

1. A shepherd who has tended sheep together with dogs presents with chest pain and blood spitting. X-ray examination revealed a roundish neoplasm in his lungs. Immunological reactions confirmed the provisional diagnosis. Specify the helminth that might have caused this disease:

- A. Echinococcus
- B. Dwarf tapeworm
- C. Broad tapeworm
- D. Common liver fluke
- E. Armed tapeworm

2. Studying the mitotic cycle phases of an onion root the researchers revealed a cell with chromosomes lying in equatorial plane in form of a star. What phase of mitosis is it?

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

3. Premolar teeth absence is inherited as an autosomal dominant factor. Parents with normal dental system gave birth to a child with lacking premolar teeth. What is the probability of giving birth to children without this pathology (%) in this family?

- A. 75%
- B. 50%
- C. 25%
- D. 12,5%
- E. 0%

4. A mother consulted a pediatrician about small white filiform worms about 1 cm long with pointed ends that she found on her child's underwear. According to the mother, the child sleeps badly, grits his teeth, scratches the area of anus. Specify the helminth type:

- A. Pinworm
- B. Ascarid
- C. Trichuris
- D. Armed tapeworm
- E. Hookworm

5. A couple has a son with haemophilia. The parents are healthy but the maternal grandfather also has haemophilia. Specify the type of inheritance:

- A. Recessive sex-linked
- B. Recessive autosomal
- C. Dominant sex-linked
- D. Semidominance
- E. Autosomal dominant

6. An embryo has a disturbed development of blood-vascular system caused by a teratogenic factor. This disturbance occurred in the following germ layer:

- A. Mesoderm
- B. Entoderm
- C. Exoderm
- D. Ento- and mesoderm
- E. Ento- and ectoderm

7. 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

8. Two weeks after haemotransfusion a patient has developed fever. What protozoal disease can be suspected?

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

9. One of the protein synthesis stages is recognition. The first iRNA triplet starts with UAU triplet. What complementary triplet is found in tRNA?

- A. AUA
- B. AAA
- C. GUG
- D. UGU
- E. CUC

10. Examination of newborns in one of the Ukrainian cities revealed a baby with phenylketonuria. The baby's parents don't suffer from this disease and have two other healthy children. Specify the most likely parents' genotype with phenylketonuria gene:

- A. Aa x Aa
- B. AA x aa
- C. aa x aa
- D. Aa x aa
- E. Aa x AA

11. A patient has a right-sided fracture in the region of the frontal third of mandible accompanied by a haematoma in the region of chin. It is caused by the injury of the following artery:

- A. Mental
- B. Inferior labial
- C. Lingual
- D. Facial
- E. Palatine

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

- A. Anterior interventricular branch of the left coronary artery
- B. Anterior 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

13. A 23-year-old patient complains of increased salivation. Production of large amount of serous saliva is caused by the stimulation of the following vegetative ganglion:

- A. *Ganglion oticum*
- B. *Ganglion pterygopalatinum*
- C. *Ganglion ciliare*
- D. *Ganglion submandibulare*
- E. *Ganglion sublinguale*

14. As a result of a cold a patient has the abnormal pain and temperature sensitivity of the frontal 2/3 of his tongue. Which nerve must have been damaged?

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

15. A victim has been delivered to a hospital with an open fracture of mandible ramus and profuse bleeding in the region of fracture. What artery is most likely to be damaged?

- A. Inferior alveolar
- B. Median temporal
- C. Facial
- D. Lingual
- E. Ascending palatine

16. A patient with a tumour of thymus presents with cyanosis, expansion of subcutaneous venous network and soft tissue edema of face, neck, upper trunk and upper extremities. What vein is compressed by the tumour?

- A. Precava
- B. Exterior jugular vein
- C. Subclavicular vein
- D. Interior jugular vein
- E. Anterior jugular vein

17. A victim who had been rescued from under the ruins was found to have confused mental state, multiple subcutaneous haemorrhages on his head and neck, small wound on the face. There was a scalping in the posterosuperior parts of head and a significant deformation of head contours. What bones might have been damaged?

- A. Parietal and occipital bone
- B. Sphenoid bone and mandible
- C. Frontal and nasal bones
- D. Temporal bone and maxilla
- E. Malar and lacrimal bones

18. A patient was delivered to a hospital with the fracture of mandible and considerable bleeding in the region of fracture. What artery is likely to be damaged?

- A. Inferior alveolar artery
- B. Ascending pharyngeal artery
- C. Lingual artery
- D. Ascending palatine artery
- E. Superior alveolar artery

19. A 42-year-old patient came to a first-aid post because of a cut wound in the lower part of the anterior shoulder surface. Objectively: the patient has difficulties with forearm flexion. What muscles are most likely to be damaged?

- A. *M.brachialis, m.biceps brachii*
- B. *M.biceps brachii, m.anconeus*
- C. *M.coracobrachialis, m.supraspinatus*
- D. *M.deltoideus, m.infraspinatus*
- E. *M.deltoideus, m.biceps brachii*

20. A victim has a left-sided comminuted fracture of cheekbone accompanied by loss of skin sensitivity above it. What nerve is damaged?

- A. Zygomaticofacial
- B. Infraorbital
- C. Pes anserinus minor
- D. Facial
- E. Buccal

21. A 47-year-old female patient was diagnosed with a tumour of the tongue apex. Metastases are likely to spread into the following regional lymph nodes:

- A. Submandibular
- B. Parotid
- C. Mastoid
- D. Occipital
- E. Retropharyngeal

22. A patient has a craniocerebral trauma. X-ray examination revealed a fracture of skull base. The fracture line passes through the spinous and round foramina. What bone is damaged?

- A. Sphenoid
- B. Temporal
- C. Ethmoid
- D. Frontal
- E. Occipital

23. A 60-year-old male patient is unable to urinate after a surgery and needs a catheter installation. When a manipulator is not skilled enough, he can pierce the ureter in its following part (normally it's the most narrow part):

- A. *Pars membranacea*
- B. *Ostium uretrae externum*
- C. *Fossa navicularis*
- D. *Pars spongiosa*
- E. *Pars prostatica*

24. A 30-year-old male patient consulted a dentist about a mastication disorder and pain provoked by pulling the jaw backwards. The dentist diagnosed the patient with an inflammation of one of the masticatory muscles. Which muscle is inflamed?

- A. Temporal (posterior fibers)
- B. Lateral pterygopalatine
- C. Temporal (anterior fibers)
- D. Medial pterygopalatine
- E. Masticatory

25. After a trauma of soft tissues in the region of the posterior surface of medial condyle of humerus a patient has got a skin prickle of medial forearm surface. Which of the listed nerves is located in the affected region?

