

MINISTRY OF PUBLIC HEALTH OF UKRAINE

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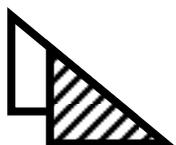
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Test items for licensing examination

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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Authors of items: Ambarova L.I., Ananko S.YA., Andryeyeva V.F., Bacaletc O.V., Barinov E.F., Basiy R.V., Bilenkiy S.A., Blinder O.O., Bobyr V.V., Boikiv D.P., Boiko O.V., Bondarenko V.V., Bondarenko YU.I., Buryachkiivskiy E.S., Byelan S.M., Cherkas L.P., Chernenko H.P., Chernovska N.V., Chernousova N.M., Churilin O.O., Datcko T.V., Davidova N.V., Dem'yanenko I.A., Dosenko V.YE., Dubova H.A., Dutchak U.M., Dzevulska I.V., Erstenyuk A.M., Fedchenko M.M., Fedechko I.M., Fedonuk L.YA., Hagetc V.I., Havrilyuk I.M., Hladchuk A.B., Hlyebov O.M., Holdobina O.V., Holovinska L.K., Hol'yeva N.V., Horchakova N.O., Hrechin A.B., Hurmak I.S., Ioltukhivskiy M.M., Ivanochko V.M., Ivanova A.Y., Ivanova S.A., Izmailova L.V., Kaptyuh R.P., Khmel L.L., Kikhtenko O.V., Kirichek P.V., Kirichenko L.H., Kir'yakulov H.S., Klimnuk S.I., Kolesnikova S.V., Komissarov I.V., Kopchuk T.H., Korda M.M., Korolenko H.S., Koroluk V.D., Kratenko H.S., Kratinova M.A., Kravetc D.S., Krizhanovska A.V., Krushynska T.YU., Kukovska I.L., Kulitka E.F., Kurinna S.S., Kuven'ova O.M., Lazaryev K.L., Lemke M.O., Levchuk O.V., Lichko V.H., Linchevska L.P., Makarenko O.V., Makovetckiy O.V., Marchuk F.D., Masna Z.Z., Meschishen I.F., Mikhyeyeva N.H., Mischenko N.P., Morhun Z.K., Mozhunov O.V., Naumova O.V., Nazarenko S.M., Nechiporenko H.V., Nikituk H.P., Nikolenko L.H., Novikov N.YU., Obmankin V.O., Obraztcova O.H., Omelchenko O.A., Ovchynnikov S.O., Pandikidis N.I., Palapa V.I., Papinko I.YA., Pavlyi S.I., Piluhin V.O., Prishlyak A.M., Prokof'yeva N.V., Pushkar M.C., Rocunetc I.L., Romanenko L.A., Romanyuk B.P., Rozhonuk YU.D., Rudnytcka O.H., Sahan O.V., Samoylovych I.M., Sankova L.YU., Sayuk N.P., Selezniova H.K., Semenetc P.F., Scherbak L.F., Shemonayeva K.F., Shershun H.H., Shipitcina O.V., Shlyakhovenko O.O., Shtanko I.F., Shutka L.A., Shvetc V.I., Slobodyanyuk T.M., Slusarev O.A., Sokolovska L.V., Sorokina I.V., Stebluk M.V., Stetcenko S.V., Syedov V.I., Syrtcov V.K., Svirskiy O.O., Tananakina T.P., Tindare L.V., Tkachenko V.P., Tkachenko YE.V., Tkachuk YU.L., Tomyuk I.I., Tverdokhlib I.V., Uhgin O.M., Velikiy M.M., Verkhova O.O., Vinnikov YU.M., Voitckehovskiy V.H., Vorobetc Z.D., Voronich-Semchenko N.M., Vovchenko M.B., Yaschishin Z.M. and committees of professional expertise.

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

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1. Inadequate treatment of middle ear inflammation (mesotympanitis) has resulted in suppurative inflammation of the cells of temporal bone mastoid process (mastoiditis). The abscess has erupted into the bed of sternocleidomastoid muscle. This pathological process is localised in the following cervical fascia:

- A. Lamina superficialis fasciae colli propriae
- B. Fascia colli superficialis
- C. Lamina profunda fasciae colli propriae
- D. Fascia endocervicalis
- E. Fascia prevertebralis

2. When examining the oral cavity of a 22-year-old patient, the dentist noticed a destroyed medial tubercle on the cutting edge of the right maxillary first molar. This tubercle is called:

- A. Paracone
- B. Metacone
- C. Mesocone
- D. Hypocone
- E. Protocone

3. Alveolar bleeding has been detected following the extraction of the maxillary second premolar. What artery causes this kind of bleeding, when damaged?

- A. Middle superior alveolar artery
- B. Posterior superior alveolar artery
- C. Inferior alveolar artery
- D. Palatine artery
- E. Anterior superior alveolar artery

4. A female patient has referred to a dentist with complains of bruise and swelling around her eye. Anamnesis is as follows: several days prior her 1st premolar tooth had been extracted, with infraorbital anesthesia administered; several days later hematoma appeared in the area of foramen intraorbitale. Branch of the following artery was damaged:

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

5. A patient has lost his ability to recognize objects by their characteristic sounds (clock, bell, music). What part of his brain is damaged?

- A. *Lobus temporalis*
- B. *Lobus occipitalis*
- C. *Lobus frontalis*
- D. *Lobus parietalis*
- E. *Insula*

6. A patient complains of pain in the thorax during breathing, dyspnea, restriction of coughing movements, hiccup. What respiratory muscles are affected?

- A. Diaphragm
- B. External intercostal muscles
- C. Serratus anterior muscle
- D. Internal intercostal muscles
- E. Abdominal muscles

7. Having lost significant amount of body weight, a 70-year-old patient complains of dull pain in the lumbar area. In the result of examination he was diagnosed with floating kidney. What part of kidney supporting apparatus is most likely to be damaged?

- A. Capsula adiposa
- B. Capsula fibrosa
- C. M. Iliopsoas
- D. Lig. Hepatorenalis
- E. M. quadratus lumborum

8. Examination of a 23-year-old patient reveals that when his tongue is protruded, its tip deviates to the side. This is caused by the dysfunction of the following tongue muscle:

- A. Genioglossus
- B. Hyoid
- C. Superior longitudinal
- D. Inferior longitudinal
- E. Styloglossus

9. A patient has air embolism as a result of a skin injury in the middle portion of the sternocleidomastoid muscle. Which cervical vein was injured?

- A. External jugular vein
- B. Anterior jugular vein
- C. Internal jugular vein
- D. Posterior auricular vein
- E. Transverse cervical vein

10. Otopyosis has caused tympanic cavity roof to be broken by pus. From tympanic cavity pus spreads to the following cranial fossa:

- A. Middle cranial fossa
- B. Posterior cranial fossa
- C. Anterior cranial fossa
- D. Orbit
- E. Sphenopalatine fossa

11. A 33-year-old patient complains of an impairment of skin sensitivity in the medial part of the dorsal and palmar surface of hand. Which nerve is damaged?

- A. *N. ulnaris*
- B. *N. radialis*
- C. *N. medianus*
- D. *N. musculocutaneus*
- E. *N. cutaneus antebrachii medialis*

12. A 2-year-old child has congenital spastic contraction of muscles on one side of neck, that is torticollis. What muscle is affected?

- A. Sternocleidomastoid
- B. Subcutaneous
- C. Sternohyoid
- D. Sternothyroid
- E. Omohyoid

13. Nucleoli of nuclei have been damaged due to tissue culture nuclear irradiation. Regeneration of the following organelles becomes hampered in cytoplasm:

- A. Ribosomes
- B. Lysosomes
- C. Endoplasmic reticulum
- D. Microtubules
- E. Golgi apparatus

14. A histological preparation shows organ, where lymphocytes form three types of lymphoid structures: lymph nodules, medullary cords and lymphatic sinuses. What organ is it?

- A. Lymph node
- B. Spleen
- C. Thymus
- D. Tonsil
- E. Red bone marrow

15. An electron microphotograph of duodenal epithelium clearly shows a cell with electron-dense granules in the basal pole. What cell is it?

