

1. Heterozygous parents with A(II) and B(III) blood group according to the ABO system have got a child. What is the probability that the child has 0(I) blood group?

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

2. 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. Modification
- B. Mutational
- C. Combinatorial
- D. Ontogenetic
- E. Correlative

3. 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. Sex chromatin test
- B. Genealogical
- C. Hybridological
- D. Biochemical
- E. Dermatoglyphics

4. 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. Echinococcosis
- B. Teniasis
- C. Paragonimiasis
- D. Dicroceliasis
- E. Fascioliasis

5. 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. Processing
- B. Replication
- C. Transcription
- D. Translation
- E. Prolongation

6. Two weeks after hemotransfusion a patient developed fever. What protozoal

disease can be suspected?

- A. Malaria
- B. Toxoplasmosis
- C. Leishmaniasis
- D. Amebiasis
- E. Trypanosomiasis

7. 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. Direct occlusion
- B. Orthognathia
- C. Biprognathic occlusion
- D. Closed occlusion
- E. Prognathism

8. A patient has myocardial infarction in the region of the frontal wall of the left ventricle. Circulatory dysfunction occurred in the following vascular basin:

- A. Frontal interventricular branch of the left coronary artery
- B. Frontal ventricular branch of the right coronary artery
- C. Circumflex branch of the left coronary artery
- D. Marginal branch of the left coronary artery
- E. Atrioventricular branch of the left coronary artery

9. 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 triceps brachii*
- B. *Musculus infraspinatus*
- C. *Musculus levator scapule*
- D. *Musculus teres major*
- E. *Musculus subscapularis*

10. What artery may be damaged during the conduction anesthetization in the region of the mandibular foramen?

- A. Inferior alveolar artery
- B. Buccal artery
- C. Lingual artery
- D. Pterygoid branches
- E. Median meningeal artery

11. 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. Temporal
- B. Masticatory
- C. Lateral pterygopalatine
- D. Medial pterygopalatine
- E. Digastric

12. 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 be damaged?

- A. Trigemini
- B. Sublingual
- C. Accessory
- D. Vagus
- E. Glossopharyngeal

13. A patient has torticollis. Which neck muscle is damaged?

- A. *M.sternocleidomastoideus*
- B. *M.omohyoideus*
- C. *M.platysma*
- D. *M.sternohyoideus*
- E. *M.mylohyoideus*

14. 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. Thyroid
- B. Parathyroid
- C. Adenohypophysis
- D. Thymus
- E. Sublingual

15. A patient complains about having pain during mastication, especially when he moves his jaw forward or sideward. What muscles are damaged?

- A. Lateral pterygoid
- B. Medial pterygoid
- C. Masticatory
- D. Mylohyoid
- E. Temporal

16. 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.testicularis*
- B. *A.renalis*
- C. *A.ileocolica*
- D. *A.iliaca interna*
- E. *A.iliaca communis*

17. 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.deltoideus*
- B. *M.triceps brachii*
- C. *M.anconeus*
- D. *M.coracobrachialis*
- E. *M.supinator*

18. 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. Ureter
- B. Uterine tube
- C. Round ligament of uterus
- D. Internal iliac vein
- E. Urethra

19. 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. Aortic valve
- B. Bicuspid
- C. Tricuspid
- D. Valve of pulmonary trunk
- E. -

20. A female patient with a tumour of pancreas has developed mechanic jaundice resulting from compression of a bile-excreting duct. Which duct is compressed?

- A. *Ductus choledochus*
- B. *Ductus cysticus*
- C. *Ductus hepaticus communis*
- D. *Ductus hepaticus dexter*
- E. *Ductus hepaticus sinister*

21. 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 (Ebner's fibers). This dentin layer is called:

- A. Parapulpal dentin
- B. Mantle dentin
- C. Granular layer
- D. Interglobular dentin
- E. Secondary dentin

22. 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 secreta. Such changes in the endometrium are caused by excess of the following

hormon:

- A. Progesterone
- B. Estrogen
- C. Testosterone
- D. Somatotropin
- E. ACTH

23. 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. B-lymphocytes
- B. T-helpers
- C. Tissue basophils
- D. T-killers
- E. T-supressors

24. A patient underwent gastroscopy that revealed insufficient amount of mucus covering the mucous membrane. This phenomenon is caused by the dysfunction of the following cells of stomach wall:

- A. Cells of prismatic glandular epithelium
- B. Parietal cells of gastric glands
- C. Principal exocrinocytes of gastric glands
- D. Cervical cells of gastric glands
- E. Endocrinocytes

25. 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. Lymphopoiesis
- C. Neutrophil cytopoiesis
- D. Eosinophil cytopoiesis
- E. Basophil cytopoiesis

26. Underdevelopment of which parts of facial skeleton in the embryonal period is the reason for such a malformation as cleft palate?

