

MINISTRY OF PUBLIC HEALTH OF UKRAINE

Department of human resources policy, education and science

Testing Board

Student ID									

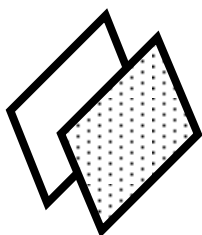
Last name									

Variant _____

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.

ББК 54.1я73
УДК 61

Authors of items: Abramets I.I., Ananko S.Ya., Andrieieva V.F., Andriychuk O.V., Antonenko P.B., Bakalets O.V., Basiy R.V., Bieliienichev I.F., Bohatyrova O.V., Bohomaz O.V., Boieva S.S., Boikiv D.P., Boiko O.V., Bondarenko V.V., Borysenko B.O., Bozhko O.H., Burdeniuk I.P., Chekman I.S., Cherkas L.P., Chernobai L.V., Chernovska N.V., Danylyshyna M.V., Diadyk O.O., Dieieva T.V., Dieltsova O.I., Dihol L.H., Duhadko L.M., Eromina A.K., Fedorchenko O.M., Filchukov D.O., Haidai H.L., Harhin V.V., Hladchuk A.B., Hliebov O.M., Holota L.H., Holovatiuk O.L., Hopkalov V.H., Horchakova N.O., Hrytsenko L.Z., Hubina-Vakulyk H.I., Hudyvok Ya.S., Hurmak I.S., Ivanova A.Y., Izmailova L.V., Kachula S.O., Kaptiukh R.F., Karnaukh E.V., Kava T.V., Kavun M.P., Khmara T.V., Khodorovsky H.I., Khomutov Ye.V., Khripkov I.S., Kiriakulov H.S., Klypych Ya.I., Koldunov V.V., Kolisnyk I.L., Kolomiyets N.H., Kolot E.H., Kononchuk M.A., Kononenko O.V., Korol A.P., Korolenko H.S., Kovalenko L.H., Kozhemiaka I.Ya., Kravets D.S., Krushynska T.Yu., Kryvobok H.K., Kukurychkin Ye.R., Kulish A.S., Kutsevol O.V., Kutsyk R.V., Kuziv O.Ye., Kuzyk I.Ya., Kyrychenko L.H., Lavrentiev K.K., Lazarev K.L., Lebedenko V.Yu., Lemke M.O., Linchevska L.P., Lohvinenko V.A., Lytvynenko M.V., Malikov O.V., Mateshuk-Vatseba L.R., Matiushenko P.M., Mishchenko A.V., Mishchenko N.P., Modna Yu.M., Morhun Z.K., Muliarchuk N.M., Mykhailiuk I.O., Narbutova T.Ye., Navnyko T.S., Nikolenko O.H., Okulov V.I., Ostrovska S.S., Ovchynnikov S.O., Palapa V.Y., Pandikidis N.I., Petriuk A.Ye., Piddubniak Yu.H., Pidruchna S.R., Poliakova E.H., Posokhova K.A., Pospelov O.M., Potikha N.Ya., Pototska I.I., Pysmenetska I.Yu., Raskaliei V.B., Reshetilova N.B., Reshetniak T.A., Romanenko O.V., Romaniuk A.L., Rudiuk T.Ya., Rudnytska O.H., Rusalov V.L., Salmanova O.M., Shanko V.M., Shapkin A.S., Shapoval O.M., Shershun H.H., Shestitko I.I., Shkurenko V.P., Shnaiderman O.Yu., Shyrobokov V.P., Simachova A.V., Skorobohatova Z.M., Starchenko I.I., Starlychanova L.D., Stepanchuk A.P., Sudarikova L.H., Sukhomllinova I.E., Suprunov K.V., Syvokoniuk O.V., Tananakina T.P., Tarasova K.V., Teleshova O.V., Tkachenko V.L., Tomashova S.A., Tsybulska L.S., Tursunova Yu.D., Tverdokhlib I.V., Tvorko M.S., Vasylenko I.V., Vasylieva A.H., Vasylyk L.V., Vernyhor O.O., Volokhova H.O., Vorobets Z.D., Yashchenko A.M., Yeromina N.F., Yoltukhivsky M.V., Zaiachkivska O.S., Zaporozhchenko N.V., Zavorodniy I.V., Zdykhovsky I.O., Zelenina N.M., Zenin O.K., Zhulinsky V.O., Zinchenko O.V., Zlenko O.T., Zuikov S.O. and Committees of professional expertise

Item reviewers. Ananko S.YA., Basiy R.V., Bilash S.M., Chevelenkova A.V., Deyneka S.YE., Dyeltsova O.I., Fomina L.V., Gaydash I.S., Golovatyuk O.L., Gorgol N.I., Kava T.V., Korolenko G.S., Koldunov V.V., Kovalchuk L.YE., Linchevska L.P., Maliy K.D., Neporada K.S., Nikolenko O.G., Ovchinnikov S.O., Pikaluk V.S., Prokof'yeva N.V., Pushkar M.S., Sikora V.Z., Sklyarov O.YA., Skorobogatova Z.M., Tananakina T.P., Teleshova O.V., Tkachuk S.S., Trzhecinskiy S.D., Vinnikov YU.M., Vorobets Z.D., Yoltuhivskiy M.V., Zelenina N.M., Zinkovska L.YA., Zhadinskiy M.V., Zhulinskiy V.O.

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.

Approved by Ministry of Public Health of Ukraine as examination and teaching publication based on expert conclusions (Orders of MPH of Ukraine of 14.08.1998 №251, of 27.12.1999 №303, of 16.10.2002 №374, of 16.04.2003 №239, of 29.05.2003 №233, of 23.07.2007 №414).

1. Several patients with similar complaints came to the doctor. They all present with weakness, pain in the intestines, indigestion. Feces analysis revealed the need for urgent hospitalization of the patient, who had microbial cysts with four nuclei detected in his samples. Such cysts are characteristic of the following protozoon:

- A. *Entamoeba histolytica*
- B. *Balantidium*
- C. *Entamoeba coli*
- D. *Trichomonad*
- E. *Lambliia*

2. A patient was diagnosed with a monogenic hereditary disease. Name this disease:

- A. Hemophilia
- B. Hypertension
- C. Peptic ulcer disease of the stomach
- D. Poliomyelitis
- E. Hymenolepiasis

3. 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. -

4. 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

5. According to the data collected by WHO researchers, every year there are approximately 250 million malaria cases occur in the world. This disease can be encountered predominantly in tropical and subtropical areas. The spread of this disease matches the natural habitat of the following genus of mosquitoes:

- A. *Anopheles*
- B. *Culex*
- C. *Aedes*
- D. *Mansonia*
- E. *Culiseta*

6. A hunter was drinking raw water from a pond. He risks infection with the following type of trematodiasis:

- A. Fascioliasis
- B. Opisthorchiasis
- C. Paragonimiasis
- D. Clonorchiasis
- E. Dicrocoeliasis

7. A patient complains of urine excretion that occurs during sexual intercourse. What organ is affected?

- A. Prostate
- B. Testicle
- C. Seminal vesicles
- D. Epididymis
- E. Urinary bladder

8. After facial trauma the patient developed a buccal hematoma. What salivatory gland has its outflow blocked by the hematoma?

