1. Patient with hypersecretion of the gastric juices was recomended to exclude from the diet concentrated bouillons and vegetable decoctions because of their stimulation of gastric secretion. What is dominating mechanism of stimulation of secretion in this case?

a. Stimulation of gastrin production by G-cells
b. Irritation of mechanoreceptors of the oral cavity
c. Stimulation of excretion of secretin in the duodenum
d. Irritation of mechanoreceptors of the stomach
e. Irritation of taste receptors

2. Person felt thirsty after staying in heat for a long time. Signals of what receptors caused it first of all?

a. Osmoreceptors of hypothalamus
b. Osmoreceptorsof the liver
c. Baroreceptors of aortic arch
d. Glucoreceptors of hypothalamus
e. Sodium receptors of hypothalamus

3. An individual is characterized by rounded face, broad forehead, a mongolian type of eyelid fold, flattened nasal bridge, permanently open mouth, projecting lower lip, protruding tongue, short neck, flat hands, and stubby fingers. What diagnosis can be put to the patient?

a. Alkaptonuria
b. Klinefelters syndrome
c. Downs syndrome
d. Supermales
e. Turners syndrome

4. Purulent endometritis developed in a woman after delivery. Treating with antibiotics inhibitors of murein synthesis was ineffective. Wide spectrum bactericidal antibiotic was administered to her. In 6 hours temperature rapidly increased up to 40°C with shiver. Muscle pains have appeared. BP dropped down to 70/40 mmHg. Oligura has developed. What is the main reason for the development of this condition?

a. Anaphylactic shock
b. Bacteremia
c. Toxic effect of preparation
d. Internal bleeding
e. Endotoxic shock

5. Secretion of which gastrointestinal hormones is primerily decreased in patient with removed duodenum?

a. Neurotensin
b. Cholecystokinin and secretin
c. Histamine
d. Gastrin
e. Gastrin and histamine

6. A 2-year-old child experienced convulsions because of lowering calcium ions concentration in the blood plasma. Function of what structure is decreased?

a. Hypophysis
b. Pineal gland
c. Thymus
d. Parathyroid glands
e. Adrenal cortex

7. While emotional excitement the heart rate in a 30-year-old person run up to 112 Bpm. What part of the conducting system of the heart caused it?

a. His bundle branches
b. Purkinjes fibers
c. Synoatrial node

d. Intraventricular node
e. His bundle

8. Usage of oral contraceptives with sex hormones inhibits secretion of the hypophysiae hormones. Secretion of which of the indicated hormones is inhibited while using oral contraceptives with sex hormones?

a. Follicle-stimulating
b. Thyrotropic
c. Oxytocin
d. Somatotropic
e. Vasopressin

9. During the breakout of acute respiratory infection in order to diagnose influenza the express-diagnosis, based on revealing of specific viral antigen in the examined material (nasopharyngial lavage), is carried out. Which reaction is used for this?

a. Complement binding
b. Precipitation
c. Opsonization
d. Immunofluorescence
e. Agglutination

10. A 38-year-old woman was admitted to the admission-diagnostic department with uterine bleeding. What are the most likely changes of blood?

a. Reduction of haematocrite rate
b. Leukopenia
c. Polycythemia
d. Leucocytosis
e. Increase of haematocrite rate

11. Due to action of electric current on the exitable cell there appeared depolarization of its membrane. Movement of what ions through the membrane caused depolarisation?

a. $HCO3^-$
b. Cl^-
c. K^+
d. Na^+
e. $Ca2^+$

12. The high level of Lactate Dehydrogenase (LDH) isozymes concentration showed the increase of LDH-1 and LDH-2 in a patients blood plasma. Point out the most probable diagnosis:

a. Diabetes mellitus
b. Skeletal muscle dystrophy
c. Myocardial infarction
d. Viral hepatitis
e. Acute pancreatitis

13. There is only one hormone among the neurohormones which refers to the derivatives of amino acids according to classification. Point it out:

a. Somatotropin
b. Melatonin
c. Vasopressin
d. Thyroliberin
e. Oxytocin

14. The sterile Petri dishes and pipettes are necessary to prepare for microbiological tests in bacteriological laboratory. What way of sterilization should be applied in this case?

a. Pasteurization
b. Tyndallization
c. Dry-heat sterilization

d. Steam sterilization in autoclave
e. Boiling

15. A patient after hypertension stroke does not have voluntary movements in his right arm and leg with the increased muscle tone in these extremites. What type of disfunction of nervous system is it?
a. Central paresis
b. Central paralysis
c. Peripheral paresis
d. Peripheral paralysis
e. Reflex paresis

16. Blood analysis of a patient showed signs of HIV infection (human immunodeficiency virus). Which cells does HIV-virus primarily affect?
a. Proliferating cells (stem hematoplastic cells)
b. Cells that contain receptor T4 (T-helpers)
c. Specialized nervous cells (neurons)
d. Cells that contain receptor IgM (B-lymphocytes)
e. Mast cells

17. The preventive radioprotector was given to a worker of a nuclear power station. What mechanism from the below mentioned is considered to be the main mechanism of radioprotection?
a. Inhibition of free radicals formation
b. Activation of oxidation reactions
c. Increasing of respiration
d. Increasing of tissue blood supply
e. Prevention of tissue’s hypoxia

18. X-ray examination discovered lungs emphysema in the patient. What is the reason of short breath development in this case?
a. Excitation of respiratory center
b. Decreasing of alveoli receptors sensitivity
c. Increased lungs elasticity
d. Inhibition of respiratory center
e. Decreased lungs elasticity

19. On experiment on the dog the peripheral part of nervus vagus of the neck was irritated. What changes of the heart function would be observed?
a. Increased atrioventricular conduction
b. Increased contraction force
c. Decreased contraction rate
d. Increased contraction force and rate
e. Increased myocardial excitability

20. Power inputs of a boy increased from 500 to 2000 kJ pro hour. What can be the cause of it?
a. Raise of outer temperatute
b. Food intake
c. Transition from sleep to wakefulness
d. Physical exercise
e. Mental activity

21. A student is thoroughly summarising a lecture. When his groupmates begin talking the quality of the summarising worsens greatly. What type of inhibition in the cerebral cortex is the cause of it?
a. Protective
b. Differential
c. Delayed
d. External
e. Dying

22. In the experiment on the animal the part of the cerebral cortex hemispheres was removed. It

caused elimination of previously formed conditioned reflex to the light irritation. What part ot the cortex was removed?

