

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

- A.** Mitochondrions
- B.** Lysosomes
- C.** Ribosomes
- D.** Endoplasmic reticulum
- E.** Centrosomes

**2.** 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.** Validol
- C.** Papaverine
- D.** Dibazol
- E.** Aminophylline

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

- A.** Whipworm
- B.** Seatworm
- C.** Ascarid
- D.** Hookworm
- E.** Threadworm

**4.** 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.** Pubic louse
- B.** Flea
- C.** Head louse
- D.** Bed bug
- E.** Itch mite

**5.** There are trisomy, translocational and mosaic forms of Down's Syndrome. What method of human genetics can be applied to differentiate the said forms of Down's syndrome?

- A.** Cytogenetical
- B.** Gemellary
- C.** Genealogical
- D.** Biochemical
- E.** Population-statistical

**6.** Very big teeth is an Y-linked sign. Mother's teeth are of normal size, and her son's teeth are very big. Probability of father's having very large teeth is:

- A.** 100%
- B.** 75%
- C.** 50%
- D.** 25%
- E.** 12,5%

**7.** 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.** Patau's syndrome
- B.** Cat cry syndrome
- C.** Edwards' syndrome
- D.** Down's syndrome
- E.** Klinefelter's syndrome

**8.** 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.** Amebiasis
- B.** Trypanosomiasis
- C.** Leishmaniasis
- D.** Malaria
- E.** Toxoplasmosis

**9.** 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 Down's syndrome. Name the cause of such pathology:

- A.** Trisomy of the 21 chromosome
- B.** Trisomy of the 13 chromosome
- C.** X-chromosome trisomy
- D.** Partial monosomy
- E.** Nondisjunction of sexual chromosomes

**10.** A group of students has representati-

ves 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. Mongoloid
- B. Negroid
- C. European
- D. Australoid
- E. Ethiopian

11. 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. Neural tube
- B. Kidneys
- C. Bowels epithelium
- D. Liver
- E. Sexual glands

12. In a genetical laboratory in course of work with DNA molecules of white rats of Wistar's 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. Deletion
- C. Duplication
- D. Displacement of reading frame
- E. Translocation

13. Father bought some pork at the market. What disease may catch members of his family provided that this meat didn't pass the veterinary control?

- A. Pork tapeworm infection
- B. Beef tapeworm infection
- C. Hymenolepiasis
- D. Echinococcosis
- E. Liver fluke infection

14. 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. Spiralization of chromosomes
- C. Cytokinesis
- D. Despiralization of chromosomes
- E. Mitosis duration

15. A newborn child has microcephalia. Doctors consider that this is the result of mother's taking actinomycin D during

the pregnancy. What embryonal leaf was influenced by this teratogen?

- A. Ectoderma
- B. All leaves
- C. Entoderma
- D. Mesoderma
- E. Entoderma and mesoderma

16. 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. Versatility
- C. Nonoverlayability
- D. Tripletty
- E. Specificity

17. 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. Parathyroid glands
- B. Thyroid gland
- C. Thymus
- D. Adrenal glands
- E. Epiphysis

18. 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. Venous jugular arch
- B. Lymph nodes
- C. Carotid artery
- D. Subclavian artery
- E. Internal jugular vein

19. 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. facialis*
- B. *A. submentalis*
- C. *A. alveolaris inferior*
- D. *A. labialis inferior*
- E. *A. lingualis*

20. 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.supraorbitalis*
- B. *A.infraorbitalis*
- C. *A.angularis*
- D. *A.dorsalis nasi*
- E. *A.temporalis superficialis*

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

- A. Middle
- B. Superior
- C. Inferior
- D. Common
- E. Above the superior nasal concha

22. 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. Inferior nasal meatus
- B. Middle nasal meatus
- C. Superior nasal meatus
- D. Vestibule of nose
- E. Frontal sinus

23. 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 anterior ethmoidal foramen
- C. Through the posterior ethmoidal foramen
- D. Through the inferior orbital fissure
- E. Through the zygomatic orbital foramen

24. 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.vagus dexter*
- D. *N.trigeminus sinister*
- E. *N.facialis sinister*

25. 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. 8
- B. 10
- C. 7
- D. 12
- E. 6

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

- A. Squama
- B. Left lateral
- C. Right lateral
- D. Proximal
- E. Condyle

27. 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. Left venous angle
- B. Right venous angle
- C. Point of formation of inferior vena cava
- D. Point of formation of superior vena cava
- E. Point of formation of portal vein

