bipolar staining. What provisional diagnosis can be made in this case?

- a. Anthrax
- b. Plague**
- c. Pseudotuberculosis
- d. Tetanus
- e. Brucellosis

2564. Various types of muscle contractions occurring in the alimentary canal of a test animal were studied and their different functional purposes were determined. It was noted that only one type of motor activity occurred in the circular and longitudinal muscles. Name this motor activity:

- a. Peristalsis**
- b. Nonpropulsive segmental activity
- c. Tonic contraction of sphincters
- d. Pendular movements of intestine
- e. Mastication

2565. A child presents with a wound behind the mastoid bone. Bright red blood streams from the wound. Damage was sustained to the branches of the following artery:

- a. A. maxillaris
- b. A. temporalis superior
- c. A. occipitalis**
- d. A. carotis externa
- e. A. carotis interna

2566. A man presents with suppurative wound in the area of mastoid bone, which resulted in

development of cerebral meningitis in the patient. Specify the way of infection penetration into the patient's cranial cavity:

- a. V.v. labirinthi
- b. V. emissariae mastoidea**

- c. V.v. tympanicae
- d. V. auricularis
- e. V. facialis

2567. Rotenone is known to inhibit respiratory chain. What complex of mitochondrial respiratory chain is inhibited by this substance?

- a. NADH-coenzyme Q reductase**
- b. Coenzyme Q - cytochrome c reductase
- c. Adenosine triphosphate synthetase
- d. Succinate-coenzyme Q reductase
- e. Cytochrome oxidase

2568. In 8 days after a surgery the patient developed tetanus. The surgeon suspects this condition to be caused by suture material contaminated by tetanus agent. The material is delivered to a bacteriological laboratory. What nutrient medium is required for primary inoculation of the suture material?

- a. Endo agar
- b. Egg-yolk salt agar
- c. Hiss medium
- d. Kitt-Tarozzi medium**
- e. Sabouraud agar

2569. A patient is diagnosed with deformed posterior portion of the nasal septum. What bone is deformed?

- a. Lateral pterygoid plate
- b. Medial pterygoid plate
- c. Vomer**
- d. Perpendicular plate of ethmoid bone
- e. Vertical plate of palatine bone

2570. A patient suffers from disturbed blood supply of superior lateral surface of the cerebral hemispheres. What blood vessel is damaged?

- a. Posterior communicating artery
- b. Medial cerebral artery**
- c. Posterior cerebral artery
- d. Anterior cerebral artery
- e. Anterior communicating artery

2571. X-ray detected pus accumulation in the sphenoidal sinus. The pus is being excreted into the following nasal meatus:

- a. Left middle nasal meatus
- b. Left inferior nasal meatus
- c. Right middle nasal meatus
- d. Right and left superior nasal meatus**
- e. Right inferior nasal meatus

2572. Dentists have high risk of contracting viral hepatitis type B in the course of their duties and therefore are subject to mandatory vaccination. What vaccine is used in such cases?

- a. Live vaccine
- b. Recombinant vaccine**
- c. Inactivated vaccine
- d. Chemical vaccine
- e. Anatoxin

2573. Differentiation of B-lymphocytes into plasma cells leads to synthesis of immunoglobulins that ensure specific immune response of the body. Differentiation of B-lymphocytes takes place in the following organ of immune system:

- a. Tonsils
- b. Liver
- c. Thyroid gland
- d. Thymus
- e. Red bone marrow

2574. On tooth section in the area of the root apex there is a tissue consisting of cells with processes surrounded by mineralized intercellular substance. Name this tissue:

- a. Enamel
- b. Periodontium
- c. Reticulobony bone tissue
- d. Mantle dentin
- e. Cellular cement

2575. During oral cavity examination a dentist noticed eruption of the permanent canines in a child. The child grows and develops normally. Determine the child's age:

- a. 13-16 years
- b. 8-9 years
- c. 9-10 years
- d. 11-13 years
- e. 6-7 years

2576. A surgeon accidentally damaged a nerve that innervates mylohyoid muscle. Name this nerve:

- a. N. glossopharyngeus
- b. N. facialis
- c. N. trigeminus
- d. N. hypoglossus
- e. N. accessorius

2577. At the crown apex of the second molar, on the surface that comes into contacts with the cheek, the doctor detected a carious cavity. Name the affected crown surface:

- a. Facies mesialis
- b. Facies lingualis
- c. Facies vestibularis
- d. Facies distalis
- e. Facies occlusalis

2578. Autopsy of a 46-year-old man, who had untreated enteric infection and died of sepsis, revealed the following: perirectal phlegmon, multiple ulcers of the rectum and sigmoid colon, some of which are perforated; mucosa of these intestinal segments is thickened and covered with firmly attached grayish films. What is the most likely disease in this case?