a. Limbic cortex
b. Temporal lobe
c. Precentral convolution
d. Postcentral convolution
e. Occipital cortex

23. Inhibition of alpha-motoneuron of the extensor muscles was noticed after stimulation of alpha-motoneuron of the flexor muscles during the experiment on the spinal column. What type of inhibition can this process cause?

a. Depolarizational
b. Presynaptic
c. Reciprocal
d. Recurrent
e. Lateral

24. Respiratory coefficient was studied in the patient who strictly kept certain diet for 10 days. It was determined that it is 1. What diet does the patient follow?

a. With domination of carbohydrates
b. With domination of fat and carbohydrates
c. With domination of proteins and carbohydrates
d. Mixed
e. With domination of proteins and fat

25. On blood grouping on the system ABO, standart serum of the I and II groups caused erythrocytes agglutination of the examined blood and serum group of the III did not. What agglutinogens are in this erythrocytes?

a. A and B
b. A
c. B
d. C
e. D and C

26. Punctata hemorrhage was found out in the patient after application of a tourniquet. With disfunction of what blood cells is it connected?

a. Neutrophiles
b. Platelets
c. Monocytes
d. Eosinophiles
e. Lymphocytes

27. Students who are taking examinations often have dry mouth. The mechanism that causes this state is the realization of the following reflexes:

a. Conditioned parasympathetic
b. Unconditioned parasympathetic
c. Conditioned sympathetic
d. Unconditioned sympathetic
e. Unconditioned peripheral

28. Middle part of cochlear of internal ear was destroyed in animal while experiment. It will cause abnormalities of the sound perception of the following frequencies:

a. Middle
b. High
c. No abnormalities
d. High and low
e. Low

29. The person has decreased diuresis, hypernatremia, hypokalemia. Hypersecretion of what hormon can cause such changes?

a. Aldosterone
b. Auricular sodiumuretic factor
c. Parathormone
d. Adrenalin
e. Vasopressin

30. The temperature of the ambient environment is 38oC and relative air humidity is 50%. What ways of heat emission provide maintaining a constant temperature of the human body?

a. Radiation
b. Convection
c. Convection and conduction
d. Evaporation
e. Heat conduction

31. The minute blood volume in a patient with transplanted heart has increased as a result of physical activity. What regulative mechanism is responsible for these changes?

a. Catecholamines
b. Parasympathetic unconditioned reflexes
c. Parasympathetic conditioned reflexes
d. Sympathetic conditioned reflexes
e. Sympathetic unconditioned reflexes

32. Isolated muscle of a frog is rhythmically irritated with electric impulses. Every next impulse is in a period of relaxation from the previus contraction. What contraction of the muscle appears?

a. Asynchronous
b. Single
c. Waved tetanus
d. Continuous(smooth) tetanus
e. Tonic

33. A 30 year old woman has subnormal concentration of enzymes in the pancreatic juice. This might be caused by the hyposecretion of the following gastrointestinal hormone:

a. Vaso-intestinal peptide
b. Cholecystokinin-pancreozymin
c. Secretin
d. Somatostatin
e. Gastro-inhibiting peptide

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

a. Residual volume
b. Functional residual lung capacity
c. Expiratory reserve volume
d. Respiratory capacity
e. Inspiratory reserve volume

35. A man has normal sensitivity of his finger skin, however he doesn’t sense his wedding ring around the finger. What process induced by wearing of the ring has caused this phenomenon?

a. Development of the fibrous tissue
b. Impaired circulation
c. Abnormality of the receptor structure
d. Receptor adaptation
e. Abnormality of the epidermis structure

36. An aged man had raise of arterial pressure under a stress. It was caused by activation of:

a. Functions of thyroid gland

b. Parasympathetic nucleus of vagus
c. Sympathoadrenal system
d. Functions of adrenal cortex
e. Hypophysis function

37. A month after surgical constriction of rabbits renal artery the considerable increase of systematic arterial pressure was observed. What of the following regulation mechanisms caused the animals pressure change?
a. Serotonin
b. Angiotensin-II
c. Adrenaline
d. Vasopressin
e. Noradrenaline

38. A child has abnormal formation of tooth enamel and dentin as a result of low concentration of calcium ions in blood. Such abnormalities might be caused by deficiency of the following hormone:
a. Somatotropic hormone
b. Triiodothyronine
c. Thyrocalcitonin
d. Thyroxin
e. Parathormone

39. A sportsman was examined after an intensive physical activity. The examination revealed disorder of movement coordination but the force of muscle contractions remained the same. It can be explained by retarded speed of excitement conduction through:
a. Conduction tracts
b. Central synapses
c. Efferent nerves
d. Neuromuscular synapses
e. Afferent nerves

40. After a long training session a sportsman has developed fatigue accompanied by abrupt performance decrement. What link of the reflex arch was the fatigue initiated in?
a. Efferent conductor
b. Muscles
c. Afferent conductor
d. Receptors
e. Nerve centres

41. ECG study showed that the T-waves were positive in the standard extremity leads, their amplitude and duration were normal. The right conclusion would be that the following process runs normally in the heart ventricles:
a. Depolarization
b. Contraction
c. Relaxation
d. Repolarization
e. Excitement

42. Blood minute volume of a 30 year old woman at rest is 5 l/m. What blood volume is pumped through the pulmonary vessels per minute?
a. 1,5 l
b. 5 l
c. 2,5 l
d. 3,75 l
e. 2,0 l

43. As a result of long-term starvation the glomerular filtration of a man was accelerated by 20%. The most probable cause of filtration changes under such conditions is:

a. Fall of oncotic pressure of blood plasma
b. Increased permeability of renal filter
c. Increase of renal plasma flow
d. Growth of filtration coefficient
e. Rise of systemic arterial pressure

44. In course of an experiment a skeletal muscle is being stimulated by a series of electric impulses. What type of muscle contraction will arise, if every subsequent impulse comes in the period of shortening of the previous single muscle contraction?
a. Holotetanus
b. Asynchronous tetanus
c. Muscle contracture
d. A series of single contractions
e. Partial tetanus

45. A patient under test was subjected to a moderate physical stress. His minute blood volume amounted 10 l/min. What blood volume was pumped through his lung vessels every minute?
a. 7 l/min
b. 10 l/min
c. 4 l/min
d. 5 l/min
e. 6 l/min

