MINISTRY OF PUBLIC HEALTH OF UKRAINE

Department of human resources policy, education and science

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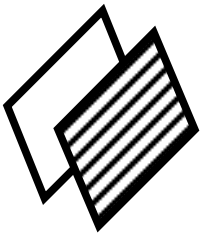
Test items for licensing examination

Krok 1

STOMATOLOGY



General Instruction

Every one of these numbered questions or unfinished statements in this chapter corresponds to answers or statements endings. Choose the answer (finished statements) that fits best and fill in the circle with the corresponding Latin letter on the answer sheet.

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The book includes test items for use at licensing integrated examination "Krok 1. Stomatology" and further use in teaching.

The book has been developed for students of stomatological faculties and academic staff of higher medical educational establishments.

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1. Heterozygous parents with A (II) and B (III) blood groups according to AB0 system gave birth to a child. What is the probability of the child having 0 (I) blood group?

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

2. During dehelmintization a patient expelled long fragments of a segmented helminth. In some segments their width exceeds their length; there is a rosette-like uterus in the segment center. Name the helminth:

A. *Diphylobotrium latum*
B. *Taenia solium*
C. *Taeniarhynchus saginatus*
D. *Echinococcus*
E. *Hymenolepis nana*

3. Carious cavities of a 29-year-old patient contain parasitic protozoa. It is established that they belong to the *Sarcodina* class. Specify these protozoa:

A. *Entamoeba gingivalis*
B. *Entamoeba coli*
C. *Entamoeba histolutica*
D. *Amoeba proteus*
E. *Lamblia intestinalis*

4. According to the law of constancy of chromosome numbers, most animal species have definite and constant chromosome number. The mechanism that maintains this constancy during sexual reproduction of organisms is called:

A. Meiosis
B. Schizogony
C. Amitosis
D. Regeneration
E. -

5. At a certain stage of human ontogenesis, physiological bond occurs between circulatory systems of the mother and the fetus. This function is being carried out by the following provisory organ:

A. Placenta
B. Yolk sac
C. Amnion
D. Serous tunic
E. Allantois

6. It is necessary to perform urinary bladder catheterization of an adult man. Resistance to the catheter can occur in the following structure or part of the urethra:

A. Membranous part
B. Prostatic part
C. Spongiose part
D. External urethral orifice
E. Internal urethral orifice

7. A woman has come to a dentist with complaints of bruising and swelling around her eye. Anamnesis is as follows: several days prior her 1st premolar tooth had been extracted, with infraorbital anaesthesia administered; several days later hematoma appeared in the area of *foramen intraorbitale*. The branch of the following artery was damaged:

A. Maxillary artery
B. Facial artery
C. Superficial temporal artery
D. Superior labial artery
E. Masseteric artery

8. A patient consulted a doctor about an increased pain sensitivity of the ear skin and ear canal. Palpation behind the sternocleidomastoid muscle was painful. Such clinical presentations are typical of the irritation of the following nerve:

A. *N. auricularis magnus*
B. *N. occipitalis minor*
C. *Nn. supraclaviculares*
D. *N. vagus*
E. *N. transversus colli*

9. In a 12-year-old patient an inflammatory process in the internal ear spread to the meninges, diffusely affecting them. A doctor suspects the process to have spread through the connection between the subarachnoid space of the brain and perilymphatic space of the internal ear. What anatomic structure became the pathway for the spreading inflammation?

A. *Aqueductus vestibuli*
B. *Fossa subarcuata*
C. *Hiatus canalis n. petrosi majoris*
D. *Hiatus canalis n. petrosi minoris*
E. *Fissura petrosquamosa*

10. A woman with essential hypertension has been hospitalized. The patient presents with aneurysm of *a. communicans posterior* of the cerebrum arterial circle. What vessels of arterial circle are normally joined with this artery?

A. *A. carotis interna et a. cerebri posterior*
B. *A. carotis interna et a. cerebri media*
C. *A. carotis externa et a. cerebri anterior*
D. *A. cerebri anterior et a. cerebri media*
E. *A. cerebri media et a. cerebri posterior*

11. In the skin biopsy material in the epidermis there are cells with processes and cytoplasm that contains dark brown granules. Name these cells:

A. Melanocytes
B. Intraepidermal macrophages
C. Keratinocytes
D. Merkel's cells
E. Lymphocytes

12. Gastroscopy of a patient revealed the lack of mucus in the coating of the mucous membrane. This can be caused by the dysfunction of the following cells of gastric wall:

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

13. Alcoholic intoxication is accompanied by disturbed motor coordination and equilibrium due to the damage caused to structural elements of the cerebellum. Functional disturbance of the following cells occurs in the first place:

A. Pyriform cells
B. Basket cells
C. Granule cells
D. Stellate cells
E. Fusiform cells

14. Histologic specimen demonstrates an oral cavity organ with mucosa covered with keratinized stratified squamous epithelium. Specify this organ or its part:

A. Gum
B. Inferior surface of tongue
C. Labial mucosa
D. Uvula
E. Soft palate

15. During gastrulation an embryo proceeds from histiotrophic to hematotrophic nutrition. What provisory organ makes it possible at first?

A. Chorion
B. Trophoblast
C. Yolk sac
D. Amnion
E. Allantois

16. One of the coats of a hollow organ has anastomotic fibers with nuclei. The fibers consist of cells that form intercalated disks at the places of contact. What tissue forms this coat?

A. Cross-striated cardiac muscle
B. Cross-striated skeletal muscle
C. Unstriped muscle
D. Loose fibrous connective tissue
E. Dense irregular connective tissue

17. A 30-year-old woman has decreased enzyme content in the pancreatic juice. This condition can be caused by insufficient secretion of the following hormone:

A. Cholecystokinin-pancreozymin
B. Somatostatin
C. Secretin
D. Gastric inhibitory polypeptide
E. Vasoactive intestinal peptide

18. Electric current has affected skeletal muscle fiber resulting in depolarisation of the membrane. Depolarisation develops due to the following ions penetrating the membrane:

A. Na^+
B. HCO^{3-}
C. Ca^{2+}
D. Cl^-
E. K^+

19. Psychological evaluation determined that a person is able to quickly adapt to changing situation, has good memory, is emotionally stable, possesses of high working ability. This person is the most likely to be:

A. Sanguine
B. Choleric
C. Melancholic
D. Phlegmatic
E. Phlegmatic with melancholic traits

20. An oculist has detected increased time of darkness adaptation of a patient's eye. What vitamin deficiency can cause such symptom?

A. A
B. E
C. C
D. K
E. D

21. A patient suffers from diabetes mellitus with fasting hyperglycemia over 7,2 mmol/l. What blood plasma protein would allow to assess the patient's glycemia level retrospectively (4-8 weeks prior to examination)?

A. Glycated hemoglobin
B. Albumin
C. Fibrinogen
D. C-reactive protein
E. Ceruloplasmin

22. A patient is in the state of hypoglycemic coma. What hormone can cause this condition if overdosed?

A. Insulin
B. Progesterone
C. Cortisol
D. Somatotropin
E. Corticotropin

23. A 24-year-old patient has been administered glutamic acid to treat epilepsy. Medicinal effect in this case occurs not due to glutamate itself, but due to the product of its decarboxylation:

A. γ-aminobutyric acid
B. Histamine 4-monooxygenase
C. Serotonin
D. Dopamine
E. Taurine

24. Mucin aggregates retain water, which results in their viscosity and protective action. It is possible because mucin structure contains:

A. Glycosaminoglycans
B. Homopolysaccharides
C. Disaccharides
D. Oligosaccharides
E. Glucose

25. Along with normal hemoglobin types there can be pathological ones in the body of an adult. Specify one of them:

A. HbS
B. HbF
C. HbA1
D. HbA2
E. HbO2

26. 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 glycolisis
D. Pentose-phosphate cycle
E. Glycogenesis

27. After anaesthetic application during tooth extraction the patient developed marked soft tissue edema of the upper and lower jaw, skin rash on the face, reddening, and itching. What pathological process results in such reaction to the anaesthetic?