28. 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. *Foraminae cribrosae*
- B. *Foramen ovale*
- C. *Foramen ethmoidalae posterior*
- D. *Foramen sphenopalatinum*
- E. *Foramen rotundum*

29. 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.masseter*
- C. *M.pterygoideus lateralis*
- D. *M.pterygoideus medialis*
- E. *M.levator anguli oris*

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

- A. Pterygopalatine
- B. Aural
- C. Ciliated
- D. Submandibular
- E. Sublingual

31. 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. Ureter
- B. Uretra
- C. Vesica urinaria
- D. Pelvis renalis
- E. Ren

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

- A. Hypophysis
- B. Epiphysis
- C. Pancreas
- D. Thyroid
- E. Suprarenal

33. 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. trigeminus*
- C. *N. vestibulo – cochlearis*
- D. *N. vagus*
- E. *N. glossopharyngeus*

34. 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 epiploic foramen
- B. Through the right paracolic sulcus
- C. Through the left paracolic sulcus
- D. Through the right mesenteric sinus
- E. Through the left mesenteric sinus

35. 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 muscle's development was disturbed in this case?

- A. Sternocleidomastoid
- B. Trapezius
- C. Splenius muscle of head
- D. Sternosublingual
- E. Long muscle of head

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

- A. *N. mandibularis*
- B. *N. maxillaris*
- C. *N. alveolaris inferior*
- D. *Nn. alveolares superiores*
- E. *N. infraorbitalis*

37. 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. Head of mandible and mandibular fossa
- B. Coronoid process and pterygoid fossa
- C. Coronoid process and submandibular fossa
- D. Head of mandible and submandibular fossa
- E. Neck of mandible and submandibular fossa

38. 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. Sigmoid
- B. Inferior petrosal
- C. Superior saggital
- D. Transverse
- E. Rectus

39. 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 axillary artery
- C. Compression of subclavian vein
- D. Compression of vertebral artery
- E. Compression of axillary vein

40. 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. V
- C. IX
- D. XI
- E. VII

41. 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.cerebri anterior*
- B. *A.cerebri posterior*
- C. *A.communicans anterior*
- D. *A.cerebri media*
- E. *A.communicans posterior*

42. 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.angularis*
- B. *V.maxillaris*
- C. *V.profunda faciei*
- D. *V.transversa faciei*
- E. *V.diploicae frontalis*

43. 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. *Caruncula sublingualis*
- B. *Vestibulum oris*
- C. *Foramen caecum linguae*
- D. *Plica fimbriata*
- E. *Recessus gingivalis*

44. 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. Lymphocytes
- B. Neutrophilic leukocytes
- C. Basophilic leukocytes
- D. Monocytes
- E. Tissue basophils

45. 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 lateral horn neurons
- E. Axons of motoneurons

46. 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. Goblet cells
- B. Ciliated cells
- C. Microvillous cells
- D. Basal cells
- E. Endocrine cells

47. 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. Vibration
- C. Gravitation
- D. Linear acceleration
- E. Vibration and gravitation

48. 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. Vein of muscular type
- B. Artery of muscular type
- C. Lymphatic vessel
- D. Venule
- E. Arteriole

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

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

50. 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. Fibrous bone tissue
- B. Loose connective tissue
- C. Reticular tissue
- D. Epithelial tissue
- E. Lamellar bone tissue

**51.** A chemical burn of esophagus caused it's local constriction as a result of scar formation. What cells of loose connective tissue take part in scar formation?

- A. Mature specialized fibroblasts
- B. Immature nonspecialized fibroblasts
- C. Fibrocytes
- D. Miofibroblasts
- E. Fibroclasts

**52.** 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. Preovulatory stage
- B. Ovulation
- C. Menstrual period
- D. Postmenstrual period
- E. Period of relative rest

**53.** Premature infants have syndrom of respiratory failure. Failure of what arohematic barriere component underlies this pathology?