- A. Endocrine
- B. Prismatic with a limbus
- C. Poorly differentiated
- D. Goblet
- E. Parietal

16. As a result of a development anomaly a newborn has malformation of major salivary glands. This anomaly is caused by the damage of the following embryonal structure:

- A. Ectoderm
- B. Splanchnotom
- C. Somites
- D. Entoderm
- E. Mesenchyme

17. The effect of some harmful factors caused focal damage to the gastric epithelium. What cells are responsible for its regeneration?

- A. Cervical mucocytes of glands
- B. Parietal exocrinocytes of glands
- C. Principal exocrinocytes of glands
- D. Endocrinocytes
- E. Mucocytes of the gland body

18. Microscopic examination of a CNS body revealed the gray matter with three layers of neurons, namely molecular, ganglionic and granular layer. What are the neurons constituting the second layer?

- A. Piriform
- B. Basket
- C. Small stellate
- D. Large stellate
- E. Granule cells

19. A histological preparation of lower jaw shows dentin being formed. Collagen fibers synthesized by odontoblasts are thin and situated perpendicular to dentinal tubules. What fibers are being produced in dentin?

- A. Tangential fibers
- B. Radial fibers
- C. Parallel fibers
- D. Sharpey's fibers
- E. Perforating fibers

20. Normal implantation of human embryo is possible only if uterus endometrium undergoes certain changes, with the following type of endometrium cells increasing in number:

- A. Decidual cells
- B. Macrophages
- C. Endotheliocytes
- D. Fibroblasts
- E. Neurons

21. There is a large amount of effusion in the pericardial cavity of a patient with exudative pericarditis. What cells cause such a phenomenon when their functional activity is disrupted?

- A. Mesotheliocytes
- B. Fibroblasts
- C. Working cardiac myocytes
- D. Cardiac conduction cells
- E. Endotheliocytes

22. Stimulation of the peripheral segment of *chorda tympani* in an experimental animal resulted in the discharge of the following secretion from the parotid salivary fistula:

- A.** A lot of liquid saliva
B. A small amount of liquid saliva
C. There is no saliva
D. A small amount of viscous saliva
E. A lot of viscous saliva
- 23.** A 40-year-old patient was revealed to have blood clotting time of 2 minutes under a stressful condition. It is primarily caused by the following hormon affecting hemocoagulation:
- A.** Catecholamine
B. Cortisol
C. Aldosterone
D. Somatotropin
E. Vasopressin
- 24.** Sharp decrease of lungs surfactant activity has been detected in a patient. It will result in the following:
- A.** Alveoli will become prone to deflation
B. Airways resistance decreases
C. Respiratory muscles work decreases
D. Pulmonary ventilation increases
E. Hyperoxemia
- 25.** A 38-year-old female patient has been brought into admission room with uterine bleeding. What will be revealed by blood test?
- A.** Decrease of packed cell volume
B. Eosinophilia
C. Decreased erythrocyte sedimentation rate
D. Leukocytosis
E. Increased color index of blood
- 26.** The patient's lower pair of mesencephalon quadrigeminal bodies has been damaged due to hemorrhage. What reflex is lost?
- A.** Aural signals orienting response
B. Light signals orienting response
C. Tactile stimulation orienting response
D. Statokinetic reflex - ocular nystagmus
E. Head-righting reflex
- 27.** There is high content of proteine and erythrocytes in urine. This can be caused by increased:
- A.** Permeability of renal filter permeability
B. Effective filtration pressure
C. Hydrostatic blood pressure in glomerular capillaries
D. Hydrostatic pressure of primary urine in capsule
E. Oncotic pressure of blood plasma
- 28.** Certain brain structures of test animals have been subjected to electrostimulation, as an experiment, resulting in development

of polyphagia (abnormal desire to consume excessive amounts of food) in test animals. Electrodes have been inserted in the following brain structures:

- A.** Lateral nuclei of hypothalamus
B. Ventromedial nuclei of hypothalamus
C. Supraoptic nuclei of hypothalamus
D. Adenohypophysis
E. Red nuclei

29. Experimental studies revealed steroid hormones to have an effect on proteosynthesis. They influence synthesis of the following substances:

- A.** Specific messenger RNA
B. Adenosine triphosphate
C. Specific transfer RNA
D. Guanosine triphosphate
E. Specific ribosomal RNA

30. A female patient has scalded her hand with boiling water. The affected skin area became red, swollen and painful. This effect is caused by accumulation of the following substance:

- A.** Histamine
B. Lysine
C. Thiamine
D. Glutamine
E. Asparagine

31. Mother had noticed her 5-year-old child's urine to become dark in colour. Bile pigments in urine were not detected. The diagnosis of alkaptonuria was made. What pigment is deficient?

- A.** Homogentisic acid oxidase
B. Phenylalanine hydroxylase
C. Tyrosinase
D. Oxyphenylpyruvate oxidase
E. Phenylpyruvate decarboxylase

32. Biogenic amines, such as histamine, serotonin, dopamine and others, are highly active substances affecting various physiological functions. What transformation process of amino acids results in biogenic amines being produced in somatic tissues?

- A.** Decarboxylation
B. Deamination
C. Transamination
D. Oxidation
E. Reductive amination

33. There are various diseases that cause sharp increase of active oxygen, leading to cell membranes destruction. Antioxidants are used to prevent it from happening. The most potent natural antioxidant is:

- A. Alpha-tocopherol
- B. Glucose
- C. Vitamin D
- D. Fatty acids
- E. Glycerol

34. In the process of metabolism human body produces active oxygen forms, including superoxide anion radical O_2^- . This anion is inactivated by the following enzyme:

- A. Superoxide dismutase
- B. Catalase
- C. Peroxidase
- D. Glutathione peroxidase
- E. Glutathione reductase

35. A 34-year-old patient has low endurance of physical loads. At the same time skeletal muscles have increased concentration of glycogen. This is caused by the reduced activity of the following enzyme:

- A. Glycogen phosphorylase
- B. Glucose-6-phosphate dehydrogenase
- C. Phosphofructokinase
- D. Glycogen synthase
- E. Glucose-6-phosphatase

36. A patient has been prescribed pyridoxal phosphate. What processes are corrected with this drug?

- A. Transamination and decarboxylation of amino acids
- B. Oxidative decarboxylation of keto acids
- C. Deamination of amino acids
- D. Synthesis of purine and pyrimidine bases
- E. Protein synthesis

37. A 60-year-old man consulted a doctor about an onset of chest pain. In blood serum analysis showed a significant increase in the activity of the following enzymes: creatine kinase and its MB-isoform, aspartate aminotransferase. These changes indicate the development of the pathological process in the following tissues:

- A. Cardiac muscle
- B. Lungs
- C. Skeletal muscles
- D. Liver
- E. Smooth muscles

38. A nuclear power plant disaster fighter had absorbed radiation dose of 5 Gy; in a week he was diagnosed with blood agranulocytosis. What pathogenetic mechanism is principal in its origination?

- A. Leukopoiesis suppression
- B. Increased granulocytes transfer into tissues
- C. Increased leucocytes disintegration
- D. Disruption of mature leucocytes emerging from bone marrow
- E. Autoimmune process development

39. A patient with liver cirrhosis has been given intravenously 500,0 ml of 5% glucose solution along with other drugs. There is a high risk of the following water-electrolytic balance disruption:

- A. Hyposmolar hypohydration
- B. Hyperosmolar hypohydration
- C. Iso-osmolar hypohydration
- D. Hyposmolar dehydration
- E. Hyperosmolar dehydration

40. A 32-year-old patient has purulent wound in the lower third of forearm. Smear of purulent wound content has been made. What cells will be generally detected, if it is stained using Romanovsky-Giemsa stain?