- A. Palatine processes
- B. Frontal processes
- C. Frontal and maxillary processes
- D. Mandibular processes
- E. Mandibular and palatine processes

27. 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. Artery of mixed type
- D. Vein with strongly developed muscles
- E. Lymph node

28. Examination of uterine cavity revealed an embryonated ovum that wasn't attached to the endometrium. The embryo is in the following stage of development:

- A. Blastocyst
- B. Zygote
- C. Morula
- D. Gastrula
- E. Neurula

29. 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. Crystalline lens
- B. Vitreous body
- C. Ciliary body
- D. Cornea
- E. Sclera

30. 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. Cholecystokinin-pancreozymin
- B. Somatostatin
- C. Secretin
- D. Gastro-inhibiting peptide
- E. Vaso-intestinal peptide

31. 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. Gas transport
- B. Amino acid transport
- C. Haemostasis participation
- D. Maintenance of acid-base balance
- E. Maintenance of ionic equilibrium

32. 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. Middle
- B. Maximal
- C. Minimal
- D. Alternating minimal and maximal
- E. Continuous minimal

33. A lightly dressed man is standing in a room; air temperature is  $+14^{\circ}\text{C}$ . Windows and doors are closed. In what way does he lose heat most of all?

- A. Heat radiation
- B. Heat conduction
- C. Convection
- D. Evaporation
- E. Perspiration

34. 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. Repolarization
- B. Depolarization
- C. Excitement
- D. Contraction
- E. Relaxation

35. 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. Red nuclei
- B. Vestibular nuclei
- C. Quadrigeminal plate
- D. Black substance
- E. Reticular formation

36. 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. Muscarinic cholinoreceptors
- B. Nicotinic cholinoreceptors
- C.  $H_2$ -receptors
- D.  $\alpha$ -adrenoreceptors
- E.  $\beta$ -adrenoreceptors

37. 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. Parathormone
- B. Thyrocalcitonin
- C. Thyroxin
- D. Somatotrophic hormone
- E. Triiodothyronine

38. 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. His' bundle
- D. Left branch of His' bundle
- E. Right branch of His' bundle

39. Examination of a patient revealed that he had a strong, balanced, inert type of higher nervous activity according to Pavlov's classification. What temperament has this patient according to Hippocrate?

- A. Phlegmatic
- B. Sanguine
- C. Choleric
- D. Melancholic
- E. -

40. Glucose concentration in a patient's blood is 15 millimole/l (reabsorption threshold is 10 millimole/l). What effect can be expected?

- A. Glucosuria
- B. Diuresis reduction
- C. Reduced glucose reabsorption
- D. Reduced vasopressin secretion
- E. Reduced aldosterone secretion

41. After destruction of CNS structure an animal lost its orientative reflexes. What exactly was destroyed?

- A. Quadrigeminal plate
- B. Red nuclei
- C. Lateral vestibular nuclei
- D. Black substance
- E. Medial reticular nuclei

42. 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. Normal
- B. Moderately increased
- C. Moderately inhibited
- D. Essentially inhibited
- E. Essentially increased

43. 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. DNA
- B. Transfer RNA
- C. Ribosomal RNA
- D. Messenger RNA
- E. SnRNA

44. A 13-year-old patient complains of general weakness, dizziness, fatiguability. 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. Addison's disease
- C. Tyrosinosis
- D. Histidinemia
- E. Basedow's disease

45. 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. Cytochrome oxidase
- B. Lactate dehydrogenase
- C. Succinate dehydrogenase
- D. Catalase
- E. Pyruvate dehydrogenase

46. A patient has increased pyruvate concentration in blood. Large amount of it is excreted with urine. What vitamin deficiency is observed?

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

47. 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-base balance of the organism?

- A. Respiratory alkalosis
- B. Respiratory acidosis
- C. Metabolic alkalosis
- D. Metabolic acidosis
- E. There will be no change in acid-base balance

48. 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. Transport of fatty acids from the fat depots to the tissues
- C. Participation in one of the reactions of beta-oxidation of fatty acids
- D. Fatty acid activation
- E. Intracellular lipolysis activation

49. 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. Urea
- B. Uric acid
- C. Ammonia
- D. Creatinine
- E. Creatine

50. 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. Tryptophane
- B. Isoleucine
- C. Phenylalanine
- D. Methionine
- E. Histidine

51. Parodontitis is treated with calcium preparations and a hormone that stimulates tooth mineralization and inhibits tissue resorption. What hormone is it?

- A. Calcitonin
- B. Parathormone
- C. Adrenalin
- D. Aldosterone
- E. Thyroxine

52. 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. Gaseous
- B. Foreign body embolism
- C. Thromboembolism
- D. Air embolism
- E. Fat embolism

53. 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. Decrease of vascular tone
- B. Hypervolemia
- C. Pain
- D. Activation of sympathoadrenal system
- E. Reduction of contractile myocardium function

54. 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. IgA
- C. IgD
- D. IgM
- E. T-lymphocytes

55. 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 elasticity
- B. Decrease in alveolar ventilation
- C. Decrease in lung compliance
- D. Decrease in lung perfusion
- E. Ventilation-perfusion disbalance

56. A woman with intractable vomiting was admitted to the infectious disease ward. What changes of water-salt metabolism are likely to be observed?