- A. Surfactant
- B. Capillary endothelium
- C. Basal membrane of endothelium
- D. Basal membrane of alveolocytes
- E. Alveolocytes

**54.** 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. Regeneration of glandular epithelium
- B. Protective
- C. Endocrine
- D. Secretion of chlorine ions
- E. Pepsinogen secretion

**55.** 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. Retsius' lines
- B. Hunter-Schreger's lines
- C. Enamel plates
- D. Enamel fascicles
- E. Enamel spindles

**56.** 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. Reaction of passive hemagglutination
- B. Bordet-Gengou test
- C. Precipitation reaction
- D. Hemolysis reaction
- E. Bacteriolysis reaction

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

- A. Ectoderm
- B. Mesoderm
- C. Entoderm
- D. Mesenchyma
- E. Ectomesenchyma

**58.** 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 phenomemon called?

- A. Accidental thymus involution
- B. Age thymus involution
- C. Thymus hypotrophy
- D. Thymus dystrophy
- E. Thymus atrophy

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

- A. Soft palate
- B. Gum
- C. Hard palate
- D. Lip
- E. Cheek

**60.** 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. Microstomia
- C. Cleft palate
- D. Gothic palate
- E. Cleft of superior lip

61. 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. Denticles
- B. Interglobular spaces
- C. Sclerosed (transparent) dentin
- D. Dead dentin
- E. Intertubular dentin

62. 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. Juxtaglomerular
- B. Mesangial
- C. Smooth muscular
- D. Juxtavascular
- E. Interstitial

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

- A. Foliate
- B. Conic
- C. Vallate
- D. Filiform
- E. Fungiform

64. 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. Somatostatin
- C. Progesterone
- D. Vasopressin
- E. Oxytocin

65. 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. Intermedial zone
- C. Fasciolar zone
- D. Reticular zone
- E. -

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

- A. Attachment of blastocyte to the endometrium
- B. Destruction of endometrium epithelium
- C. Destruction of connective tissue of endometrium
- D. Destruction of endometrium vessels
- E. Formation of lacunes

67. 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. Increased frequency of heartbeat
- B. Hyperperistalsis
- C. Hypersecretion of digestive juices
- D. Bronchus constriction
- E. Miotic pupils

68. 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. Decrease of  $p O_2$  in arterial blood
- B. Increase of  $p O_2$  in arterial blood
- C. Decrease of  $p O_2$  in venous blood
- D. Increase of  $p O_2$  in venous blood
- E. Increase of  $p O_2$  in cells

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

- A. Moderately loud sound
- B. Zwieback
- C. Meat
- D. Electric current
- E. Very loud sound

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

- A. Inspiratory reserve volume
- B. Expiratory reserve volume
- C. Respiratory volume
- D. Residual volume
- E. Functional residual lung capacity

71. 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. Angiotensin-II
- B. Vasopressin
- C. Adrenaline
- D. Noradrenaline
- E. Serotonin

72. 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 His' bundle
- C. In Purkinje's fibers
- D. In atria's myocardium
- E. In ventricle's myocardium

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

- A. Conditioned sympathetic
- B. Conditioned and unconditioned sympathetic
- C. Conditioned parasympathetic
- D. Unconditioned parasympathetic
- E. Unconditioned sympathetic and parasympathetic

74. 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. Drug habituation
- C. Sensibilisation
- D. Hyperproduction of corticotroph hormone
- E. Cumulation

75. A sportsman was examined after an intensive physical activity. The examination revealed disorder of movement coordination but the force of muscle contractions remained the same. It can be explained by retarded speed of excitement conduction through:

- A. Central synapses
- B. Neuromuscular synapses
- C. Efferent nerves
- D. Afferent nerves
- E. Conduction tracts

76. Cerebral hemorrhage caused serious

disturbance of taste sensibility. What brain structure is most likely to be damaged?

- A. Postcentral gyrus
- B. Hippocampus
- C. Hypothalamus
- D. Substantia nigra
- E. Amygdaloid body

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

- A. Carboxyhemoglobin
- B. Deoxyhemoglobin
- C. Carbhemoglobin
- D. Methemoglobin
- E. Oxyhemoglobin

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

- A. Parathormone
- B. Thyrocalcitonin
- C. Aldosterone
- D. Vasopressin
- E. Somatotropin

79. 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. Potassium
- B. Sodium
- C. Potassium and sodium
- D. Calcium
- E. Sodium and calcium

80. 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. Pancreatic juice
- B. Saliva
- C. Gastric juice
- D. Bile
- E. Intestinal juice

81. 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. Atrioventricular valves
- B. Semilunar valves
- C. Cardiomyocytes of heart atriums
- D. Cardiomyocytes of ventricles
- E. Cardiomyocytes of atriums

82. 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. sympathicus*
- B. *N. glossopharyngeus*
- C. *N. facialis*
- D. *N. trigeminus*
- E. *N. vagus*

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

- A. Aldosterone
- B. Vasopressin
- C. Cortisol
- D. Parathormone
- E. Natriuretic hormone

84. A man's energy consumption is measured on an empty stomach, in lying position, under conditions of physical psychological rest, at comfortable temperature. At what time will the energy consumption be the lowest?