A. Allergy
B. Toxic action of a drug
C. Inflammation
D. Circulatory deficiency
E. Disturbed lymph drainage

28. Due to morbid affection of the supraoptic and paraventricular nuclei of the hypothalamus a 40-year-old patient has developed polyuria (10-12 liters per day) and polydipsia. The following hormone is deficient, thus leading to this disturbance:

A. Vasopressin
B. Oxytocin
C. Corticotropin
D. Somatotropin
E. Thyrotropin

29. A patient with glossitis presents with disappearance of lingual papillae, reddening and burning pain in the tongue. Blood test: erythrocytes - $2,2 \cdot 10^{12}$/l, hemoglobin - 103 g/l, color

index - 1,4. What type of anemia is it?

A. B_{12} folate-deficient
B. Iron deficiency
C. α-thalassemia
D. β-thalassemia
E. Iron refractory

30. A patient with chronic renal failure presents with reduced inulin clearance of 60 ml/min. The following renal function is disturbed:

A. Glomerular filtration
B. Tubular secretion
C. Reabsorption in the proximal tubular segment of the nephron
D. Reabsorption in the distal tubular segment of the nephron
E. Reabsorption in the tubules of collecting duct

31. Histological investigation of an extracted tooth revealed presence of necrotic detritus with fatty acid crystals and numerous microbe colonies in the pulp chamber. What diagnosis is the most likely?

A. Pulp gangrene
B. Chronic pulpitis
C. Complicated chronic pulpitis
D. Serous pulpitis
E. Purulent pulpitis

32. Autopsy of a man with tuberculosis has revealed a 3x2 cm large cavity in the superior lobe of the right lung. The cavity was interconnected with a bronchus, its wall was dense and consisted of three layers: the internal layer was pyogenic, the middle layer was made of tuberculous granulation tissue and the external one was made of connective tissue. What is the most likely diagnosis?

A. Fibrous cavernous tuberculosis
B. Fibrous focal tuberculosis
C. Tuberculoma
D. Acute focal tuberculosis
E. Acute cavernous tuberculosis

33. Histological investigation of renal biopsy material taken from a patient with tuberculosis has revealed chaotically located chromatin granules in the focus of caseous necrosis. These changes are the result of:

A. Karyorrhexis
B. Karyolysis
C. Karyopyknosis
D. Mitotic activity of nuclei
E. Apoptosis

34. During inspection of dental tools for sterility in one case gram-positive cocci were detected. They were situated in clusters and yielded positive plasma coagulation reaction; the cocci were fermenting mannitol in anaerobic conditions and exhibiting lecithinase activity. What microorganism was detected?

A. *Staph. aureus*
B. *St. epidermidis*
C. *St. saprophiticus*
D. *Str. pyogenes*
E. *Corinebacterium xerosis*

35. Analysis of sputum taken from a patient with suspected pneumonia revealed slightly elongated gram-positive diplococci with tapered opposite ends. What microorganisms were revealed in the sputum?

A. *Streptococcus pneumoniae*
B. *Staphylococcus aureus*
C. *Klebsiella pneumoniae*
D. *Neisseria meningitidis*
E. *Neisseria gonorrhoeae*

36. Microscopic examination of pus sample taken from mandibular fistula canal and stained by Gram's method has revealed druses with gram-positive coloring in the center and cone-shaped structures with gram-negative coloring. Such morphology is characteristic of the agent of:

A. Actinomycosis
B. Candidiasis
C. Anaerobic infection
D. Staphylococcal osteomyelitis
E. Fusobacteriosis

37. A puncture sample has been taken from the inguinal lymph nodes of a patient provisionally diagnosed with plague. The sample was inoculated into hard nutrient medium. What shape will the colonies have, if the diagnosis is confirmed?

A. ”Lace handkerchief”
B. ”Mercury drops”
C. ”Dewdrops”
D. ”Shagreen leather”
E. ”Lion’s mane”

38. To perform conduction anesthesia a patient had been administered a drug used in dental surgery. The patient developed the symptoms of poisoning: central nervous system excitation followed by paralysis and acute cardiovascular insufficiency (collapse). Additionally there were allergic reactions (itching, swelling, erythema). Name this drug:

A. Lidocaine
B. Suxamethonium chloride
C. Thiopental sodium
D. Tubocurarin chloride
E. Pipecuronium bromide

39. Enzymes and other active substances regulating connective tissue density and permeability are being produced in connective tissue cells. What enzyme drug is used to make the connective tissue growths looser and more permeable?

A. Lydase
B. Amylase
C. Lipase
D. Cocarboxylase
E. Cholinesterase

40. A schizophrenic patient has been prescribed aminazine. What pharmacodynamic action of this drug justifies its prescription in this case?

A. Antipsychotic
B. Antiemetic
C. Hypothermic
D. Muscle relaxant
E. Hypotensive

41. A patient with maxillofacial joint arthritis has come to a dentist. The dentist prescribed an ointment with an anti-inflammatory agent that is a pyrazolone derivative. Name this agent:

A. Butadion (Phenylbutazone)
B. Mefenamic acid
C. Ibuprofen
D. Indometacin
E. Diclofenac sodium

42. A 55-year-old man with acute heart failure has been administered a quick-relief cardiac glycoside. Which of the following drugs has been given to the patient?

A. Strophanthin
B. Adonisidum
C. Digitoxin
D. Celanid
E. Milrinone

43. A patient suffering from ciliary arrhythmia with anamnesis of bronchial asthma should be prescribed an antiarrhythmic drug. What antiarrhythmic drug is **CONTRAINDICATED** in this case?

A. Anaprilin (Propranolol)
B. Ajmaline
C. Verapamil
D. Nifedipine
E. Novocainamide (Procainamide)

44. A 35-year-old woman is diagnosed with faucial diphtheria. The patient died with signs of acute heart failure. On autopsy: heart cavities are enlarged in the diameter, heart muscle is dull, flaccid, striped on section, with yellowish areas under the endocardium. What type of degeneration was detected in cardiac hystiocytes?

A. Fatty
B. Carbohydrate
C. Ballooning
D. Hyaline droplet
E. Hydropic

45. A 67-year-old patient has ordered a full functional denture. It was necessary to extract his left upper canine. After infraorbital anaesthesia the patient presented with progressing hematoma in the frontal part of his face. The patient was found to have an injury of the artery that is the branch of:

A. *A. maxillaris*
B. *A. facialis*
C. *A. temporalis superficialis*
D. *A. ophthalmica*
E. *A. labialis superior*

46. A woman, who had undergone mastectomy due to breast cancer, was prescribed a course of radiation therapy. What vitamin preparation has marked antiradiation effect due to its antioxidant activity?

A. Tocopherol acetate
B. Ergocalciferol
C. Riboflavin
D. Cyanocobalamin
E. Folic acid

47. Often the cause of secondary immunodeficiency is an infectious affection of an organism, when agents reproduce directly in the cells of immune system and destroy them. Specify the diseases, during which the described above occurs:

A. Infectious mononucleosis, AIDS
B. Tuberculosis, mycobacteriosis
C. Poliomyelitis, viral hepatitis type A
D. Dysentery, cholera
E. Q fever, typhus

48. Premature babies often develop respiratory distress syndrome. This pathology is caused by the deficiency of a certain component of the blood–air barrier. Name this component:

A. Surfactant
B. Capillary endothelium
C. Endothelial basement membrane
D. Alveolar basement membrane
E. Alveolocytes

49. A forensic laboratory received clothes of a citizen, who a day before was reported missing. The clothes were found in a shed, there are red stains identified as blood by an expert. What reaction should be performed to determine whether these red stains are dried human blood?

A. Circular precipitation
B. Complement binding
C. Flocculation
D. Enzyme immunoassay
E. Agglutination

50. A patient has a history of chronic heart failure. Which of the following hemodynamic parameters is a major symptom of cardiac decompensation development?

A. Decreased stroke volume
B. Tachycardia development
C. Tonogenic dilatation
D. Increased peripheral vascular resistance
E. Increased central venous pressure

51. A 45-year-old patient with essential hypertension, who has been taking an antihypertensive drug for 4 days, notes that his blood pressure is normalized; however the patient complains of sleepiness and sluggishness. What drug is the patient taking?