- A. Hypo-osmolar dehydration
- B. Iso-osmolar dehydration
- C. Hyperosmolar dehydration
- D. Hypo-osmolar hyperdehydration
- E. Hyper-osmolar hyperdehydration

57. 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. Dental erosion
- C. Wedge-shaped defects
- D. Fluorosis
- E. Median caries

58. 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 peripheria and stellate cells resembling of the enamel organ pulp in the centre. What is the most likely diagnosis?

- A. Ameloblastoma
- B. Adenomatoid tumour
- C. Primary intraosteal cancer
- D. Adenocarcinoma
- E. Osteoclastoma

59. 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. Leukoderma
- B. Metaplasia
- C. Leukoplasia
- D. Dysplasia
- E. Parakeratosis

60. A 14-year-old patient was diagnosed with Hutchinson's triad: barrel-shaped incisors, parenchymatous keratitis and deafness. The revealed presentations are consistent with the following disease:

- A. Syphilis
- B. Toxoplasmosis
- C. Lepra
- D. Tuberculosis
- E. Opisthorchiasis

61. 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. Atherocalcinosis
- B. Liposclerosis
- C. Atheromatosis
- D. Lipoidosis
- E. Ulceration

**62.** 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.** Fibrinous colitis
- B.** Catarrhal colitis
- C.** Ulcerative colitis
- D.** Follicular colitis
- E.** -

**63.** 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 necrosis
- C.** Stage of ulcer healing
- D.** Stage of clean ulcers
- E.** Stage of ulceration

**64.** 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.** Acute verrucous
- D.** Fibroplastic
- E.** Polypoulcerous

**65.** A 5 y.o. child had a temperature rise up to  $40^{\circ}\text{C}$ , 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.** Meningococemia
- B.** Meningococcal meningitis
- C.** Meningoencephalitis
- D.** Meningococcal nasopharyngitis
- E.** -

**66.** Autopsy of a man, who died from acute posthaemorrhagic anaemia resulting from pulmonary haemorrhage, revealed the following: macroscopically - lung apexes 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.** Progressing tuberculosis complex
- D.** Hematogenic disseminated pulmonary tuberculosis
- E.** Hematogenic miliary pulmonary tuberculosis

**67.** Vaccination is done by means of a toxin that has been neutralized by a formaldehyde (0,4%) at a temperature  $37 - 40^{\circ}\text{C}$  for four weeks. Ramond was the first to apply this preparation for diphtheria prophylaxis. What preparation is it?

- A.** Anatoxin
- B.** Immunoglobulin
- C.** Antitoxic serum
- D.** Adjuvant
- E.** Inactivated vaccine

**68.** 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 reduce digitoxin dosage
- C. To administer strophanthine intravenously
- D. To administer digoxin
- E. To give an intravenous injection of calcium gluconate solution

69. 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. Adrenalin hydrochloride
- B. Noradrenaline hydrotartrate
- C. Isadrine
- D. Salbutamol
- E. Octadine

70. A patient diagnosed with acute pancreatitis was admitted to the surgical department. Which drug administration would be pathogenetically grounded?

- A. Contrical
- B. Tripsin
- C. Chymotripsin
- D. Pancreatin
- E. Fibrinolysin

71. 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. Salicylic ointment
- C. Troxevasin ointment
- D. Butadion ointment
- E. Thrombin

72. 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 calcium channels
- B. It blocks  $\alpha$ -adrenoreceptors
- C. It blocks  $\beta$ -adrenoreceptors
- D. It blocks potassium channels
- E. It blocks sodium channels

73. 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 inhibition
- B. Phospholipase inhibition
- C. Opiate receptor activation
- D. Opiate receptor block
- E. Cyclooxygenase activation

74. 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. Bronchostenosis
- C. Bronchi rupture
- D. Apical cap of lung
- E. Alveole enlargement

75. 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 C
- B. Hypervitaminosis D
- C. Hypervitaminosis C
- D. Hypovitaminosis D
- E. Hypovitaminosis A

76. As a result of a trauma a patient has damaged frontal spinal roots. What structures are likely to be affected?

- A. Axons of the motoneurons and axons of the lateral horn neurons
- B. Central processes of the sensory neurons of the spinal ganglions
- C. Peripheral processes of the sensory neurons of the spinal ganglions
- D. Axons of the lateral horn neurons
- E. Dendrites of the spinal ganglion neurons

77. While being at the dentist's a patient had an attack of bronchial asthma. The dentist applied a  $\beta$ -adrenomimetic drug in form of inhalations. What drug was applied?