- A. At 3-4 o'clock a.m.
- B. At 7-8 o'clock a.m.
- C. At 10-12 o'clock a.m.
- D. At 2-4 o'clock p.m.
- E. At 5-6 o'clock p.m.

85. 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. Cerebellum
- B. Thalamus
- C. Hypothalamus
- D. Precentral gyrus of cerebrum cortex
- E. Basal ganglions

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

- A. Erythrocytes
- B. Leukocytes
- C. Thrombocytes
- D. Leukocytes and thrombocytes
- E. Erythrocytes and leukocytes

87. 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. Reduced heart rate
- B. Increase of frequency and force of heartbeat
- C. Increased excitability of myocardium
- D. Increased conduction of excitement through myocardium
- E. Increased force of heartbeat

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

- A. Parathormone
- B. Thyrocalcitonin
- C. Aldosterone
- D. Corticotropin
- E. Corticoliberin

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

- A. Hypergammaglobulinemia
- B. Hyperalbuminemia
- C. Hypogammaglobulinemia
- D. Hypoproteinemia
- E. Erythrocytosis

90. 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. Ascorbic acid and rutin
- B. Thiamine and pyridoxine
- C. Folic acid and cobalamin
- D. Riboflavin and nicotinamide
- E. Calciferol and ascorbic acid

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

92. 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. 2,5 mmole/l
- B. 3,3 mmole/l
- C. 8,0 mmole/l
- D. 10 mmole/l
- E. 5,5 mmole/l

93. 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. Phenylalanine
- B. Tryptophan
- C. Methionine
- D. Histidine
- E. Arginine

94. 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. Lisilhydroxylase
- B. Glycosiltransferase
- C. Elastase
- D. Procollagenpeptidase of N-terminal peptide
- E. Procollagenpeptidase of C-terminal peptide

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

- A. Formation of  $1, 25(\text{OH})_2\text{D}_3$
- B. Proline hydroxylation
- C. Lysine hydroxylation
- D. Glutamate carboxylation
- E. Cortisol hydroxylation

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

- A. They inhibit cytochromoxidase
- B. They bind substrates of tricarboxylic acid cycle
- C. They block succinate dehydrogenase
- D. They inactivate oxygene
- E. They inhibit cytochrome B

97. A patient has the folowing changes: disorder of twilight vision, drying out of conjunctiva and cornea. Such disorders

may be caused by deficiency of vitamin:

- A. Vitamin A
- B. Vitamin B
- C. Vitamin C
- D. Vitamin D
- E. Vitamin  $B_{12}$

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

- A. Vitamin E
- B. Vitamin A
- C. Vitamin K
- D. Vitamin D
- E. Vitamin  $B_1$

99. 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. Thyroxin
- D. Parathormone
- E. Triiodothyronine

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

- A. Increased level of rest nitrogen
- B. Increase of immunoglobuline A
- C. Reduction of alkaline phosphatase
- D. Increase of alpha amylase
- E. Decreased level of phosphate

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

- A. Fluorine
- B. Iron
- C. Zinc
- D. Chromium
- E. Copper

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

- A. Mucin
- B. Glucose
- C. Kallikrein
- D. Amylase
- E. Lysozyme

103. Parodontitis is accompanied by activation of proteolysis in parodontium tissues. Increase of what oral fluid's

component is the evidence of proteolysis activation?

- A. Aminoacids
- B. Organic acids
- C. Glucose
- D. Biogenic amines
- E. Cholesterol

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

- A. Lipoprotein lipase
- B. Glycosidase
- C. Proteinase
- D. Hemsynthetase
- E. Phenylalanine hydroxylase

**105.** 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. Glucose, ketone bodies
- B. Protein, aminoacids
- C. Protein, creatine
- D. Bilirubin, urobilin
- E. Blood

**106.** 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. Lysis of pyrimidine nucleotides
- C. Heme catabolism
- D. Proteolysis
- E. Reutilization of purine bases

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

- A. Lactate
- B. Ketone bodies
- C. Glucose 6-phosphate
- D. Oxaloacetate
- E. -