- A. *N. ulnaris*
- B. *N. musculocutaneus*
- C. *N. dorsalis scapularis*
- D. *N. subscapularis*
- E. *N. radialis*

26. After a fall a patient got unable to extend his knee joint. What muscle is likely to be damaged?

- A. Quadriceps
- B. Semitendinous
- C. Semimembranous
- D. Biceps muscle of thigh
- E. Triceps muscle of calf

27. Inflammation of tympanic cavity got complicated by the mastoid bone inflammation. Which wall of the tympanic cavity did the pus penetrate through?

- A. Posterior
- B. Anterior
- C. Medial
- D. Lateral
- E. Superior

28. A victim has a trauma resulting from the direct blow to the internal surface of the middle third of shin. What anatomic formation is most likely to be broken?

- A. Tibial shaft
- B. Distal epiphysis of fibular bone
- C. Distal epiphysis of tibial bone
- D. Proximal epiphysis of tibial bone
- E. Proximal epiphysis of fibular bone

29. A boy has fallen down from a tree. Now he finds it difficult to abduct his arm into horizontal position. Which muscle is most likely to be injured?

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

30. A surgeon concluded that the biggest space for examination and surgical procedures on pancreas can be created by dissection of *lig. gastrocolicum*. It allows to penetrate into the following space of abdominal cavity:

- A. Omental bursa
- B. Right lateral canal
- C. Left lateral canal
- D. Pragastric bursa
- E. Hepatic bursa

31. 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*

32. After a severe trauma of visceral cranium a patient has a deglutition disorder with food getting to the nasopharynx. This is the result of the following muscle's dysfunction:

- A. *M.levator veli palatini*
- B. *M.palatopharyngeus*
- C. *M.stylopharyngeus*
- D. *M.genioglossus*
- E. *M.palatoglossus*

33. Elderly people often complain of joint pain that can be associated with age-related changes of tissue covering the joint surface. What tissue is it?

- A. Hyaline cartilage
- B. Bone tissue
- C. Connective tissue proper
- D. Epithelial
- E. Elastic cartilage

34. An electronic microphotography of a sense organ shows some hair cells with short microvilli - stereocilia - located on their apical surface and a polar kinocilium. What sense organ are these cells typical for?

- A. Organ of equilibrium
- B. Organ of vision
- C. Olfactory organ
- D. Acoustic organ
- E. Gustatory organ

35. 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

36. A patient with a serious trauma of his upper extremity has an impaired

red regeneration of cartilaginous tissue as a result of a damage done to poorly differentiated cells of cartilage lineage. What cells has been damaged?

- A. The cells of the internal perichondrium
- B. The cells of the external perichondrium
- C. The cells constituting isogenic groups
- D. The cells of the young cartilage
- E. The cells coming from the blood vessels

37. An electronic microphotography shows epidermis with some dendritic cells among common cubic cells. These cells have a well-developed Golgi complex, a lot of ribosomes and melanosomes. These cells are called:

- A. Melanocytes
- B. Keratinocytes
- C. Langerhans' cells
- D. Merkel's cells
- E. Tissue basophils

38. Histological study of two different tooth specimens revealed acellular and cellular cement, respectively. The second specimen comes from the following tooth part:

- A. Root apex
- B. Dental cervix
- C. Superior subgingival part
- D. Tooth crown
- E. The border between root and crown

39. A married couple complains of inability to have children. Examination revealed that the husband had his spermatogenic epithelium of a testicle damaged, which caused absence of spermatozoons in his sperm and infertility as a result. Which part of testicle was damaged?

- A. Convoluted seminiferous tubules
- B. Straight seminiferous tubules
- C. Network of testis
- D. Epididymis ducts
- E. Efferent ducts

40. A histologic specimen of the sagittal section of mandible primordium of a 3,5-month-old human embryo shows an epithelial organ surrounded by compactly arranged mesenchymal cells. This mesenchymal formation is called:

- A. Dental sacculle
- B. Dental bulb
- C. External enamel organs
- D. Internal enamel organs
- E. Pulp of an enamel organ

41. A histological specimen of an oral cavity organ represents three zones: adipose, glandular and fibrous. Specify this organ:

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

42. An embryo had its external layer of dental sacculle experimentally destroyed. What dental structure won't have any further development?

- A.** Periodontium
- B.** Enamel
- C.** Dentin
- D.** Cement
- E.** Pulp

43. An electronic microphotography shows a renal corpuscle with dendritic cells between the capillaries of choroid glomus. Their cytoplasm contains a large number of filaments. Specify these cells:

- A.** Mesangial
- B.** Adventitial
- C.** Juxtaglomerular
- D.** Juxtavascular
- E.** Fibroblasts

44. 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

45. An inflammation is characterized by the dilatation of blood capillaries in the region of injury, reduced circulation, increased permeability of vessel walls. What cells play the main part in the development of these changes?

- A.** Tissue basophils
- B.** Fibroblasts
- C.** Plasmocytes
- D.** Eosinophils
- E.** Macrophages

46. A histological specimen shows an

extraembryonic organ in form of a vesicle linked to the entodermal canal. Its wall is lined with epithelium, exteriorly it is made up by connective tissue. In the early stages of embryogenesis this organ has hematopoietic function. Name this organ:

- A.** Vitelline sac
- B.** Allantois
- C.** Amnion
- D.** Umbilical cord
- E.** Placenta

47. 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

48. 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

49. A patient complains of frequent gingival haemorrhages he has been experiencing since his childhood. Blood test revealed a deficiency in blood-coagulation factor VIII. This means that the patient has an impairment of:

- A.** Prothrombinase generation
- B.** Thrombin generation
- C.** Fibrin generation
- D.** Thrombocyte adhesion
- E.** Thrombocyte aggregation

50. A patient has a trauma of sternocleidomastoid muscle. This caused a decrease in value of the following indicator of external respiration:

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

51. Dentists commonly practice local

anaesthetization by applying novocain solution with 0,1% adrenalin solution. The added adrenalin induces:

- A. Local vasoconstriction
- B. Local vasodilatation
- C. Arterial pressure drop
- D. Decrease in vascular resistance
- E. Arterial pressure rise

52. During an acute experiment some of diluted solution of hydrochloric acid was injected into the duodenal cavity of an experimental animal. This will result in hypersecretion of the following hormone:

- A. Secretin
- B. Gastrin
- C. Motilin
- D. Neurotensin
- E. Histamine

53. During a brain surgery it was noticed that stimulation of certain zones of cerebral cortex caused tactile and thermal sensations in patient. Which zone was being stimulated?