- A. Salbutamol
- B. Aminophylline
- C. Adrenaline hydrochloride
- D. Atropine sulfate
- E. Ephedrine hydrochloride

78. A patient complains of headache, difficult respiration. Rhoentgenological examination allowed to confirm the following diagnosis: frontitis (frontal sinus inflammation). Which nasal meatus may contain purulent discharges?



- A. Median
- B. Superior
- C. Inferior
- D. Common
- E. Above the superior nasal turbinate

79. 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 cruzi*
- B. *Toxoplasma gondii*
- C. *Leishmania donovani*
- D. *Leishmania tropica*
- E. *Trypanosoma brucei*

80. 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. Increase in depth and rate
- B. Decrease in depth
- C. Increase in depth
- D. Decrease in rate
- E. Increase in rate

81. 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 - H<sub>2</sub>*
- C. *Pyridoxal phosphate*
- D. *FMN - H<sub>2</sub>*
- E. *Ubiquinone*

82. 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. Mononuclears, T-lymphocytes and lymphokines
- B. Granulocytes, T-lymphocytes and IgG
- C. Plasmatic cells, T-lymphocytes and lymphokines
- D. B-lymphocytes, IgM
- E. Macrophages, B-lymphocytes and monocytes

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

84. The total number of leukocytes in patient's blood is  $90 \cdot 10^9/l$ . 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. Infectious mononucleosis
- E. Chronic myeloleukosis

85. 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. Aa
- B. aa
- C. AA
- D. XcXc
- E. XCXc

86. 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. Metabolic
- B. Cholepoietic
- C. Hemodynamic
- D. Hemopoietic
- E. Phagocytal

87. 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. They were found in the leukocytes. These bacteria are causative agents of the

following disease:

- A. Gonorrhoea
- B. Syphilis
- C. Venereal lymphogranulomatosis
- D. Ulcul molle
- E. Melioidosis

88. 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. Thrombocytopenia
- B. Leukocytosis
- C. Thrombocytosis
- D. Agranulocytosis
- E. Leukopenia

89. 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. Shizogony
- C. Amitosis
- D. Regeneration
- E. Gemmation

90. 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. Direct antagonism
- B. Indirect antagonism
- C. Unilateral antagonism
- D. Direct synergism
- E. Indirect synergism

91. 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 interaponeuroticum suprasternale*
- B. *Spatium pretracheale*
- C. *Spatium retropharyngeale*
- D. *Spatium interscalenum*
- E. *Spatium antescalenum*

92. During physical exercise people are less sensitive to pain. The reason for it is the activation of:

- A. Antinociceptive system
- B. Nociceptive system
- C. Thyroid gland functions
- D. Sympathoadrenal system
- E. Adrenal gland functions

93. 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. Pain
- B. Internal haemorrhage
- C. Internal plasm loss
- D. Intoxication
- E. Internal organs dysfunction

94. A patient was diagnosed with seborrheic dermatitis associated with vitamin H (biotin) deficiency. The patient has disturbed activity of the following enzyme:

- A. Acetyl-CoA-carboxylase
- B. Pyruvate decarboxylase
- C. Alcohol dehydrogenase
- D. Amino transferase
- E. Carbomoyl phosphate synthetase

95. 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. Intracranial pressure rise
- B.  $\alpha$ -adrenoreceptor block
- C. Phosphodiesterase block
- D. Reduced accumulation of calcium ions
- E. Inhibited formation of mediators in brain

96. Coprological examination of a patient's feces revealed small operculate eggs. It is known from the anamnesis that the patient often consumes fish. What fluke parasitizes in the patient's organism?

- A. Cat liver fluke
- B. Blood fluke
- C. Lung fluke
- D. Liver fluke
- E. Lancet fluke

**97.** 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.** Steppe spider (*Latrodectus tredecimguttatus*)
- B.** Scorpion
- C.** Solifugae
- D.** Mite
- E.** Tarantula

**98.** 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 dysfunction of the following endocrine gland:

- A.** Hypofunction of thyroid gland
- B.** Hypofunction of parathyroid glands
- C.** Hypophysis hyperfunction
- D.** Epiphysis hypofunction
- E.** Hyperfunction of thyroid gland

**99.** Examination of a patient with an interbrain injury revealed the hearing impairment. What structures must be damaged?