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

- A. Pyruvate
- B. Oxaloacetate
- C. Glycerophosphate
- D. Glucose 6-phosphate
- E. Fructose 6-phosphate

**109.** A patient is diagnosed with alkaptonuria. Name a defect enzyme that causes this pathology:

- A. Oxydase of homogentisine acid
- B. Phenylalanine hydroxylase
- C. Glutamate dehydrogenase
- D. Pyruvate dehydrogenase
- E. Dioxyphenylalanine decarboxylase

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

- A. Gluconeogenesis
- B. Glycogenolysis
- C. Aerobic glycolysis
- D. Pentose-phosphate cycle
- E. Glycogenesis

**111.** In compliance with the clinical presentations a man was prescribed pyridoxal phosphate. 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. Synthesis of purine and pyrimidine bases
- E. Protein synthesis

**112.** 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. Activation of tissue thromboplastin
- C. Hypovitaminosis PP
- D. Fibrinogen deficiency
- E. Hypocalcemia

**113.** 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. Increased permeability of capillars
- B. Increase of venous outflow
- C. Decrease of colloid osmotic pressure
- D. Disorder of neural and humoral regulation
- E. Increase of lymph outflow

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

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

**115.** The body temperature of a patient with an infectious disease rises once in two days up to  $39,5 - 40,5^{\circ}\text{C}$  and stays so for about an hour and then drops to the initial level. What type of fever is it?

- A. Intermittent
- B. Continued
- C. Remittent
- D. Hectic
- E. Atypical

**116.** 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. Somatotropic
- B. Corticotrophic
- C. Thyreotropic
- D. Gonadotropic
- E. Prolactin

**117.** 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. Polyuretic
- B. Metabolic
- C. Hemodynamic
- D. Ischemic
- E. Pathochemic

**118.** 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 hydrostatic blood pressure in veins
- B. Rise of oncotic pressure of intracellular fluid
- C. Reduction of oncotic blood pressure
- D. Increased permeability of vessel walls
- E. -

**119.** 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. Castle's factor
- B. Hydrochloride acid
- C. Mucin
- D. Pepsin
- E. Gastrin

**120.** 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  $t^{\circ}$  -  $35,0^{\circ}\text{C}$ , low muscular tonus, reflexes are absent, pulse is rapid and weak, AP- 50/30 mm Hg. What clinical shock stage is it?

- A. Terminal stage
- B. Erectile stage
- C. Excitement stage
- D. Inhibition stage
- E. Torpid stage

**121.** After traumatic tooth extraction a patient complains of a severe dull pain without accurate localization in his gum, body temperature rise up to  $37,5^{\circ}\text{C}$ . He was diagnosed with alveolitis. What type of pain does the patient have?

- A. Protopathic
- B. Epicritic
- C. Visceral
- D. Referred
- E. Phantom

**122.** 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. Prodromal
- B. Latent
- C. Incubative
- D. High point of illness
- E. End of illness

**123.** 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. Exogenous hypercholesterolemia
- B. Overeating
- C. Hypodynamia
- D. Endogenous hypercholesterolemia
- E. -

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

- A. Proteinuria
- B. Transition of protein from vessels to tissues
- C. Reduced protein synthesis in liver
- D. Increased proteolysis
- E. Disturbance of intestinal protein absorption

**125.** 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. Membranogenic
- C. Disregulatory
- D. Lymphogenic
- E. Hyperosmolar

**126.** 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. Aldosterone hypersecretion
- B. Aldosterone hyposecretion
- C. Catecholamine hypersecretion
- D. Glucocorticoid hypersecretion
- E. Glucocorticoid hyposecretion

**127.** 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. Lymphopenia
- B. Leukopenia
- C. Granulocytopenia
- D. Thrombocytopenia
- E. Anemia

**128.** 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. Phantom
- B. Causalgia
- C. Neuralgia
- D. Thalamic
- E. Reflex

**129.** 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. Acute hypotension
- B. Chronic hypotension
- C. Vegetovascular dystonia
- D. Essential arterial hypotension
- E. -

**130.** 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. Obstructive
- B. Hepatic
- C. Hepatocellular
- D. Hemolytic
- E. Cythemolytic

**131.** 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. Nongaseous alkalosis
- B. Gaseous alkalosis
- C. Gaseous acidosis
- D. Metabolic acidosis
- E. Excretory acidosis