46. A patient presents with the following motor activity disturbances: tremor, ataxia and asynergia movements, dysarthria. The disturbances are most likely to be localized in:
a. Brainstem
b. Medulla oblongata
c. Basal ganglions
d. Limbic system
e. Cerebellum

47. A man has a considerable decrease in diuresis as a result of 1,5 l blood loss. The primary cause of such diuresis disorder is the hypersecretion of the following hormone:
a. Cortisol
b. Parathormone
c. Corticotropin
d. Natriuretic
e. Vasopressin

48. While shifting the gaze to the closely situated object the refracting power of eyes optical mediums will increase by 10 diopters. It results from changing of such eye structure:
a. Lens
b. Vitreous body
c. Muscle that dilatates pupil
d. Liquid of the anterior chamber of eye
e. Cornea

49. Spasm of smooth muscle of bronchi developed in the patient. Usage of activators of what membrane cytoreceptors will physiologically lead to decrease attack?
a. beta-adrenoreceptors
b. alpha- and beta-adrenoreceptors
c. M-cholinoreceptors
d. H-cholinoreceptors
e. alpha-adrenoreceptors

50. Intrapleural pressure is being measured in a person. In what phase has a person hold his breath if the pressure is - 25 cm H2O?
a. Speed up expiration

b. -
c. Calm expiration
d. Calm inspiration
e. Speed up inspiration

51. On examination of the person it was revealed that minute volume of heart is 3500 mL, systolic volume is 50 mL. What is the frequency of cardiac contraction?
a. 70 bpm
b. 50 bpm
c. 90 bpm
d. 80 bpm
e. 60 bpm

52. Due to activation of ion channels of external membrane of excitable cell its rest potential has significantly increased. What channels were activated?
a. Natrium channels
b. Slow calcium channels
c. Natrium and calcium channels
d. Potassium channels
e. Fast calcium channels

53. The ventral roots of 5 frontal segment of spinal cord were cut during experiment in the animal. What changes will take place in the innervation region?
a. Loss of proprioceptive sensitivity
b. Hypersensitivity
c. Loss of touch sensitivity
d. Loss of temperature sensitivity
e. Loss of movements

54. Glomerular filtration rate (GFR) increased for 20% due to prolonged starvation of the person. The most likely cause of filtration changes under this conditions is:
a. Increase of renal plasma stream
b. Decrease of oncotic pressure of blood plasma
c. Increase of penetration of the renal filter
d. Increase of systemic blood pressure
e. Increase of filtration coefficient

55. A patient has a transverse disruption of spinal cord below the IV thoracic segment. What changes of respiration will it cause?
a. Respiration will stop
b. Respiration will become deeper
c. Respiration will become more frequent
d. Respiration will stay unchanged
e. Respiration will become less frequent

56. Due to cranial trauma the patient developed the symptoms: intention tremor, dysmetry, adiadochokinesis, dysarthria. What structure of the brain is injured?
a. Motor cortex
b. Striatum
c. Cerebellum
d. Pale sphere
e. Black substance

57. A lightly dressed man is standing in a room, air temperature is +14 C, windows and doors are closed. In what way does he emit heat the most actively?
a. Evaporation
b. Perspiration
c. Heat conduction

d. Convection
e. Heat radiation

58. ECG of a patient with hyperfunction of thyroid gland showed heart hurry. It is indicated by depression of the following ECG element:
a. R-R interval
b. P-Q interval
c. QRS complex
d. P-T interval
e. P-Q segment

59. A peripheral segment of vagus nerve on a dogs neck was being stimulated in course of an experiment. The following changes of cardiac activity could be meanwhile observed:
a. Heart rate fall
b. Enhancement of atrioventricular conduction
c. Increased excitability of myocardium
d. Heart rate and heart force amplification
e. Heart hurry

60. ECG of a patient shows prolongation of T-wave. This is caused by deceleration in ventricles of:
a. Depolarization and repolarization
b. Contraction
c. Relaxation
d. Repolarization
e. Depolarization

61. In a healthy adult speed of the excitement conduction through the atrioventricular node is 0,02-0,05 m/sec. Atrioventricular delay enables:
a. Sufficient force of atrial contractions
b. Sufficient force of ventricular contractions
c. Simultaneity of both atria contractions
d. Simultaneity of both ventricles contractions
e. Sequence of atrial and ventricular contractions

62. A 2 y.o. child has convulsions as a result of lowered concentration of calcium ions in blood plasma. It is caused by reduced function of:
a. Adrenal cortex
b. Hypophysis
c. Parathyroid glands
d. Pineal gland
e. Thymus

63. What heat transfer mechanism is the most effective while the man being at 80% of air moisture and the temperature +350C?
a. Heat conduction
b. Radiation
c. Evaporation
d. Convection
e. --

64. During preparation of a patient to a heart surgery it was necessary to measure pressure in heart chambers. In one of them pressure varied from 0 mm Hg up to 120 mm Hg within one cardiac cycle. What heart chamber is it?
a. Left ventricle
b. Right atrium
c. -
d. Left atrium
e. Right ventricle

65. Heart rate of a man permanently equals 40 beats pro minute. What is the pacemaker?

a. Atriventricular node

b. His bundle

c. Purkinjes fibers

d. His bundle branches

e. Sinoatrial node

66. Stimulation of an excitable cell by the electric current has led to the depolarization of its membrane. The depolarization has been caused mainly by the following ions penetrating into the cell through its membrane:

a. Na+

b. Ca2+

c. K+

d. Cl-

e. HCO3-

67. Parents of a 10 y.o. boy consulted a doctor about extension of hair-covering, growth of beard and moustache, low voice. Intensified secretion of which hormone must be assumed?

a. Of testosterone

b. Of oestrogen

c. Of cortisol

d. Of progesterone

e. Of somatotropin

68. Lung ventilation in a person is increased as a result of physical activity. Which of the following indices of the external respiration is much higher than in a state of rest?

a. Total lung capacity

b. Respiratory volume

c. Inspiratory reserve volume

d. Vital capacity of lungs

e. Expiratory reserve volume

69. A man took a quiet expiration. Name an air volume that is meanwhile contained in his lungs:

a. Functional residual capacity

b. Expiratory reserve volume

c. Vital lung capacity

d. Respiratory volume

e. Residual volume

70. Examination of an isolated cardiomyocyte revealed that it did not generate excitation impulses automatically. This cardiomyocyte was obtained from:

a. Atrioventricular node

b. Sinoatrial node

c. Ventricles

d. His bundle

e. Purkinjes fibers

71. Examination of a man established that cardiac output equaled 3500 ml, systolic output - 50 ml. What is the mans heart rate pro minute?