A. Clophelin (Clonidine)
B. Prazosin
C. Captopril
D. Enalapril
E. Apressin (Hydralazine)

52. Due to trauma the patient's parathyroid glands have been removed, which resulted in inertness, thirst, sharp increase of neuromuscular excitability. Metabolism of the following substance is disturbed:

A. Calcium
B. Manganese
C. Chlorine
D. Molybdenum
E. Zinc

53. A doctor has established significant growth retardation, disproportional body build, and mental deficiency of a child. What is the most likely cause of this pathology?

A. Hypothyroidism
B. Insufficient nutrition
C. Hyperthyroidism
D. Genetic defects
E. Hypopituitarism

54. To terminate hypertensive crisis the patient was administered solution of magnesium sulfate. What route of drug administration should be chosen?

A. Intravenous
B. Duodenal
C. Rectal
D. Oral
E. Intra-arterial

55. A specimen presents an endocrine system organ covered with capsule made of connective tissue. Septa branch off from the capsule inwards and divide the organ into lobules. Each lobule consists of two cell types: neurosecretory pinealocytes (polygonal cells with processes) located in the center and gliacytes (astrocytes) located at the periphery. What organ is represented in this specimen?

A. Epiphysis
B. Pituitary gland
C. Hypothalamus
D. Thyroid gland
E. Adrenal medulla

56. After introdiction of adrenaline the patient's blood glucose level increased. It is caused by intensified:

A. Glycogenolysis in the liver
B. Glycolysis in the liver
C. Glycolysis in the skeletal muscles
D. Glycogen synthesis
E. Glycogenolysis in the muscles

57. A 20-year-old young man, who started to train systematically in athletics, has the following resting-state blood values: erythrocytes - $5,5 \cdot 10^{12}$/l, reticulocytes - 12%, hemoglobin - 160 g/l, color index - 1,03. Such blood values indicate erythropoiesis stimulation due to the following occurring in the process of his training:

A. Hypoxemia
B. Hypercapnia
C. Physical activity
D. Hyperventilation
E. Hyperglycemia

58. In the armpits of a patient there are small (1-1,5 mm), dorsoventrally flattened, wingless, blood-sucking insects. Their larvae have been developing in the armpits as well. What disease is caused by these insects?

A. Phthiriasis
B. Sleeping sickness
C. Chagas' disease
D. Plague
E. Relapsing fever

59. To treat peptic ulcer disease of the stomach a patient has been prescribed famotidine. Specify the mechanism of action of this drug:

A. H_2 histamine receptors block
B. Effect on ion channels of cell membranes
C. Antienzyme action
D. Physicochemical interaction
E. Effect on cell membrane transport system

60. A student, who unexpectedly met his girlfriend, developed an increase in systemic arterial pressure. This pressure change was caused by the intensified realization of the following reflexes:

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

61. A connective tissue specimen stained with hematoxylin-eosin shows isogenous cell groups surrounded with basophilic intercellular substance. No fibrous structures are detected. What type of connective tissue is it?

A. Hyaline cartilage tissue
B. Elastic cartilage tissue
C. Dense fibrous tissue
D. Loose fibrous tissue
E. Splenial bone tissue

62. A 46-year-old patient consulted an oculist about drooping of the upper eyelid. On examination he was diagnosed with a brain tumor. The pathological process must have affected the nuclei of the following pair of cranial nerves:

A. III
B. II
C. IV
D. VI
E. VII

63. A 36-year-old patient consulted an ophthalmologist about eye ache. The examination revealed erosion of the cornea, that is the lack of superficial and spinous layers of the epithelium. What cells will provide regeneration of the damaged epithelium?

A. Cells of *stratum basale*
B. Cells of *stratum corneum*
C. Cells of *stratum granulosum*
D. Cells of *stratum lucidum*
E. Cells of *stratum superficiale*

64. A patient undergoing treatment with nitrofurans has imbibed a small amount of alcohol, which resulted in severe poisoning. The poisoning developed due to:

A. Accumulation of acetic aldehyde
B. Allergic reaction
C. Neural disorder
D. Cardiovascular collapse
E. Disturbed renal function

65. During development of a frostbite the exposed skin becomes pale and its temperature drops. What mechanism is the basis of these developments?

A. Reflex vasoconstriction
B. Dermal and subcutaneous vasodilatation
C. Visceral vasoconstriction
D. Decreased heart rate
E. Closure of arteriovenous anastomoses

66. A patient during fasting developed ketoacidosis as a result of increased fatty acids decomposition. This decomposition can be inhibited with:

A. Insulin
B. Glucagon
C. Adrenaline
D. Thyroxin
E. Cortisol

67. Examination of a patient revealed glycosuria and hyperglycemia. He complains of dry mouth, itchy skin, frequent urination, thirst. He has been diagnosed with diabetes mellitus. What is the cause of polyuria in this patient?

A. Increased urine osmotic pressure
B. Decreased plasma oncotic pressure
C. Increased filtration pressure
D. Decreased cardiac output
E. Increased plasma oncotic pressure

68. Due to overdosage of a vasodilator a 58-year-old patient has developed acute vascular insufficiency. What drug would be advisable for termination of this pathological condition?

A. Mesaton (Phenylephrine)
B. Euphyllin (Aminophylline)
C. Dopamine
D. Cordiamin
E. Aethimizolum (Methylamide)

69. To treat chronic heart failure a patient takes digoxin. What diuretic can increase digoxin toxicity due to increased excretion of K^+ ions?

A. Hydrochlorothiazide
B. Spironolactone
C. Panangin
D. Silibor
E. Lisinopril

70. A patient, who had been eating only polished rice, developed polyneuritis caused by thiamine deficiency. What compound can be indicative of this kind of avitaminosis when excreted with urine?

A. Pyruvic acid
B. Malate
C. Methylmalonic acid
D. Uric acid
E. Phenylpyruvate

71. A doctor examined a patient, studied the patient's blood analyses and concluded that the peripheral organs of immunogenesis are damaged. What organs are the most likely to be affected?

A. Tonsils
B. Thymus
C. Kidneys
D. Red bone marrow
E. Yellow bone marrow

72. In what organ biotransformation (metabolic transformation) of most medicinal agents occurs upon their introduction into an organism?

A. Liver
B. Kidneys
C. Intestine
D. Skin
E. Lungs

73. A patient with diabetes mellitus has been delivered to a hospital unconscious. BP is low, Kussmaul's respiration is observed, the smell of acetone can be detected from the patient's mouth. What mechanism is leading in the coma development in this case?

A. Accumulation of ketone bodies in blood
B. Accumulation of potassium ions
C. Accumulation of sodium ions
D. Accumulation of chlorine ions
E. Accumulation of urea

74. A patient has been diagnosed with bicuspid valve insufficiency. Where is this valve located?

A. Between the left atrium and left ventricle
B. Between the right atrium and right ventricle
C. Between the left and right atria
D. Between the left and right ventricles
E. At the aortic orifice

75. In the epicenter of the registered rabies cases among wild animals a 43-year-old man came to a clinic and claimed to have been bitten by a stray dog. He was given a course of anti-rabies vaccine. This preparation belongs to the following type of vaccines:

A. Attenuated
B. Inactivated
C. Molecular
D. Toxoids
E. Synthetic

76. In Western Europe nearly half of all congenital malformations occur in the children conceived in the period when pesticides were used extensively in the region. These congenital conditions are the result of the following factor:

A. Teratogenic
B. Carcinogenic
C. Malignization
D. Mutagenic
E. Mechanical

77. Gastrulation is the period of embryogenesis, when germinal layers are formed, resulting in three-layered structure of an embryo. What gastrulation mechanism is characteristic of a human embryo?

A. Delamination and immigration
B. Invagination
C. Epiboly
D. Immigration and invagination
E. Delamination and epiboly

78. A 19-year-old young man has been examined in a nephrological hospital. Increased potassium content was detected in secondary urine of the patient. Such alterations are the most likely to be caused by the increased secretion of the following hormone:

A. Aldosterone
B. Oxytocin
C. Adrenaline
D. Glucagon
E. Testosterone

79. A 12-year-old boy has tetanic convulsions. What gland can be functionally impaired in this case?

A. *Glandulae parathyroidae*
B. *Hypophisis*
C. *Glandula thyroidea*
D. *Thymus*
E. *Glandula pinealis*

80. A man came to a surgeon with complains of pain in his lower right abdomen. On deep palpation the doctor detected a painful area in the right inguinal region. What part of the intestine is the most likely to be affected with pathological process?