- A.** Medial geniculate bodies of thalamus
- B.** Lateral geniculate bodies of thalamus
- C.** Intralaminar nuclei of hypothalamus
- D.** Frontal nuclei of hypothalamus
- E.** Medial nuclei of hypothalamus

**100.** 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.** Latent
- C.** Terminal
- D.** Torpid
- E.** -

**101.** 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.** Clonic convulsions
- B.** Tonic convulsions
- C.** Arrhythmia
- D.** Collapse
- E.** Bronchospasm

**102.** 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 hyperalbuminemia
- C.** Absolute hyperfibrinogenemia
- D.** Protein rate in blood will stay unchanged
- E.** Absolute hyperglobulinemia

**103.** Before an operation a 30-year-old male patient had his blood typed. It turned out to be Rh-positive. Erythrocytes were not agglutinated by standard sera of 0(I), A(II), B(III) groups. According to the ABO blood group system this blood is of the following type:

- A.** 0(I)
- B.** A(II)
- C.** B(III)
- D.** AB(IV)
- E.** -

**104.** As a result of a chest trauma the costal cartilage was damaged. The cartilage regenerates due to the following layer of perichondrium:

- A.** Chondrogenic
- B.** Fibrous
- C.** Elastic
- D.** Collagen
- E.** Sharpey's fibers

**105.** 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.** Morphine hydrochloride
- B.** Aminazine
- C.** Diazepam
- D.** Analgin
- E.** Phenobarbital

**106.** A histological specimen of a mandibular gland shows an excretory duct. Mucous membrane of the duct is lined with cubic epithelium whose cells have weakly developed organellas. What excretory duct is it?

- A. Intercalated
- B. Striated
- C. Interlobular
- D. Common excretory
- E. -

**107.** 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. Alanine
- B. Ammonia
- C. Adenine
- D. Urea
- E. Guanine

**108.** A patient has applied eye drops containing atropine which resulted in persistent mydriasis. Which muscle was blocked?

- A. Pupil-contracting
- B. Pupil-dilating
- C. Ciliate
- D. Rectus
- E. Oblique

**109.** 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. Tissue
- E. Respiratory

**110.** 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. Isosorbide mononitrate
- B. Dipyridamol
- C. Panangine
- D. Validol
- E. Verapamil

**111.** 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 drumstick appearance. What bacteria are compliant with given descri-

ption?

- A. *Clostridium tetani*
- B. *Clostridium botulinum*
- C. *Clostridium perfringens*
- D. *Bacillus anthracis*
- E. *Bacillus cereus*

**112.** 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 anthracis*
- B. *Staphylococcus aureus*
- C. *Bacillus anthracoides*
- D. *Bacillus megaterium*
- E. *Bacillus subtilis*

**113.** A scheme shows an exocrinous gland with an unbranched excretory duct into which only one terminal part in form of a saccule opens. In compliance with the morphological classification of exocrinous glands, such gland is called as follows:

- A. Simple unbranched alveolar
- B. Complex branched alveolar
- C. Simple branched tubular
- D. Complex unbranched alveolar
- E. Complex unbranched alveolar-tubular

**114.** 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 sigmoideum*
- B. *Ileum*
- C. *Caecum*
- D. *Colon transversum*
- E. *Colon ascendens*

**115.** 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. Enzyme of respiratory chain of electron transport
- B. Enzyme of tricarboxylic acid cycle
- C. Enzyme of beta-oxidation of fatty acids
- D. Component of  $H^+$  ATP system
- E. Component of pyruvate-dehydrogenase system

**116.** 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. Droperidol
- B. Cholosasum
- C. Salbutamol
- D. Pilocarpine
- E. Fraxiparine

**117.** 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. Analine
- C. Acetylsalicylic acid
- D. Butadion
- E. Ibuprofen

**118.** Treatment of many diseases involves use of cocarboxylase (thiamine pyrophosphate) for supplying cells with energy. What metabolic process is activated in this case?

- A. Oxidizing decarboxylation of pyruvate
- B. Glutamate deamination
- C. Amino acids decarboxylation
- D. Decarboxylation of biogenic amines
- E. Detoxication of harmful substances in liver

**119.** A patient suffering from non-insulin-dependent diabetes mellitus was prescribed glibenclamid internally. What is the mechanism of its hypoglycemic action?

- A. It stimulates generation of endogenous insulin by beta cells
- B. It inhibits gluconeogenesis in liver
- C. It intensifies utilization of glucose by peripheral tissues
- D. It inhibits glucose absorption in the bowels
- E. It inhibits alpha glucosidase and polysaccharide breakdown

**120.** Dehelminthization 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. Hookless tapeworm
- B. Alveococcus
- C. Echinococcus
- D. Dwarf tapeworm
- E. Armed tapeworm

**121.** 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. Relapse
- B. Remission period
- C. Complication
- D. Prodromal period
- E. Latent period

**122.** In hemotransfusions it is recommended to transfuse only phenotype-matched blood. According to the AB0 system, blood group is determined by:

- A. Carbohydrate determinants of erythrocyte membranes
- B. Proteins of blood serum
- C. Protein determinants of erythrocyte membranes
- D. Protein-polysaccharide components of leukocytes
- E. Carbohydrate determinants of leukocyte membranes