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

- A. Autoimmune hemolysis
- B. Toxic hemolysis
- C. Intracellular hemolysis
- D. Hyposmolarity of plasm
- E. Osmotic hemolysis

**133.** 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. Insulin-dependent diabetes
- B. Insulin-independent diabetes
- C. Steroid diabetes
- D. Diabetes insipidus
- E. Malnutrition diabetes

**134.** A patient fell into the ice hole, was chilled in the wind and taken ill. Body temperature rised 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 continua*
- B. *Febris recurrens*
- C. *Febris hectica*
- D. *Febris intermittens*
- E. *Febris remittens*

**135.** 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. Replacement of erythrocytic shoot
- B. Intravascular erythrocyte hemolysis
- C. Vitamin B<sub>12</sub> deficiency
- D. Reduction of erythropoietin synthesis
- E. Chronic hemorrhage

**136.** 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. Gaseous
- B. Air
- C. Fat
- D. Paradoxical
- E. Tissue

**137.** Autopsy of a woman with cerebral atherosclerosis revealed in the left cerebral hemisphere a certain focus that

is presented by flabby, anhistic, greyish and yellowish tissue with indistinct edges. What pathological process is the case?

- A. Ischemic stroke
- B. Multifocal tumor growth with cystic degeneration
- C. Multiple foci of fresh and old cerebral hemorrhage
- D. Focal encephalitis
- E. Senile encephalopathy

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

- A. Phlegmonous appendicitis
- B. Gangrenous appendicitis
- C. Superficial appendicitis
- D. Simple appendicitis
- E. Chronic appendicitis

**139.** 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. Fibrinopurulent peritonitis
- B. Hemorrhagic peritonitis
- C. Serous peritonitis
- D. Tuberculous peritonitis
- E. -

**140.** 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. Ulcerative stomatitis
- D. Vensan's ulcerative-necrotic stomatitis
- E. Faucial diphteria

**141.** 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.** Autoimmune Hashimoto's thyroiditis
- B.** Adenoma of thyroid gland
- C.** Purulent thyroiditis
- D.** Thyrotoxic goiter
- E.** -

**142.** 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.** Influenza
- B.** Measles
- C.** Scarlet fever
- D.** Diphtheria
- E.** Croupous pneumonia

**143.** 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.** Pulmonary emphysema
- B.** Multiple bronchiectasis
- C.** Cavernous tuberculosis
- D.** Chronic bronchitis
- E.** Fibrosing alveolitis

**144.** 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.** Diffuse cardiosclerosis
- B.** Tiger heart
- C.** Postinfarction cardiosclerosis
- D.** Myocarditis
- E.** Myocardium infarction

**145.** Microscopic analysis of tissue sampling from patient's 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.** Tuberculosis
- B.** Syphilis
- C.** Leprosy
- D.** Rhinoscleroma
- E.** Glanders

**146.** 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.** Humid gangrene
- B.** Dry gangrene
- C.** Gas gangrene
- D.** Pressure sore
- E.** Trophic ulcer

**147.** 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.** Chronic left ventricular insufficiency
- B.** Chronic right ventricular insufficiency
- C.** Acute left ventricular insufficiency
- D.** Acute right ventricular insufficiency
- E.** Portal hypertension

**148.** 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 maters of brain are edematic, plethoric, saturated diffusively with bright red liquid. Convolutions and sulci of brain are flattened. What influenza complication is in question?

- A.** Hemorrhagic meningitis
- B.** Cerebral hemorrhage
- C.** Venous hyperemia of brain membranes
- D.** Suppurative leptomeningitis
- E.** Serous meningitis

**149.** 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. Median caries
- B. Spot stage
- C. Superficial caries
- D. Deep caries
- E. Chronic caries

**150.** 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. Syphilis
- B. Actinomycosis
- C. Tuberculosis
- D. Pharyngeal diphtheria
- E. Necrotic (Vincent's) tonsillitis

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

- A. Lymphogranulematosis
- B. Lymphosarcoma
- C. Chronic leukemia
- D. Acute leukemia
- E. Cancer metastasis

**152.** 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. Adenocarcinoma
- B. Fibromyoma of uterus
- C. Chorioepithelioma
- D. Glandular hyperplasia of endometrium
- E. Endometritis

**153.** 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. Diapedetic hemorrhages
- C. Ischemic infarction
- D. Plasmorrhagias
- E. Abscess