- A. Postcentral gyrus
- B. Precentral gyrus
- C. Superior lateral gyrus
- D. Cingulate gyrus
- E. Parahippocampal gyrus

54. Heart rate of an adult man is 40/min. This rate is possible due to the following element of the cardiac conduction system:

- A. Atrioventricular node
- B. Sinoatrial node
- C. Purkinje's fibers
- D. His' bundle
- E. His' bundle branches

55. 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

56. 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. Somatotropic hormone
- E. Triiodothyronine

57. After a long training session a sportsman has developed fatigue accompanied by abrupt performance decrement. What link of the reflex arch was the fatigue initiated in?

- A. Nerve centres
- B. Afferent conductor
- C. Receptors
- D. Efferent conductor
- E. Muscles

58. A child presents with symptoms of psychic and physical retardation (cretinism). It is usually associated with the following hormone deficiency:

- A. Thyroxin
- B. Somatotropic
- C. Calcitonin
- D. Insulin
- E. Testosterone

59. After a tourniquet application a patient was found to have petechial haemorrhages. The reason for it is the dysfunction of the following cells:

- A. Platelets
- B. Eosinophils
- C. Monocytes
- D. Lymphocytes
- E. Neutrophils

60. A man is eating dry food. Which salivary glands secrete the largest amount of saliva in this case?

- A. Parotid
- B. Buccal
- C. Submandibular
- D. Sublingual
- E. Palatine

61. Indirect calorimetry allowed to establish that a 30-year-old male patient had a 30% decrease in basal metabolic rate. This might be caused by the reduced concentration of the following hormones in blood plasma:

- A. Triiodothyronine, tetraiodothyronine
- B. Thyrocalcitonin, parathormone
- C. Glucocorticoids
- D. Catecholamines
- E. Somatoliberin, somatostatin

62. A patient under test was subjected to a moderate physical stress. His minute blood volume amounted 10 l/min. What blood volume was pumped through his lung vessels every minute?

- A. 10 l/min
- B. 5 l/min
- C. 4 l/min
- D. 6 l/min
- E. 7 l/min

63. A patient lost consciousness as a result of a cerebral trauma. This might be caused by damaging the following zones of cerebral cortex:

- A. Occipital
- B. Temporal
- C. Frontal
- D. Parietal
- E. Temporal and parietal

64. A patient presents with the following motor activity disturbances: tremor, ataxia and asynergia of movements, dysarthria. The disturbances are most likely to be localized in:

- A. Cerebellum
- B. Basal ganglions
- C. Limbic system
- D. Brainstem
- E. Medulla oblongata

65. Power inputs of a man are being measured on an empty stomach, in the lying position, at physical and psychic rest, under comfortable temperature. The highest power inputs will be observed in the following daypart:

- A. 5-6 p.m.
- B. 7-8 a.m.
- C. 10-12 a.m.
- D. 8-12 p.m.
- E. 3-4 a.m.

66. A man has a considerable decrease in diuresis as a result of 1,5 l blood loss. The primary cause of such diuresis disorder is the hypersecretion of the following hormone:

- A. Vasopressin
- B. Corticotropin
- C. Natriuretic
- D. Cortisol
- E. Parathormone

67. A 32-year-old female patient suffers from gingivitis accompanied by gum hypoxia. What metabolite of

carbohydrate metabolism is produced in the periodontium tissues more actively in this case?

- A. Lactate
- B. Ribose 5-phosphate
- C. Glycogen
- D. Glucose 6-phosphate
- E. NADPH-H

68. A month after a serious operation a 38-year-old patient has recovered and has now positive nitrogen balance. Urine of this patient may be found to have low concentration of the following nitrogen-containing substance:

- A. Urea
- B. Lactate
- C. Stercobilinogen
- D. Galactose
- E. 17-ketosteroids

69. 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

70. A patient suffers from hypertension and atherosclerosis. He should reduce the consumption of the following lipide:

- A. Cholesterol
- B. Oleic acid
- C. Lecithin
- D. Monooleate glyceride
- E. Phosphatidyl serine

71. A patient has been delivered to a hospital with a provisional diagnosis of progressing muscle dystrophy. This diagnosis can be confirmed by the increased concentration of the following substance found in urine:

- A. Kreatine
- B. Pyruvate
- C. Carnosine
- D. Troponin
- E. Hydroxyproline

72. Before the cells can utilize the glucose, it is first transported from the extracellular space through the plasmatic membrane inside them. This process is stimulated by

the following hormone:

- A. Insulin
- B. Glucagon
- C. Thyroxin
- D. Aldosterone
- E. Adrenalin

73. A patient's blood shows an increased concentration of pyruvate which is excreted with urine for the most part. This is typical for the following vitamin deficiency:

- A. B_1
- B. E
- C. B_3
- D. B_6
- E. B_2

74. 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

75. A 35-year-old female patient with a chronic renal disease has developed osteoporosis. The cause of this complication is the deficiency of the following substance:

- A. 1,25-dihydroxy- D_3
- B. 25-hydroxy- D_3
- C. D_3
- D. D_2
- E. Cholesterol

76. A 50-year-old man sustained a great stress. This caused a dramatic increase in adrenalin and noradrenaline concentration. What enzymes catalyze the inactivation of the latter?

- A. Monoamine oxidases
- B. Glycosidases
- C. Peptidases
- D. Carboxylase
- E. Tyrosinase

77. A child has an acute renal failure. What biochemical factor found in saliva can confirm this diagnosis?

- A. Increase in urea concentration
- B. Increase in glucose concentration
- C. Decrease in glucose concentration
- D. Increase in concentration of higher fatty acids
- E. Decrease in nucleic acid concentration

78. Analysis of a newborn's urine revealed phenylpyruvic acid. Its presence in urine is associated with the following pathology:

- A. Phenylketonuria
- B. Alkaptonuria
- C. Albinism
- D. Tyrosinosis
- E. Gout

79. After severe viral hepatitis a 4-year-old boy presents with vomiting, occasional loss of consciousness, convulsions. Blood test revealed hyperammonemia. Such condition is caused by a disorder of the following biochemical hepatic process:

- A. Disorder of ammonia neutralization
- B. Disorder of biogenic amines neutralization
- C. Protein synthesis inhibition
- D. Activation of amino acid decarboxylation
- E. Inhibition of transamination enzymes

80. An emotional stress induces activation of hormone-sensitive triglyceride lipase in the adipocytes. What secondary mediator takes part in this process?

- A. Cyclic adenosine monophosphate
- B. cGMP
- C. AMP
- D. Diacylglycerol
- E. Ca^{2+} ions

81. Examination of a 45-year-old man who had kept to a vegetarian diet for a long time revealed negative nitrogen balance. Which peculiarity of his diet is the cause of this phenomenon?