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

9. A woman complains of painful chewing, especially when she moves her lower jaw backwards. What muscles are affected?

- A. Posterior bundles of the temporal muscles
- B. Anterior bundles of the temporal muscles
- C. Medial pterygoid muscles
- D. Lateral pterygoid muscles
- E. Masseter muscles

10. A patient complains of painful chewing, especially when his lower jaw moves forward and to the side. It indicates functional disorder of the following muscles:

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

11. 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*

12. Due to sustained trauma the patient presents with unevenly dilated pupils (anisocoria). What muscle is blocked?

- A. *Musculus sphincter pupillae*
- B. *Musculus ciliaris*
- C. *Musculus rectus lateralis*
- D. *Musculus rectus superior*
- E. *Musculus rectus inferior*

13. Microphotogram made with electron microscope shows alveolar cells that compose blood-air barrier. Name this cells:

- A. Alveolar respiratory epithelial cells
- B. Alveolar secretory epithelial cells
- C. Alveolar macrophages
- D. Clara cells (club cells)
- E. Villous epithelial cells

14. During experiment, the myotome was destroyed in the rabbit fetus. This manipulation will result in malformation of the following structure:

- A. Skeletal muscles
- B. Axial skeleton
- C. Dermal connective tissue
- D. Smooth muscles
- E. Serous membranes

15. Electronic microscopy of a kidney shows tubules paved with cuboidal epithelium. In the epithelium there are light and dark cells. The light cells contain few organelles; their cytoplasm forms folds. These cells provide reabsorption of water from primary urine into blood. The dark cells structurally and functionally resemble gastric parietal cells. What tubules are shown on the microslide?

- A. Collecting tubules
- B. Proximal tubules
- C. Distal tubules
- D. Ascending limb of loop of Henle
- E. Descending limb of loop of Henle

16. 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 the gastric wall:

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

17. At the cemento-enamel junction there are non-calcified areas, through which infection often penetrates into the tooth. Name these structures:

- A. Enamel tufts
- B. Enamel prisms
- C. Ameloblasts
- D. Odontoblasts
- E. Tomes' dentinal fiber

18. A slide mount of an ovary presents a rounded structure with glandular cells that contain lipid droplets. Name this structure:

- A. *Corpus luteum*
- B. Primordial ovarian follicle
- C. Primary ovarian follicle
- D. Mature ovarian follicle
- E. *Corpus albicans*

19. A microspecimen of heart shows rectangular cells from 50 to 120 micrometer in size with central position of nucleus and developed myofibrils. The cells are connected by intercalated discs. These cells are responsible for the following function:

- A. Function of heart contractions
- B. Function of impulse conduction
- C. Endocrine
- D. Protective
- E. Regenerative

20. After inhalation of dust a person develops cough, which results from stimulation of:

- A. Irritant receptors
- B. Juxtacapillary receptors
- C. Pulmonary chemoreceptors
- D. Pulmonary thermoreceptors
- E. Nociceptors

21. Electric current has affected skeletal muscle fiber resulting in depolarization of the membrane. Depolarization develops due to the following ions penetrating the membrane:

- A. Na^+
- B. HCO_3^-
- C. Ca^{2+}
- D. Cl^-
- E. K^+

22. An experimental animal, a dog, received a weak solution of hydrochloric

acid through a tube inserted into the duodenum. Primarily it will result in increased secretion of the following hormone:

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

23. A woman presents with edemas. In her urine there is a large amount of protein excreted. What nephron segment is functionally disturbed in this case?

- A. Renal corpuscle
- B. Proximal convoluted tubule
- C. Distal convoluted tubule
- D. Descending limb of loop of Henle
- E. Ascending limb of loop of Henle

24. 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

25. The patient exhausted by starvation presents with intensification of the following process in the liver and kidneys:

- A. Gluconeogenesis
- B. Urea synthesis
- C. Bilirubin synthesis
- D. Hippuric acid synthesis
- E. Uric acid synthesis

26. 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

27. A diabetes mellitus patient developed unconsciousness and convulsions after administration of insulin. What result of blood glucose analysis is the most likely in this case?

- A. 1.5 mmol/L
- B. 3.3 mmol/L
- C. 8 mmol/L
- D. 10 mmol/L
- E. 5.5 mmol/L

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

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

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-deficiency
- B. Iron deficiency
- C. α -thalassemia
- D. β -thalassemia
- E. Iron refractory

30. A pregnant woman developed severe toxemia with exhausting recurrent vomiting throughout a day. By the end of the day she developed tetanic convulsions and dehydration. The described changes were caused by the following type of acid-base imbalance:

- A. Nongaseous excretory alkalosis
- B. Gaseous alkalosis
- C. Gaseous acidosis
- D. Nongaseous metabolic acidosis
- E. Nongaseous excretory acidosis

31. A 13-year-old girl is an in-patient at the hematology department of the regional children's hospital. She was diagnosed with iron-deficiency anemia. What type of hypoxia does this patient have?

- A. Hemic
- B. Circulatory
- C. Tissue
- D. Respiratory
- E. Mixed

32. A 55-year-old man was diagnosed with acute glomerulonephritis. Name the main mechanism of anemia development in this case:

- A. Decreased erythropoietin synthesis
- B. Decreased glomerular filtration
- C. Decreased synthesis of renal prostaglandins
- D. Renal azotemia
- E. Decreased tubular reabsorption

33. A man, who for a long time has been suffering from chronic mandibular osteomyelitis, died of chronic kidney disease. Autopsy revealed large lardaceous kidneys. What process had occurred in the kidneys?

- A. Renal amyloidosis
- B. Arterial nephrosclerosis
- C. Glomerulonephritis
- D. Necrotic nephrosis
- E. Contracted kidney

34. Macroscopic examination of lung tissue revealed areas of high airiness with small bubbles. Histological examination revealed thinning and rupture of alveolar septa accompanied by formation of large diversiform cavities. What disease was revealed in the lung?

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

35. On autopsy of a 69-year-old woman, who for a long time had been suffering from hypertension, the pathologist determined that both of her kidneys are dense, markedly diminished, with fine-grained surface. These changes are indicative of:

- A. Atrophy due to inadequate blood supply
- B. Compression atrophy
- C. Senile renal atrophy
- D. Dysfunctional atrophy
- E. Hypoplasia

36. Autopsy of a man who died of ethylene glycol poisoning revealed that his kidneys are slightly enlarged, edematous; their capsule can be easily removed. Cortical substance is broad and light gray. Medullary substance is dark red. What pathology did this man develop?

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

37. Significant shortcoming of microscopy in infection diagnostics is its insufficient information value due to morphological

similarity between many species of microorganisms. What immunoassay can significantly increase informativity of this method?

- A. Fluorescence immunoassay
- B. Coombs' test
- C. Immune-enzyme assay
- D. Opsonization
- E. Radioimmunoassay

38. What drugs are used for specific treatment of diphtheria?

- A. Antitoxic serum
- B. Placental gamma globulin
- C. Native plasma
- D. Antibiotics
- E. Anatoxin

39. An ophthalmologist suspects blennorrhoea (gonococcal conjunctivitis) in a child with signs of suppurative keratoconjunctivitis. What laboratory diagnostics should be conducted to confirm the diagnosis?

- A. Microscopy and bacteriological analysis
- B. Serum diagnostics and allergy test
- C. Biological analysis and phagodiagnosics
- D. Biological analysis and allergy test
- E. Microscopy and serum diagnostics

40. 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*

41. In a closed community it is necessary to determine community members immunity to diphtheria and verify the need for their vaccination. What investigation is necessary in this case?