**123.** 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 come to a standstill
- B. Respiration won't change
- C. Respiration will become diaphragmatic
- D. Respiration will become frequent and shallow
- E. Respiration will become infrequent and deep

**124.** 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. Gastromucoproteid
- B. Vitamin  $B_6$
- C. Vitamin  $B_1$
- D. Iron
- E. Erythropoietins

**125.** 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. Benzylpenicillin sodium salt
- B. Bijochinol
- C. Ciprofloxacin
- D. Azithromycin
- E. Doxycycline hydrochloride

**126.** 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. Gram-negative stain
- B. Presense of spores
- C. Coccal form
- D. Cell pairing
- E. Mycelium formation

**127.** Specimen of a patient's sputum was stained with the following dyes and reagents: Ziehl's solution, methylene blue solution, 5% solutoin of sulfuric acid. What staining method was applied?

- A. Ziehl-Neelsen
- B. Burri's
- C. Gram's
- D. Peshkov's
- E. Neisser's

**128.** 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. Semidominance
- B. Epistasis
- C. Complete dominance
- D. Complementarity
- E. Codomination

**129.** 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. 5-oxytryptophane
- B. Tyrosine
- C. Histidine
- D. Phenyl alanine
- E. Serine

**130.** 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. Autoimmune thyroiditis
- B. Endemic goiter
- C. Sporadic goiter
- D. Diffuse toxic goiter
- E. Riedel's disease

**131.** 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. Intestinal
- B. Bone-marrow
- C. Cerebral
- D. Combined
- E. Toxemic

**132.** 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. Atrioventricular node
- C. His' bundle branches
- D. His' bundle fibers
- E. Purkinje's fibers

**133.** 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. Liposarcoma
- B. Lipoma
- C. Fibroma
- D. Fibrosarcoma
- E. Hibernoma

**134.** 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 proteosynthesis
- B. Increase in lipolysis
- C. Accelerated gluconeogenesis
- D. Decrease in lipolysis
- E. Intensification of catabolism

**135.** 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. Carbohydrates
- B. Fats
- C. Proteins
- D. Cellulose
- E. Lactose

**136.** 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 disfunctions. The syndrome occurring at refraining from the use of a drug is called:

- A. Abstinence
- B. Sensitization
- C. Idiosyncrasy
- D. Tachyphylaxis
- E. Cumulation

**137.** 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. Decrease in hydrostatic pressure of blood in arteries
- D. Increase in oncotic pressure of blood plasma
- E. Increase in systemic arterial pressure

**138.** 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. Microbial wall formation
- B. Nucleic acid synthesis
- C. Ribosomal protein synthesis
- D. Energy metabolism
- E. Cholinesterase block

**139.** 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. Vasculomotor centre
- C. Respiratory centre
- D. Resistive vessels
- E. Capacitive vessels

**140.** 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. Retentional
- B. Hepatic
- C. Productional
- D. Residual
- E. Combined

**141.** 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. 10-12 months
- B. 6-7 months
- C. 7-8 months
- D. 12-15 months
- E. 16-20 months

**142.** 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. Obstruction of bile outflow from the liver
- C. Damage of liver parenchyma
- D. Impaired generation of direct bilirubin
- E. Impaired transformation of urobilinogen in the liver

**143.** Microscopic examination of a parenchymatous organ revealed that its epithelial cords formed glomerular, fasci-

cular 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. Epiphysis
- D. Liver
- E. Hypophysis

144. 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. Toxoplasmosis
- C. Scabies
- D. Trypanosomiasis
- E. Myasis

145. A male patient has stenosis of the mitral orifice. What is the leading mechanism of cardiac failure?

- A. Resistance-induced overload
- B. Volume overload
- C. Tension-induced overload
- D. Myocardial damage
- E. -

146. 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. Gaseous alkalosis
- E. Metabolic alkalosis

147. 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. White adipose
- B. Brown adipose
- C. Reticular connective
- D. Hyaline cartilaginous
- E. Lamellar osseous

148. 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. Decrease in hydrostatic pressure in the renal corpuscle capillaries
- B. Increase in hydrostatic pressure in the Bowman's capsule
- C. Damage of glomerular filter
- D. Increase in oncotic pressure of blood plasma
- E. Increase in vasopressin secretion

149. A patient was admitted to a hospital because of a penetrating wound of mouth floor. Which muscle is injured?

- A. Mylohyoid
- B. Thyrohyoid
- C. Stylohyoid
- D. Omohyoid
- E. Sternohyoid

150. 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. Fat
- B. Metastatic
- C. Gas
- D. Air
- E. Tissue

151. A patient has dislocation of his mandible that caused impairment of salivation and gustatory sensitivity of anterior 2/3 of his tongue. What nerve was damaged?

- A. Tympanichord
- B. Greater petrosal nerve
- C. Lesser petrosal nerve
- D. Deep petrosal nerve
- E. Sublingual nerve

152. 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 second branch of trigeminus
- B. The first branch of trigeminus
- C. The third branch of trigeminus
- D. Trochlear nerve
- E. Facial nerve

153. 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 rands. What complication of carbuncle was it?