- A. Lack of proteins
- B. Lack of fats
- C. Excess of water
- D. Excess of carbohydrates
- E. Lack of vitamins

82. After prolonged exercising people usually experience intense muscle pain. What is its most likely cause?

- A. Accumulation of lactic acid in muscles
- B. Intensified disintegration of muscle proteins
- C. Accumulation of creatinine in muscles
- D. Increased muscle excitability
- E. Increased concentration of ADP in muscles

83. A 2-day-old baby has yellowish skin and mucous membranes. This might be caused by the temporary lack of the following enzyme:

- A. UDP-glucuronil transferase
- B. Sulfotransferase
- C. Haem synthetase
- D. Hemoxygenase
- E. Biliverdine reductase

84. In the third period of fever a patient had a critical body temperature drop accompanied by tachycardia and arterial pressure drop down to 80/60 mm Hg. Specify a type of collapse developed as a result of these changes:

- A. Infectious-and-toxical collapse
- B. Orthostatic
- C. Haemorrhagic
- D. Cardiogenic
- E. Pancreatic

85. A 29-year-old patient was delivered to a hospital because of intoxication with carbon monoxide. Objectively: the patient presents with symptoms of severe hypoxia - evident dyspnea, cyanosis, tachycardia. What compound is produced as a result of intoxication with carbon monoxide?

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

86. A patient with diabetes mellitus lapsed into diabetic coma as a result of acid-base disbalance. Specify the type of disbalance:

- A. Metabolic acidosis
- B. Metabolic alkalosis
- C. Respiratory acidosis
- D. Gaseous alkalosis
- E. Non-gaseous alkalosis

87. A 25-year-old patient has been diagnosed with chronic hepatitis. The patient complains of 10 kg weight loss within 2 months. Objectively: the patient has dry peeling skin, pale with yellow shade, petechial haemorrhages, stomatorrhagia. Petechial haemorrhages

and stomatorrhagia are caused by the disturbance of the following hepatic function:

- A. Protein synthesizing
- B. Chromogenic
- C. Glycogen synthesizing
- D. Detoxication
- E. Depositing

88. A patient with a trigeminus inflammation has been suffering from progressing parodontitis for the last few years. What is the leading factor in the parodontitis development in this case?

- A. Neurodystrophical changes in parodontium
- B. Hypoactivity of leukocytic elastase
- C. Low immunoglobulin production
- D. Increase of vagus tonus
- E. Hypoactivity of kallikrein-kinin system

89. A patient with a history of chronic glomerulonephritis presents with azotemia, oliguria, hypo- and isosthenuria, proteinuria. What is the leading factor in the pathogenesis of these symptoms development under chronic renal failure?

- A. Mass decrease of active nephrons
- B. Intensification of glomerular filtration
- C. Tubular hyposecretion
- D. Disturbed permeability of glomerular membranes
- E. Intensification of sodium reabsorption

90. A 29-year-old female patient has moon face, upper body obesity, striae on her anterior abdominal wall, hirsutism; urine shows an increased rate of 17-oxy ketosteroids. What disease are these presentations typical for?

- A. Itsenko-Cushing syndrome
- B. Pheochromocytoma
- C. Conn's syndrome
- D. Primary aldosteronism
- E. Secondary aldosteronism

91. A patient has a first-degree atrioventricular block accompanied by the prolongation of P-Q interval up to 0,25 s. Under such conditions the following myocardial function will be disturbed:

- A. Conduction
- B. Automatism
- C. Excitability
- D. Contractibility
- E. -

92. In course of parallel experiments some rats were being subjected to continuous direct solar irradiation and some were being irradiated while placed into a glass box. The animals that received a dose of direct irradiation got tumours on parts of their skin not coated with hair. This phenomenon is associated with the influence of the following factor:

- A.** Ultraviolet radiation
- B.** Endogenous chemical carcinogens
- C.** Biological carcinogens
- D.** Exogenous chemical carcinogens
- E.** Infrared radiation

93. In the focus of inflammation the vessels of microvasculature exhibit an increased permeability and hydrodynamic pressure rise. Inter-tissue fluid has an increase in osmotic concentration and dispersity of protein structures. What type of edema will develop in this case?

- A.** Combined
- B.** Hydrodynamic
- C.** Colloid osmotic
- D.** Lymphogenous
- E.** Membranogenic

94. After an attack of bronchial asthma a patient had his peripheral blood tested. What changes can be expected?

- A.** Eosinophilia
- B.** Leukopenia
- C.** Lymphocytosis
- D.** Thrombocytopenia
- E.** Erythrocytosis

95. After the traumatic tooth extraction a patient is complaining of acute, dull, poorly-localized pain in gingiva, body temperature rise up to $37,5^{\circ}C$. The patient has been diagnosed with alveolitis. Specify the kind of pain in this patient:

- A.** Protopathic
- B.** Epicritic
- C.** Visceral
- D.** Heterotopic
- E.** Phantom

96. 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

97. A 50-year-old patient suffers from essential hypertension. After a physical stress he experienced muscle weakness, breathlessness, cyanosis of lips, skin and face. Respiration was accompanied by distinctly heard bubbling rales. What mechanism underlies the development of this syndrome?

- A.** Acute left-ventricular failure
- B.** Chronic right-ventricular failure
- C.** Chronic left-ventricular failure
- D.** Collapse
- E.** Cardiac tamponade

98. In course of an experiment a white rat was being stimulated with a stress factor (electric current). The researchers could observe muscle hypononia, arterial hypotension, hypothermia. What period of general adaptation syndrome is it?

- A.** Shock phase
- B.** Antishock phase
- C.** Resistance stage
- D.** Exhaustion stage
- E.** -

99. 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

100. A patient with obliterating endarteritis underwent ganglionic sympathectomy. What type of arterial hyperaemia should have developed as a result of the surgery?

- A.** Neuroparalytic
- B.** Neurotonic
- C.** Metabolic
- D.** Functional
- E.** Reactive

101. A 58-year-old female patient complains of rapid fatigability, performance decrement, sleepiness, dyspnea during fast walking. In blood:

RBCs - $4,0 \cdot 10^{12}/l$, Hb - 80 g/l, CI - 0,6; alurge number of annulocytes and microcytes. What anaemia are these presentations typical for?