- A. Neutrophil
- B. Eosinophil
- C. Lymphocyte
- D. Erythrocyte
- E. Basocyte

41. A patient has oliguria caused by acute renal failure. What daily amount of urine corresponds with this symptom?

- A. 100-500 ml
- B. 1500-2000 ml
- C. 1000-1500 ml
- D. 500-1000 ml
- E. 50-100 ml

42. A 7-year-old child suffers from acute disease. A pediatrician observed the following during examination: pharynx mucosa is hyperemic, edematous, swollen, covered with large amount of mucus. Buccal mucosa has whitish discoloured spots. On the next day the child came out in rash with large spots covering the skin of his face, neck and torso. What kind of inflammation causes changes in pharynx mucosa?

- A. Catarrhal
- B. Serous
- C. Serofibrinous
- D. Fibrinous
- E. Hemorrhagic

43. Histological examination of the grayish-pink elastic nodule of 0,3 cm in diameter found by a surgeon at the root of the extracted tooth shows granulation tissue with cords of stratified squamous epithelium. What is the most likely diagnosis?

- A. Granulomatous periodontitis
- B. Eosinophilic granuloma
- C. Granulating pulpitis
- D. Acute apical periodontitis
- E. Granulating periodontitis

44. Histological examination of a lymph node removed from the posterior triangle of neck of an 18-year-old patient revealed some cell agglomerations that included single multinuclear Reed-Sternberg cells, major Hodgkin's cells, minor Hodgkin's cells and many lymphocytes, single plasmatic cells, eosinophils. What is the most likely diagnosis?

- A. Lymphogranulomatosis
- B. Nodular lymphoma
- C. Burkitts tumour
- D. Lymphocytic lymphoma
- E. Chronic lymphoid leukosis

45. Autopsy of a man who died from intrainestinal hemorrhage revealed necrosis of grouped and solitary follicles, dead tissues imbibed with bile and blood in the ileum; sequestration and rejection of necrotic masses with defect formation in the lower segment of the intestine. Which of the following diagnoses is most likely?

- A. Typhoid fever, ulcerative stage
- B. Typhoid fever, "clean ulcer" stage
- C. Typhoid fever, necrosis stage
- D. Abdominal typhoid salmonellosis
- E. Crohn's disease

46. An autopsy of the body of an aged man, who was suffering from acute intestinal disorder during his last 2 weeks, has revealed the following change in the rectum and sigmoid colon: brown and green film covering the mucosa is detected. The intestinal wall is thickened; the cavity sharply narrows down. Microscopy reveals mucosa necrosis of varying depth, necrotic tissue is pierced through with fibrin threads, leucocytic infiltration is observed. What diagnosis is most probable?

- A. Fibrinous colitis
- B. Catharrhal colon
- C. Ulcerative colitis
- D. Follicular colitis
- E. -

47. A 28-year-old patient had been diagnosed with multifragmental fracture of the right hip. On the third day after the injury he began to complain of pain in the right side of chest, difficult respiration. A day later the patient died of progressive heart and respiratory failure. Histological study of pulmonary and cerebral

blood vessels revealed orange sudanophilic droplets that completely obstructed the vessels of microvasculature. What complication caused the death of the patient?

- A. Fat embolism
- B. Gas embolism
- C. Drug-induced embolism
- D. Microbial embolism
- E. Thromboembolism

48. A female patient with heavy poisoning caused by sepsis has died. "Tiger heart" was revealed during autopsy. Microscopic investigation allowed to detect lipides in the cardiac myocytes cytoplasm. What morphogenetic development mechanism is the main cause of this kind of dystrophy?

- A. Decomposition
- B. Infiltration
- C. Transformation
- D. Pathological synthesis
- E. -

49. A patient, who works as a milkmaid, has made an appointment with a dentist with complaints of aphtha-shaped rash on the mucosa of oral cavity. The doctor detected rash on her hands in the area of nail plates. What agent causes this disease?

- A. Foot-and-mouth disease virus
- B. Cytomegalovirus
- C. Vesicular stomatitis virus
- D. Herpesvirus
- E. Coxsackie B virus

50. Bacterioscopy of nasopharyngeal mucus taken from a 2,5-year-old child with nasopharyngitis revealed gram-positive diplococci looking like coffee grains. What organs of the child are most likely to be affected if these microorganisms penetrate the blood?

- A. Brain tunics
- B. Cardiac valves
- C. Renal glomeruli
- D. Urogenital tracts
- E. Lymph nodes

51. A pregnant woman complains of vaginal mucosa irritation, itching and genital tracts secretion. Bacterioscopy of vaginal smears revealed large gram-positive oval oblong cells that form pseudomycelium. What is the most probable channel of infection?

- A. Endogenous infection
- B. Sexual transmission
- C. Contact infection
- D. Vector-borne transmission
- E. Wound infection

52. There are several cases of children from boarding school suffering from sore throat. Microscopy of tonsil smears stained according to Neisser method has revealed thin yellow bacilli with dark brown grains on their ends placed in the shape of Roman numeral five. What infection can be suspected in this case?

- A.** Diphtheria
- B.** Infectious mononucleosis
- C.** Listeriosis
- D.** Tonsillitis
- E.** Scarlet fever

53. A patient has been hospitalised with provisional diagnosis of hepatitis B. To make a diagnosis, serological reaction is used, which is based on antigen reacting with antibody chemically bound with peroxidase or alkaline phosphatase. What is the name of this serological reaction?

- A.** Enzymoimmunoassay
- B.** Radioimmunoassay
- C.** Immunofluorescence test
- D.** Complement binding assay
- E.** Immobilization test

54. To perform conduction anesthesia a patient had been administered a drug used in dental surgery. It was followed by the symptoms of poisoning: central nervous system excitation with following 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

55. A patient in a collaptoid state has been given an injection of mesatonum for the correction of blood pressure. What is the mechanism of this drug action?

- A.** It stimulates α -adrenergic receptors
- B.** It stimulates β -adrenergic receptors
- C.** It blocks α -adrenergic receptors
- D.** It blocks β -adrenergic receptors
- E.** It stimulates α - and β -adrenergic receptors

56. A 42-year-old female patient consulted a doctor about pain in the knee joints. Objectively there is swelling, redness, hyperthermia in the region of these joints. Laboratory testing revealed positive acute phase reactants. What drugs should be used to treat this patient?

- A.** Anti-inflammatory drugs
- B.** Narcotic analgesics
- C.** Antidepressants
- D.** Antibiotics
- E.** Sulfonamides

57. A patient being treated for tuberculosis is suffering from hearing deterioration. What drug causes this complication?

- A.** Streptomycin
- B.** Isonicotinic acid hydrazide (Isoniazid)
- C.** Kanamycin sulphate
- D.** Ethionamide
- E.** Rifampicin

58. A 55-year-old male patient 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

59. A patient complains about retrosternal pain, dyspnea and palpitation. After examination he was diagnosed with coronary heart disease and prescribed verapamil. What is the mechanism of its action?

- A.** It blocks calcium channels
- B.** It blocks α -adrenoreceptors
- C.** It blocks β -adrenoreceptors
- D.** It blocks potassium channels
- E.** It blocks sodium channels

60. A doctor has prescribed clonidine for rapid relief of hypertensive crisis. What group does this drug belong to according to its mechanism of action?

- A.** Central α_2 -adrenoceptor agonist
- B.** α -adrenergic blocking agent
- C.** Nonselective α -adrenoceptor agonist
- D.** Selective α_1 -adrenoceptor agonist
- E.** Selective β_1 -adrenergic blocking agent

61. Examination of the oral cavity of a 19-year-old patient revealed a small gap between the maxillary and mandibular incisors. There was no contact between the front teeth. Specify the type of occlusion in this patient:

- A.** Open occlusion
- B.** Orthognathia
- C.** Edge-to-edge occlusion
- D.** Closed bite
- E.** Prognathism

62. A 39-year-old patient has been suffering from gastric ulcer for the last 4 years.

His condition exacerbates in spring and autumn: he suffers from pain in epigastrium, heartburn, nausea, constipation. What nosological term can be applied to the period between two exacerbations?