- A. Determine antitoxin titer by means of indirect hemagglutination assay
- B. Test community members for diphtheria bacillus carriage
- C. Determine diphtheria antibody titer
- D. Check medical records for vaccination
- E. Determine community members immunity to diphtheria bacillus

42. For two weeks a woman has been taking the mixture for neurasthenia, which was prescribed by a neurologist. Her general state slightly improved but shortly she started complaining of rhinitis, conjunctivi-

tis, skin rashes, fatigue, and memory impairment. What group of drugs can have such a side effect?

- A. Bromine salts
- B. Valerian preparations
- C. Motherwort preparations
- D. Adaptogens
- E. Hop preparations

43. A patient developed burning sensation in the oral cavity and white fuzzy coating on the tongue. Oral thrush is diagnosed. What drug of those listed below should be used?

- A. Nystatin
- B. Amphotericin
- C. Griseofulvin
- D. Tetracycline
- E. Gentamicin

44. A dental patient was prescribed a psychosedative for his fear of pain. What drug would be the most effective in this case?

- A. Diazepam
- B. Aminazine
- C. Lithium carbonate
- D. Valerian tincture
- E. Sodium bromide

45. A patient with skin burns was delivered to a hospital. To clean the wound from necrotic tissues and mucus the doctor prescribed an enzymatic drug for topical treatment. Name this drug:

- A. Tripsin
- B. Pancreatin
- C. Asparaginase
- D. Pepsin
- E. Streptokinase

46. 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)

47. A newborn failed to take his first breath. Autopsy revealed that despite unobstructed airways the lungs of the newborn were unable to stretch. What is the most likely cause of this condition?

- A. Absence of surfactant
- B. Bronchial narrowing
- C. Bronchial rupture
- D. Pleural thickening
- E. Alveolar enlargement

48. 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

49. During acute inflammation of parotid gland, there is damage to the cells of secretory segments observed. What cells are damaged in this case?

- A. Serous cells, myoepithelial cells
- B. Albuminous cells, serous cells, mucous cells
- C. Serous cells, cells with basal striation, stellate cells
- D. Seromucous cells
- E. Brush-bordered epithelial cells, cells with basal striation

50. A child with signs of rickets has been prescribed a certain liposoluble vitamin drug by the pediatrician and dentist. This drug affects the metabolism of phosphorus and calcium in the body and facilitates calcium accumulation in bone tissue and dentine. If its content in the body is insufficient, there develop disorders of ossification process, dental structure, and occlusion. Name this drug:

- A. Ergocalciferol
- B. Retinol acetate
- C. Tocopherol acetate
- D. Menadione (Vicasolum)
- E. Thyroidin

51. A patient with parodontosis was prescribed a fat-soluble vitamin that actively participates in redox processes in the organism. This antioxidant is a growth factor, has antixerophthalmic action, and contributes to maintenance of normal vision. In dental practice it is used to accelerate mucosal re-epithelization during parodontosis. Name this substance:

- A. Retinol acetate
- B. Ergocalciferol
- C. Tocopherol acetate
- D. Menadione (Vicasolum)
- E. Cyanocobalamin

52. A patient has deep lacerated wound with uneven edges. The wound is suppurating; its edges present with moist granulation tissue that does not protrude above the wound level. Name the type of wound healing:

- A. Healing by secondary intention
- B. Healing by primary intention
- C. Healing under the scab
- D. Direct closure of the epithelial defect
- E. Wound organization

53. 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

54. A 30-year-old woman complains of intense thirst and dryness of the mouth that developed after a severe emotional shock. Laboratory analysis revealed increase of the patient's blood sugar level up to 10 mmol/L. What endocrine gland is affected in the patient?

- A. Pancreas
- B. Thyroid gland
- C. Gonads
- D. Adrenal glands
- E. Pineal gland

55. A 45-year-old man came to the hospital complaining of sensory loss in the posterior 1/3 of his tongue. Which pair of the cranial nerves is functionally disturbed?

- A. IX
- B. X
- C. VIII
- D. V
- E. XII

56. A patient presents with disturbed patency of the airways at the level of small and medium bronchial tubes. What acid-base imbalance can the patient develop?

- A. Respiratory acidosis
- B. Respiratory alkalosis
- C. Metabolic acidosis
- D. Metabolic alkalosis
- E. Acid-base balance remains unchanged

57. 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

58. A patient presents with high content of vasopressin (antidiuretic hormone) in the blood. What changes in the patient's diuresis will occur?

- A. Oliguria
- B. Polyuria
- C. Anuria
- D. Glycosuria
- E. Natriuria

59. 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

60. A patient presents with osteoporosis; hypercalcemia and hypophosphatemia are observed in the patient's blood. What is the cause of this condition?

- A. Increased parathormone secretion
- B. Increased thyroxin secretion
- C. Inhibited parathormone secretion
- D. Increased corticosteroid secretion
- E. Inhibited corticosteroid secretion

61. During their expedition to the Middle East, the students found a 7-centimeter-long arthropod. Its body consists of cephalothorax with 4 pairs of ambulatory legs and segmented abdomen with two venom glands in its last segment. The gland openings are located on the tip of the hook-shaped sting. The animal was identified as a nocturnal predator, its venom is dangerous for humans. It belongs to the following order:

- A. *Scorpiones*
- B. *Aranei*
- C. *Acarina*
- D. *Solpugae*
- E. *Aphaniptera*

62. The patient, who for a long time has been keeping to an unbalanced low-protein diet, developed fatty liver infiltration. Name the substance, absence of which in the diet can lead to this condition:

- A. Methionine
- B. Alanine
- C. Cholesterol
- D. Arachidonic acid
- E. Biotin

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

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

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

- A. Conditional sympathetic
- B. Conditional parasympathetic
- C. Conditional sympathetic and parasympathetic
- D. Unconditional parasympathetic
- E. Unconditional sympathetic

65. It is necessary to decrease pumping ability of the patient's heart. What membrane cytoceptors must be blocked to achieve this effect?

- A. β -adrenergic receptors
- B. α -adrenergic receptors
- C. α - and β -adrenergic receptors
- D. Muscarinic acetylcholine receptors
- E. Nicotinic acetylcholine receptors

66. Oxidative decarboxylation of pyruvic acid is catalyzed by a multienzyme complex with several functionally linked coenzymes. Name this complex:

A. Thymidine diphosphate (TDP), flavin adenine dinucleotide (FAD), coenzyme A (CoASH), nicotine amide adenine dinucleotide (NAD), lipoic acid

B. Flavin adenine dinucleotide (FAD), tetrahydrofolic acid, pyridoxal-5-phosphate, thymidine diphosphate (TDP), choline

C. Nicotine amide adenine dinucleotide (NAD), pyridoxal-5-phosphate, thymidine diphosphate (TDP), methylcobalamin, biotin

D. Coenzyme A (CoASH), flavin adenine dinucleotide (FAD), pyridoxal-5-phosphate, tetrahydrofolic acid, carnitine

E. Lipoic acid, tetrahydrofolic acid, pyridoxal-5-phosphate, methylcobalamin

67. To take a sample of cerebrospinal fluid for analysis, a doctor makes a puncture into subarachnoid space. To prevent damage to the spinal cord, the needle must be inserted between the two following vertebrae:

- A. III and IV lumbar
- B. XI and XII thoracic
- C. XII thoracic and I lumbar
- D. I and II lumbar
- E. IV and V thoracic

68. Resuscitation unit received a patient with acute poisoning caused by unidentified medicine. To quickly excrete the poison from the patient's body, forced diuresis was induced. What substance was used to perform this procedure?