- A. Iron-deficient
- B. Posthemorrhagic
- C. Haemolytic
- D. Pernicious
- E. Sickle-cell

102. Such presentations as catarrhal conjunctivitis, pharyngitis, laryngotracheobronchitis, white spots on the buccal mucosa in the region of lower premolar teeth, maculopapular rash on face, body and extremities are typical for the following disease:

- A. Measles
- B. Spotted fever
- C. Scarlet fever
- D. Meningococcal infection
- E. Influenza

103. A 29-year-old female patient complains of gingival haemorrhage and lower front teeth mobility she has been experiencing for the last 6 months. Objectively: the mucous membrane in the region of the front lower teeth is hyperemized, edematic, bleeds when touched. From under the gingival mucosa foul-smelling pus is discharged, tooth roots are exposed. The patient has been diagnosed with the III stage of parodontitis. What factor allowed to establish the stage of disease progress?

- A. Tooth root exposure
- B. Mucosa inflammation
- C. Nature of purulent discharge
- D. Disease duration
- E. Teeth mobility

104. A male patient consulted a dentist about an acute toothache. Examination revealed a carious cavity in the upper premolar on the right. The carious cavity reaches the pulp. What is the most likely caries complication causing the toothache?

- A. Pulpitis
- B. Periodontitis
- C. Parodontitis
- D. Tooth erosion
- E. -

105. 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 mandi-

ble. 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

106. A 46-year-old inveterate smoker has a white crateriform ulcer with dense edges in the right corner of mouth. Eosine staining and microscopical examination revealed cords of atypical multilayer epithelium ingrowing into the adjacent tissues and making clusters. In the centre of these clusters some roundish pink concentric formations can be seen. What is the most likely diagnosis?

- A. Keratinizing squamous cell carcinoma
- B. Basal cell carcinoma
- C. Squamous cell nonkeratinous carcinoma
- D. Leukoplakia
- E. Adenocarcinoma

107. 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, presense of granulomas composed of big cells with light cytoplasm and containing typhoid bacilli. These local changes are compliant with the following period of typhoid fever:

- A. Stage of medullary swelling
- B. Stage of necrosis
- C. Stage of ulcer healing
- D. Stage of clean ulcers
- E. Stage of ulceration

108. Autopsy of a 42-year-old man revealed a distinctly dilated lumen of small intestine filled with rice-water-like liquid. The intestine wall was edematic with lots of petechial haemorrhages on the mucosa. What infectious disease is the described enteritis typical for?

- A. Cholera
- B. Dysentery
- C. Salmonellosis
- D. Amebiasis
- E. Typhoid fever

109. Shortly before death a patient got an electrocardiographically based diagnosis of acute myocardial infarction. Autopsy revealed that the myocardial cavity contained 200 ml of liquid blood and 400 g of clots; the posterior wall of the left ventricle had a perforation up to 2 cm long. What complication of myocardial infarction is it?

- A. Myocardial rupture with cardiac tamponade
- B. Stone heart
- C. Haemorrhagic pericarditis
- D. Exudative pericarditis
- E. Idiopathic myocarditis

110. A 45-year-old female patient underwent an excision of 2,5x2 cm large tumour located in the region of submandibular salivary gland. Microscopic examination revealed that it consisted of glandular structures and contained solid epithelial complexes as well as mucoid, chondroid and myxoid foci. Specify this tumour:

- A. Polymorphous adenoma
- B. Salivary gland carcinoma
- C. Ameloblastoma
- D. Osteoclastoma
- E. Cementoma

111. A 46-year-old female patient complaining of having alveolar haemorrhage for 6 hours after a tooth extraction, general weakness and dizziness was delivered to a hospital. The patient has a history of essential hypertension. Objectively: pale skin and mucous membranes. In blood: Hb - 80 g/l, Ht - 30%, bleeding and coagulation time is normal. What complication had been provoked by the haemorrhage?

- A. Acute posthaemorrhagic anaemia
- B. Iron deficiency anaemia
- C. Chronic posthaemorrhagic anaemia
- D. Folic acid deficiency anaemia
- E. Haemolytic anaemia

112. Autopsy of a 67-year-old man who died after presenting with hypoglycemic coma revealed some areas of connective tissue growth and necrosis foci, atrophy of Langerhans islets in pancreas. What disease might have induced such changes in

pancreas?

- A. Diabetes mellitus
- B. Mucoviscidosis
- C. Acute pancreatitis
- D. Cancer of the head of pancreas
- E. Pancreas hypoplasia

113. A 57-year-old patient experiences periodical uterine haemorrhages. Diagnostic biopsy of lining of uterus has revealed among the blood elements some glandular complexes of different forms and sizes made by atypic cells having hyperchromic nuclei with multiple mitoses (including pathological ones). What is the most likely diagnosis?

- A. Adenocarcinoma
- B. Uterus fibromyoma
- C. Chorioepithelioma
- D. Glandular endometrium hyperplasia
- E. Endometritis

114. While examining an extracted stomach a researcher revealed that its antral part along the lesser curvature had a deep, roundish, even-edged defect up to 1,5 cm in diameter reaching the myenteron. In the defect floor one could see a dense semitransparent area resembling of a hyaline cartilage. Specify the process observed in the floor of the mucosa defect?

- A. Local hyalinosis
- B. Amyloidosis
- C. Mucoid swelling
- D. Fibrinoid changes
- E. General hyalinosis

115. 10 years ago a patient underwent extraction of his right kidney on account of a tumour. After that the volume of his left tumour grew by 50%. What process was developed in the kidney?

- A. Vicarious hypertrophy
- B. Neurohumoral hypertrophy
- C. Pseudohypertrophy
- D. Functional hypertrophy
- E. Hypertrophic enlargement

116. A removed vermiform appendix was sent for a histological analysis. The appendix was enlarged, with thickened walls and dull plethoric serous membrane covered by coagulated fibrin. After dissection some pus could be seen. Microscopical examination revealed vascular congestion, edema of all the layers and their diffuse infiltration with leukocytes. Specify the form of acute appendicitis:

- A. Flegmonous
- B. Apostematous
- C. Simple
- D. Superficial
- E. Gangrenous

117. A man with a long-term history of bronchial asthma died from asphyxia. Histological examination of his lungs revealed that the lumens of bronchioles and minor bronchi contained a lot of mucus with some eosinophils. There was also sclerosis of interalveolar septa, dilatation of alveole lumens. What mechanism accounts for the development of hypersensitivity reaction?

- A. Reagine reaction
- B. Cytotoxic reaction
- C. Immune complex reaction
- D. Lymphocyte-mediated cytolysis
- E. Granulomatosis

118. A veterenary attendant working at a cattle farm complains of joint pain, fever, indisposition and sweating at night that he has been experiencing for a month. Giving the regard to such presentations and occupational history the doctor suspected brucellosis. What material taken from this patient is to be analyzed in a common microbiological laboratory?