A. Cecum
B. Transverse colon
C. Descending colon
D. Sigmoid colon
E. Rectum

81. During investigation of skin epithelium it was determed, that it consists of several cellular layers. Epithelial cells of the external layer have no nuclei. What type of epithelium is it?

A. Keratinized stratified squamous epithelium
B. Non-keratinized stratified squamous epithelium
C. Transitional epithelium
D. Multirow ciliary epithelium
E. Multirow columnar epithelium

82. A histological specimen shows terminal secretory parts of glands made of conic cells with basophilic cytoplasm and a roundish nucleus in the centre. Specify the type of terminal secretory parts by the type of secretion:

A. Serous
B. Sebaceous
C. Combined
D. Mucous
E. Seromucous

83. Electron diffraction pattern of a spermatozoon clearly presents a sheath-like structure localized in the spermiocalyptrotheca and participating in dissolution of ovular membranes. Name this structure:

A. Acrosome
B. Centriole
C. Microtubules
D. Axoneme
E. Segmented columns

84. A patient complains of toothache. On examination he has been diagnosed with pulpitis. Which factor played the main pathogenic role in the development of pain syndrome in this case?

A. Increased intratissular pressure in the dental pulp
B. Vasospasm
C. Inadequate stimulation of the mandibular nerve branch
D. Activation of one of the complement system components
E. Interleukin action

85. The patient's saliva has been tested for antibacterial activity. What saliva component has antibacterial properties?

A. Lysozyme
B. Amylase
C. Ceruloplasmin
D. Parotin
E. Cholesterol

86. A patient with a bleeding knife wound in the area of carotid triangle has been delivered to a hospital. Blood flowing from the wound is dark. What vessel is injured?

A. Internal jugular vein
B. External jugular vein
C. Internal carotid artery
D. Facial artery
E. Facial vein

87. A patient with symptoms of acute heart failure, namely pallor, acrocyanosis, and rapid shallow breathing, has been delivered to an emergency department. Which of these drugs is indicated in this case?

A. Corglycon
B. Digitoxin
C. Cordiamine
D. Nitroglycerine
E. Adrenalin hydrochloride

88. A victim of an earthquake has been remaining under debris for 7 days without food or water. What type of starvation is it?

A. Complete
B. Complete with continued hydration
C. Quantitative
D. Qualitative
E. Incomplete

89. Micromanipulator was used to extract one of the two centrioles of centrosome (cell center) from hepatocyte (liver cell). What process will **STOP OCCURRING** in this cell?

A. Division
B. Energy exchange
C. Glycogen synthesis
D. Protein biosynthesis
E. Lipid synthesis

90. During an experiment aimed as study of respiration regulation processes the peripheral chemoreceptors of test animals were stimulated, which resulted in changed respiratory rate and depth. Where are these receptors localized?

A. Aortic arch, carotid sinus
B. Capillary bed, aortic arch, carotid sinus
C. Capillary bed, aortic arch
D. Capillary bed, carotid sinus
E. Atria, carotid sinus

91. After an abortion a 25-year-old woman developed oliguria, anuria, and increasing azotemia. The patient died of acute renal failure. Autopsy revealed degeneration and necrosis of the convoluted renal tubules epithelium. What disease was the cause of death in this case?

A. Acute necrotizing nephrosis
B. Acute pyelonephritis
C. Chronic glomerulonephritis
D. Renal amyloidosis
E. Rapidly progressive glomerulonephritis

92. A child with a foreign body in the lungs has been hospitalized. What bronchus is the most likely to contain this foreign body, if its diameter approximates to 1,5 cm?

A. Right primary bronchus
B. Lobar bronchus
C. Left primary bronchus
D. Left segmental bronchus
E. Right segmental bronchus

93. During examination of the oral cavity at the vestibular surface of the lower right incisor there was detected a rounded growth on the thin pedicle. Histologically: in the connective tissue there are numerous thin-walled sinusoids, hemorrhage areas, hemosiderin foci, and giant cells resembling osteoclasts. Make the diagnosis:

A. Giant cell epulis
B. Granular cell ameloblastoma
C. Angiomatous epulis
D. Gingival fibromatosis
E. Cavernous hemangioma

94. A 35-year-old man has come to a dentist with complaints of decreased density of the dental tissue and increased brittleness of his teeth during consumption of hard food. Laboratory analysis measured Ca/P correlation in the enamel sample. What value of Ca/P indicates increased demineralization?

A. 0,9
B. 1,67
C. 1,85
D. 2,5
E. 1,5

95. During examination a dentist noticed bowl-shaped defects on the frontal surface of the patient's canines in the cervical area. Microscopically the pulp is covered with compacted dentin, slightly atrophied and sclerosed. What pathological process occurs in the patient?

A. Cuneiform defects
B. Superficial caries
C. Median caries
D. Stage of chalky white spots
E. Deep caries

96. A patient complains of frequent bowel movements and stool with blood admixtures ("raspberry jelly" stool). Microscopic examination revealed large mononuclear cells with absorbed red blood cells. What protozoon is this morphological structure typical of?

A. *Entamoeba histolytica*
B. *Giardia lamblia*
C. *Campylobacter jejuni*
D. *Toxoplasma gondii*
E. *Balantidium coli*

97. During teeth examination on the lateral surface of the first upper molar there was detected a cone-shaped carious cavity with base oriented towards the tooth surface and apex - towards the tooth center. Softened dentin is visible at the floor of the carious cavity. Make the diagnosis:

A. Dentin caries
B. Enamel caries
C. Cement caries
D. Tooth erosion
E. -

98. After restoration of maxllary incisors with artificial crowns a 44-year-old woman was found to have a brownish growth in the form of a node 15 mm in diameter. Histological study revealed that under the stratified squamous epithelium of the gingiva there was a connective tissue mass with numerous sinusoidal vessels, oval-shaped mononuclear cells forming osteoid substance, and polynuclear giant cells that destroyed the alveolar ridge of the upper jaw. What is the most likely diagnosis?

A. Giant cell epulis
B. Fibromatous epulis
C. Angiomatous epulis
D. Gingival fibromatosis
E. Eosinophilic granuloma

99. A woman is diagnosed with fatty tissue inflammation located between the leaves of broad ligament of the uterus. Name this anatomical structure:

A. Parametrium
B. Perimetrium
C. Myometrium
D. Endometrium
E. Mesometrium

100. Normal metabolic rate and energy expenditure should be taken into account when actual basal metabolic rate of a patient is being determied by means of indirect calorimetry. Normal metabolic rate can be determined most accurately based on the patient's:

A. Sex, age, height and weight
B. Body surface area and weight
C. Respiratory coefficient and body surface area
D. Height and respiratory coefficient
E. Respiratory coefficient and caloric coefficient of oxygen

101. On microscopic examination of leftovers of the canned meat eaten by a patient with severe food toxicoinfection on the following was detected: gram-positive bacilli with subterminal staining defect and configuration alteration of bacilli generally resembling a tennis racket. What agent was detected?

A. *C. botulinum*
B. *S. aureus*
C. *E. coli*
D. *S. enteritidis*
E. *P. vulgaris*

102. The patient's examination in a hospital specialised in diseases of nervous system has revealed absence of light-induced miosis. It is caused by the damage of the following brain structures:

A. Vegetative nuclei of the 3rd pair of cranial nerves
B. Red nuclei of mesencephalon
C. Reticular nuclei of mesencephalon
D. Hypothalamus nuclei
E. Reticular nuclei of medulla oblongata

103. A newborn boy has been diagnosed with hydrocephalus. Doctors consider it to be caused by teratogenic factors. What germ layers are affected by the teratogen?

A. Ectoderm
B. All embryo germ layers
C. Endoderm and mesoderm
D. Endoderm
E. Mesoderm

104. A patient on the 2nd day after cardiac infarction presents with acute decrease of systolic blood pressure down to 60 mm Hg with tachycardia 140/min., dyspnea, loss of consciousness. What mechanism is essential in the pathogenesis of shock developed in this case?