- A. Pathological state
- B. Pathological process
- C. Pathological reaction
- D. Typical pathological process
- E. Good health

63. A patient has sustained a traumatic injury of the greater pectoral muscle. This resulted in a decrease of:

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

64. Denture installation has caused excessive salivation in patient. It is caused by the following reflexes:

- A. Unconditioned
- B. Conditioned
- C. Conditioned and unconditioned
- D. Local
- E. -

65. A 53-year-old patient with a long history of nephrolithiasis underwent nephrectomy. The kidney looks as a thin-walled sac filled with urine. Renal parenchyma is atrophied. Specify this complication of nephrolithiasis:

- A. Hydronephrosis
- B. Pyelonephritis
- C. Pyonephrosis
- D. Multicystic kidney disease
- E. Nephrosclerosis

66. Microscopy of smear preparation stained with methylene blue revealed bacilli with clublike expansions on their ends similar to *C. diphtheriae*. What additional method of staining should be used to verify this assumption?

- A. Neisser
- B. Kozlovsky
- C. Ziehl-Neelsen
- D. Zdrodovsky
- E. Aujeszky

67. A patient from Prykarpattia (at the foot of the Carpathian mountains) with endemic goiter consulted a doctor about suppuration of gingival angles and loosening of teeth. What is a major factor of periodontitis development in this case?

- A. Endocrine disorders
- B. Stress effects
- C. Hypersalivation
- D. Violation of swallowing
- E. Malnutrition

68. A 38-year-old man died all of a sudden. Autopsy revealed myocardial infarction in the posterior wall of the left ventricle. What are the most likely alterations in myocardiocyte structure that can be revealed microscopically in the infarction focus?

- A. Karyolysis
- B. Adipose degeneration
- C. Carbohydrate degeneration
- D. Calcification
- E. Protein degeneration

69. A patient at the early stage of diabetes mellitus was found to have polyuria. What is its cause?

- A. Hyperglycemia
- B. Ketonemia
- C. Hypocholesterolemia
- D. Hypercholesterolemia
- E. Hyperkaliemia

70. Microscopy of perianal folds scrape has revealed colourless eggs in the shape of asymmetrical ovals sized 50x23 micrometers. Name the kind of helminth.

- A. Pin worm (*Enterobius*)
- B. Ascarid (*Ascaris lumbricoides*)
- C. Hookworm (*Ancylostoma duodenale*)
- D. Whipworm (*Trichuris*)
- E. Dwarf tapeworm (*Hymenolepis nana*)

71. A female patient presents with the ovarian hyperaemia, increased permeability of the blood-follicle barrier with the development of edema, infiltration of the follicle wall with segmental leukocytes. The follicle is large in volume. Its wall is thickened. What period of the sex cycle is the described situation typical for?

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

72. The total number of leukocytes in patient's blood is $90 \cdot 10^9/l$. Leukogram: eosinophils - 0%, basophils - 0%, juvenile - 0%, stab neutrophils - 2%, segmentonuclear cells - 20%, lymphoblasts - 1%, prolymphocytes - 2%, lymphocytes - 70%, monocytes - 5%, Botkin-Gumprecht cells. Clinical examination revealed enlarged cervical and submandibular lymph nodes. Such clinical presentations are typi-

cal for the following pathology:

- A. Chronic lympholeukosis
- B. Acute lympholeukosis
- C. Lymphogranulomatosis
- D. Infectious mononucleosis
- E. Chronic myeloleukosis

73. A 67-year-old patient has atherosclerosis of cardiac and cerebral vessels. Examination revealed hyperlipidemia. What class of blood plasma lipoproteids is most important in atherosclerosis pathogenesis?

- A. Low-density lipoproteids
- B. Chylomicrons
- C. α -lipoproteids
- D. High-density lipoproteids
- E. -

74. A 42-year-old patient with tetanus developed an acute respiratory failure. What type of respiratory failure occurs in this case?

- A. Disregulatory impairment of alveolar ventilation
- B. Restrictive impairment of alveolar ventilation
- C. Obstructive impairment of alveolar ventilation
- D. Perfusion impairment
- E. Diffusion impairment

75. A patient, who has been suffering from severe injury of thorax, went into shock followed by symptoms of acute renal failure. What is the primary mechanism of acute renal failure development in this case?

- A. Arterial pressure drop
- B. Disruption of urinary outflow
- C. Increase of pressure in glomerular capsule
- D. Increase of pressure in renal arteries
- E. Decrease of oncotic blood pressure

76. A histologic study of a red bone marrow puncture sample had been conducted in the course of examination of a 35-year-old patient, and significant megakaryocyte number depletion was detected. What peripheral blood changes will result from that?

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

77. A 5-year-old child with diagnosis of diphtheria has been hospitalised in severe condition in a contagious isolation ward. Tracheostomy had to be performed on the

child to prevent asphyxiation. This operation was carried out in the following neck triangle (trigonum):

- A. *Omotracheale*
- B. *Caroticum*
- C. *Omoclaviculare*
- D. *Submandibulare*
- E. *Omotrapezoideum*

78. A histological preparation of cerebellum transverse section shows large number of multipolar neurons in the grey matter. What morphological feature allows to identify them as multipolar?

- A. Number of cellular processes
- B. Length of cellular processes
- C. Shape of axon terminals
- D. Shape of perikaryon
- E. Cell size

79. A patient is diagnosed with seborrheic dermatitis caused by vitamin H (biotin) deficiency. Observed is activity disruption of the following enzyme:

- A. Acetyl-CoA carboxylase
- B. Pyruvate decarboxylase
- C. Alcohol dehydrogenase
- D. Aminotransferases
- E. Carbamoyl phosphate synthetase

80. Human X chromosome contains a dominant gene that is responsible for normal blood clotting. An autosomal dominant gene plays a similar role. Lack of any of these genes leads to the coagulation disorder. The form of interaction between these genes is called:

- A. Complementarity
- B. Epistasis
- C. Polymerism
- D. Codominance
- E. Pleiotropy

81. A 56-year-old female patient is registered in a psychoneurologic dispensary due to her suffering from epilepsy, specifically, minor attacks (pti mal). What drug is most efficient in this case?

- A. Sodium valproate
- B. Phenobarbital
- C. Trihexyphenidyl
- D. Levodopa
- E. Phenytoin

82. Glucose content of blood stays at sufficient level after one week of starvation. Is it caused by activation of the following process:

- A. Gluconeogenesis
- B. Glycolysis
- C. Glycogenolysis
- D. Tricarboxylic acid cycle
- E. Glycogen phosphorolysis

83. As a result of a trauma a patient has developed traumatic shock. The patient is fussy, talkative, pale. AP- 140/90 mm Hg, Ps-120 bpm. This condition is consistent with the following shock phase:

- A. Erectile
- B. Latent
- C. Terminal
- D. Torpid
- E. -

84. A 60-year-old patient with a history of bronchial asthma has had several attacks during the day. What is the optimal drug to be used for their prevention?

- A. Salbutamol
- B. Isadrinum
- C. Adrenaline hydrochloride
- D. Dobutamine
- E. Methacinum

85. A 12-year-old child is of short stature, has disproportionate body structure and mental retardation. These characteristics might be caused by the hyposecretion of the following hormone:

- A. Thyroxine
- B. Insulin
- C. Cortisol
- D. Somatotropin
- E. Glucagon

86. An injured person with a wound of forearm radial surface has been brought to a surgical department. Venous bleeding of the wound is observed. What blood vessel is damaged?

- A. *V. cephalica*
- B. *V. basilica*
- C. *V. intermedia cubiti*
- D. *Vv. ulnares*
- E. *Vv. brachiales*

87. A patient has been diagnosed with bacillary dysentery. What drug of those listed below should be prescribed?

- A. Amoxicillin
- B. Benzylpenicillin sodium salt
- C. Isonicotinic acid hydrazide (Isoniazid)
- D. Itraconazole
- E. Acyclovir

88. A patient with acute retention of urine has been brought to an admission room. During examination a doctor found out that

the patient has urethral obturation caused by pathology of the surrounding organ. Name this organ.