- A. Blood serum
- B. Spinal fluid
- C. Vomit mass
- D. Urine
- E. Feces

119. In order to establish the level of anti-diphtheritic immunity in a child it was decided to use a passive hemagglutination test. This task can be completed by the sensibilization of erythrocytes by:

- A. Diphtheria anatoxin
- B. Diphtheria antitoxin
- C. Diphtheria bacillus antigens
- D. Antidiphtheric serum
- E. Haemolytic serum

120. The immunoblot detected gp120 protein in the blood serum. This protein is typical for the following disease:

- A. HIV-infection
- B. Virus B hepatitis
- C. Tuberculosis
- D. Syphilis
- E. Poliomyelitis

121. In order to administer general health-improving therapy a parodontist intends to study factors of nonspecific resistance of saliva and mucous secretion. Which of the following factors of nonspecific resistance should be studied in the first line?

- A. Lysozyme
- B. Secretory IgA
- C. Properdin
- D. Interferon
- E. Complement

122. Purulent discharges of a patient with a mandibulofacial phlegmon contain spheroid microorganisms making S-shaped colonies with golden pigment that produce lecithinase, plasmocoagulase, hemolysin and decompose mannitol under anaerobic conditions. Specify the kind of microorganisms that had caused the suppuration:

- A. *S. aureus*
- B. *Str. pyogenes*
- C. *Str. mutans*
- D. *S. epidermidis*
- E. *Str. sanguis*

123. A patient of oral surgery department has developed a purulent complication. Bacteriological analysis of the wound discharge allowed to isolate a culture producing a blue-and-green pigment. Which of the listed microorganisms may be a causative agent of the infection?

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

124. HIV has gp41 and gp120 on its surface interacts with target cells of an organism. Which of the following human lymphocyte antigens is gp120 complementary bound with?

- A. CD 4
- B. CD 3
- C. CD 8
- D. CD 19
- E. CD 28

125. Before a tooth extraction a 48-year-old female patient received an injection of diazepam. Anxiolytic effect of this drug can be explained by:

- A. Interaction with benzodiazepine receptors
- B. β -adrenoreceptor block
- C. M-cholinoreceptor activation
- D. Dopamine receptor block
- E. α -adrenoreceptor block

126. 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

127. In order to reduce salivation before a stomatological procedure a dentist gave his patient 10 drops of 0,1% solution of atropine sulfate perorally. 30 minutes later the patient started complaining of acute pain in the eyeballs, misty vision, headache, palpitation. These symptoms were eliminated by means of the following drug:

- A. Physostigmine
- B. Aceclidine
- C. Cytiton
- D. Carbacholine
- E. Phosphacol

128. A 20-year-old patient complains of morbid thirst and hyperdiuresis (up to 10 l daily). Glucose concentration in blood is normal but it is absent in urine. The patient has been diagnosed with diabetes insipidus. What hormonal drug is the most appropriate for management of this disorder?

- A. Vasopressin
- B. Cortisol
- C. Thyroxin
- D. Oxytocin
- E. Insulin

129. 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

130. A patient with essential hypertension has been prescribed captopril. What is its mechanism of action?

- A. Inhibition of angiotensin-converting enzyme activity
- B. β -adrenoreceptor block
- C. α -adrenoreceptor block
- D. Angiotensin II receptor block
- E. Peripheral vasodilating effect

131. A patient with bronchial asthma has been administered inhalations of 0,5% isadrin solution. This helped to relieve bronchospasms but the patient started complaining of heart pain and palpitation. What is the cause of these presentations?

- A. β_1 -adrenoreceptor stimulation
- B. β_2 -adrenoreceptor stimulation
- C. α -adrenoreceptor stimulation
- D. M-cholinoreceptor activation
- E. Inhibition of acetylcholine synthesis

132. Before the infiltration anaesthesia a patient had been tested for sensitivity to novocaine. The reaction turned out to be positive. Which of the below listed drugs can be used for anaesthetization in this case?

- A. Lidocaine
- B. Procainamide hydrochloride
- C. Trimecaine
- D. Anesthezin
- E. Tetracaine

133. During examination of first-grade pupils a dentist revealed that one child had brown-yellow teeth and two split teeth. According to the child, previously he had been treated for pneumonia with "some" pills. What drug might have had such a negative impact on teeth?

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

134. A nurse accidentally injected a nearly double dose of insulin to a patient with diabetes mellitus. The patient lapsed into a hypoglycemic coma. What drug should be injected in order to help him out of coma?

- A. Glucose
- B. Lidase
- C. Insulin
- D. Somatotropin
- E. Noradrenaline

135. A patient who has been taking tetracycline for a long time has developed candidosis of mucous membranes. What drug should be administered for its treatment?

- A. Itraconazole
- B. Griseofulvin
- C. Nitrofungin
- D. Amphotericin
- E. Nitrofurantoin

136. A male patient waiting for tooth extraction has developed a strong sense of anxiety. Which drug should be given to him in order to relieve him of this discomfort?

- A. Diazepam
- B. Aminazine
- C. Analgin
- D. Aethimizolum
- E. Carbamazepine

137. During a visit to a dentist a patient has developed collapse. What drug can be applied to manage this situation?

- A. Mesaton
- B. Strophanthine
- C. Propanolol
- D. Nitroglycerine
- E. Seduxen

138. A patient with herpetic stomatitis was prescribed acyclovir for topical application. What is its mechanism of action?

- A. It inhibits synthesis of nucleic acids of viruses
- B. It inhibits virus penetration into cells
- C. It inhibits virus maturation
- D. It increases the resistance of macroorganism cells to the viruses
- E. It inhibits virion assembly

139. An infectious patient manifests sensitization to penicillin. Which of the following antibiotics is the safest to be applied in this case?

- A. Erythromycin
- B. Bicillin
- C. Ampicillin
- D. Amoxicillin
- E. Oxacillin

140. Among the specific hypocholesterolemic drugs the most effective are those

blocking the synthesis of endogenic cholesterol in liver. Which of the below listed drugs has such mechanism of hypocholesterolemic action?

- A. Lovastatin
- B. Probucol
- C. Clofibrate
- D. Linaethol
- E. Allilcepum

141. 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

142. 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

143. 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

144. Dwellers of a village noticed mass mortality of rats in some farms. It was suspected that the animals might have died from plague. What postmortal analyses should be conducted in order to establish the causative agent of the infection as soon as possible?