A. Decreased cardiac output
B. Increased myocardial excitability caused by products of necrotic disintegration
C. Decreased circulating blood volume
D. Development of paroxysmal tachycardia
E. Development of anaphylactic reaction to myocardial proteins

105. For biochemical diagnostics of cardiac infarction it is necessary to determine activity of a number of enzymes and their izoenzymes in the blood. What enzyme assay is considered to be optimal for confirming or ruling out cardiac infarction at the early stage, after the patient develops thoracic pain?

A. Creatine kinase MB isoenzyme
B. Creatine kinase MM isoenzyme
C. LDH_1 isoenzyme
D. LDH_5 isoenzyme
E. Cytoplasmic isoenzyme of aspartate aminotransferase

106. A 56-year-old man presents with parathyroid tumor. The following is observed: muscle weakness, osteoporosis, bone deformation, nephroliths consisting of oxalates and phosphates. The patient's condition is caused by:

A. Increased secretion of parathyroid hormone
B. Decreased secretion of parathyroid hormone
C. Increased secretion of calcitonin
D. Decreased secretion of calcitriol
E. Increased secretion of thyroxin

107. There is increased activity of AST, LDH_1, LDH_2, and CPK in the patient's blood. Pathological process most likely occurs in the:

A. Heart
B. Skeletal muscles
C. Kidneys
D. Liver
E. Adrenal glands

108. A patient suffering from acute vascular purpura is prescribed a first-generation antihistamine with local anaesthetic, antispasmodic, and sedative action. Specify this drug:

A. Dimedrol (Diphenhydramine)
B. Diazolin (Mebhydrolin)
C. Dithylin
D. Droperidol
E. Dibazol (Bendazol)

109. A patient with autoimmune thyroiditis has been prescribed a peptide hormonal agent. Specify this agent:

A. L-thyroxin
B. Trimethoprim
C. Triamcinolone
D. Triquilar
E. Tamoxifen

110. A 42-year-old woman, who has been keeping to a vegetarian diet for a long period of time, consulted a doctor. Examination revealed negative nitrogen balance in the patient. What factor is the most likely cause of such a condition?

A. Insufficient amount of proteins in the diet
B. Insufficient amount of dietary fiber
C. Excessive amount of fats in the diet
D. Insufficient amount of fats in the diet
E. Decreased rate of metabolic processses

111. Cytogenetic analysis allowed to determine the patient's karyotype - 47, XY, +21/46, XY. Name this condition:

A. Mosaicism
B. Deletion
C. Translocation
D. Genocopy
E. Phenocopy

112. A patient, who after a trauma suffers from impeded active flexion of elbow, consulted a traumatologist. What muscle is the most likely to be damaged?

A. *M. biceps brachii*
B. *M. pectoralis major*
C. *M. deltoideus*
D. *M. coracobrachialis*
E. *M. latissimus dorsi*

113. In the patient's feces there were eggs of *Fasciola hepatica*. The doctor, however, refrained from making diagnosis and insisted on a repeat of analysis, with beef liver excluded from the patient's diet. What led the doctor to make such decision?

A. Possible phenomenon of transient eggs
B. Absent symptoms of invasion
C. Uncertainty regarding the analysis precision
D. Insufficient qualification of a laboratory assistant
E. Lack of trust towards the investigation method

114. A patient presents with dysfunction of the cerebral cortex accompanied by epileptic seizures. He has been administered a biogenic amine synthetized from glutamate and responsible for central inhibition. What substance is it?

A. γ-aminobutyric acid
B. Serotonin
C. Dopamine
D. Acetylcholine
E. Histamine

115. Red bone marrow has been damaged under radioactive emission of 5 Gy. What determines the red bone marrow sensitivity towards ionizing radiation?

A. Intensive cell division
B. High content of free radicals in the cells
C. High content of peroxides in the cells
D. Radiosensitizers in the cells
E. Destructive effect of radiotoxins on DNA synthesis

116. A 40-year-old patient suffers from intolerance of dairy products. This condition has likely developed due to insufficiency of the following digestive enzyme:

A. Lactase
B. Lipase
C. Maltase
D. Invertase
E. Amylase

117. A patient has been diagnosed with severe B_{12}-deficient anemia with hemopoiesis disturbance. Anamnesis states total gastrectomy. What cells allow to confirm this diagnosis, if they are absent in the peripheral blood?

A. Megalocytes
B. Microcytes
C. Ovalocytes
D. Normocytes
E. Anulocytes

118. To prevent wound infection associated with surgical procedures a patient was given a synthetic antiprotozoan drug demonstrating high activity against *Helicobacter pylori*. Specify this drug:

A. Metronidazole
B. Doxycycline hydrochloride
C. Chingamin
D. Acyclovir
E. Isoniazid

119. A specimen of intestine demonstrates complex branching tubuloalveolar glands with their ends embedded in the submucous layer. What organ is it?

A. Duodenum
B. Jejunum
C. Ileum
D. Colon
E. Cecum

120. After examining a patient a doctor recommended him to exclude rich meat and vegetable broths, spices, and smoked products from the diet, since the patient was found to have:

A. Increased secretion of hydrochloric acid by the stomach glands
B. Reduced secretion of hydrochloric acid by the stomach glands
C. Reduced motility of the gastrointestinal tract
D. Reduced salivation
E. Biliary dyskinesia

121. Roentgenologically confirmed obstruction of common bile duct resulted in preventing bile from inflowing to the duodenum. What process is likely to be disturbed?

A. Fat emulgation
B. Protein absorption
C. Carbohydrate hydrolysis
D. Hydrochloric acid secretion in stomach
E. Salivation inhibition

122. Typical signs of food poisoning caused by *C. botulinum* include diplopia, swallowing and respiration disorders. These signs develop due to:

A. Exotoxin action
B. Enterotoxin action
C. Enterotoxic shock development
D. Adenylate cyclase activation
E. Adhesion of the agent to enterocyte receptors

123. A patient in a grave condition has been delivered to an admission ward. Examination revealed pupil mydriasis, no reaction to the light, considerable reddening and dryness of skin and mucous membranes. What drug could have caused the intoxication symptoms?

A. Atropine sulphate
B. Proserin
C. Adrenalin hydrochloride
D. Pilocarpine hydrochloride
E. Dithylinum

124. A patient consulted a therapeutist with complaints of pain in the chest, cough, fever. X-ray revealed eosinophilic infiltrates in the lungs, further investigation of which allowed to detect presence of larvae. What helminthiasis is it characteristic of?

A. Ascariasis
B. Echinococcosis
C. Fascioliasis
D. Cysticercosis
E. Trichiniasis

125. As a result of an injury a child developed an abscess of adipose tissue of the cheek. With time the process spread to the lateral surface of the pharynx. Pus had spread along the following fascia:

A. Bucco-pharyngeal
B. Temporal
C. Masticatory
D. Parotid
E. -

126. Brain investigation by means of nuclear magnetic resonance revealed the patient to have a hematoma in the genu of the internal capsule. What pathway is damaged in this case?

A. *Tr. cortico-nuclearis*
B. *Tr. cortico-spinalis*
C. *Tr. cortico-fronto-pontinus*
D. *Tr. cortico-thalamicus*
E. *Tr. thalamo-corticalis*

127. Cytochemical investigation revealed high content of hydrolytic enzymes in the cytoplasm. This phenomenon indicates the activity of the following organelles:

A. Lysosomes
B. Endoplasmic reticulum
C. Mitochondria
D. Polysomes
E. Cell center

128. A victim of a traffic accident has lost thoracic respiration but retaines diaphragmal. The spinal cord is most likely to be damaged at:

A. VI-VII cervical segments
B. I-II cervical segments
C. XI-XII cervical segments
D. I-II lumbar segments
E. I-II sacral segments

129. Preventative examination of a 55-year-old patient revealed type II diabetes mellitus. An endocrinologist detected an increase in body weight and liver enlargement. The man is a non-smoker and does not abuse alcohol but likes to have a "hearty meal". Histological examination by means of diagnostic liver puncture revealed that the hepatocytes were enlarged mostly on the lobule periphery, their cytoplasm had transparent vacuoles that reacted positively with sudan III. What liver pathology was revealed?

A. Fatty hepatosis
B. Acute viral hepatitis
C. Chronic viral hepatitis
D. Alcohol hepatitis
E. Portal liver cirrhosis

130. On microscopic examination of a surgical biopsy material (part of the lip with an ulcer) near the ulcer margins and under the ulcer floor in the connective tissue of mucosa there are epithelial complexes composed of atypical stratified epithelium with pathological mitotic figures. Within these complexes there are accumulations of bright pink concentric formations. What pathology is it?