- A. Furosemide
- B. Hydrochlorothiazide
- C. Omeprazole
- D. Spironolactone
- E. Dithylinum (Suxamethonium chloride)

69. It is known that in metabolism of catecholamine mediators the special role belongs to monoamine oxidase (MAO). How does this enzyme activate these mediators (noradrenaline, adrenaline, dopamine)?

- A. Oxidative deamination
- B. Amino group attachment
- C. Methyl group removal
- D. Carboxylation
- E. Hydrolysis

70. A patient with acute pancreatitis presents with significantly increased urine diastase content. What proteolysis inhibitor must be included into complex therapy of this patient?

- A. Contrykal (Aprotinin)
- B. Festal
- C. Pancreatine
- D. Digestal
- E. Mezym forte

71. A bacteriological laboratory received a sample of dried fish from an outbreak of food poisoning. Inoculation of the sample on Kitt-Tarozzi medium revealed microorganisms resembling tennis racket. These microorganisms are causative agents of the following disease:

- A. Botulism
- B. Salmonellosis
- C. Dysentery
- D. Diphtheria
- E. Typhoid fever

72. A man with signs of intestinal obstruction was delivered to a hospital. In the process of treatment, roundworms 25-40 cm in size were extracted from the patient's intestine. Determine the species of this helminth:

- A. *Ascaris lumbricoides*
- B. *Ancylostoma duodenale*
- C. *Trichocephalus trichiurus*
- D. *Strongyloides stercoralis*
- E. *Enterobius vermicularis*

73. A patient suffering from acute bronchitis with difficult expectoration was prescribed acetylcysteine. What drug action will provide curative effect?

- A. Mucoproteins depolymerization
- B. Activation of bronchial ciliated epithelium
- C. Reflex stimulation of bronchiolar peristalsis
- D. Alkalinization of sputum
- E. Stimulation of the bronchial glands

74. A patient with ischemic heart disease presents with increased blood plasma content of triglycerides and very low-density lipoproteins. What drug should be prescribed?

- A. Fenofibrate
- B. Famotidine
- C. Amiodarone
- D. Lisinopril
- E. Dobutamine

75. 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

76. Among organic substances of a cell there is a polymer composed of dozens, hundreds, and thousands of monomers. This molecule is capable of self-reproduction and can be an information carrier. X-ray structure analysis shows this molecule to consist of two complementary spiral threads. Name this compound:

- A. DNA
- B. RNA
- C. Cellulose
- D. Carbohydrate
- E. Hormone

77. In Western Europe nearly half of all congenital malformations occur in the children conceived in the period, when pesticides were used extensively in the region. Those congenital conditions result from the following influence:

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

78. A 30-year-old breastfeeding woman keeps to the diet that daily provides her with 1000 mg of calcium, 1300 mg of phosphorus, and 20 mg of iron. How should the daily dosages of minerals in this diet be adjusted?

- A. Increase phosphorus intake
- B. Increase calcium intake
- C. Decrease fluorine intake
- D. Increase iron intake
- E. Decrease iron intake

79. A patient presents with damaged fibers of the ninth pair of cranial nerves (glossopharyngeal nerve). What gustatory sensation will be disturbed in this case?

- A. Bitterness
- B. Sweetness
- C. Saltiness
- D. Sourness
- E. All gustatory sensations

80. A 49-year-old man presents with facial edema, significant proteinuria, hypoproteinemia, dysproteinemia, and hyperlipidemia. What provisional diagnosis can be made?

- A. Nephrotic syndrome
- B. Urolithiasis
- C. Prostatitis
- D. Pyelonephritis
- E. Cystitis

81. A dentist prescribed the patient with maxillofacial arthritis diclofenac sodium. What is the mechanism of action of this drug?

- A. Cyclooxygenase-2 inhibition
- B. Catalase inhibition
- C. Opiate receptors activation
- D. Opiate receptors block
- E. Phosphodiesterase activation

82. A surgeon must amputate the damaged part of the patient's foot along the line of Lisfranc joint. What ligament must be cut in this case?

- A. Medial interosseous tarsometatarsal ligament
- B. Calcaneonavicular ligament
- C. Bifurcated ligament
- D. Talonavicular ligament
- E. Talocalcaneal ligament

83. 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

84. Microscopy of a plaque-like structure extracted from the lateral surface of the tongue of a man with dentures revealed significant thickening of the epithelial layer along with processes of parakeratosis, hyperkeratosis, and acanthosis; in the connective tissue there are small round cell infiltrations. Make the diagnosis of the given pathological state:

- A. Leukoplakia
- B. Ichthyosis
- C. Chronic stomatitis
- D. Chronic glossitis
- E. Atrophic (Hunter's) glossitis

85. A patient is registered for regular check-ups. Laboratory analyses for viral hepatitis diagnostics are made. In the blood serum only antibodies to HbsAg are detected. Such result is indicative of:

- A. Past case of viral hepatitis type B
- B. Acute viral hepatitis type B
- C. Acute viral hepatitis type C
- D. Viral hepatitis type A
- E. Chronic viral hepatitis type C

86. To treat tuberculosis, an antibiotic that colors urine red is prescribed. Name this antibiotic:

- A. Rifampicin
- B. Erythromycin
- C. Amoxicillin
- D. Nitroxoline
- E. Cefotaxime

87. Holocrine secretion is characteristic of sebaceous glands. What structural components ensure renewal of the cells of these glands?

- A. Germinative layer cells
- B. Sebocytes
- C. Myoepithelial cells
- D. Stratified squamous epithelium of the excretory duct
- E. Nonstratified cuboidal epithelium of the excretory duct

88. During experiment the processes of food and water hydrolysis products absorption were studied. It was determined that these processes mainly occur in the following gastrointestinal segment:

- A. Small intestine
- B. Stomach
- C. Large intestine
- D. Rectum
- E. Oral cavity

89. Detoxification of bilirubin occurs in the membranes of endoplasmic reticulum of hepatocytes. Bilirubin is secreted by hepatocytes into bile for the most part as:

- A. Bilirubin diglucuronide
- B. Unconjugated bilirubin
- C. Bilirubin monoglucuronide
- D. Indirect reacting bilirubin
- E. -

90. A patient developed a tender red nodule in the lower jaw area. Histologically there is accumulation of purulent exudate in several hair follicles. What clinicopathological type of inflammation is observed?

- A. Carbuncle
- B. Phlegmon
- C. Furuncle
- D. Abscess
- E. Hypostatic abscess

91. Autopsy of a man, who died suddenly with signs of acutely disturbed cerebral circulation, revealed aneurysm rupture of the medial cerebral artery and a round cavity 4 cm in diameter filled with blood in his frontal lobe. Name this type of hemorrhage:

- A.** Hematoma
- B.** Petechiae
- C.** Hemorrhagic infiltration
- D.** Contusion
- E.** -

92. During examination of a child's oral cavity a dentist noted the appearance of the first permanent molars on the child's lower jaw. How old is the child?