- A. Ring precipitation reaction
- B. Agglutination reaction
- C. Passive agglutination reaction
- D. Complement-binding reaction
- E. Neutralization reaction

145. 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

146. A 26-year-old patient was found to have a big furuncle of soft tissues of face by the root of nose and inferior eyelid. This disease can be seriously complicated by the infection spreading along veins of this region to the sinuses of dura brain mater. What sinus is most likely to be affected?

- A. Cavernous
- B. Superior sagittal
- C. Occipital
- D. Sigmoid
- E. Petrosal

147. After inoculation of feces sample into the 1% alkaline peptonic water and 8-hour incubation in the thermostat at a temperature of 37°C a culture in form of a tender bluish film has grown. Such cultural properties are typical for the causative agent of the following disease:

- A. Cholera
- B. Plague
- C. Typhoid fever
- D. Paratyphoid fever A
- E. Dysentery

148. While under barbituric anaesthesia a 65-year-old male patient developed respiratory inhibition. Anesthesiologist made him a 10 ml intravenous injection of 0,5% bemegrade 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

149. A cell has been treated with a substance that blocks nucleotide phosphorylation in the mitochondrions. What process of cell activity will be disturbed in the first place?

- A. ATP resynthesis
- B. Synthesis of mitochondrial proteins
- C. Oxidative phosphorylation
- D. Integration of functional protein molecules
- E. Fragmentation of big mitochondrions into lesser ones

150. A patient suffering from glomerulonephritis was found to have anasarca, AP of 185/105 mm Hg, anaemia, leukocytosis, hyperazotemia, hypoproteinemia. What factor indicates that glomerulonephritis has been complicated by the nephrotic syndrome?

- A. Hypoproteinemia
- B. Leukocytosis
- C. Hyperazotemia
- D. Arterial hypertension
- E. Anaemia

151. Depressions and emotional disorders result from noradrenaline, serotonin and other biogenic amines deficiency in brain. Concentration of these compounds in synapses can be increased by means of antidepressants that inhibit the activity of the following enzyme:

- A. Monoamine oxidase
- B. Diamine oxidase
- C. L-amino acid oxidase
- D. D-amino acid oxidase
- E. Phenylalanine-4-monooxygenase

152. 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. α -adrenoreceptor block
- C. Phosphodiesterase block
- D. Reduced accumulation of calcium ions
- E. Inhibited formation of mediators in brain

153. According to the phenotypic diagnosis a female patient has been provisionally diagnosed with X-chromosome polysomia. This diagnosis can be confirmed by a cytogenetic method. What karyotype will allow to confirm the diagnosis?

- A. 47(XXX)
- B. 48(XXXY)
- C. 48(XXYY)
- D. 47(XXY)
- E. 46(XX)

154. 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

155. 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

156. There is a strict time limit for people to stay at a height of 8000 m above sea level without oxygen cylinders. Specify the life-limiting factor in this case:

- A. Partial pressure of oxygen in air
- B. Rate of ultraviolet radiation
- C. Humidity rate
- D. Temperature
- E. Earth gravity

157. A 1,7-year-old child with a developmental delay and manifestations of self-agression has the concentration of uric acid in blood at the rate of 1,96 millimole/l. What metabolic disorder is this typical for?

- A. Lesch-Nyhan syndrome
- B. Podagra
- C. Acquired immunodeficiency syndrome
- D. Gierke's disease
- E. Cushing's basophilism

158. Curarelike substances (dithylinum)

make it impossible for skeletal muscles to contract because they block:

- A. Neuromuscular synapses
- B. Central synapses
- C. Ganglionic synapses
- D. Membrane conduction of excitement
- E. Proprioceptors

159. A cell with vitamin E deficit had been affected by ionizing radiation. This induced an intensified release of hydrolytic enzymes into the cytoplasm and thus a complete destruction of intracellular structures - autolysis. What organelles caused this phenomenon?

- A. Lysosomes
- B. Endoplasmic reticulum
- C. Golgi complex
- D. Microbodies
- E. Mitochondrions

160. A patient diagnosed with morphinism has been admitted to the narcological department. A doctor noted a decrease in pharmacological activity of morphine. Repetitive use of a drug may result in tolerance to its effect, and this phenomenon is called:

- A. Addiction
- B. Cumulation
- C. Tachyphylaxis
- D. Antagonism
- E. Allergy

161. A patient suffering from stenocardia takes 100 mg of acetylsalicylic acid daily. What is the effect of acetylsalicylic acid in this patient?

- A. Inhibition of thrombocyte aggregation
- B. Inhibition of blood coagulation
- C. Dilatation of coronary vessels
- D. Prothrombin rate reduction
- E. Cholesterol rate reduction

162. Dehelmintization of a patient revealed some long fragments of a helminth with segmented structure. Mature segments were rectangular, 30x12 mm large, closed-type matrix was in form of a stem with 17-35 lateral branches. Specify this helminth:

- A. Hookless tapeworm
- B. Alveococcus
- C. Echinococcus
- D. Dwarf tapeworm
- E. Armed tapeworm

163. A patient has a spasm of smooth

muscles of bronchi. As the first aid it would be physiologically appropriate to inject the patient the antagonists of the following receptors:

- A. M-cholinoreceptors
- B. /alpha-adrenoreceptors
- C. N-cholinoreceptors
- D. /beta-adrenoreceptors
- E. Adenosine receptors

164. A patient complains of skin itch, especially between fingers, in the inguinal creases, on the lower abdomen. Examination of these regions revealed there some small vesicles. Laboratory diagnostics allowed to establish that this condition had been caused by a representative of Arthropoda. Specify the disease caused by this arthropod:

- A. Scabies
- B. Demodicosis
- C. Myiasis
- D. Pediculosis
- E. Dermatotropic leishmaniasis

165. 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

166. 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

167. On the 2-3 day after stomach resection a patient is still experiencing a failure of intestinal peristalsis. In order to stimulate the motility of gastrointestinal tract the following drug should be administered:

- A. Proserin
- B. Prazosin
- C. Cyclodolum
- D. Atropine sulphate
- E. Noradrenaline hydrotartrate

168. 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

169. 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

170. 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 protheosynthesis
- B. Increase in lipolysis
- C. Accelerated gluconeogenesis
- D. Decrease in lipolysis
- E. Intensification of catabolism

171. 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

172. 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

173. Microscopic examination of a parenchymatous organ revealed that its epithelial cords formed glomerular, fascicular and reticular zones. The central part of the organ was presented by accumulations of chromaffin cells. Specify this organ:

- A. Adrenal gland
- B. Thyroid gland
- C. Epiphysis
- D. Liver
- E. Hypophysis

174. Blood test of a patient suffering from atrophic gastritis gave the following results: RBCs - $2,0 \cdot 10^{12}/l$, Hb - 87 g/l, colour index - 1,3, WBCs - $4,0 \cdot 10^9/l$, thrombocytes - $180 \cdot 10^9/l$. Anaemia might have been caused by the following substance deficiency:

- A. Vitamin B_{12}
- B. Vitamin A
- C. Vitamin K
- D. Iron
- E. Zinc

175. During manipulations aimed at treatment of mandible dislocation a physician should pay particular attention to a muscle that pulls a capsule and interarticular disc of temporomandibular articulation exteriorly. What muscle is it?