a. 80

b. 90

c. 60

d. 50

e. 70

72. As a result of continuous starvation the glomerular filtration rate has increased by 20%. The most probable cause of the glomerular filtration alteration under the mentioned conditions is:

a. Increase in the systemic arterial pressure

b. Increase of the filtartion quotient
c. Increase of the renal blood flow
d. Decrease in the oncotic pressure of blood plasma
e. Increase in the permeability of the renal filter

73. A man who went for a ride on a roundabout had amplification of heart rate, sweating and nausea. What receptors stimulation is it primarily connected with?
a. Tactors
b. Proprioceptors
c. Vestibular
d. Auditory
e. Visual

74. A mans intrapleural pressure is being measured. In what phase did the man hold his breath, if his pressure is 7,5 cm Hg?
a. -
b. Quiet inspiration
c. Forced inspiration
d. Quiet expiration
e. Forced expiration

75. Atria of an experimental animal were superdistended by blood that resulted in decreased reabsorption of Na+ and water in renal tubules. This can be explained by the influence of the following factor upon kidneys:
a. Vasopressin
b. Natriuretic hormone
c. Renin
d. Aldosterone
e. Angiotensin

76. A middle-aged man went to a foreign country because he had been offered a job there. However he had been unemployed for quite a long time. What endocrine glands were exhausted most of all in this man?
a. Substernal gland
b. Thyroid gland
c. Parathyroid glands
d. Seminal glands
e. Adrenal glands

77. A 42 year old patient complains of pain in the epigastral area, vomiting; vomit masses have the colour of "coffee-grounds", the patient has also melena. Anamnesis records gastric ulcer. Blood formula: erythrocytes - 2,81012l, leukocytes – 8109l, Hb- 90 g/l. What complication is it?
a. Canceration
b. Pyloric stenosis
c. Penetration
d. Perforation
e. Haemorrhage

78. A 60-year-old man after cerebral hemorrhage felt asleep for a long time. Damage of what structure caused this state?
a. Nuclears of the cerebral nerves
b. Hippocampus
c. Reticular formation
d. Cortex of the large hemispheres
e. Black substances

79. A human body cools in water much faster that in the air. What way of heat emission in water is much more efficient?

a. -
b. Heat conduction
c. Heat radiation
d. Convection
e. Sweat evaporation

80. As a result of spinal-cord trauma a 33 y.o. man has a disturbed pain and temperature sensitivity that is caused by damage of the following tract:
a. Spinothalamic
b. Posterior spinocerebellar
c. Anterior spinocerebellar
d. Lateral spinocortical
e. Medial spinocortical

81. After a surgery a 36-year-old woman was given an intravenous injection of concentrated albumin solution. This has induced intensified water movement in the following direction:
a. No changes of water movement will be observed
b. From the intercellular fluid to the capillaries
c. From the cells to the intercellular fluid
d. From the intercellular fluid to the cells
e. From the capillaries to the intercellular fluid

82. A clinic observes a 49 year old patient with significant prolongation of coagulation time, gastrointestinal haemorrhages, subcutaneous hematomas. These symptoms might be explained by the deficiency of the following vitamin:
a. H
b. E
c. B1
d. B6
e. K

83. Examination of a patient revealed hyperkaliemia and hyponatremia. Low secretion of which hormone may cause such changes?
a. Natriuretic
b. Aldosterone
c. Cortisol
d. Vasopressin
e. Parathormone

84. Examination of a 43 y.o. anephric patient revealed anaemia symptoms. What is the cause of these symptoms?
a. Enhanced destruction of erythrocytes
b. Vitamin B12 deficit
c. Folic acid deficit
d. Reduced synthesis of erythropoietins
e. Iron deficit

85. A man is being measured power inputs on an empty stomach, in the lying position, under conditions of physical and psychic rest at a comfortable temperature. Power inputs will reach the maximum at:
a. 3-4 a.m.
b. 5-6 p.m
c. 10-12 a.m
d. 7-8 a.m
e. 2-3 p.m

86. When measuring power inputs of a man by the method of indirect calorimetry the following results were obtained: 1000 ml oxygen consumption and 800 ml carbon dioxide liberation per minute.

The man under examination has the following respiratory coefficient:
a. 0,84
b. 1,0
c. 1,25
d. 0,9
e. 0,8

87. While determining power inputs of a patient’s organism it was established that the respiratory coefficient equaled 1,0. This means that in the cells of the patient the following substances are mainly oxidized:
a. Carbohydrates
b. Fats
c. Carbohydrates and fats
d. Proteins and carbohydrates
e. Proteins

88. A patient has a disturbed absorbtion of fat hydrolysates. It might have been caused by a deficit in the small intestine cavity:
a. Of liposoluble vitamins
b. Of bile acids
c. Of lipolytic enzymes
d. Of bile pigments
e. Of sodium ions

89. Inhabitants of territories with cold climate have high content of an adaptive thermoregulatory hormone. What hormone is meant?
a. Somatotropin
b. Cortisol
c. Insulin
d. Glucagon
e. Thyroxin

90. A concentrated solution of sodium chloride was intravenously injected to an animal. This caused decreased reabsorption of sodium ions in the renal tubules. It is the result of the following changes of hormonal secretion:
a. Reduction of atrial natriuretic factor
b. Aldosterone reduction
c. Vasopressin reduction
d. Aldosterone increase
e. Vasopressin increase

91. Accelerated frequency of the heart rate and increased blood pressure were marked in the sportsman on the start before the competitions. Influence of what parts of the CNS can explain these changes?
a. Cortex of the large hemispheres
b. Mesencephalon
c. Hypothalamus
d. Diencephalon
e. Medulla

92. People adapted to high external temperatures have such peculiarity: profuse sweating is not accompanied by loss of large volumes of sodium chloride. It is caused by the effect of the following hormone upon the perspiratory glands:
a. Aldosterone
b. Cortisol
c. Natriuretic
d. Thyroxin
e. Vasopressin

93. During an experiment the dorsal roots of the spinal cord of an animal have been cut. What changes will be observed in the innervation zone?

a. Decrease in muscle tone
b. Loss of motor functions
c. Sensitivity loss
d. Increase in muscle tone
e. Sensitivity loss and loss of motor functions

94. As a result of destruction of certain brainstem structures an animal has lost its orientative reflexes in response to strong photic stimuli. What structures were destroyed?