- A.** 6-7
- B.** 4-5
- C.** 8-9
- D.** 10-11
- E.** 12-13

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. 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.** -

95. 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

96. After the water supply system had been put into operation in a new residential area, the medical officers of sanitary and epidemiological station measured total microbial number in the water. Name the maximum permissible value of this indicator for potable water:

- A.** 100
- B.** 10
- C.** 400
- D.** 500
- E.** 1000

97. A woman had been taking synthetic hormones during her pregnancy. Her newborn girl presents with excessive hairiness which has formal resemblance to adrenogenital syndrome. This sign of variability is called:

- A.** Phenocopy
- B.** Mutation
- C.** Recombination
- D.** Heterosis
- E.** Replication

98. Breakdown of cyclic adenosine monophosphate (cAMP) and cyclic guanosine monophosphate (cGMP) into simple, non-cyclic nucleoside monophosphates is catalyzed by the following enzyme:

- A.** Phosphodiesterase
- B.** Glycogen phosphorylase
- C.** Glucose 6-phosphatase
- D.** Protein kinase
- E.** Adenylate cyclase

99. In the course of experiment the vagus nerve of the test animal was severed, which resulted in the animal developing constant tachycardia. What effect of parasympathetic nervous system on cardiac performance is demonstrated by this experiment?

- A.** Inhibition
- B.** Stimulation
- C.** Stimulus summation
- D.** Paradoxical response
- E.** Mixed effect

100. A 42-year-old woman, who has been keeping to a vegetarian diet for a long peri-

od 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 processes

101. A patient came to the traumatologist with complaints of developing difficulties during active extension of elbow. What muscle is the most likely to be damaged?

- A. *M. triceps brachii*
- B. *M. pectoralis minor*
- C. *M. deltoideus*
- D. *M. coracobrachialis*
- E. *M. latissimus dorsi*

102. A patient complains of acute spastic abdominal pain, frequent urge to defecate, liquid bloody feces with mucus. Laboratory analysis of fecal smear revealed inconstant in shape organisms with erythrocytes. What is the most likely diagnosis?

- A. Amebiasis
- B. Schistosomiasis
- C. Intestinal trichomoniasis
- D. Balantidiasis
- E. Lambliasis

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

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

104. In hot weather the bus passengers asked to open the roof hatches. What way of heat transfer is activated in this situation?

- A. Convection
- B. Conduction
- C. Radiation
- D. Conduction and radiation
- E. Sweat evaporation

105. At the end of winter a student, who had been lately in the state of nervous tension, developed a case of URTI after overexposure to cold. What is the cause of this disease?

- A. Pathogenic agent
- B. Nervous stress
- C. Overexposure to cold
- D. Improper diet
- E. Hypovitaminosis

106. A 38-year-old woman developed an attack of bronchial asthma. What bronchial spasmolytic for emergency medical aid is a beta-2-adrenergic agonist?

- A. Salbutamol
- B. Adrenaline
- C. Ipratropium bromide
- D. Platyphyllin
- E. Atropine

107. During examination the doctor performs auscultation to assess the functioning of the patient's mitral valve. Where can the sound of this valve be auscultated?

- A. At the apex of the heart
- B. At the edge of the sternum over the 5th costal cartilage on the right
- C. At the edge of the sternum in the 2nd intercostal space on the right
- D. At the edge of the sternum in the 2nd intercostal space on the left
- E. At the edge of the sternum over the 5th costal cartilage on the left

108. A patient was diagnosed with Klinefelter's syndrome. The patient with this disease will have the karyotype (47, XXY). How many sex chromosomes are in this complement?

- A. Three
- B. Zero
- C. One
- D. Two
- E. Forty four

109. Oral examination reveals marked reddening of mucosa at the root of the tongue. What structure is involved in the inflammatory process?

- A. Lingual tonsil
- B. Palatine tonsil
- C. Tonsil of torus tubaris
- D. Veil of palate
- E. Pharyngeal tonsil

110. A trauma patient has wound in the temporal region, with trickle of bright-red blood streaming from it. What blood vessel is damaged?

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

111. On histological examination of biopsy material taken from the liver of a woman, who for a long time had been suffering from viral hepatitis type B, the pathologist detected diffuse hepatic fibrosis with formation of porto-portal and porto-central fibrotic septa and disturbance of the liver lobular structure (development of pseudolobules). What process can be characterized by the given morphological changes?

- A. Hepatic cirrhosis
- B. Chronic hepatitis
- C. Hepatocellular carcinoma
- D. Acute hepatitis
- E. Cholestasis

112. Examination of histological specimen of oral mucosa reveals non-keratinized stratified squamous epithelium with lymphocyte infiltrations. What structure of oral cavity is the most likely to be represented by this mucosa specimen?

- A. Tonsil
- B. Lip
- C. Cheek
- D. Hard palate
- E. Gums

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

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

114. During examination a neurologist taps the tendon under the patient's kneecap with a reflex hammer to evaluate reflex extension of the knee. This response is provoked by stimulation of the following receptors:

- A. Muscle spindles
- B. Golgi tendon organs
- C. Articular receptors
- D. Tactile receptors
- E. Nociceptors

115. An experiment was conducted to study major indicators of hemodynamics. What hemodynamics indicator would be the

same for both systemic and pulmonary circulation?

- A. Volumetric blood flow rate
- B. Mean arterial pressure
- C. Vascular resistance
- D. Linear blood flow velocity
- E. Diastolic blood pressure

116. A 50-year-old man declined anaesthesia during dental manipulations. Due to severe pain he developed anuria caused by acute increase in production of:

- A. Adrenaline
- B. Renin
- C. Thymosin
- D. Thyroxin
- E. Glucagon

117. 30 minutes after dental treatment the patient developed red itching spots on the face and oral mucosa. The patient was diagnosed with urticaria. What bioactive substance with vasodilating and pruriginous effect is produced during this type of allergic reaction?

- A. Histamine
- B. Prostaglandin E2
- C. Leukotriene B4
- D. Interleukin-1
- E. Bradykinin

118. A patient has been administered conduction anesthesia with novocaine in preparation for tooth extraction. After the anesthesia administration the patient developed swelling and hyperemia around the injection site, skin itch, general fatigue, motor agitation. Name the developed complication:

- A. Allergy
- B. Idiosyncrasy
- C. Tachyphylaxis
- D. Drug dependence
- E. Inflammation

119. A 26-year-old woman presents with skin rashes and itching after eating citrus fruits. Prescribe her a drug that is an H1-histamine receptor antagonist:

- A. Dimedrol (Diphenhydramine)
- B. Acetylsalicylic acid
- C. Menadione (Vicasolum)
- D. Analgin (Metamizole)
- E. Paracetamol

120. A patient with acne is prescribed doxycycline hydrochloride. What should the patient be warned against, regarding administration of this drug?

- A. Avoid prolonged exposure to the sun
- B. Take with large amount of liquid, preferably milk
- C. Take before eating
- D. Course of treatment should not exceed 1 day
- E. Do not take with vitamin preparations

121. A patient with megaloblastic anemia was taking a water-soluble vitamin. Name this substance:

- A. Cyanocobalamin
- B. Thiamine chloride
- C. Tocopherol acetate
- D. Ascorbic acid
- E. Pyridoxine

122. Biological material taken from a patient contains several species of microorganisms (staphylococci and streptococci) that are causative agents of the patient's disease. Name this type of infection:

- A. Mixed infection
- B. Superinfection
- C. Reinfection
- D. Consecutive infection
- E. Coinfection

123. After spinal trauma the patient presents with absence of voluntary movements and tendon reflexes; sensitivity is retained only in the lower extremities. What is the mechanism of these disturbances and what part of the spine was injured?