- A. Acute abscesses
- B. Chronic abscesses
- C. Empyema
- D. Colliquative necroses
- E. Cysts

154. 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. Monostratal prismatic glandular
- C. Monostratal prismatic with a border
- D. Multistratal squamous nonkeratinizing
- E. Monostratal cubical

155. 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

156. 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. Lobar pneumonia
- C. Acute bronchitis
- D. Bronchopneumonia
- E. Interstitial pneumonia

157. 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. B-lymphocytes
- C. IgG
- D. Macrophages
- E. Eosinophils

158. 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. Giant-cell epulis
- B. Root granuloma
- C. Angiomatous epulis
- D. Ameloblastoma
- E. Mandibular osteoclastoma

159. 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. *N.pharyngeus*
- C. *N.palatinus major*
- D. *Rr.nasales posteriores inferiores*
- E. *Nn.palatini minores*

160. 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. Enamel formation
- B. Pulp formation
- C. Predentinal space formation
- D. Cellular cement formation
- E. Acellular cement formation

161. Examination of nasal cavity revealed deviation of the posterior part of nasal septum. What bone is affected?

- A. Vomer
- B. Medial plate of pterygoid process
- C. Lateral plate of pterygoid process
- D. Perpendicular plate of ethmoid bone
- E. Vertical plate of palatine bone

162. A 70-year-old man has developed prosthetic stomatitis. Apart of this he was found to have an evident lesion of mouth corners. Microscopical examinati-

on revealed large ovoid gram-positive cells. What microorganisms are most likely to be the leading etiological agent of such a lesion?

- A. *Candida* fungi
- B. Streptococci
- C. Staphylococci
- D. *Neisseria*
- E. *Corynebacteria*

**163.** 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. Lysyl oxidase
- B. Monoamine oxidase
- C. Prolyl hydroxylase
- D. Lysyl hydroxylase
- E. Collagenase

**164.** 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. Pyelonephritis
- B. Glomerulonephritis
- C. Pyelitis
- D. Necrotic nephrosis
- E. Nephrolithiasis

**165.** A child with renal insufficiency exhibits delayed teeth eruption. This is most likely caused by the abnormal formation of the following substance:

- A.  $1,25(OH)_2D_3$
- B. Glycoamine
- C. Glutamate
- D.  $\alpha$ -ketoglutarate
- E. Hydroxylysine

**166.** 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. *Urachus*
- C. *Lig. teres uteri*
- D. *Lig. inguinale*
- E. -

**167.** As a result of a road accident a 26-year-old man is in the torpid phase of shock. Blood count: leukocytes -  $3,2 \cdot 10^9/l$ . What is the leading mechanism of

leukopenia development?

- A. Leukocyte redistribution in the bloodstream
- B. Leukopoiesis inhibition
- C. Faulty release of mature leukocytes from the bone marrow into the blood
- D. Leukocyte destruction in the hematopoietic organs
- E. Increased excretion of the leukocytes from the organism

**168.** 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. Vasopressin hyposecretion
- B. Glucocorticoid hypersecretion
- C. Vasopressin hypersecretion
- D. Relative insulin insufficiency
- E. Aldosteron hypersecretion

**169.** 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. DNA-polymerase enzyme
- D. Introns
- E. RNA-polymerase enzyme

**170.** 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 pathogenous factor:

- A. Hemolysin
- B. Endotoxin
- C. Neuraminidase
- D. Beta-lactamase
- E. Leukocidin

**171.** A 5-month-old boy was hospitalized for tonic convulsions. He has a lifetime 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. Hypoparathyroidism
- B. Hyperparathyroidism
- C. Hyperaldosteronism
- D. Hypoaldosteronism
- E. Hypothyroidism

172. A 60-year-old patient presents with intestinal hypoperistalsis. Which of the following foodstuffs will stimulate peristalsis most of all?

- A. Brown bread
- B. White bread
- C. Meat
- D. Lard
- E. Tea

173. Liver puncture biopsy in a patient with hepatocellular insufficiency revealed vacuolar, ballooning degeneration of hepatocytes, necrosis of single cells, Councilman's 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. Chronic active hepatitis
- D. Autoimmune hepatitis
- E. Alcoholic hepatitis

174. 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. *Clostridium botulinum*
- C. Diphtheroids
- D. Streptococci
- E. Streptobacilli

175. 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. Inversion
- C. Transposition
- D. Duplication
- E. Heterogeneity

176. 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 mother's side has the same disease. What type of inheritance is it?