a. Red nuclei
b. Posterior tubercles of quadrigeminal plate
c. Anterior tubercles of quadrigeminal plate
d. Vestibular nuclei
e. Black substance

95. As a result of damage to certain structures of brainstem an animal lost orientation reflexes. What structures were damaged?

a. Red nuclei
b. Medial nuclei of reticular formation
c. Quadritubercular bodies
d. Vestibular nuclei
e. Black substance

96. Osmotic pressure of a mans blood plasma is 350 mosmole/l (standard pressure is 300 mosmole/l). First of all it will result in high secretion of the following hormone:

a. Aldosteron
b. Adrenocorticotropin
c. Natriuretic
d. Vasopressin
e. Cortisol

97. A hypertensive glucose solution was introduced to a patient. It will intensify water movement:

a. There will be no changes of water movement
b. From the cells to the intercellular liquid
c. From the intercellular liquid to the cells
d. From the intercellular liquid to the capillaries
e. From the capillaries to the intercellular liquid

98. To prevent long-term effects of 4-day malaria a 42-year-old patient was prescribed primaquine. On the 3-rd day from the begin of treatment there appeared stomach and heart pains, dyspepsia, general cyanosis, hemoglobinuria. What caused side effects of the preparation?

a. Drug potentiation by other preparations
b. Genetic insufficiency of glucose 6-phosphate dehydrogenase
c. Decreased activity of microsomal liver enzymes
d. Cumulation of the preparation
e. Delayed urinary excretion of the preparation

99. According to audiometry data a patient has a disturbed perception of medium-frequency sounds. It might have been caused by a damage of:

a. Spiral ganglion
b. Cochlear nuclei
c. Middle part of helix
d. Quadritubercular structure
e. Lateral geniculate bodies

100. A 17-year-old boy fell seriously ill, body temperature rose up to 38,50C, there is cough, rhinitis, lacrimation, nasal discharges. What kind of inflammation is it?

a. Suppurative inflammation
b. Hemorrhagic inflammation
c. Serous inflammation
d. Fibrinous inflammation
e. Catarrhal inflammation

101. A patient with disturbed cerebral circulation has problems with deglutition. What part of brain was damaged?
a. Cervical part of spinal cord
b. Interbrain
c. Midbrain
d. Brainstem
e. Forebrain

102. A patient who has been treated with diazepam on account of neurosis complains of toothache. Doctor administered him an analgetic, but its dose was lower than average therapeutic dose. What phenomenon did the doctor take into account while prescribing the patient an underdose?
a. Cumulation
b. Summation
c. Potentiation
d. Drug dependence
e. Tolerance

103. Long-term starvation cure of a patient resulted in diminished ratio of albumines and globulines in plasma. What of the following will be result of these changes?
a. Decrease of ESR
b. Decrease of hematocrit
c. Hypercoagulation
d. Increase of ESR
e. Increase of hematocrit

104. A patient has a decreased vasopressin synthesis that causes polyuria and as a result of it evident organism dehydratation. What is the mechanism of polyuria development?
a. Reduced tubular reabsorption of water
b. Reduced tubular reabsorption of protein
c. Acceleration of glomerular filtration
d. Reduced glucose reabsorption
e. Reduced tubular reabsorption of Na ions

105. To anaesthetize the manipulation related to burn surface treatment, a patient was intravenously injected a medication for short-acting narcosis. 1 minute later the patient being under anaesthesia had increased blood pressure, tachycardia, increased tone of sceletal muscles; reflexes remained. After awakening the patient had desorientation and visual hallucinations. What medication was the patient injected?
a. Diethyl ether
b. Sombrevin
c. Ketamine
d. Thiopental sodium
e. Nitrous oxide

106. A 35 year old man consulted a dentist about reduced density of dental tissue, high fragility of teeth during eating solid food. This patient suffers the most probably from the deficiency of the following mineral element:
a. Potassium
b. Magnesium
c. Iron
d. Calcium
e. Sodium

107. A patient is 44 years old. Laboratory examination of his blood revealed that content of proteins in plasma was 40 g/l. What influence will be exerted on the transcapillary water exchange?

a. Filtration will be decreased, reabsorption - increased
b. Exchange will stay unchanged
c. Both filtration and reabsorption will be increased
d. Both filtration and reabsorption will be decreased
e. Filtration will be increased, reabsorption - decreased

108. After destruction of CNS structures an animal lost orientative reflexes. What structure was destroyed?

a. Red nucleus
b. Black substance
c. Medial reticular nuclei
d. Quadrigeminal plate
e. Lateral vestibular nuclei

109. An isolated cell of human heart automatically generates excitation impulses with frequency 60 times pro minute. What structure does this cell belong to?

a. His bundle
b. Sinoatrial node
c. Ventricle
d. Atrium
e. Atrioventricular node

110. Examination of a patient revealed a strong, balanced, inert type of higher nervous activity according to Pavlov. What temperament type does the patient have (according to Hippocrates classification)?

a. Choleric
b. Sanguine
c. Phlegmatic
d. Melancholic
e. -

111. Examination of a patient revealed overgrowth of facial bones and soft tissues, tongue enlargement, wide interdental spaces in the enlarged dental arch. What changes of the hormonal secretion are the most likely?

a. Hypersecretion of the somatotropic hormone
b. Hypersecretion of insulin
c. Hyposecretion of insulin
d. Hyposecretion of thyroxin
e. Hyposecretion of the somatotropic hormone

112. A patient has a haemorrhage into the posterior central gyrus. What type of sensitivity on the opposite side will be disturbed?

a. Skin and proprioceptive
b. Auditory
c. Auditory and visual
d. Olfactory
e. Visual

113. Child asked you to puff up the balloon as much as possible for a one exhalation.What air volume will you use?

a. Functional residual volume
b. Inspiration volume
c. Vital volume of the lungs
d. Total volume of the lungs
e. Backup volume of the inspiration

114. A 32-year-old patient consulted a doctor about the absence of lactation after parturition. Such disorder might be explained by the deficit of the following hormone:

a. Prolactin
b. Vasopressin
c. Glucagon
d. Thyrocalcitonin
e. Somatotropin

115. During influenza epidemic 40% of pupils who didnt go in for sports were affected by the disease, and among the pupils who regularly did physical exercises this index was only 20%. What adaptative mechanisms determined such a low sickness rate of pupils participating in the sports?