**154.** 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. Necrotic nephrosis
- B. Acute pyelonephritis
- C. Acute glomerulonephritis
- D. Acute tubular-interstitial nephritis
- E. Lipoid nephrosis

**155.** 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. Serofibrinous
- B. Hemorrhagic
- C. Serous
- D. Purulent
- E. Fibrinous

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

- A. Atopy, anaphylaxis
- B. Cytotoxic, cytolytic effect of antibodies
- C. Immune complex mechanism
- D. Cell-mediated cytotoxicity
- E. Granulematosis

**157.** 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. Catarrhal
- B. Erosive
- C. Fibrinous
- D. Purulent
- E. Necrotic

**158.** 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. Bacteriological
- B. Biological
- C. Bacterioscopic
- D. Serological
- E. Allergic

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

- A. Gonorrhoea
- B. Syphilis
- C. Venereal lymphogranulomatosis
- D. Soft chancre
- E. Pseudocholera

**160.** 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. *Pseudomonas aeruginosa*
- B. *Proteus vulgaris*
- C. *Bacillus subtilis*
- D. *Klebsiella pneumoniae*
- E. *Staphylococcus epidermidis*

**161.** 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. Acid resistance
- B. Alkali resistance
- C. Alcohol resistance
- D. Encapsulation
- E. Spore-formation

**162.** 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. Detection of volutine granules
- C. Cystinase test
- D. Hemolytic ability of pathogenic organism
- E. Phagolysability

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

- A. Viral hepatitis type B
- B. Viral hepatitis type A
- C. AIDS
- D. Tuberculosis
- E. Syphilis

**164.** 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. Vaccination with recombinant vaccine
- B. Secure sterilization of medical instruments
- C. Working with gum gloves on
- D. Introduction of specific immunoglobuline
- E. Introduction of interferonogenes

**165.** 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.leprae*
- B. *M.tuberculosis*
- C. *A.bovis*
- D. *A.israelii*
- E. *M.avium*

**166.** A patient with clinical presentations of primary immunodeficiency displays disturbance of antigen-presenting function by immunocompetent cells. What cells may have structure defect?

- A. Macrophages, monocytes
- B. T-lymphocytes
- C. B-lymphocytes
- D. Fibroblasts
- E. 0-lymphocytes

**167.** 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. Immune-enzyme analysis
- B. Gel precipitation reaction
- C. Reaction of hemagglutination inhibition
- D. Reaction of hemagglutination
- E. Phase-contrast microscopy

**168.** 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. Precipitation reaction
- B. Agglutination reaction
- C. Reaction of passive hemagglutination
- D. Bordet-Gengou test
- E. Neutralization reaction

**169.** 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. Reaction of Arthus phenomenon type
- C. Reaction of serum sickness type
- D. Atopic reaction
- E. Hypersensitivity reaction type II

**170.** During many infectious diseases patient's blood may contain antigens of pathogens. What reaction should be applied provided that antigenemia is at a low level?

- A. Enzyme-linked immunosorbent assay
- B. Agglutination reaction
- C. Reaction of indirect hemagglutination
- D. Reaction of latex-agglutination
- E. Immunoelectrophoresis

**171.** A 58 year old patient was being prepared to cholecystectomy operation. Drug complex of narcosis medication included benzohexamethonium. What

part does this medication play in the narcosis?

- A. Functional blockade of visceral reflexes
- B. Relaxation of skeletal muscles
- C. Relaxation of smooth muscles
- D. Reduction of excitement stage
- E. Increase of retrograde amnesia

**172.** 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. Sodium
- B. Potassium
- C. Sodium and potassium
- D. Chloride
- E. Calcium

**173.** A 25 year old patient had in the dentist's 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  $\beta_2$ -adrenoreceptors
- B. Stimulates  $\alpha$ -adrenoreceptors
- C. Blocks  $H_1$ -histamine receptors
- D. Blocks phosphodiesterase
- E. Blocks M-cholinergic receptors

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

- A. Increased permeability of renal filter
- B. Delayed excretion of nitrogen metabolism products
- C. Decreased oncotic pressure of blood plasma
- D. Increase of hydrostatic blood pressure in capillaries
- E. Decreased number of functioning nephrons

**175.** 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. Atropine
- B. Caffeine
- C. Adrenaline
- D. Camphor
- E. Isadrine

**176.** A patient with stomatitis was prescribed a medication of sulfanamide group.

What is the mechanism of its antibacterial effect?