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

2579. Autopsy of a 52-year-old man revealed changes in his lungs: there is a segmented area of caseous necrosis in the upper right lung; the segments merge with each other. The lung is enlarged, dense, yellowish-colored on section; there are fibrinous films on the pleura. Name the type of tuberculosis:

- a. Acute cavernous tuberculosis
- b. Caseous pneumonia
- c. Infiltrative tuberculosis
- d. Tuberculoma
- e. Cirrhotic tuberculosis

2580. A 3-year-old child presents with facial deformation that was gradually developing over the course of 6 months and manifests as symmetrical enlargement of both mandibular angles. Microscopy shows the space between the bone trabeculae to be filled with connective tissue that contains numerous blood vessels and smaller primitive bone trabeculae. What disease is the most likely in this case?

- a. Fibroma
- b. Giant-cell tumor of the bone
- c. Cherubism
- d. Eosinophilic granuloma
- e. Osteosarcoma

2581. Autopsy of a 72-year-old man with recurrent transmural myocardial infarction revealed his epicardium and pericardium membranes to be swollen, thickened, coarse, as if covered in hair. Name the type of inflammation that occurred in the cardiac membranes:

- a. Serous
- b. Diphtheritic
- c. Croupous
- d. Suppurative
- e. Catarrhal

2582. During autopsy of the patient, who died of cardiovascular insufficiency, the patient's right foot is darkly colored. The vessels of the patient's thigh are partially obstructed by grayish-red clots. On the vessel walls there are yellowish-gray spots and fibrous plaques, some of which are of stony density. What clinicopathological type of atherosclerosis was complicated in the patient?

- a. Cerebral atherosclerosis
- b. Vascular intestinal atherosclerosis
- c. Renal atherosclerosis
- d. Atherosclerosis of lower extremities
- e. Atherosclerosis of aorta

2583. During examination of the patient's oral cavity a dentist noticed deformation of the teeth and a crescent indentation on the upper right incisor. The teeth are undersized, barrel-shaped - tooth cervix is wider than its edge. The patient uses a hearing aid, suffers from visual impairment. What type of syphilis affects teeth in such a way?

- a. Primary
- b. Secondary
- c. Neurosyphilis
- d. Late congenital
- e. Early congenital

2584. Autopsy of a 7-year-old child, who died of uncompensated congenital heart disease, revealed increase in mass and volume of the thymus. On microscopy thymus structure is normal. What pathologic process had occurred in the thymus?

- a. Accidental involution
- b. Thymic dysplasia
- c. Thymoma
- d. Thymic agenesis
- e. Congenital thymomegaly

2585. A patient came to the doctor with complaints of general weakness and sleep disturbances. Objectively the patient's skin is yellow. In blood there is increased concentration of direct bilirubin and bile acids. Acholic stool is observed. What condition can be characterized by these changes?

- a. Hemolytic jaundice
- b. Familial nonhemolytic (Gilbert's) syndrome
- c. Chronic cholecystitis
- d. Mechanical jaundice
- e. Parenchymatous jaundice

2586. A diver that submerged to the depth of 75 meters detected signs of CNS functional disturbance: excitation, lapse of concentration, euphoria leading to professional errors. What substance has toxic effect on the neurons, thus leading to the development of these signs?

- a. Oxygen
- b. Lactate
- c. Ammonia
- d. Carbon dioxide

e. Nitrogen

2587. A patient with dislocated jaw was given a short-acting muscle relaxant by a doctor. Name this drug:

- a. Cytitonum (Cytisine)
- b. Procaine

c. Dithylinum (Suxamethonium chloride)

- d. Papaverine hydrochloride
- e. Pyridostigmine hydrobromide

2588. A doctor has made a diagnosis of gingivitis and recommended the patient to rinse the oral cavity with an oxidizing agent. Specify this agent:

a. Hydrogen peroxide

- b. Salicylic acid
- c. Brilliant green
- d. Phenol
- e. Boric acid

2589. To treat osteomyelitis, a patient was prescribed an antibiotic that easily penetrates into bone tissue. Name this drug:

- a. Cefazolin
- b. Streptomycin sulfate

c. Lincomycin hydrochloride

- d. Polymyxin B
- e. Amphotericin B

2590. A person in the state of nervous tension develops transverse wrinkles on the forehead. What muscle contracts to produce this result?

- a. M. procerus
- b. M. temporoparietalis
- c. M. auricularis anterior

d. M. occipitofrontalis

- e. M. corrugator supercilii

2591. A girl presents with high fever and sore throat. Objectively the soft palate is swollen, the tonsils are covered with gray films that are firmly attached and leave deep bleeding lesions when removed. What is the most likely disease in this case?

- a. Pseudomembranous (Vincent's) tonsillitis
- b. Infectious mononucleosis
- c. Necrotic tonsillitis

d. Pharyngeal diphtheria

- e. Lacunar tonsillitis