A. Squamous cell keratinous carcinoma
B. Squamous cell nonkeratinous carcinoma
C. Papilloma
D. Transitional cell carcinoma
E. Basal cell carcinoma

131. During examination of a patient with a periodontal disease it would be advisable to investigate functional state of blood vessels of the dentomaxillary area. What method can be applied in this case?

A. Rheography
B. Gnathodynamometry
C. Sphygmography
D. Chronaximetry
E. Electroodontodiagnostics

132. A patient with displaced fracture of the right coronoid process of mandible has been delivered to a first-aid center. What muscle had displaced the coronoid process?

A. Right temporal muscle
B. Right masticatory muscle
C. Right lateral pterygoid muscle
D. Right medial pterygoid muscle
E. Left masticatory muscle

133. A patient with bronchial asthma has developed a bronchial spasm during the visit to a dentist. Name the drug necessary to arrest the spasm:

A. Salbutamol
B. Naphthizin
C. Mesaton (Phenylephrine)
D. Anaprilin (Propranolol)
E. Bisoprolol

134. Microscopy of an oval cell, 150 micron in size, revealed the following: cytoplasm has yolk inclusions but no centrioles. Name this cell:

A. Oocyte
B. Leucocyte
C. Myocyte
D. Fibroblast
E. Macrophage

135. A worker of a cattle farm consulted a surgeon about fever up to 40^oC, headache, weakness. Objective examination of his back revealed hyperemia and a dark red infiltration up to 5 cm in diameter with black bottom in its center, which was surrounded with pustules. What disease are these presentations typical of?

A. Anthrax
B. Plague
C. Tularemia
D. Furuncle
E. Abscess

136. The autopsy of a 37-year-old man has revealed the following: in the aorta on the smooth glossy ivory-colored intima there are yellowish-gray spots blending with each other, which form stripes that do not protrude from the intima surface. Microscopy reveals swelling and destruction of elastic membranes, diffuse impregnation of aortic wall with orange granules (if stained with Sudan III), orange coloring of macrophage cytoplasm and nonstriated muscle elements. Specify this process:

A. Lipoidosis of the aorta
B. Liposclerosis of the aorta
C. Atheromatosis of the aorta
D. Atherocalcinosis of the aorta
E. Imbibition of the aorta with cadmium salts

137. A patient with acute bronchitis has been prescribed sulfanilamide drugs for treatment. In an hour after administration on the patient developed itching and vesicles filled with light transparent liquid on the face, palms and soles. Name the mechanism of immune response:

A. Reaginic reaction
B. Antibody-mediated cytolysis
C. Cell cytotoxicity
D. Immune complex-mediated hypersensitivity
E. -

138. A 47-year-old man consulted a dentist about difficult mouth opening (trismus). The patient has a history of a stab wound of the lower extremity. What infection can be manifested by these symptoms?

A. Tetanus
B. Brucellosis
C. Whooping cough
D. Anaerobic wound infection
E. Tularemia

139. A 69-year-old patient developed a small plaque with subsequent ulceration on the skin of the lower eyelid. The formation was removed. Microscopic examination of dermis revealed complexes of atypical epithelial cells arranged perpendicularly to the basal membrane on the periphery. The cells were dark, of polygonal prismatic shape, and had hyperchromic nuclei with frequent mitoses. What is the histological form of carcinoma in this patient?

A. Basal cell carcinoma
B. Keratinizing squamous cell carcinoma
C. Nonkeratinizing squamous cell carcinoma
D. Adenocarcinoma
E. Undifferentiated carcinoma

140. A 68-year-old man, who had been suffering from essential hypertension for a long time, was delivered to a resuscitation unit with hemiplegia. The patient died after 7 hours. On autopsy: in the right cerebral hemisphere there is a cavity 5x5 cm in size with uneven margins, filled with dark red blood clots. What cerebral circulation disorder developed in the patient?

A. Hematoma
B. Hemorrhagic infiltration
C. Thrombosis
D. Petechial hemorrhage
E. Local venous hyperemia

141. What factor results in the highest energy expenditure under the normal vital activity conditions?

A. Action of skeletal muscles
B. Increase of environment temperature
C. Decrease of environment temperature
D. Mental work
E. Food rich in calories

142. To drain the oral cavity a dentist places a tampon between the cheek and the 2nd upper molar. This way secretion of the following salivary gland **WILL NOT** be able to accumulate in the oral cavity:

A. Parotid gland
B. Submandibular gland
C. Sublingual gland
D. Lingual gland
E. Labial glands

143. During thermal stimulation it is characteristic of oral cavity blood vessels to:

A. Dilate in response to both cold and hot stimuli
B. Present no response towards thermal stimuli
C. Respond with constriction to cold stimuli
D. Respond with constriction to hot stimuli
E. Respond depending on the vessel functional condition

144. After the cerebral hemorrhage a patient developed aphasia - lost the ability to articulate words. The hemorrhage is localized in the:

A. Inferior frontal gyrus
B. Superior frontal gyrus
C. Middle frontal gyrus
D. First temporal convolution
E. Second temporal convolution

145. To assess the rate of collagen di-

sintegration during certain connective tissue disturbances, it is necessary to measure the urine content of the following:

A. Oxyproline
B. Ornithine
C. Proline
D. Lysine
E. Urea

146. Deaf parents with genotypes DDee and ddEE gave birth to a girl with normal hearing. Specify the form of D and E genes interaction:

A. Complementary interaction
B. Complete dominance
C. Epistasis
D. Polymery
E. Overdominance

147. A 33-year-old man has a cystic growth connected to the 2nd molar of the lower jaw. Within the cystic cavity there is a rudimentary tooth. On microscopy: inner cystic surface is covered with stratified squamous epithelium, there are groups of mucin-producing cells. What diagnosis is the most likely?

A. Follicular cyst
B. Periodontitis
C. Primordial cyst
D. Radicular cyst
E. Follicular ameloblastoma

148. In the course of an experiment researchers stimulate a branch of the sympathetic nerve that innervates heart. What alterations of cardiac activity should be registered?

A. Increase in heart rate and heart force
B. Decrease in heart force
C. Increase in heart rate
D. Increase in heart force
E. Increase in arterial pressure

149. A patient with a nasal trauma presents with skull fracture that circles the piriform opening. What bone is damaged?

A. Nasal
B. Lacrimal
C. Maxillary
D. Frontal
E. Ethmoid

150. During tooth brushing it is not uncommon for oral mucosa to be injured. However, bleeding quickly stops on its own. What substances in saliva quickly staunch the flow of blood during minor oral injuries?

A. Procoagulants
B. Lipolytic enzymes
C. Amylolytic enzymes
D. Mineral substances
E. Lysozyme and mucin

151. The autopsy of a 45-year-old man, who worked in organic acids production and died from uremia, has revealed reduced and completely destroyed crowns of the upper and lower incisors. Microscopy detects destruction of dentin and enamel, the pulp is covered with dense replacing dentin. What pathological process occurred in the teeth in this case?

A. Necrosis of the hard tooth tissues
B. Fluorosis
C. Teeth erosion
D. Cuneiform defects
E. Hypercementosis

152. During postmortem examination of a 9-month-old infant it was determined that the cause of death was cerebral edema. What water-electrolyte imbalance is the most likely cause of the edema development?

A. Hypoosmolar hyperhydration
B. Hyperosmolar hyperhydration
C. Isoosmolar dehydration
D. Isoosmolar hyperhydration
E. Hyperosmolar dehydration

153. An accident had resulted in a 65-year-old man drowning in a lake. Resuscitation measures allowed to restore his respiration and cardiac function. What factor prolongs the period of apparent death?