- A. Prostate
- B. Testicle
- C. Seminal vesicle
- D. Spermatic cord
- E. Epididymis

89. A patient underwent lobectomy of the right middle lobe of a lung. What segments of the lung were affected?

- A. Lateral and medial
- B. Apical, anterior
- C. Basal medial and anterior
- D. Basal posterior and lateral
- E. Apical posterior and anterior

90. A patient was taken to a hospital with dizziness, dry mouth, mydriatic pupils, accommodation disorder, tachycardia, difficult urination, intestinal atony. These symptoms might have been caused by overdose of the following drug:

- A. Atropine sulfate
- B. Furosemide
- C. Clonidine
- D. Captopril
- E. Prazosin

91. A connective tissue preparation stained with hematoxylin-eosin shows isogenous cell groups surrounded with basophilic intercellular substance. No fibrous structures 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

92. A patient has addressed a doctor with complaint of gastric ulcer exacerbation. The following membrane cytoceptors should be blocked in the course of the patient's complex therapy:

- A. H₂-histamine
- B. H₁-histamine
- C. α-adrenergic receptor
- D. β₁-adrenergic receptor
- E. β₂-adrenergic receptor

93. A 36-year-old patient consulted an ophthalmologist about eye ache. The examination revealed the 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 the stratum basale
- B. Cells of the stratum corneum
- C. Cells of the the stratum granulosum
- D. Cells of the stratum lucidum
- E. Cell of the stratum superficiale

94. A 25-year-old woman has died when giving birth. The histological study of her kidneys has revealed the following in the epithelium of nephron tubules: condensation of nucleus chromatin, nuclei breaking down into lumps, and lysis, along with plasmorrhesis and cytolysis. What pathologic process was revealed in the epithelium of kidney tubules?

- A. Necrosis
- B. Hydropic degeneration
- C. Amyloidosis
- D. Fatty degeneration
- E. Hyalinosis

95. A 43-year-old female complains of weight loss, hyperhidrosis, low-grade fever, increased irritability. She has been found to have hyperfunction of the sympathetic-adrenal system and basal metabolism. These disorders can be caused by hypersecretion of the following hormone:

- A. Thyroxine
- B. Somatotropin
- C. Corticotropin
- D. Insulin
- E. Aldosterone

96. A 30-year-old driver complains of allergic rhinitis that usually exacerbates in spring. He has been administered an antihistamine drug with a slight sedative effect and 24-hour period of action. Which of the listed drugs has been administered?

- A. Loratadine
- B. Dimedrol
- C. Heparin
- D. Vicamol
- E. Oxytocin

97. A patient suffers from a severe life-threatening generalised septic infection. What group of chemotherapeutic drugs should be prescribed in this case?

- A. Cephalosporines
- B. Tetracyclines
- C. Sulfanilamides
- D. Chloramphenicol group
- E. Macrolides

98. 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

99. As a result of treatment of viral RNA with nitrous acid, UCA triplet mutated to UGA triplet. What kind of mutation occurred?

- A. Transition
- B. Nucleotide deletion
- C. Missense
- D. Nucleotide insertion
- E. Inversion

100. To prevent possible negative effect upon the gastric muca a patient with rheumatoid arthritis was administered a nonsteroid anti-inflammatory drug - a COX-2 selective inhibitor. Specify this drug:

- A. Celecoxib
- B. Analgin
- C. Acetylsalicylic acid
- D. Butadion
- E. Ibuprofen

101. A 46-year-old patient consulted a doctor about pustular rash on the skin of the limbs. What antiseptic should be administered to the patient?

- A. Alcohol solution of iodine
- B. Insulin
- C. Prednisolone
- D. Sibazon
- E. Heparin

102. As a result of dysfunction of protein synthesis in liver a patient with hepatic insufficiency has disturbed synthesis of procoagulants, prothrombin, fibrinogen. Which of the listed syndromes can be expected in this patient?

- A. Haemorrhagic
- B. Portal haemorrhagic syndrome
- C. Hepatolienal syndrome
- D. Acholia syndrome
- E. Cholaemia syndrome

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

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

104. A 49-year-old male patient with myocardial infarction has been admitted to the cardiology department. What changes in the peripheral blood cells are induced by the necrotic changes in the myocardium?

- A. Neutrophilic leukocytosis
- B. Monocytosis
- C. Eosinophilia
- D. Thrombocytopenia
- E. Lymphopenia

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

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

106. 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

107. Tooth extraction in a patient with chronic persistent hepatitis was complicated by a prolonged bleeding. What is the cause of hemorrhagic syndrome?

- A. Decreased production of thrombin
- B. Increased production of thromboplastin
- C. Decreased production of fibrin
- D. Increased synthesis of fibrinogen
- E. Increased fibrinolysis

108. A patient has been hospitalized with skull trauma. His examination established absence of volitional movements of his head and neck muscles. What part of brain can cause this effect if damaged?

- A. Lower part of precentral gyrus
- B. Lower part of postcentral gyrus
- C. Upper part of precentral gyrus
- D. Upper part of postcentral gyrus
- E. Inferior frontal (Broca's) gyrus

109. A 12-year-old male patient has tetanic convulsions. Which gland function may be impaired in this case?

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

110. A 45-year-old female patient has neurosis with irritability, insomnia, amotivational anxiety. What tranquilizer will be able to eliminate all symptoms of the disease?

- A. Diazepam
- B. Paracetamol
- C. Piracetam
- D. Caffeine-sodium benzoate
- E. Levodopa

111. A patient presented to a hospital with complaints about quick fatigability and significant muscle weakness. Examination revealed an autoimmune disease that causes functional disorder of receptors in the neuromuscular synapses. This will result in the disturbed activity of the following mediator:

- A. Acetylcholine
- B. Noradrenaline
- C. Dopamine
- D. Serotonin
- E. Glycine

112. A preparation of endocrine gland demonstrates cortical and medullary substances divided with connective tissue layer. In the cortical substance parenchyma cells make up three zones: they form rounded clusters in the superficial zone, parallel strands in the middle one, and in the deep zone cell strands form net-like structure. What gland is it?

- A. Adrenal
- B. Thyroid
- C. Hypophysis
- D. Epiphysis
- E. Hypothalamus

113. Orthodontic treatment of a child proved to be ineffective due to the chronic mouth breathing since the nasal breathing is impaired. This is caused by the hypertrophy of the following tonsils:

- A. Pharyngeal
- B. Tubal
- C. Lingual
- D. Palatine
- E. Palatine and tubal

114. A patient complains of feeling of pain in his upper jaw and teeth. Physical examinations reveals painful feeling when supraorbital incisure area is pressed. What nerve is damaged?

- A. The 2nd branch of trigeminal nerve
- B. The 1st branch of trigeminal nerve
- C. The 3rd branch of trigeminal nerve
- D. Trochlear nerve
- E. Facial nerve

115. A patient with mandibular osteomyelitis shows the signs of plexus dentalis inferior damage and innervation disruption of his mandibular teeth and gums. What nerve provides this innervation with its branches?

- A. *N. alveolaris inferior*
- B. *N. maxillaris*
- C. *N. lingualis*
- D. *N. buccalis*
- E. *N. facialis*

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

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

117. Periodontitis induces the development of lipid peroxidation in the periodontal tissues, as well as an increase in malondialdehyde and hydrogen peroxide concentration in the oral cavity. Which of the following enzymes provides antioxidant protection?

- A. Catalase
- B. Amylase
- C. Maltase
- D. Lactase
- E. Invertase

118. Osteolaterism is characterized by a decrease in collagen strength caused by much less intensive formation of cross-links in the collagen fibrils. This phenomenon is caused by hypoactivity of the following enzyme:

- A. Lysyl oxidase
- B. Monoamino-oxidase
- C. Prolyl hydroxylase
- D. Lysyl hydroxylase
- E. Collagenase

119. After the transfusion of the concentrated red blood cells the patient developed posttransfusion shock. What is the leading mechanism of acute renal failure in this case?

- A. Glomerular filtration disorder
- B. Tubular reabsorption disorder
- C. Tubular secretion disorder
- D. Urinary excretion disorder
- E. Impairment of the renal incretory function

120. A 50-year-old patient has been referred for treatment of neck lymphadenitis. His individual penicillin sensitivity was tested. In 30 seconds full-body fever raised in the patient and his arterial blood pressure dropped to 0 mm Hg, followed by cardiac arrest. Resuscitation was unsuccessful. Autopsy revealed acute venous hyperemia of viscera. Histological study revealed mast cells (tissue basocytes) degranulation in the skin (at the area of injections), myocardium and lungs. What kind of hypersensitivity reaction occurred in patient?