- A. Competitive antagonism with para-aminobenzoic acid
- B. Synthesis disturbance of cell membrane proteins
- C. Decrease of membrane permeability
- D. Inhibition of sulphhydic groups of thiol enzymes
- E. Protein coagulation

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

- A. Vitamin A
- B. Vitamin K
- C. Vitamin P
- D. Vitamin H
- E. Vitamin PP

178. 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. Tranquilizers
- C. Nonnarcotic analgetics
- D. Muscarinic receptor blockers
- E. -

179. A 30 year old patient consulted a doctor about having diarrhea and stomach aches for 5 days, temperature rise up to  $37,5^{\circ}\text{C}$  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. Metronidazole
- B. Furasolidone
- C. Chloramphenicol
- D. Phthalazole
- E. Emethine hydrochloride

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

- A. Dehydration of protoplasm proteins
- B. Blockade of sulphhydic groups of enzyme systems
- C. Oxidation of organic protoplasm components
- D. Interaction with aminogroups of protoplasm proteins
- E. Interaction with hydroxyl enzyme groups

181. Formaldehyde solution was applied for disinfection of nonmetallic instruments of surgical department. What chemical series does this antiseptic preparation belong to?

- A. Aliphatic series
- B. Aromatic series
- C. Alcochols
- D. Halogenated compounds
- E. Detergents

182. 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  $H_2$ -receptors:

- A. Ranitidine
- B. Beladonna bell extraction
- C. Atropine
- D. Methacin
- E. Platyphyllin

183. 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. Doxycycline
- B. Oxacillin
- C. Erythromycin
- D. Ampicillin
- E. Biseptol

184. In course of an experiment the peripheral fragment of a cut vagus nerve on the dog's 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. Increase of myocardium excitability
- D. Increased speed of excitement conduction through myocardium
- E. Increase of beat force

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

- A.  $\beta$ -adrenoceptor blockers
- B.  $\alpha$ -adrenoceptor blockers
- C. Sympatholytics
- D. Selective  $\beta$ -adrenoceptor agonists
- E.  $\alpha$ -adrenoceptor agonists

**186.** 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. Mercazolile
- B. Diiodotyrosine
- C. Potassium iodide
- D. Thyreoidine
- E. Radioactive iodine

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

- A. Isoniazide
- B. Streptomycin sulfate
- C. Cephaloridine
- D. Rifampicin
- E. Kanamycin

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

- A. Proserin
- B. Carbacholine
- C. Aceclidine
- D. Pilocarpine
- E. Acetylcholine

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

- A. Methyluracil
- B. Prednisolone
- C. Cyclophosphan
- D. Methotrexate
- E. Cyclosporine

**190.** Removal of a foreign body from patient's eye involves local anesthesia with lidocaine. What is the action mechanism of this medication?

- A. It disturbs passing of  $Na^+$  through the membrane
- B. It blocks passing of nitric oxide
- C. It inhibits cytochrome oxidase activity
- D. It reduces dehydrogenase activity
- E. It reduces passage of neuromediators

**191.** 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. Morphine
- B. Baralgine
- C. Sedalgine
- D. Ibuprofen
- E. Paracetamol

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

- A. Streptocide liniment
- B. Synthomycine liniment
- C. Prednisolone ointment
- D. Butadione ointment
- E. Tetracycline ointment

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

- A. Levamisole
- B. Piperidine adipinate
- C. Pumpkin seeds
- D. Pyranthel
- E. Chloxil

**194.** 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. Cardiovalen
- D. Caffeine
- E. Cordiamin

**195.** 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. Cumulation
- C. Antagonism
- D. Habituation
- E. Sensitization

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

- A. Trifacial
- B. Facial
- C. Oculomotor
- D. Vagus
- E. Glossopharyngeal

197. 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 mastoid antrum
- B. Into internal ear
- C. Into auditory tube
- D. Into external acoustic duct
- E. Into posterior cranial fossa

198. 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 apical surfaces, it is bifurcated. What tooth was extracted?

- A. First upper premolar
- B. Upper canine
- C. Lower canine
- D. First lower premolar
- E. Second upper premolar

199. 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. lymphogranulomatosis
- B. Lymph node hyperplasia
- C. Granulomatous lymphadenitis
- D. Suppurative lymphadenitis
- E. Non-Hodgkin's lymphoma

200. 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. Benzylpenicillin
- B. Rifampicin
- C. Erythromycin
- D. Streptomycin sulfate
- E. Chloramphenicol