A. Hypothermia
B. Hyperthermia
C. Prolonged preagony and agony
D. Elderly age
E. -

154. An athlete (a long-distance runner) during competition has developed acute heart failure. This pathology developed due to:

A. Volume overload
B. Coronary blood flow disturbance
C. Direct damage to myocardium
D. Pericardial pathology
E. Pressure overload

155. In postabsorptive state glycogen synthesis is increased in liver and muscles. The syntesis involves the following substance:

A. Uridine triphosphate (UTP)
B. Guanosine triphosphate (GTP)
C. Cytidine triphosphate (CTP)
D. Thymidine triphosphate (TTP)
E. Adenosine triphosphate (ATP)

156. A 50-year-old man, who has been suffering for a long time from viral hepatitis, developed mental impairments, impairments of consciousness, and motor disturbances (tremor, ataxia, etc.). What is the mechanism of such condition?

A. Decreased detoxification function of the liver
B. Insufficient phagocytic function of stellate macrophages
C. Decreased synthesis of albumins and globulins in the liver
D. Disturbed lipid exchange in the liver
E. Alterations in the lipid composition of blood

157. A 30-year-old man had suffered a thoracic trauma in a traffic accident, which resulted in disturbance of external respiration. What ventilatory failure can be observed in this case?

A. Extrapulmonary restrictive
B. Pulmonary restrictive
C. Obstructive
D. Dysregulatory
E. Mixed type

158. A girl is diagnosed with primary microcephaly that is a monogenic autosomal recessive disease. Her natural brother develops normally. What genotypes do the parents of these children have?

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

159. A patient diagnosed with botulism has been prescribed antibotulinic serum for treatment. What immunity will be formed in the given patient?

A. Antitoxic passive immunity
B. Antitoxic active immunity
C. Antimicrobic active immunity
D. Antimicrobic passive immunity
E. Infection immunity

160. An 84-year-old patient suffers from parkinsonism. One of the pathogenetic development elements of this disease is deficiency of a certain mediator in some of the brain structures. Name this mediator:

A. Dopamine
B. Adrenaline
C. Noradrenaline
D. Histamine
E. Acetylcholine

161. High-altitude dwellers typically demonstrate chronically intensified respiration and decreased $pCO2$ value of blood. What mechanism is leading in the compensation of their asid-base imbalance?

A. Desreased renal reabsorption of bicarbonate
B. Increased ammonia excretion with urine
C. Decreased pulmonary ventilation
D. Increased pulmonary ventilation
E. -

162. A patient has suffered a head injury. On examination there is a subcutaneous hematoma in the temporal area. What vessel was damaged, thus resulting in hematoma development?

A. *A. temporalis superficialis*
B. *A. maxillaris*
C. *A. auricularis posterior*
D. *A. buccalis*
E. *A. occipitalis*

163. Due to severe pain syndrome a patient has been prescribed a narcotic analgesic. Specify the prescribed drug:

A. Morphine
B. Analgin (Metamizole)
C. Nimesulid
D. Dimexid
E. Indometacin

164. A 50-year-old man came to a

hospital with complaints of memory disorders, painful sensations along the nerve trunks, decreased mental ability, circulatory disorders and dyspepsia. Anamnesis states excessive alcohol consumption. What vitamin deficiency can result in such symptoms?

A. Thiamine
B. Niacin
C. Retinol
D. Calciferol
E. Riboflavin

165. A young man has been performing physical exercises, holding a weight for a long time. What kind of muscle contraction is the most characteristic of these exercises?

A. Isometric
B. Isotonic
C. Single
D. Asynchronous
E. Isovolumetric

166. A patient presents with lymphocytic-monocytic leukogram pattern. It is characteristic of:

A. Chronic inflammatory process
B. Acute inflammatory process
C. Allergies
D. Chronic radiation sickness
E. -

167. A patient has been hospitalised with provisional diagnosis of diphyllobothriasis. What food products can be the cause of this condition?

A. Fish
B. Pork
C. Beef
D. Milk and eggs
E. Fruit and vegetables

168. During examination of a woman she was found to have a luminal narrowing of the right jugular foramen (*foramen jugulare*). What cranial bones form this foramen?

A. Temporal and occipital
B. Occipital and frontal
C. Temporal and cuneiform
D. Occipital and cuneiform
E. Cuneiform and palatine

169. What coenzyme of flavin-dependent dehydrogenases participates in the reactions of tricarboxylic acid cycle?

A. Flavin adenine dinucleotide (FAD)
B. Flavin mononucleotide (FMN)
C. Nicotinamide-adenine dinucleotide (NAD+)
D. Thymidine diphosphate (TDP)
E. Heme

170. A patient is diagnosed with inflammatory process in the area of the excretory duct of submandibular gland. This duct opens to:

A. *Caruncula sublingualis*
B. *Vestibulum oris*
C. *Foramen caecum linguae*
D. *Linea terminalis*
E. *Recesus gingivalis*

171. A patient suffering from arthritis is prescribed a COX_2 selective inhibitor with anti-inflammatory action. Specify this drug:

A. Celecoxib
B. Butadion (Phenylbutazone)
C. Dimexid
D. Indometacin
E. Analgin (Metamizole)

172. A patient has undergone recurring blood tests that revealed sharp fluctuations of glucose content: significant increase in absorptive state and significant decrease in postabsorptive state. What pathology can be the cause of it?

A. Aglycogenosis (glycogenosis type 0)
B. Diabetes mellitus type I
C. Diabetes mellitus type II
D. Acromegaly
E. Endemic goiter

173. A person found oneself in an emotionally straining situation. As the result the blood adrenaline level has risen, therefore increasing the strength of cardiac contractions. In what way does adrenaline increase the strength of cardiac contractions?

A. Activates cardiac β-adrenergic receptors
B. Activates vascular baroreceptors
C. Decreases tone of vagus nerves
D. Activates peripheral chemoreceptors
E. Decreases excitability of pacemaker cells

174. During a brain surgery stimulation of the cerebral cortex resulted in tactile and thermal sensations in the patient. What gyrus was stimulated?

A. Postcentral gyrus
B. Cingulate convolution
C. Parahippocampal gyrus
D. Superior temporal gyrus
E. Precentral gyrus

175. A patient suffering from malaria has developed hemolytic anemia after taking primaquine antimalarial drug. Hereditary insufficiency of the following enzyme in erythrocytes will be observed in this case:

A. Glucose 6-phosphate dehydrogenase
B. Triosephosphate isomerase
C. Lipase
D. Fructose 1-phosphate aldolase
E. Phosphofructokinase

176. Bacilli were extracted from the investigated sample. The bacilli are curved, extremely mobile, gram-negative, form no spores or capsules, have anaerobic form of respiration. They form transparent smooth colonies in alkaline agar, ferment saccharose and mannose into acid, produce exotoxin, fibrinolysin, collagenase, and hyaluronidase. What agent was extracted?

A. Comma bacillus
B. Blue pus bacillus
C. Proteus
D. Colibacillus
E. Dysentery bacillus

177. A 30-year-old man with glomerulonephritis has developed nephrotic syndrome. What symptom invariably accompanies nephrotic syndrome?

A. Proteinuria
B. Glucosuria
C. Low urine specific gravity
D. Anemia
E. Azotemia

178. Ulcer disease of the duodenum has been detected in a 38-year-old man. A treatment was prescribed after which the patient considered himself to be healthy. However, half a year later the patient developed pain in the epigastrium, heartburn, and insomnia. The patient's condition can be estimated as a:

A. Relapse
B. Remission
C. Development of chronic disease
D. Latent period
E. Pathological state

179. Autosomal nondisjunction had occurred in a woman during meiosis. An ovum with the third copy of the 18th chromosome was formed. The ovum was impregnated by normal spermatozoon. The resulting child will suffer from:

A. Edwards' syndrome
B. Klinefelter's syndrome
C. Patau's syndrome
D. Turner's syndrome
E. Down's syndrome

180. Amino acids join to each other in ribosomes of granular endoplasmic reticulum. Knowing the sequence of amino acids and applying genetic code, it is possible to determine the sequence of nucleoids in:

A. mRNA
B. Introns
C. Proteins
D. Carbohydrates
E. rRNA

181. A patient suffers from an inflammatory process in the area of the lower wall of orbital cavity. What anatomical structure makes it possible for the inflammatory process to spread to the pterygopalatine fossa?

A. Inferior orbital fissure
B. Superior orbital fissure
C. Supraorbital incisure
D. Posterior ethmoidal foramen
E. Optic canal

182. In 8 days after a surgery the patient developed tetanus. The surgeon suspects this condition to be caused by suture material contaminated by tetanus agent. The material is delivered to a bacteriological laboratory. What nutrient medium is required for primary inoculation of the suture material?