- A. *M. pterygoideus lateralis*
- B. *M. masseter*
- C. *M. pterygoideus medialis*
- D. *M. temporalis*
- E. *M. mylohyoideus*

176. A 71-year-old man had been presenting with diarrhea for 10 days. The feces had admixtures of blood and mucus. He was delivered to a hospital in grave condition and died 2 days later. Autopsy of the body revealed the following: diphtheritic colitis with multiple irregularly-shaped ulcers of different depth in both sigmoid colon and rectus. Bacteriological analysis revealed *Shigella*. What was the main disease?

- A. Dysentery
- B. Typhoid fever
- C. Salmonellosis
- D. Nonspecific ulcerous colitis
- E. Yersiniosis

177. Autopsy of a 75-year-old patient who had been suffering from disseminated atherosclerosis and died under chronic cardiac failure revealed constriction and deformation of coronary arteries, tuberos intima whose section appeared to be white and petrosal. Specify the stage of atherosclerosis morphogenesis:

- A. Atherocalcinosis
- B. Lipoidosis
- C. Liposclerosis
- D. Bilipid
- E. Atheromatosis

178. A patient has some vesicles on the mucous membrane of the oral cavity, lips and nose. A dentist suspected vesicular stomatitis. What analysis will allow to confirm the diagnosis?

- A. Recovery of virus from the vesicular fluid
- B. Allergy test
- C. Recovery of bacteria from the vesicular fluid
- D. Contamination of animals with the vesicular fluid
- E. Microscopy of the vesicular fluid

179. 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

180. A viral process caused a considerable sclerosis of parenchyma of submandibular salivary glands as well as reduced production of biologically active hormonal substances. This resulted in the impairment of oral mucosa regeneration. The reason for it is an insufficient concentration of the following saliva component:

- A. Epithelial growth factor
- B. Insulin-like growth factor
- C. Thymocyte-transforming factor
- D. Lysozyme
- E. Parotin

181. 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.palatinini minores*

182. 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

183. A 70-year-old man has developed prosthodontic stomatitis. Apart of this he was found to have an evident lesion of mouth corners. Microscopical examination revealed large ovoid gram-positive cells. What microorganisms are most likely to be the leading etiological agent of such a lesion?

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

184. 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

185. A 12-year-old child presents with intolerance to some foodstuffs. Their consumption causes an allergic reaction in form of itching skin eruption. What antihistaminic drug should be administered that won't have any negative impact on the child's school studies (with no sleepiness effect)?

- A. Loratadine
- B. Dimedrol
- C. Sodium diclofenac
- D. Aminophylline
- E. Mesatonum

186. In the second week of being ill with viral hepatitis a patient presented with sleep disorder, headache, aggressiveness, unbearable skin itch. Objectively: AP drop, decrease in blood coagulation and reflectory activity, bradycardia. What is the cause of these changes?

- A. Cholemia
- B. Hyperlipemia
- C. Urobilinemia
- D. Hypercholesterolemia
- E. Stercobilinemia

187. 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

188. 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

189. 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

190. A specimen of cerebral cortex impregnated with silver nitrate shows some gigantic neurons of pyramidal form. These cells make the following layer of cortex:

- A. Ganglionic
- B. Pyramidal
- C. Molecular
- D. Exterior granular
- E. Interior granular

191. 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

192. A section of pulmonary tissue has a large-meshed look due to the sacciform and cylindrical dilatation of the bronchi; microscopical examination of the bronchial wall reveals a leucocytal infiltration with neutrophil prevalence; elastic, muscle fibers as well as cartilage plates are partly destroyed and replaced by the connective tissue. The adjacent pulmonary tissue has inflammation foci, fibrosis areas, vascular sclerosis and signs of emphysema. The right ventricle hypertrophy is present. What is the most likely diagnosis?

- A. Multiple bronchiectasis
- B. Pulmonary emphysema
- C. Interstitial pneumonia
- D. Pneumofibrosis
- E. Chronic bronchitis

193. A 25-year-old man has a saucer-shaped ulcer 0,8 cm in diameter on the upper left surface of tongue. The ulcer's floor and edges are dense with smooth and glistening surface, painless on palpation. Microscopical examination of the ulcer floor revealed an infiltration consisting of lymphoid, plasmatic and epithelioid cells with a lot of vessels affected by endovasculitis. What is the most likely diagnosis?

- A. Primary syphilis
- B. Decubital ulcer
- C. Cancerous ulcer
- D. Tuberculosis
- E. Setton's aphtha

194. A patient has been admitted to the oral surgery department with a fracture of malar arch. The patient presents with difficult mouth opening. This state is caused by the dysfunction of the following muscle:

- A. Masticatory
- B. Medial pterygoid
- C. Lateral pterygoid
- D. Digastric
- E. Zygomatic

195. While playing a child got a punch in the presternum region. As a result of this trauma an organ located behind the presternum was damaged. Name this organ:

- A. Thymus
- B. Thyroid gland
- C. Heart
- D. Pericardium
- E. Larynx

196. 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

197. 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*

198. A 35-year-old patient with chronic periodontitis underwent excision of a cyst 3 cm in diameter found at a root of the 15th tooth. Histological examination revealed that it had thin wall formed by mature connective tissue infiltrated by lymphocytes and plasmatic cells. Its internal surface was lined with multilayer pavement epithelium with no signs of keratinization; the cavity contained serous exudate. What is the most likely diagnosis?

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

199. A patient has a lacrimal gland secretory dysfunction induced by a disorder of its vegetative innervation. Which of the ganglia of vegetative nervous system gives it postganglionic parasympathetic fibers?

- A. Ganglion pterygopalatinum
- B. Ganglion ciliare
- C. Ganglion oticum
- D. Ganglion submandibulare
- E. -

200. In spring a patient experiences petechial haemorrhages, loosening of teeth, high liability to colds. A doctor suspects hypovitaminosis C. In this respect loosening of teeth can be explained by:

- A. Structural failure of collagen in the periodontal ligaments
- B. Structural change of glycosaminoglycans
- C. Increased permeability of periodont membranes
- D. Mechanical damage of teeth
- E. Disturbed oxidation-reduction process in the periodont