- A. Spinal shock, thoracic spine
- B. Spinal shock, cervical spine
- C. Peripheral paralysis, cervical spine
- D. Central paralysis, coccyx
- E. -

124. A man has developed downturning mouth and smoothed out nasolabial fold due to influenza complication. What nerve is damaged?

- A. Facial nerve
- B. Maxillary nerve
- C. Mandibular nerve
- D. Trochlear nerve
- E. Oculomotor nerve

125. A patient with electrical injury to the neck area developed pathologic fixed sideways flexion of the head towards the injured area, while the face is fixed away from the injury. What neck muscle sustained scarring?

- A. Sternocleidomastoid muscle
- B. Anterior scalene muscle
- C. Trapezius muscle
- D. Omohyoid muscle
- E. Digastric muscle

126. Chronic inflammation of gingiva resulted in excessive growth of connective tissue fibers. What cell elements are leading in the development of this condition?

- A. Fibroblasts
- B. Osteoblasts
- C. Fibrocytes
- D. Macrophages
- E. Osteoclasts

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

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

128. A 20-year-old woman came to the doctor with complaints of general weight loss, loss of appetite, weakness, skin discoloration resembling bronze tan. In addition to hyperpigmentation, examination in the hospital revealed bilateral adrenal tuberculosis. What substance leads to skin hyperpigmentation, when accumulated excessively?

- A. Melanin
- B. Bilirubin
- C. Hemozoin
- D. Lipofuscin
- E. Adrenochrome

129. During cell analysis, their cytoplasm was determined to have high content of aminoacyl tRNA synthetase. This enzyme ensures the following process:

- A. Amino acid activation
- B. Repair
- C. Elongation
- D. Transcription
- E. Replication

130. What enzyme has demineralization effect, i. e. intensifies decomposition of mineral components of the tooth tissues?

- A. Acid phosphatase
- B. Alkaline phosphatase
- C. Glucose 6-phosphatase
- D. Glycogen phosphorylase
- E. Phosphotransferase

131. Histologic specimen of renal cortex shows renal corpuscle and renal tubules. It is known that reabsorption of substances occurs in the renal tubules. What nephron tissue takes part in this process?

- A. Epithelial tissue
- B. Connective tissue proper
- C. Reticular tissue
- D. Mucous tissue
- E. Cartilaginous tissue

132. A 45-year-old man with a history of left-sided croupous pneumonia died of multiple traumas received as the result of a car accident. On autopsy in the lower lobe of his left lung its posterolateral wall is attached to the chest wall with fibrous adhesions. The lobe is diminished, dense, fleshy on section, grayish-pink in color; its pieces sink, when placed in water. Histological analysis reveals diffuse excessive growth of fibrous connective tissue in these areas. Name this complication of croupous pneumonia:

- A. Carneous degeneration
- B. Emphysema
- C. Gangrene
- D. Atelectasis
- E. Abscess

133. A 16-year-old girl, who has been starving herself for a long time to lose weight, developed an edema. This phenomenon is mainly caused by:

- A. Hypoproteinemia due to protein synthesis disturbance
- B. Hypoglycemia due to glycogen synthesis disturbance
- C. Venous congestion and increased venous pressure
- D. Deceleration of glomerular filtration rate
- E. Decreased production of vasopressin in the hypothalamus

134. A patient with knife wound of the neck presents with hemorrhage. Initial wound management revealed damage to the vessel that is located along the lateral edge of the sternocleidomastoid muscle. Name this vessel:

- A. *V. jugularis externa*
- B. *V. jugularis anterior*
- C. *A. carotis externa*
- D. *A. carotis interna*
- E. *V. jugularis interna*

135. Erythrocytes of the patient with hemolytic anemia present with significant decrease of pyruvate kinase activity. What metabolic process is disturbed in this case?

- A. Glycolysis
- B. Glycogenolysis
- C. Gluconeogenesis
- D. Pentose-phosphate pathway of glucose oxidation
- E. Glycogen synthesis

136. To determine functional state of the patient's liver, the analysis of animal indican excreted with urine was conducted. This substance is produced in the process of detoxification of putrefaction products of a certain amino acid, which takes place in the large intestine. Name this amino acid:

- A. Tryptophan
- B. Valine
- C. Glycine
- D. Serine
- E. Cysteine

137. When determining comparative tissue radiosensitivity, it was revealed that different tissues have different level of sensitivity toward ionizing radiation. What tissue of those listed below is the most radiosensitive?

- A. Hematopoietic
- B. Cartilaginous
- C. Bone
- D. Muscular
- E. Nerve

138. Oral examination revealed dark yellow and brown spots and stripes on the labial and lingual surfaces of the patient's teeth; more than the half of the dental surface is affected; enamel and dentin are destroyed. What diagnosis is the most likely?

- A. Fluorosis
- B. Metastatic calcification
- C. Dental calculus
- D. Cuneiform defect
- E. Dystrophic calcification

139. A 28-year-old patient complains of frequent gingival hemorrhages. Blood test revealed the clotting factor II

(prothrombin) deficiency. What phase of blood coagulation is impaired in this patient?

- A. Thrombin generation
- B. Vascular-platelet haemostasis
- C. Clot retraction
- D. Fibrinolysis
- E. -

140. Longitudinal tooth section shows a tissue that makes up the tooth basis and consists of collagen fibers, mineralized matrix, and tubules that hold dentinal fibers. This tissue develops from:

- A. Peripheral part of dental papilla
- B. External cells of enamel organ
- C. Internal cells of enamel organ
- D. Dental sacculle
- E. Intermediate cells of enamel organ

141. In the course of experiment it is necessary to detect muscle excitation. For this purpose the following measurement should be made:

- A. Electromyogram
- B. Mechanomyogram
- C. Contraction strength
- D. Contraction duration
- E. Ion concentration

142. Increased stimulation rate of isolated heart of a rabbit leads to incomplete relaxation of the heart ventricles due to:

- A. Calcium accumulation in cardiomyocytes
- B. Increased sodium content in cardiomyocytes
- C. Inhibition of $K - Na$ pump
- D. Increased potassium content in cardiomyocytes
- E. Increased potassium content in the interstitial tissue

143. Several hours after the dental trauma the tooth pulp presents with hyperemic vessels, marked tissue edema with isolated neutrophils, lymphocytes, and minor dystrophic changes of nerve fibers. Make the diagnosis:

- A. Serous pulpitis
- B. Suppurative pulpitis
- C. Gangrenous pulpitis
- D. Granulating pulpitis
- E. Fibrous pulpitis

144. Fetal malformations can be caused by such maternal diseases as rubella, syphilis, toxoplasmosis, cytomegaly, herpes, and chlamydiosis. These malformations belong to the following type of variability:

- A. Modification
- B. Mutational
- C. Combinative
- D. Genomic imprinting
- E. Epimutational

145. Beriberi is a classical example of thiamine deficiency. Active form of this vitamin is synthesized by an enzyme belonging to the following group:

- A. Transferases
- B. Oxidoreductases
- C. Hydrolases
- D. Lyases
- E. Isomerase

146. A 25-year-old man has lost all sensitivity due to damage of his peripheral nerves. Name this disorder:

- A. Anesthesia
- B. Ataxia
- C. Hypoesthesia
- D. Hyperesthesia
- E. -

147. A 60-year-old woman with hepatocirrhosis developed hemorrhagic syndrome. What mechanism leads to the development of this condition?