A. Kitt-Tarozzi medium
B. Endo agar
C. Sabouraud agar
D. Egg-yolk salt agar
E. Hiss medium

183. A patient is diagnosed with deformed posterior portion of the nasal septum. What bone is deformed?

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

184. A patient suffers from disturbed blood supply of superior lateral surface of the cerebral hemispheres. What blood vessel is damaged?

A. Medial cerebral artery
B. Anterior cerebral artery
C. Posterior cerebral artery
D. Anterior communicating artery
E. Posterior communicating artery

185. A victim of an accident has hemorrhage in the area of lateral surface of the mastoid process. What branch of the external carotid artery supplies this area with blood?

A. *A. auricularis posterior*
B. *A. temporalis superficialis*
C. *A. facialis*
D. *A. maxillaris*
E. *A. pharyngea ascendens*

186. A 33-year-old man presents with disturbed pain and thermal sensitivity after a spinal cord trauma. The following ascending tract is injured:

A. Spinothalamic
B. Lateral corticospinal
C. Anterior corticospinal
D. Ventral spinocerebellar
E. Dorsal spinocerebellar

187. A patient is diagnosed with pancreatitis. Starch decomposition disturbance occurs in the patient's intestine due to deficiency of the following pancreatic enzyme:

A. Amylase
B. Tripsin
C. Chymotrypsin
D. Lipase
E. Carboxypeptidase

188. Histologic specimen of a tooth slice shows a tissue consisting of intercellular substance permeated with tubules, in which cellular processes of odontoblasts are situated. What tissue is presented in this histologic specimen?

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

189. To test teeth sensitivity they are sprayed with cold or hot water. What structure of cerebral cortex provides subjective estimation of this thermal test?

A. Posterior central gyrus
B. First temporal convolution
C. Precentral gyrus
D. Middle frontal gyrus
E. Central fissure

190. During oral cavity examination a dentist noticed eruption of the permanent canines in a child. The child grows and develops normally. Determine the child's age:

A. 11-13 years
B. 13-16 years
C. 6-7 years
D. 8-9 years
E. 9-10 years

191. Autopsy of a 58-year-old man, who had been suffering from rheumatic heart disease and died of cardiopulmonary decompensation, revealed gray diffuse film- and fiber-shaped coating in his pericardium. What type of inflammation is characteristic of this pericarditis?

A. Croupous fibrinous
B. Serous
C. Hemorrhagic
D. Diphtheritic fibrinous
E. Suppurative

192. During examination of the patient's oral cavity a dentist noticed deformation of the teeth and a crescent indentation on the upper right inscisor. The teeth are undersized, barrel-shaped - tooth cervix is wider than its edge. The patient uses a hearing aid, suffers from visual impairment. What type of syphilis affects teeth in such a way?

A. Late congenital
B. Primary
C. Early congenital
D. Secondary
E. Neurosyphilis

193. Autopsy of a 45-year-old man revealed the following: wrinkled shagreen-resembling intima in the ascending aorta; elastic staining is negative. Wall of the left ventricle is up to 1,5 cm in width; no myocardial alterations. Specify the most probable disease of the aorta:

A. Syphilitic mesaortitis
B. Atherosclerosis of the aorta
C. Rheumatic vasculitis
D. Aortic failure
E. -

194. A patient has developed a painful sore with soft ragged edges in the oral cavity. Microscopically there is lymphocytic infiltration with epithelioid and giant multinucleate Langhans cells in the sore floor. What diagnosis is the most likely?

A. Tuberculosis
B. Syphilis
C. Ulcerative stomatitis (Vincent's stomatitis)
D. Ulcer-cancer
E. Gangrenous stomatitis

195. Lateral X-ray of the occipital bone area demonstrates fracture of the occipital condyle. Integrity of the following anatomical structure is disturbed:

A. *Canalis nervi hypoglossi*
B. *Canalis caroticus*
C. *Foramen ovale*
D. *Foramen stylomastoideum*
E. *Foramen mastoideum*

196. In the process of embryogenesis of dentomaxillary system there was an enamel disturbance detected. What source of tooth development is damaged in this case?

A. Oral cavity epithelium
B. Dental saccule
C. Dental bulb
D. Mesenchyme
E. Mesoderm

197. The autopsy of the body of a man, who suffered from toxic diphtheria and died on the 9th day from the onset of disease with signs of cardiac decompensation, has revealed the following: dilated cardiac cavities, dull flaccid myocardium, myocardial section is variegated. Microscopy revealed fatty degeneration of cardiac hystiocytes, large foci of myocytolysis, stromal edema with scant lymphocytic and macrophageal infiltration. Specify the type of myocarditis in this case:

A. Alterative
B. Granulomatous
C. Focal intermediate exudative
D. Septic
E. Interstitial

198. A doctor has made a diagnosis of gingivitis and recommended the patient to rinse the oral cavity with an oxidizing agent. Specify this agent:

A. Hydrogen peroxide
B. Boric acid
C. Salicylic acid
D. Phenol
E. Brilliant green

199. In dental practice atropine sulfate is used to decrease salivation. This drug belongs to the following group:

A. Muscarinic antagonists
B. α-adrenergic agonists
C. β-adrenoceptor antagonists
D. Ganglionic blockers
E. Muscle relaxants

200. A patient has developed a grayish-white dense protruding focus on the oral mucosa. Histologycally there are hyperkeratosis, parakeratosis, and acanthosis of epithelium with lymphocytic and plasmocytic infiltration of underlaying connective tissue in this area. What pathology has developed in the oral mucosa?

A. Leukoplakia
B. Hyalinosis
C. Leukoderma
D. Local tumor-like amyloidosis
E. -

INSTRUCTIONAL BOOK

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List of abbreviations

A/G	Albumin/globulin ratio
A-ANON	Alcoholics anonymous
ACT	Abdominal computed tomography
ADP	Adenosine diphosphate
ALT	Alanin aminotranspherase
AMP	Adenosine monophosphate
AP	Action potential
ARF	Acute renal failure
AST	Aspartat aminotranspherase
ATP	Adenosine triphosphate
BP	Blood pressure
bpm	Beats per minute
C.I.	Color Index
CBC	Complete blood count
CHF	Chronic heart failure
CT	Computer tomography
DIC	Disseminated intravascular coagualtion
DCC	Doctoral controlling committee
DM-2	Non-Insulin dependent diabetes mellitus
DTP	Anti diphtheria-tetanus vaccine
ECG	Electrocardiogram
ESR	Erythrocyte sedimentation rate
FC	Function class
FAD	Flavin adenine dinucleotide
$FADH_2$	Flavin adenine dinucleotide restored
FEGDS	Fibro-esphago-gastro-duodenoscopy
$FMNH_2$	Flavin mononucleotide restored
GIT	Gastrointestinal tract
Gy	Gray
GMP	Guanosine monophosphate
Hb	Hemoglobin
HbA1c	Glycosylated hemoglobin
Hct	Hematocrit
HIV	Human immunodeficiency virus
HR	Heart rate
IDDM	Insulin dependent diabetes mellitus
IFA	Immunofluorescence assay
IHD	Ischemic heart disease
IU	International unit
LDH	Lactate dehydrogenase
MSEC	Medical and sanitary expert committee
NAD	Nicotine amide adenine dinucleotide
NADPH	Nicotine amide adenine dinucleotide phosphate restored
NIDDM	Non-Insulin dependent diabetes mellitus
PAC	Polyunsaturated aromatic carbohydrates
PAS	Periodic acid & shiff reaction
pCO_2	CO_2 partial pressure
pO_2	CO_2 partial pressure
pm	Per minute
Ps	Pulse rate
r	Roentgen
RBC	Red blood count
RDHA	Reverse direct hemagglutination assay
Rh	Rhesus
(R)CFT	Reiter's complement fixation test
RIHA	Reverse indirect hemagglutination assay
RNA	Ribonucleic acid
RR	Respiratory rate
S1	Heart sound 1
S2	Heart sound 2
TU	Tuberculin unit
U	Unit
USI	Ultrasound investigation
V/f	Vision field
WBC	White blood count
X-ray	Roentgenogram