a. Specific adaptation
b. Biochemical adaptation
c. Genetic adaptation
d. Cross adaptation
e. Physiological adaptation

116. A 60 year old patient was found to have a dysfunction of main digestive enzyme of saliva. This causes the disturbance of primary hydrolysis of:

a. Fats
b. Cellulose
c. Lactose
d. Carbohydrates
e. Proteins

117. A 49 year old woman spent a lot of time standing. As a result of it she got leg edema. What is the most likely cause of the edema?

a. Increase in hydrostatic pressure of blood in veins
b. Decrease in hydrostatic pressure of blood in arteries
c. Increase in systemic arterial pressure
d. Increase in oncotic pressure of blood plasma
e. Decrease in hydrostatic pressure of blood in veins

118. 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. Glycine
b. Acetylcholine
c. Dopamine
d. Noradrenaline
e. Serotonin

119. A 30-year-old woman was diagnosed with insufficiency of exocrinous function of pancreas. Hydrolisis of what nutrients will be disturbed?

a. Proteins, fats
b. Fats, carbohydrates
c. Proteins
d. Proteins, fats, carbohydrates
e. Proteins, carbohydrates

120. Short-term physical activity resulted in reflex amplification of heart rate and raise of systemic arterial pressure. What receptors activation was the main cause of pressor reflex realization?

a. Vascular volume receptors
b. Vascular chemoreceptors
c. Proprioreceptors of active muscles
d. Vascular baroceptors
e. Hypothalamus thermoreceptors

121. In course of an experiment a skeletal muscle is being stimulated by a series of electric impulses. What type of muscle contraction will arise, if every subsequent impulse comes in the period of relaxation of single muscle contraction?

a. A series of single contractions
b. Holotetanus
c. Partial tetanus
d. Muscle contracture
e. Asynchronous tetanus

122. Packed cell volume of a man was 40% before the trauma. What packed cell volume will be observed 24 hours after blood loss of 750 ml?

a. 55%
b. 40%
c. 30%
d. 45%
e. 50%

123. A patient staggers and walks astraddle. He has hypomyotonia of arm and leg muscles, staccato speech. In what brain section is this affection localized?

a. Red nucleus
b. Cerebellum
c. Caudate nucleus
d. Putamen
e. Motor cortex

124. A pregnant woman had her blood group identified. Reaction of erythrocyte agglutination with standard serums of 0a/b (I), Ba(III) groups didnt proceed with standard serum of Ab (II) group. The blood group under examination is:

a. 0a/b (I)
b. AB (IV)
c. -
d. Ab (II)
e. Ba (III)

125. Blood group of a 30 year old man was specified before an operation. His blood is Rh-positive. Reaction of erythrocyte agglutination was absent with standard sera of 0(I), A(II), B(III) groups. The analysed blood is of the following group:

a. AB (IV)
b. -
c. A (II)
d. B (III)
e. 0 (I)

126. During an experiment the myotatic reflex has been studied in frogs. After extension in a skeletal muscle its reflectory contraction was absent. The reason for it might be a dysfunction of the following receptors:

a. Articular
b. Nociceptors
c. Muscle spindles
d. Golgi tendon organs
e. Tactile

127. Vagus branches that innervate heart are being stimulated in course of an experiment. As a result of it the excitement conduction from atria to the ventricles was brought to a stop. It is caused by electrophysical changes in the following structures:

a. Sinoatrial node
b. His bundle
c. Atrioventricular node

d. Ventricles
e. Atria

128. If a man has an attack of bronchiospasm it is necessary to reduce the effect of vagus on smooth muscles of bronchi. What membrane cytoreceptors should be blocked for this purpose?
a. Beta-adrenoreceptors
b. Alpha- and beta-adrenoreceptors
c. N-cholinoreceptors
d. Alpha-adrenoreceptors
e. M-cholinoreceptors

129. When water affects mucous membrane of the inferior nasal meatuses, this causes diver reflex that provokes:
a. Reflectory apnea
b. Reflectory hyperpnea
c. Bronchospasm
d. Cough
e. Reflectrory dyspnea

130. A man weighs 80 kg, after long physical activity his circulating blood volume is reduced down to 5,4 l, hematocrit makes up 50%, whole blood protein is 80 g/l. These blood characteristics are determined first of all by:
a. Increased diuresis
b. Water loss with sweat
c. Increased protein concentration in plasm
d. Increased number of erythrocytes
e. Increased circulating blood volume

131. A 16 year old boy after an illness has diminished function of protein synthesis in liver as a result of vitamin K deficiency. It will cause disturbance of:
a. Erythrocyte sedimentation rate
b. Erythropoietin secretion
c. Osmotic blood pressure
d. Blood coagulation
e. Anticoagulant generation

132. In response to a change in body position from horizontal to vertical blood circulation system develops reflectory pressor reaction. Which of the following is its compulsory component?
a. Systemic dilatation of the arterial resistive vessels
b. Increase in the heart rate
c. Weakening of the pumbing ability of heart
d. Systemic constriction of the venous vessels
e. Decrease in the circulating blood volume

133. Examination of a pregnant woman revealed twice as much concentration of fibrinogen in blood plasm. What ESR can this woman have?
a. 10-15 mm/h
b. 5-10 mm/h
c. 0-5 mm/h
d. 40-50 mm/h
e. 2-12 mm/h

134. A big dose of histamine introduction to an experimental animal caused abrupt drop of arterial pressure as a result of:
a. Constriction of resistance vessels
b. Decrease of heart rate
c. Decrease of heart rate and force
d. Dilatation of resistance vessels

e. Increase of heart rate

135. Systemic arterial pressure of an adult dropped from 120/70 to 90/50 mm Hg that led to reflectory vasoconstriction. The vasoconstriction will be maximal in the following organ:
a. Heart
b. Kidneys
c. Adrenals
d. Bowels
e. Brain

136. Microelectrode technique allowed to register a potential following all-or-none law and being able of undecremental spreading. Specify this potential:
a. Rest potential
b. Excitatory postsynaptic potential
c. Action potential
d. Inhibitory postsynaptic potential
e. Receptor potential

137. Vagus branches which innervate the heart are being stimulated during an experiment. It caused reduction of heart rate due to the intensification of the following process (through the cell membrane of cardiac pacemaker):
a. Calcium ion yield
b. Calcium and potassium ion yield
c. Potassium ion entry
d. Calcium ion entry
e. Potassium ion yield