- A. Anaphylactic
- B. Delayed-type hypersensitivity
- C. Complement-mediated cytotoxic
- D. Immune complex-mediated
- E. -

121. A young man has the following symptoms: purulent acne on the face; wrinkled, hyperemic skin; eyebrows and eyelashes are falling out. A doctor has made a diagnosis of demodicosis (demodectic mange). What preventive measures can be recommended?

- A. Maintaining personal hygiene
- B. Protection from mite bites
- C. Repellents
- D. Processing premises with insecticides
- E. Donor blood check-up

122. An oncological patient had been administered methotrexate. With time target cells of the tumour lost sensitivity to this drug. At the same time the change in gene expression of the following enzyme is observed:

- A. Dehydropholate reductase
- B. Thiaminase
- C. Deaminase
- D. Pholate oxidase
- E. Pholate decarboxylase

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

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

124. A patient complains of decreased ability to produce proper pressure with his masticatory muscles. What method of study allows checking the patient's complaint?

- A. Gnathodynamometry
- B. Dynamometry
- C. Electromyography
- D. Sphygmography
- E. Masticatiography

125. A child is 6 years old. The permanent teeth have started to take the place of the primary teeth. What teeth are the first to emerge?

- A. Lower first molars
- B. Lower first premolars
- C. Upper first premolars
- D. Upper medial incisors
- E. Lower canines

126. Examination of the oral mucosa revealed a small nodule with papillary surface. Histological examination revealed conjugate papillary proliferations of stratified squamous epithelium without cellular atypism and underlying stroma represented by thin-walled vessels and loose connective tissue. What formation has developed in a patient?

- A. Papilloma
- B. Fibroma
- C. Fibrolipoma
- D. Epithelium hyperplasia
- E. Basal cell carcinoma

127. A 9-year-old child has multiple lesions of the oral mucosa in form of small painful hyperemic sores with a white deposit in the center; enlarged and painful submandibular lymph nodes. Microscopic examination of the affected region revealed a superficial defect covered by fibrin; edematous and hyperemic submucosa with inflammatory infiltration. What is the most likely diagnosis?

- A. Aphthous stomatitis
- B. Hypertrophic stomatitis
- C. Herpetic stomatitis
- D. Catarrhal gingivitis
- E. -

128. An irregular-shaped dense grey and white focus has appeared on the patient's oral cavity mucosa, raising above mucosa surface. The patient considers it to be denture-caused damage of mucosa. Microscopy has revealed the following: hyperplasia, hyperkeratosis, parakeratosis, acanthosis of stratified epithelium of mucosa; underlying connective tissue has lymphoplasmacytic infiltration. What pathology is it?

- A. Leukoplakia
- B. Candidosis
- C. Ichthyosis
- D. Syphilitic papula
- E. Lupus erythematosus

129. After restoration of maxillary incisors with artificial crowns a 44-year-old female was found to have a brownish overgrowth in form of a node of 15 mm in diameter. Histological study revealed that under the stratified squamous epithelium of 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

130. A rounded whitish-pink tumor node with diameter of 6 cm has been removed from uterine cavity. Microscopy revealed it to consist of chaotically arranged smooth muscle fibers with large amount of stroma threaded through with nerves and blood vessels. What diagnosis is most probable?

- A. Fibromyoma
- B. Granular cell (Abrikosov's) tumor
- C. Desmoid
- D. Hibernoma
- E. Rhabdomyoma

131. Wilson's disease is a disorder of copper transport which leads to the accumulation of this metal in brain and liver cells. It is associated with a disturbance in the synthesis of the following protein:

- A. Ceruloplasmin
- B. Metallothionein
- C. Transcobalamin
- D. Haptoglobin
- E. Siderophilin

132. The patient's examination in a hospital specialised in diseases of nervous system has revealed absence of light-induced miosis. It is caused by 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

133. A patient with pituitary tumor complains of increased daily diuresis (polyuria). Glucose concentration in blood plasma equals 4,8 mmol/l. What hormone can be the cause of this if its secretion is disturbed?

- A. Vasopressin
- B. Aldosterone
- C. Natriuretic hormone
- D. Insulin
- E. Angiotensin I

134. During AB0 blood grouping by using coliclons (diagnostic monoclonal antibodies), haemagglutination did not occur with any of the coliclons. What is the blood group of the patient under examination?

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

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

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

136. During ventricular systole the muscle does not respond to additional stimulation because it is in the phase of:

- A. Absolute adiaphoria
- B. Relative adiaphoria
- C. Increased excitability
- D. Subnormal excitability
- E. -

137. A patient is diagnosed with acute morphine hydrochloride poisoning. Choose the oxidant drug to be prescribed for gastric lavage.

- A. Potassium permanganate
- B. Chloramine
- C. Sulfocamphocainum (Procaine + Sulfocamphoric acid)
- D. Cerigel
- E. Chlorhexidine digluconate

138. After arriving in the polar region, researchers from Australia have complained of nervous disorders, loss of appetite, aggravation of chronic diseases for 6 months. What process has been disrupted in extreme conditions?

- A. Adaptation
- B. Tolerance
- C. Tachyphylaxis
- D. Stress
- E. Reparation

139. Microelectrode technique allowed to register a potential following "all-or-none" law and being able of undecremental spreading. Specify this potential:

- A. Action potential
- B. Excitatory postsynaptic potential
- C. Rest potential
- D. Inhibitory postsynaptic potential
- E. Receptor potential

140. A woman with A (II), Rh-negative blood had a child with B (III), Rh-positive blood. The child was diagnosed with congenital anaemia of newborns. What is the most likely cause of its development?

- A. Rhesus incompatibility
- B. Hereditary chromosomal pathology
- C. AB0-incompatibility
- D. Intrauterine intoxication
- E. Intrauterine infection

141. Throughout a year a 37-year-old woman periodically got infectious diseases of bacterial origin, their course was extremely lingering, remissions were short. Examination revealed low level of major classes of immunoglobulins. The direct cause of this phenomenon may be the following cell dysfunction:

- A. Plasmocytes
- B. Phagocytes
- C. Neutrophils
- D. Macrophages
- E. Lymphocytes

142. A patient is diagnosed with pancreatic diabetes with associated hyperglycemia.

Glycemia rate can be assessed retrospectively (4-8 weeks prior to examination) by measuring concentration of the following blood plasma protein:

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

143. When examining a patient with a suspicion of food toxicoinfection, a doctor on duty has detected symptoms characteristic of botulism. The patient named the meals he had eaten the day before. What is the most probable cause of infection?

- A. Homemade canned meat
- B. Custard pastry from private bakery
- C. Sour cream from local dairy factory
- D. Strawberries from suburban vegetable garden
- E. Fried eggs

144. A histological preparation of multi-rooted tooth reveals polygonal cells with processes in the root bifurcation area. What cells and what dental tissues are characterised by these morphologic features?

- A. Cementocytes, cement
- B. Odontoblasts, enamel
- C. Enameloblasts, enamel
- D. Fibroblasts, pulp
- E. Cementocytes, dentine

145. A 26-year-old woman at 40 weeks' gestation was admitted to the maternity ward. Examination revealed that the cervix was open, but uterine contractions were absent. The doctor gave her a hormonal drug to induce labor. Specify this drug:

- A. Oxytocin
- B. Hydrocortisone
- C. Estrone
- D. Testosterone
- E. ACTH

146. A patient consulted an immunologist about diarrhea, weight loss within several months, low-grade fever, enlarged lymph nodes. The doctor suspected HIV infection. What immunocompetent cells must be studied in the first place?

- A. Helper T-lymphocytes
- B. Suppressor T-lymphocytes
- C. B-lymphocytes
- D. Monocytes
- E. Plasma cells

147. Pyrogen administered to a rabbit, in the course of an experiment, resulted

in increase of its body temperature. What substance of those named below acts as a secondary pyrogen that is a part of fever-inducing mechanism?