- A. Recessive, sex-linked
- B. Dominant, sex-linked
- C. Autosomal and recessive
- D. Autosomal and dominant
- E. Semidominance

177. During an experiment it is required to estimate the rate of cell excitability. For this purpose it would be rational to determine:

- A. Depolarization threshold
- B. Rest potential
- C. Critical level of depolarization
- D. Amplitude of action potential
- E. Duration of action potential

178. A patient in a cardiological department has arrhythmia. A doctor administered him amyodaron. What is the main mechanism of amyodaron's antiarrhythmic action?

- A. It blocks mostly potassium channels
- B. It inhibits cholinoreceptors
- C. It stimulates histamine receptors
- D. It activates serotonin receptors
- E. It alters myocardium susceptibility to the acetylcholine

179. 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. I type (anaphylactic)
- B. II type (antibody-dependent)
- C. III type (immune complex)
- D. IV type (cellular cytotoxicity)
- E. V type (granulomatosis)

180. 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. Auditory
- C. Exteroceptive
- D. Visual
- E. Nociceptive

**181.** A patient with edemata was prescribed a  $K^+$ -retaining diuretic - aldosterone antagonist. What drug is it?

- A. Spironolactone
- B. Digoxin
- C. Procainamide hydrochloride
- D. Clonidine
- E. Alopurinole

**182.** Patients with erythropoietic porphyria (Gunther's disease) are known to have photoesthetic skin, red urine. In the ultraviolet light their teeth exhibit bright red fluorescence. This disease is associated with deficiency of the following enzyme:

- A. Uroporphyrinogen-III-cosynthase
- B. Uroporphyrinogen-I-synthase
- C. Delta-aminolevulinat synthase
- D. Uroporphyrinogen decarboxylase
- E. Ferrochelataze

**183.** 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. Hydropic
- B. Granular
- C. Adipose
- D. Keratinization
- E. Hyaline drop

**184.** 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. Acyclovir
- B. Dimedrol
- C. Paracetamol
- D. Levamisole
- E. Furacilinum

**185.** 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. Denticles
- B. Interglobular dentin
- C. Interglobular spaces
- D. Sclerotic dentin
- E. Dead dentin

**186.** A patient has secretory dysfunction of the submandibular salivary gland. Which nerve is responsible for its vegetative innervation?

- A. *Chorda tympani*
- B. *N.auriculotemporalis*
- C. *N.mandibularis*
- D. *N.petrosus major*
- E. *N.petrosus minor*

**187.** 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. Small cell carcinoma
- B. Fibroma
- C. Squamous cell nonkeratinous carcinoma
- D. Squamous cell keratinous carcinoma
- E. Adenocarcinoma

**188.** 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. 0,9
- B. 1,67
- C. 1,85
- D. 2,5
- E. 1,5

**189.** A patient underwent the extraction of his isuperior medial incisor. It is supplied with blood by the branches of the following artery:

- A. *A.infraorbitalis*
- B. *A.buccalis*
- C. *A.palatina descendens*
- D. *A.sphenopalatina*
- E. *A.alveolaris inferior*

**190.** 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 multi-layer pavement epithelium with no signs of keratinization; the cavity contained serous exudate. What is the most likely diagnosis?

- A. Radicular cyst
- B. Follicular cyst
- C. Primordial cyst
- D. Cherubism
- E. Follicular ameloblastoma

**191.** 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. Hyaline drop degeneration
- C. Hydropic degeneration
- D. Carbohydrate degeneration
- E. Dysproteinosis

**192.** 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. Unipolar
- C. Bipolar
- D. Multipolar
- E. Apolar

**193.** 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. Increased permeability of periodont membranes
- D. Mechanical damage of teeth
- E. Disturbed oxidation-reduction process in the periodont

**194.** 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. Complement binding reaction
- C. Agglutination test
- D. Precipitation reaction
- E. Hemagglutination reaction

**195.** 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. Bile acid deficiency
- B. Hypochlorhydria
- C. Hyperchlorhydria
- D. Achylia
- E. Achlorhydria

**196.** A patient suffering from tuberculosis was treated with rifampicin, which caused drug resistance of tuberculosis mycobacteria. In order to reduce mycobacteria resistance, rifampicin should be combined with the following drug:

- A. Isoniazid
- B. Acyclovir
- C. Intraconazole
- D. Metronidazole
- E. Amoxicillin

**197.** 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. Herpes simplex virus type 1
- B. Herpes simplex virus type 2
- C. Herpes zoster
- D. Cytomegalic virus
- E. Epstein-Barr virus

**198.** 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 lymphoid leukosis
- C. Chronic myeloid leukosis
- D. Cancer metastases
- E. Lymphosarcoma

**199.** 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.** Boric acid
- C.** Alcoholic iodine solution
- D.** Ethyl alcohol
- E.** Chloramine

**200.** 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 1/2 of tooth root. What is the most probable diagnosis?

- A.** Local parodontitis
- B.** Hypertrophic gingivitis
- C.** Chronic catarrhal gingivitis
- D.** Generalized parodontitis
- E.** -