138. Rest potential of a cell equals -80 mV. At what stage of action potential did the membrane potential equal +30 mV?
a. -
b. Reverse polarization
c. After depolarization
d. After hyperpolarization
e. Depolarization

139. A 35 year old man got an injury that caused complete disruption of spinal cord at the level of the first cervical segment. What respiration changes will be observed?
a. Diaphragmal respiration will be maintained, thoracic respiration will disappear
b. No changes will be observed
c. It will come to a standstill
d. Thoracic respiration will be maintained, diaphragmal respiration will disappear
e. It will become infrequent and deep

140. A doctor asked a patient to breath out fully after taking a normal breath. What muscles contract during such exhalation?
a. External intercostal muscles
b. Trapezius muscles
c. Pectoral muscles
d. Abdominal muscles
e. Diaphragm

141. A man was intoxicated with mushrooms. They contain muscarine that stimulates muscarinic cholinoreceptors. What symptoms signalize intoxication with inedible mushrooms?
a. Mydriatic pupils
b. Increased heart rate
c. Rise of arterial pressure
d. Myotic pupils
e. Bronchi dilatation

142. A man presents with increased heart rate, mydriatic pupils, dry mouth. This condition results from the activation of the following system of function regulation:

a. Metasympathetic
b. Parasympathetic
c. Sympathetic
d. Vago-insular
e. Hypothalamo-pituitary-adrenal

143. In course of an experiment a peripheral section of vagus of an expiremental animal is being stimulated. What changes will be observed?

a. Heart rate fall
b. Pupil dilation
c. Bronchi dilation
d. Increase of respiration rate
e. Heart hurry

144. Voluntary breath-holding caused increase of respiration depth and frequency. The main factor stimulating these changes of external respiration is:

a. Decreased concentration of H+ in blood
b. Increased tension of CO_2 in blood
c. Decreased tension of O_2 in blood
d. Increased tension of O_2 in blood
e. Decreased tension of CO_2 in blood

145. A patient has delayed conduction of excitement through the atrioventricular node. What changes of ECG will be observed?

a. Prolongation of P-Q interval
b. Negative T wave
c. Prolongation of Q-T interval
d. S-T-segment displacement
e. Prolongation of Q-S interval

146. Surface with an intact toad on it was inclined to the right. Tone of extensor muscles became reflectory higher due to the activation of the following receptors:

a. Proprioreceptors
b. Vestibuloreceptors of utricle and saccule
c. Mechanoreceptors of foot skin
d. Vestibuloreceptors of semicircular ducts
e. Photoreceptors of retina

147. In course of an experiment a toads right labyrinth was destroyed. It will cause amyotonia of the following muscles:

a. Right extensors
b. Left extensors
c. Right and left extensors
d. Right flexors
e. Left flexors

148. An animal has an increased tonus of extensor muscles. This the result of intensified information transmission to the motoneurons of the spinal cord through the following descending pathways:

a. Medial corticospinal
b. Rubrospinal
c. Lateral corticospinal
d. Vestibulospinal
e. Reticulospinal

149. Workers of a hothouse farm work under conditions of unfavourable microclimate: air temperature is +37oC, relative humidity is 90%, air speed is 0,2 m/s. The way of heat emission under

these conditions will be:
a. All the ways
b. Evaporation
c. Convection
d. Heat conduction
e. Radiation

150. Lungs of a preterm infant have areas of atelectasis (pulmonary collapse). The main cause is:
a. Increased viscous resistance
b. Diminished force of surface tension of lungs
c. Surfactant excess
d. Surfactant deficiency
e. Underdeveloped inspiration muscles

151. Vagi of an experimental animal were cut on both sides. Which respiration changes will be observed?
a. It will become deep and frequent
b. It will become shallow and frequent
c. It will become deep and infrequent
d. It will become shallow and infrequent
e. No changes will be observed

152. A cardiac electric stimulator was implanted to a 75 year old man with heart rate of 40 bpm. There after the heart rate rose up to 70 bpm. The electric stimulator has undertaken the function of the following heart part:
a. Atrioventricular node
b. His bundle fibers
c. Purkinjes fibers
d. Sinoatrial node
e. His bundle branches

153. A patient came to the hospital complaining about quick fatigability and apparent muscle weakness. Examination revealed an autoimmune disease that causes disorder of functional receptor condition in neuromuscular synapses. What transmitter will be blocked?
a. Serotonin
b. Glycine
c. Noradrenalin
d. Dopamine
e. Acetylcholine

154. Which muscle contraction will be observed in the upper extremity during holding (not moving) a load in a certain position?
a. Excentric
b. Isometric
c. Auxotonic
d. Isotonic
e. Concentric

155. Examination of a 35 year old patient revealed high acidity of gastric juice. What receptors should be blocked in order to reduce it?
a. α2-adrenoreceptors
b. α1-adrenoreceptors
c. Histamine
d. β1-adrenoreceptors
e. β2-adrenoreceptors

156. A young woman who entered a production department where it strongly smelt of paints and varnishes had a bronchospasm. This reflex was caused by irritation of the following receptors:

a. Juxtaglomerular
b. Central chemoreceptors
c. Peripheral chemoreceptors
d. Irritant
e. Pleura receptors

157. A 60-year-old patient presents with weakened peristaltic activity of the bowels. Which of the following foodstuffs would stimulate peristalsis most of all?
a. Lard
b. Tea
c. White bread
d. Meat
e. Brown bread

158. An isolated muscle fiber is under examination. It was established that the threshold of stimulation force became significantly lower. What is the cause of this phenomenon?
a. Activation of sodium channels of membrane
b. Inactivation of sodium channels of membrane
c. Block of energy production in the cell
d. Inactivation of potassium channels of membrane
e. Activation of potassium channels of membrane

159. It was established that agglutination of the recipients blood erythrocytes had been caused by the standard sera from the I and II groups. Serum from the III group as well as anti-Rh serum hadnt provoke any agglutination. Which blood group and rhesus is allowed to be transfused this recipient?
a. AB (IV), Rh-
b. aB (III) Rh-
c. 0 ab (I) Rh+
d. Ab (II) Rh-
e. AB (IV), Rh+

160. A patient consumed a lot of reach in proteins food that caused increase of rate of proteolytic enzymes of pancreatic juice. It is also accompanied by increase of rate of the following enzyme:
a. Enterokinase
b. Pepsin
c. Tripsin
d. Gastricsin
e. Renin