- A. Interleukin 1
- B. Pseudomonas polysaccharide (Piromen)
- C. Histamine
- D. Bradykinin
- E. Immunoglobulin

148. Phenylketonuria is a disease caused by a recessive gene that is localized in the autosome. The parents are heterozygous for this gene. They already have two sons with phenylketonuria and one healthy daughter. What is the probability that their fourth child will have the disease too?

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

149. X-chromatin test of somatic cells is used for quick diagnostics of hereditary diseases caused by variations of sex chromosomes number. What is the karyotype of a male, whose cells mostly contain one X-chromatin body?

- A. 47, XXY
- B. 45, X0
- C. 46, XY
- D. 48, XXXY
- E. 49, XXXXY

150. A 32-year-old patient has B_2 hypovitaminosis. The specific symptoms such as epithelial, mucosal, skin and corneal lesions are most likely to be caused by the deficiency of:

- A. Flavin coenzymes
- B. Cytochrome a1
- C. Cytochrome oxidase
- D. Cytochrome b
- E. Cytochrome c

151. A female patient suffering from coronary artery disease has been prescribed amiodarone that has antianginal action. What other action does this drug have?

- A. Antiarrhythmic
- B. Analgesic
- C. Local anaesthetic
- D. Anti-inflammatory
- E. Anti-shock

152. In order to prevent massive haemorrhage in the region of oral cavity floor it is required to ligate an artery which is located within Pirogov's triangle. What

artery is it?

- A. Lingual artery
- B. Superior thyroid artery
- C. Facial artery
- D. Ascending pharyngeal artery
- E. Maxillary artery

153. Histological study of a microslide of human skin found only dense irregular connective tissue. Which layer of this organ was analysed?

- A. Reticular dermis
- B. Papillary dermis
- C. Subcutaneous adipose tissue
- D. Epidermis
- E. Basal layer of epidermis

154. A patient has been preliminarily diagnosed with paragonimiasis. This disease is caused by lung flukes. The causative agent entered into the patient's body through:

- A. Eating half-cooked lobsters and crabs
- B. Eating unwashed vegetables
- C. Contact with an infected cat
- D. Eating half-cooked or dried fish
- E. Drinking raw water from open reservoirs

155. A shepherd who has tended sheep together with dogs consulted a doctor about pain in his right subcostal area, nausea, vomiting. Roentgenoscopy revealed a tumour-like formation. What kind of helminthiasis might be suspected?

- A. Echinococcosis
- B. Ascariasis
- C. Enterobiasis
- D. Taeniarhynchosis
- E. Taeniasis

156. A preparation of intestine reveals complex branching tubuloalveolar glands with their ends in submucous layer. What organ is it?

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

157. After examining the patient the doctor recommended him to eliminate rich meat and vegetable broth, spices, 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

158. A 60-year-old patient has taken a drug to relieve angina pectoris attack; in several minutes pain felt in the breastbone area abated, but it was followed by feeling of vertigo, headache, tinnitus, and hyperemia of face. What drug has he taken?

- A. Nitroglycerine
- B. Validol
- C. Nifedipine
- D. Verapamil
- E. Amiodarone

159. A young couple has a child with encephalopathy. A doctor determined this disease to be caused by mitochondrial DNA disorder. In what way are mitochondrial pathologies inherited?

- A. From mother to all her children
- B. From mother to son
- C. From father to daughter
- D. From father to son
- E. From both parents to all their children

160. When examining a female patient a doctor observed the following: misshapen auricles, elevated palate, teeth growth disorder; mental retardation; no disruption of reproductive function. Provisional diagnosis is the "super woman" syndrome. Point out the karyotype of this disease.

- A. (47, XXX)
- B. (47, XXY)
- C. (47, YYY)
- D. (47, XYY)
- E. (45, X0)

161. A patient has temporal bone fracture caused by an accident. What muscle functioning is disrupted?

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

162. Peripheral nerve trauma causes muscle atrophy; bones become porous and brittle; sores appear on skin and mucosa. What function of nervous system is damaged?

- A. Trophic
- B. Motor
- C. Sensory
- D. Vegetative
- E. Higher nervous activity

163. Diphtheria exotoxin had been treated with 0,3-0,4% formalin and kept in a thermostat for 30 days at a temperature of 40°C. What preparation was obtained as a result of these manipulations?

- A. Anatoxin
- B. Antitoxin
- C. Diagnosticum
- D. Therapeutic serum
- E. Diagnostic serum

164. A patient with acute cardiac failure has been taking cardiac glycoside drug for a long time. He has developed the following symptoms: nausea, fatigue, extrasystole. What is the cause of this symptoms?

- A. Material cumulation
- B. Idiosyncrasy
- C. Acquired tolerance
- D. Functional cumulation
- E. Drug addiction

165. Preventive examination of a 55-year-old patient revealed type II diabetes mellitus. An endocrinologist revealed an increase in body weight and liver enlargement. The man is non-smoker and doesn't abuse alcohol but likes to have a good 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 showing positive reaction 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

166. Squamous part of temporal bone and the artery situated on its inner surface have been damaged in the result of inflicted gunshot wound. What artery is it?

- A. Middle collateral artery
- B. Middle temporal artery
- C. Superficial temporal artery
- D. Anterior deep temporal artery
- E. Posterior deep temporal artery

167. Activation of certain hemostasis system factors is done through calcium ions attachment. What structural component allows this attachment?

- A. Gamma-carboxyglutamic acid
- B. Gamma-aminobutyric acid
- C. Gamma-oxybutyric acid
- D. Hydroxyproline
- E. Mono amino dicarboxylic acids

168. Tooth temperature increases during its preparation due to dental borer friction, which may cause painful sensations. What is the threshold of teeth thermal sensitivity?

- A. 51-60 0C
- B. 41-50 0C
- C. 10-20 0C
- D. 21-30 0C
- E. 31-40 0C

169. A patient suffering from pericarditis with rapid progression has developed acute cardiac tamponade. What regulation mechanism is most likely to compensate for this pathology?

- A. Tachycardia
- B. Heterometric
- C. Homeometric
- D. Inotropic effect of catecholamines
- E. Vasoconstriction

170. A patient with incised wound of trapezius muscle has been referred to a traumatology department. What cervical fascia forms sheath of this muscle?

- A. Lamina superficialis
- B. Muscular part of lamina pretrachealis
- C. Visceral part of lamina pretrachealis
- D. Lamina prevertebralis
- E. Vagina carotica

171. A 64-year-old male patient died with symptoms of acute cardiovascular failure. Autopsy results: the section of the anterior wall of the left ventricle showed a yellowish flaccid 1,5-2 cm focus surrounded by a reddish rim. The convoluted coronary arteries had lumen irregularly narrowed by 75%. The vessel intima was thickened, dense, covered with whitish plaques, crunched when cut. What disease can you think of?

- A. Acute myocardial infarction
- B. Continuously recurrent myocardial infarction
- C. Postinfarction cardiosclerosis
- D. Microfocal cardiosclerosis
- E. Recurrent myocardial infarction

172. A 36-year-old patient underwent tooth extraction at a dental clinic. After two weeks the stratified squamous epithelium regenerated at this site. What organelles were involved in the restoration of the

mucous membrane?

- A. Ribosomes
- B. Centrosomes
- C. Postlysosomes
- D. Smooth EPR
- E. Mitochondria

173. A dentist has detected symptoms of parodontosis in a patient. What anti-protozoal drug should be prescribed?

- A. Metronidazole
- B. Levamisole
- C. Griseofulvin
- D. Mykoseptin
- E. Furazolidone

174. A 36-year-old patient had had a traumatic brain injury which caused a swallowing impairment. Which part of brain was affected?

- A. Medulla oblongata
- B. Mesencephalon
- C. Diencephalon
- D. Reticular formation
- E. Thalamus

175. A 43-year-old patient has acute pancreatitis with concomitant disruption of common bile duct patency. What condition can it result in?