- A. Decreased synthesis of prothrombin and fibrinogen
- B. Increased portal venous pressure
- C. Decreased blood oncotic pressure
- D. Reduction of hepatic glycogen stores
- E. Emergence of neurotoxins in the blood

148. A woman is diagnosed with Turner's syndrome (karyotype 45, X0). How many autosomal pairs would her somatic cells contain?

- A. 22
- B. 24
- C. 23
- D. 44
- E. 45

149. Blood serum of the patient has milky appearance. Biochemical analysis revealed high content of triacylglycerols and chylomicrons. This condition is caused by hereditary defect of the following enzyme:

- A. Lipoprotein lipase
- B. Phospholipase
- C. Pancreatic lipase
- D. Adipose tissue hormone-sensitive lipase
- E. Phosphodiesterase

150. Dopamine precursor - di-oxyphenylalanine (DOPA) - is used in

treatment of Parkinson's disease. This active substance is produced from the following amino acid:

- A. Tyrosine
- B. Alanine
- C. Cysteine
- D. Histidine
- E. Tryptophan

151. 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

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

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

153. 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

154. A tumor is detected in one of the regions of the patient's brain, resulting in the patient's inability to maintain normal body temperature. What brain structure is damaged?

- A. Hypothalamus
- B. Thalamus
- C. Cerebellum
- D. Striatum
- E. Substantia nigra

155. An experiment was conducted to measure the threshold of tactile receptors stimulation with various stimuli. What stimulus will have the lowest threshold?

- A. Mechanical stimulus
- B. Chemical stimulus
- C. Photic stimulus
- D. Cold stimulus
- E. Heat stimulus

156. 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

157. Auscultation reveals that in the patient's II intercostal space along the parasternal line on the right the II heart sound is better heard than the I heart sound. What valve produces this sound when closing?

- A. Semilunar aortic valve
- B. Semilunar pulmonary valve
- C. Bicuspid valve
- D. Tricuspid valve
- E. Bicuspid and tricuspid valves

158. Miners' work at the coal-face often leads to development of anthracosis. What type of respiratory failure arises along with this disease?

- A. Restrictive
- B. Obstructive
- C. Dysregulatory
- D. Thoracic
- E. Diaphragmatic

159. A lancelet embryo is at the developmental stage during which its cells multiply, while its general volume remains practically unchanged. What developmental stage is it?

- A. Cleavage
- B. Neurulation
- C. Organogenesis
- D. Histogenesis
- E. Gastrulation

160. Histologic specimen of endometrium demonstrates isolated epithelial cells with chromosomes that form a "plate" located in the equatorial plane of the cell. What stage of the cell cycle is it?

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

161. During ultrasound a patient with atherosclerosis was diagnosed with bilateral stenosis of the renal arteries. Specify the bioactive substance that is the key pathogenetic link in the development of arterial hypertension in this case:

- A. Renin
- B. Adrenaline
- C. Vasopressin
- D. Cortisol
- E. Thyroxin

162. A 72-year-old man with hepatocirrhosis developed hepatic coma. Its development is caused by the substances, that are being neutralized in the liver, entering into general circulation through portacaval shunts (portal hypertension syndrome) and necrosis of hepatic cells. What type of hepatic coma is characterized by these presentations?

- A. Mixed
- B. Parenchymatous
- C. Shunt
- D. Hepatocellular
- E. Ketoacidotic

163. After a traffic accident a man presents with severe blood loss, consciousness disturbance, low blood pressure, as well as compensatory activation of the renin-angiotensin system, which results in:

- A. Hyperproduction of aldosterone
- B. Increased blood coagulation
- C. Intensification of erythropoiesis
- D. Hyperproduction of vasopressin
- E. Intensification of heart contractions

164. Laboratory analysis revealed UDP-glucuronyl transferase deficiency in the patient. What blood values can confirm this enzymopathy?

- A. Hyperbilirubinemia
- B. Indicanuria
- C. Phenylketonuria
- D. Ketoacidosis
- E. Uremia

165. Examination revealed the patient to have decreased secretory function of the nasal cavity glands. What nerve provides parasympathetic innervation of these glands?

- A. *N. petrosus major*
- B. *N. petrosus profundus*
- C. *N. petrosus minor*
- D. *N. maxillaris*
- E. *N. chorda tympani*

166. A 67-year-old man was delivered to a cardiology department with complaints of periodical pains in his heart, dyspnea caused by even slight exertion, cyanosis and edemas. ECG shows additional excitations of heart ventricles. Name this type of rhythm disturbance:

- A. Extrasystole
- B. Bradycardia
- C. Tachycardia
- D. Flutter
- E. Fibrillation

167. A 40-year-old woman is being treated at the therapeutics department. Her temperature chart shows cyclic fevers alternating with periods of temperature normalization that last for several days. What type of temperature profile is it?

- A. *Febris recurrens*
- B. *Febris intermittent*
- C. *Febris remittens*
- D. *Febris continua*
- E. -

168. A patient with heatstroke was delivered to the admission room. What compensatory reactions develop in the patient's body in such case?

- A. Peripheral vasodilatation
- B. Peripheral vasoconstriction
- C. Increased heart rate
- D. Coronary vasospasm
- E. Persistent hyperglycemia

169. 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

170. Cells of sensory spinal ganglions are a part of reflex arches. What type of neurons are these cells?

- A. Pseudounipolar
- B. Multipolar
- C. Bipolar
- D. Unipolar
- E. -

171. A patient with damaged muscles of the lower limbs has been delivered to a first-aid center. What cells enable reparative regeneration of muscle fibers and restoration of muscle function?

- A.** Myosatellitocytes
- B.** Adipocytes
- C.** Fibroblasts
- D.** Endotheliocytes
- E.** Plasmocytes

172. 2 days after a hunter cut a ground squirrel's body, he developed fever up to 39°C, his lymph nodes enlarged. Later he developed pneumonia with serohemorrhagic exudate that contained egg-shaped microorganisms with bipolar staining. What provisional diagnosis can be made in this case?

- A.** Plague
- B.** Tetanus
- C.** Pseudotuberculosis
- D.** Brucellosis
- E.** Anthrax

173. Various types of muscle contractions occurring in the alimentary canal of a test animal were studied and their different functional purposes were determined. It was noted that only one type of motor activity occurred in the circular and longitudinal muscles. Name this motor activity:

- A.** Peristalsis
- B.** Mastication
- C.** Nonpropulsive segmental activity
- D.** Pendular movements of intestine
- E.** Tonic contraction of sphincters

174. A child presents with a wound behind the mastoid bone. Bright red blood streams from the wound. Damage was sustained to the branches of the following artery:

- A.** *A. occipitalis*
- B.** *A. temporalis superior*
- C.** *A. maxillaris*
- D.** *A. carotis externa*
- E.** *A. carotis interna*

175. A man presents with suppurative wound in the area of mastoid bone, which resulted in development of cerebral meningitis in the patient. Specify the way of infection penetration into the patient's cranial cavity:

- A.** *V. emissariae mastoidea*
- B.** *V. auricularis*
- C.** *V.v. tympanicae*
- D.** *V. facialis*
- E.** *V.v. labirinthi*

176. Rotenone is known to inhibit respiratory chain. What complex of mitochondrial respiratory chain is inhibited by this substance?