161. In course of an experiment thalamocortical tracts of an animal were cut. What type of sensory perception remained intact?
a. Olfactory
b. Exteroreceptive
c. Nociceptive
d. Visual
e. Auditory

162. A 40-year-old woman on examination presents with intensified basal metabolic rate. What hormone present in excess leads to such condition?
a. Aldosterone
b. Somatostatin
c. Thyrocalcitonin
d. Glucagon
e. Triiodothyronine

163. Toxic damage to hepatic cells resulted in disruption of the patient’s liver function and the patient developed edemas. What changes of blood plasma are the main cause of edema development?
a. Decrease of fibrinogen content

b. Increase of globulin content
c. Decrease of albumin content
d. Increase of albumin content
e. Decrease of globulin content

164. An isolated heart was used to study excitation conduction velocity in different areas of the heart. What area had the lowest velocity of excitation conduction?
a. Purkinje fibers
b. His bundle
c. Atrioventricular node
d. Atrial myocardium
e. Ventricular myocardium

165. A 40-year-old person developed elevated blood pressure after an emotional excitement. What is the likely cause of this effect?
a. Arteriolar dilation
b. Hyperpolarization of cardiomyocytes
c. Increased parasympathetic nervous system tone
d. Increased sympathetic nervous system tone
e. Decreased cardiac contraction frequency

166. A patient has elevated blood pressure due to increased vascular tone. To lower the blood pressure in this case it is necessary to prescribe the blockers of:
a. Muscarinic acetylcholine receptors
b. Histamine H1 receptors
c. β-adrenoceptors
d. ?- and β-adrenoceptors
e. ?-adrenoceptors

167. ABO blood group is being determined. Erythrocyte agglutination occurred when standard sera of group I and group II were introduced into the blood being analyzed, while group III serum caused no agglutination. What agglutinogens do these erythrocytes have?
a. C
b. D and C
c. A
d. A and B
e. B

168. What changes can be expected to occur in the isolated heart of a toad, if excessive amount of calcium chloride is introduced into its perfusate?
a. Diastolic cardiac arrest
b. Increased cardiac contraction force and frequency
c. Increased cardiac contraction frequency
d. Decreased cardiac contraction force
e. Increased cardiac contraction force

169. After hyperventilation an athlete developed a brief respiratory arrest. It occurred due to the following changes in the blood:
a. Decrease of O_2 pressure
b. Increase of CO_2 and O_2 pressure
c. Decrease of pH
d. Increase of CO_2 pressure
e. Decrease of CO_2 pressure

170. A person has increased pulmonary ventilation due to physical exertion. What indicator of external respiration will be significantly increased compared to the resting state?
a. Vital lung capacity
b. Expiratory reserve volume

c. Total lung capacity
d. Respiratory volume
e. Inspiratory reserve volume

171. A patient developed punctate hemorrhages after a tourniquet had been applied. It occurred due to functional disturbance of the following blood corpuscles:
a. Platelets
b. Monocytes
c. Neutrophils
d. Lymphocytes
e. Eosinophils

172. The dorsal root of the spinal nerve of a test animal was severed. What changes will occur in the innervation area?
a. Loss of sensitivity
b. Decreased muscle tone
c. Loss of sensitivity and motor function
d. Increased muscle tone
e. Loss of motor function

173. After a certain CNS structure had been destroyed in a test animal, this animal lost its orienting reflexes. What structure had been destroyed?
a. Medial reticular nuclei
b. Corpora quadrigemina
c. Lateral vestibular nuclei
d. Red nuclei
e. Substantia nigra

174. On examination the patient was determined to have a strong, balanced, inert type of higher nervous activity according to Pavlov’s classification. What temperament according to Hippocrates is it?
a. Phlegmatic
b. Choleric
c. -
d. Melancholic
e. Sanguine

175. A 45-year-old woman presents with insufficient secretion of enterokinase enzyme. Enterokinase deficiency can cause disturbance of the following digestive function:
a. Lipid absorption
b. Protein hydrolysis
c. Lipid hydrolysis
d. Carbohydrate hydrolysis
e. Vitamin absorption

176. Systemic blood pressure of a person equals 120/65 mm Hg. Blood ejection into aorta occurs when left ventricular pressure exceeds:
a. 120 mm Hg
b. 65 mm Hg
c. 90 mm Hg
d. 10 mm Hg
e. 100 mm Hg

177. Prolonged vomiting resulted in dehydration of the patient’s body. Under these conditons, water retention in the body is ensured primarily due to increased secretion of the following hormone:
a. Calcitonin
b. Vasopressin
c. Natriuretic hormone

d. Aldosterone
e. Adrenaline

178. KCl concentration in a solution that surrounds an isolated cell was increased. How will resting membrane potential (RMP) and cell excitability change in this case?
a. RMP and excitability remain unchanged
b. RMP decreases, excitability increases
c. RMP increases, excitability decreases
d. RMP increases, excitability increases
e. RMP decreases, excitability remains unchanged

179. Human brain produces endogenous peptides that are similar to morphine and can reduce pain perception. Name these peptides:
a. Liberins
b. Oxytocin
c. Statins
d. Endorphins
e. Vasopressin

180. I.M. Siechenov has proven that a tired limb restores its working capacity faster if during its period of rest another limb works. It became a basis for the concept of:
a. Pessimum
b. Parabiosis
c. Active rest
d. Optimum
e. Fatigue

181. Domestic accident has resulted in a significant blood loss in the patient, which was accompanied by a drop in blood pressure. What hormones ensure quick restoration of the blood pressure caused by a blood loss?
a. Aldosterone
b. Adrenaline, vasopressin
c. Reproductive hormones
d. Cortisol
e. Oxytocin

182. An experiment was conducted to measure the skin sensitivity threshold. What patches of skin have the highest sensitivity threshold?
a. Shin
b. Back
c. Shoulder
d. Dorsal surface of the hand
e. Face

183. A student, whose educational achievements throughout the semester were poor, feels emotionally tense during the final test. What is the primary cause that induced the leading mechanism of emotional tension in this case?
a. Lack of time and energy
b. Lack of time
c. Lack of information
d. Lack of energy
e. Lack of energy and information

184. After a trauma the patient has developed right-sided paralyses and disturbed pain sensitivity. On the left side no paralyses are observed, but pain and thermal sensitivity is disturbed. What is the cause of this condition?
a. Brainstem injury
b. Midbrain injury

c. Unilateral right-side spinal cord injuiry

d. Cerebellar injury

e. Motor cortex injury