- A. Mechanical jaundice
- B. Hemolytic jaundice
- C. Hepatocellular jaundice
- D. Hepatic coma
- E. Portal hypertension

176. An inflammatory process in tissues is characterised by hyperemia and edema. What leukocytes situated in connective tissue provide for vasodilatation and increased blood vessel capacity under these conditions?

- A. Basocytes
- B. Neutrophils
- C. Eosinophils
- D. T-lymphocytes
- E. B-lymphocytes

177. Postmortem examination of a patient with a long history of rheumatism revealed thickening and shortening of the mitral valve leaflets with abundant thrombotic deposits. Histological examination of the valve leaflets confirmed sclerosis and revealed multiple foci of connective tissue disorganization in form of mucoid and fibrinoid swelling, as well as deendothelization foci. Endothelium defects were covered with thrombotic deposits of 1-2 mm. What type of valvular endocarditis is the case?

- A. Recurrent verrucous endocarditis
- B. Acute verrucous endocarditis
- C. Fibroplastic endocarditis
- D. Diffuse valvulitis
- E. Polypous-ulcerative endocarditis

178. Autopsy of a dead 6-year-old child revealed a marked edema of the soft tissues of neck and enlarged tonsils. Pharyngeal mucosa was covered with numerous dense whitish-yellow pellicles exposing deep ulcers after their removal. Histological examination of the pharyngeal mucosa revealed necrosis of the upper epithelial layers, impregnation of the mucous membrane with the fibrinous exudate and moderate leukocyte infiltration. What infectious disease caused the death of the child?

- A. Diphtheria
- B. Parainfluenza
- C. Scarlet fever
- D. Whooping cough
- E. Measles

179. A patient was suffering from primary tuberculosis 5 years ago. Radiography has revealed a sharply marginated nodular shadow with diameter of 4 cm in the 2nd segment of the right lung. Focus was surgically removed. Histological study has revealed the following: the focus of caseous necrosis surrounded by the thick capsule of connective tissue. What kind of secondary tuberculosis has occurred in patient?

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

180. When examining the child's oral cavity, a dentist has noticed growth of the child's first permanent canines. How old is the child?

- A. 13
- B. 10
- C. 9
- D. 7
- E. 6

181. Calcification of dental tissues is significantly influenced by osteocalcin protein which has an ability to bind calcium ions due to the presence of the following modified amino acid residues in the polypeptide chain:

- A. γ -carbon glutamine
- B. Alanine
- C. γ -aminobutyric
- D. Carboxy asparagine
- E. δ -aminopropionic

182. A 47-year-old male patient consulted a dentist about difficult mouth opening (lockjaw). 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

183. An autopsy of the body of a 56-year-old man, who was suffering from secondary tuberculosis, has revealed large areas of sclerosis in the I-II segments of the right lung. Tissue surrounding affected areas is pale, soft, convex; crunches when cut; does not recede. Specify the changes occurring in the tissues surrounding sclerosis focus.

- A. Focal emphysema
- B. Bronchiectasis
- C. Pneumothorax
- D. Atelectasis
- E. Abscess

184. Microscopy of dental plaque revealed unicellular organisms. Their cytoplasm had two distinct layers, barely visible core, wide pseudopodia. The patient is most likely to have:

- A. *Entamoeba gingivalis*
- B. *Lamblia*
- C. *Trichomonas tenax*
- D. *Entamoeba histolytica*
- E. *Entamoeba coli*

185. The patient's condition after blood transfusion has been aggravated by posttransfusion shock. Name the type of allergic reaction causing this pathology.

- A. Cytotoxic
- B. Anaphylactic
- C. Immune complex
- D. Delayed-type hypersensitivity
- E. Receptor-mediated

186. Patient's eye accommodation process has been disrupted. What muscle is damaged?

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

187. A histological specimen represents an organ whose wall consists of the mucosa, submucosa, fibrocartilage and adventitious cartilage. The organ is lined by pseudostratified ciliary epithelium, the muscular layer of the mucosa is absent, the submucosa contains seromucous glands. Hyaline cartilage C-rings are present. What organ has the described morphological characteristics?

- A. Trachea
- B. Bronchiole
- C. Secondary bronchus
- D. Terminal bronchiole
- E. Larynx

188. Continuous treatment of cancer patients with methotrexate over time reduces the target cell's sensitivity to the drug. In this case gene amplification of the following enzyme is observed:

- A. Dihydrofolate reductase
- B. Thiaminase
- C. Deaminase
- D. Thioredoxin reductase
- E. Thioredoxin reductase

189. To conduct serum diagnostics of typhoid fever a test is carried out, when diagnosticums of three types of microorganisms are being added into different solutions of patient's serum; then agglutinate formation is checked. Name the author of this kind of test.

- A. Widal
- B. Wassermann
- C. Ouchterlony
- D. Wright
- E. Sachs-Witebsky

190. In course of an experiment researchers stimulate a branch of a sympathetic nerve that innervates heart. What changes in 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

191. A patient has chronic rhinitis. Nasal cavity mucosa swelling causes disruption of the olfactory nerve receptors placed in the nasal cavity olfactory region. What formation allows for olfactory nerve endings to enter into anterior cranial fossa?

- A. *Lamina cribrosa os ethmoidale*
- B. *Foramen ethmoidale anterior*
- C. *Foramen ethmoidale posterior*
- D. *Foramen sphenopalatinum*
- E. *Foramen incisivum*

192. Ability to divide is characteristic of procariotic and eukaryotic cells. Procariotic cell division is different from that of eukaryotic, but there is one molecular process that is the basis of both types of division. Name this process.

- A. DNA replication
- B. Transcription
- C. Reparation
- D. Translation
- E. Gene amplification

193. An isolated heart of a mammal has had diastolic arrest in the process of perfusion with an ion-rich solution. Solution had excess of the following ions:

- A. Potassium
- B. Sodium
- C. Chlorine
- D. Magnesium
- E. Calcium

194. A patient with hypoparathyreosis has multiple carious lesions of teeth. This pathology is caused by insufficiency of the following hormone:

- A. Calcitonin
- B. Thyroxin
- C. Triiodothyronine
- D. Thyroid-stimulating hormone
- E. Somatotropin

195. As a result of a rapid change from horizontal to vertical body position a 16-year-old girl lost consciousness. What is the reason for it?

- A. Decreased venous return
- B. Increased venous return
- C. Heart rate decrease
- D. Arterial pressure rise
- E. -

196. A patient has myocardial infarction. The first several hours of such medical condition will be characterized by significant increase of activity of the following enzyme in his blood serum:

- A. Creatine phosphokinase
- B. Lactate dehydrogenase₄
- C. Aspartate aminotransferase
- D. Lactate dehydrogenase₅
- E. Alanine-aminotransferase

197. A 54-year-old patient with viral hepatitis has complication of hepatic coma caused by massive necrosis of liver epithelial cells. What kind of hepatic coma is it characteristic of?

- A. Parenchymatous
- B. Shunt
- C. Mixed type
- D. Porto-caval
- E. Ketoacidotic

198. A 9-month-old infant is on bottle feeding. Formula used in feeding has insufficient content of vitamin B₆. The infant has seizures possibly caused by disruption in production of the following substance in the body:

- A. Gamma aminobutyric acid (GABA)
- B. Serotonin
- C. Histamine
- D. Dopamine
- E. β -alanine

199. Novocaine acts as an anesthetic by making nerve fibers unable to conduct stimulation. What mechanism of action regarding membrane's permeability to ions does this drug have?

- A. Sodium ion-selective channels blockade
- B. Potassium ion-selective channels blockade
- C. Calcium ion-selective channels blockade
- D. Sodium-potassium pump blockade
- E. Sodium-proton pump blockade

200. There is a 7-year-old child with complains of cough, lacrimation, rhinitis, skin rash, photophobia and three-day-long fever as high as 38°C. Physical examination has revealed the following: conjunctivitis; bright red maculopapular rash covering the skin of face, neck and torso; hyperemic pharynx; serous purulent secretions from the nose; dry rales in the lungs. What is the most probable diagnosis?

- A. Measles
- B. Scarlet fever
- C. Rubella
- D. Adenovirus infection
- E. Chicken pox

INSTRUCTIONAL BOOK

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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		