- A.** NADH-coenzyme Q reductase
- B.** Cytochrome oxidase
- C.** Coenzyme Q - cytochrome c reductase
- D.** Succinate-coenzyme Q reductase
- E.** Adenosine triphosphate synthetase

177. 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

178. 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

179. 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

180. X-ray detected pus accumulation in the sphenoidal sinus. The pus is being excreted into the following nasal meatus:

- A.** Right and left superior nasal meatus
- B.** Left middle nasal meatus
- C.** Right inferior nasal meatus
- D.** Left inferior nasal meatus
- E.** Right middle nasal meatus

181. Dentists have high risk of contracting viral hepatitis type B in the course of their duties and therefore are subject to mandatory vaccination. What vaccine is used in such cases?

- A. Recombinant vaccine
- B. Chemical vaccine
- C. Inactivated vaccine
- D. Anatoxin
- E. Live vaccine

182. Differentiation of B-lymphocytes into plasma cells leads to synthesis of immunoglobulins that ensure specific immune response of the body. Differentiation of B-lymphocytes takes place in the following organ of immune system:

- A. Tonsils
- B. Red bone marrow
- C. Liver
- D. Thymus
- E. Thyroid gland

183. On tooth section in the area of the root apex there is a tissue consisting of cells with processes surrounded by mineralized intercellular substance. Name this tissue:

- A. Cellular cement
- B. Reticulofibrous bone tissue
- C. Mantle dentin
- D. Enamel
- E. Periodontium

184. 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

185. A surgeon accidentally damaged a nerve that innervates mylohyoid muscle. Name this nerve:

- A. *N. trigeminus*
- B. *N. facialis*
- C. *N. glossopharyngeus*
- D. *N. hypoglossus*
- E. *N. accessorius*

186. At the crown apex of the second molar, on the surface that comes into contacts with the cheek, the doctor detected a carious cavity. Name the affected crown surface:

- A. *Facies vestibularis*
- B. *Facies lingualis*
- C. *Facies mesialis*
- D. *Facies distalis*
- E. *Facies occlusalis*

187. Autopsy of a 46-year-old man, who

had untreated enteric infection and died of sepsis, revealed the following: perirectal phlegmon, multiple ulcers of the rectum and sigmoid colon, some of which are perforated; mucosa of these intestinal segments is thickened and covered with firmly attached grayish films. What is the most likely disease in this case?

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

188. Autopsy of a 52-year-old man revealed changes in his lungs: there is a segmented area of caseous necrosis in the upper right lung; the segments merge with each other. The lung is enlarged, dense, yellowish-colored on section; there are fibrinous films on the pleura. Name the type of tuberculosis:

- A. Caseous pneumonia
- B. Tuberculoma
- C. Infiltrative tuberculosis
- D. Cirrhotic tuberculosis
- E. Acute cavernous tuberculosis

189. A 3-year-old child presents with facial deformation that was gradually developing over the course of 6 months and manifests as symmetrical enlargement of both mandibular angles. Microscopy shows the space between the bone trabeculae to be filled with connective tissue that contains numerous blood vessels and smaller primitive bone trabeculae. What disease is the most likely in this case?

- A. Cherubism
- B. Giant-cell tumor of the bone
- C. Fibroma
- D. Eosinophilic granuloma
- E. Osteosarcoma

190. Autopsy of a 72-year-old man with recurrent transmural myocardial infarction revealed his epicardium and pericardium membranes to be swollen, thickened, coarse, as if covered in hair. Name the type of inflammation that occurred in the cardiac membranes:

- A. Croupous
- B. Diphtheritic
- C. Serous
- D. Suppurative
- E. Catarrhal

191. During autopsy of the patient, who died of cardiovascular insufficiency, the patient's right foot is darkly colored. The

vessels of the patient's thigh are partially obstructed by grayish-red clots. On the vessel walls there are yellowish-gray spots and fibrous plaques, some of which are of stony density. What clinicopathological type of atherosclerosis was complicated in the patient?

- A. Atherosclerosis of lower extremities
- B. Cerebral atherosclerosis
- C. Atherosclerosis of aorta
- D. Vascular intestinal atherosclerosis
- E. Renal atherosclerosis

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

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

193. Autopsy of a 7-year-old child, who died of uncompensated congenital heart disease, revealed increase in mass and volume of the thymus. On microscopy thymus structure is normal. What pathologic process had occurred in the thymus?

- A. Congenital thymomegaly
- B. Thymoma
- C. Thymic agenesis
- D. Accidental involution
- E. Thymic dysplasia

194. A patient came to the doctor with complaints of general weakness and sleep disturbances. Objectively the patient's skin is yellow. In blood there is increased concentration of direct bilirubin and bile acids. Acholic stool is observed. What condition can be characterized by these changes?

- A. Mechanical jaundice
- B. Hemolytic jaundice
- C. Parenchymatous jaundice
- D. Familial nonhemolytic (Gilbert's) syndrome
- E. Chronic cholecystitis

195. A diver that submerged to the depth of 75 meters detected signs of CNS functional disturbance: excitation, lapse of concentration, euphoria leading to professional errors. What substance has toxic effect on the neurons, thus leading

to the development of these signs?

- A. Nitrogen
- B. Ammonia
- C. Carbon dioxide
- D. Oxygen
- E. Lactate

196. A patient with dislocated jaw was given a short-acting muscle relaxant by a doctor. Name this drug:

- A. Dithylinum (Suxamethonium chloride)
- B. Procaine
- C. Cytitonum (Cytisine)
- D. Papaverine hydrochloride
- E. Pyridostigmine hydrobromide

197. 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

198. To treat osteomyelitis, a patient was prescribed an antibiotic that easily penetrates into bone tissue. Name this drug:

- A. Lincomycin hydrochloride
- B. Streptomycin sulfate
- C. Cefazolin
- D. Polymyxin B
- E. Amphotericin B

199. A person in the state of nervous tension develops transverse wrinkles on the forehead. What muscle contracts to produce this result?

- A. *M. occipitofrontalis*
- B. *M. procerus*
- C. *M. corrugator supercilii*
- D. *M. temporoparietalis*
- E. *M. auricularis anterior*

200. A girl presents with high fever and sore throat. Objectively the soft palate is swollen, the tonsils are covered with gray films that are firmly attached and leave deep bleeding lesions when removed. What is the most likely disease in this case?

- A. Pharyngeal diphtheria
- B. Pseudomembranous (Vincent's) tonsillitis
- C. Lacunar tonsillitis
- D. Infectious mononucleosis
- E. Necrotic tonsillitis

INSTRUCTIONAL BOOK

Ministry of public health of Ukraine (MPH of Ukraine)
Department of human resources policy, education and science
Testing Board

TEST ITEMS FOR LICENSING EXAMINATION: KROK 1. STOMATOLOGY.

Kyiv. Testing Board.
(English language).

Approved to print 15.12./№152. Paper size 60x84 1/8
Offset paper. Typeface. Times New Roman Cyr. Offset print.
Conditional print pages 20. Accounting publishing pages 24.
Issue. 432 copies.

List of abbreviations

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