№	krok 2023
Тема	BLOOD
Текст завдання	A patient has been diagnosed with severe B_{12}-deficient anemia with hemopoiesis disturbance. Anamnesis states total gastrectomy. What cells allow to confirm this diagnosis, if they are absent in the peripheral blood?
Правильна відповідь	Megalocytes
B	Microcytes
C	Ovalocytes
D	Normocytes
E	Anulocytes
№	krok 2023
Тема	CARDIOVASCULAR DESEASES
Текст завдання	A patient on the 2nd day after cardiac infarction presents with acute decrease of systolic blood pressure down to 60 mm Hg with tachycardia 140/min., dyspnea, loss of consciousness. What mechanism is essential in the pathogenesis of shock developed in this case?
Правильна відповідь	Decreased cardiac output
B	Increased myocardial excitability caused by products of necrotic disintegration
C	Decreased circulating blood volume
D	Development of paroxysmal tachycardia
E	Development of anaphylactic reaction to myocardial proteins
№	krok 2023
Тема	THE RESPIRATORY TRACT
Текст завдання	A 42-year-old patient with tetanus developed an acute respiratory failure. What type of respiratory failure occurs in this case?
Правильна відповідь	Disregulatory impairment of alveolar ventilation
B	Restrictive impairment of alveolar ventilation
C	Obstructive impairment of alveolar ventilation
D	Perfusion impairment
E	Diffusion impairment
№	krok 2023
Тема	RENAL PATHOPHYSIOLOGY
Текст завдання	A patient with chronic renal failure presents with reduced inulin clearance of ml/min. The following renal function is disturbed:

Правильна відповідь	Glomerular filtration
B	Tubular secretion
C	Reabsorption in the proximal tubular segment of the nephron
D	Reabsorption in the distal tubular segment of the nephron
E	Reabsorption in the tubules of collecting duct
№	krok 2023
Тема	RENAL PATHOPHYSIOLOGY
Текст завдання	A 19-year-old young man has been examined in a nephrological hospital. Increased potassium content was detected in secondary urine of the patient. Such alterations are the most likely to be caused by the increased secretion of the following hormone:
Правильна відповідь	Aldosterone
B	Oxytocin
C	Adrenaline
D	Glucagon
E	Testosterone
№	krok 2023
Тема	GASTROINTESTINAL SYSTEM
Текст завдання	Roentgenologically confirmed obstruction of common bile duct resulted in preventing bile from inflowing to the duodenum. What process is likely to be disturbed?
Правильна відповідь	Fat emulgation
B	Protein absorption
C	Carbohydrate hydrolysis
D	Hydrochloric acid secretion in stomach
E	Salivation inhibition
№	krok 2023
Тема	GASTROINTESTINAL TRACT. RENAL FAILURE
Текст завдання	For several days a 55-year-old woman has been suffering from pain attacks in the right upper quadrant after eating fatty foods. Visually, there is yellowness of sclera and skin. The patient has acholic stool, beer-colored urine. What substance present in the patient’s urine causes its dark color?
Правильна відповідь	Conjugated bilirubin
B	Ketone bodies

C	Unconjugated bilrubin
D	Stercobilin
E	Bilirubin glucuronides
№	krok 2023
Тема	THE GASTROINTESTINAL TRACT
Текст завдання	A patient has addressed a doctor with complaint of gastric ulcer exacerbation. The following membrane cytoreceptors should be blocked in the course of the patient's complex therapy:
Правильна відповідь	H_2-histamine
B	H_1-histamine
C	α-adrenergic receptor
D	β_1-adrenergic receptor
E	β_2-adrenergic receptor
№	krok 2023
Тема	Endocrinal pathology
Текст завдання	A 30-year-old woman has decreased enzyme content in the pancreatic juice. This condition can be caused by insufficient secretion of the following hormone:
Правильна відповідь	Cholecystokininpancreozymin
B	Somatostatin
C	Secretin
D	Gastric inhibitory polypeptide
E	Vasoactive intestinal peptide
№	krok 2023
Тема	ENDOCRINE PATHOPHYSIOLOGY
Текст завдання	A patient is in the state of hypoglycemic coma. What hormone can cause this condition if overdosed?
Правильна відповідь	Insulin
B	Progesterone
C	Cortisol
D	Somatotropin
E	Corticotropin
№	krok 2023

Тема	ENDOCRINE PATHOPHYSIOLOGY
Текст завдання	Due to morbid affection of the supraoptic and paraventricular nuclei of the hypothalamus a 40-year-old patient has developed polyuria (10-12 liters per day) and polydipsia. The following hormone is deficient, thus leading to this disturbance:
Правильна відповідь	Vasopressin
B	Oxytocin
C	Corticotropin
D	Somatotropin
E	Thyrotropin
№	krok 2023
Тема	CENTRAL NERVOUS SYSTEM
Текст завдання	An 84-year-old patient suffers from parkinsonism. One of the pathogenetic development elements of this disease is deficiency of a certain mediator in some of the brain structures. Name this mediator:
Правильна відповідь	Dopamine
B	Adrenaline
C	Noradrenaline
D	Histamine
E	Acetylcholine
№	krok 2023
Тема	ENDOCRINE SYSTEM. CENTRAL NERVOUS SYSTEM
Текст завдання	A 43-year-old woman complains of weight loss, hyperhidrosis, low-grade fever, increased irritability. She has been found to have hyperfunction of the sympatheticadrenal system and basal metabolism. These disorders can be caused by hypersecretion of the following hormone:
Правильна відповідь	Thyroxine
B	Somatotropin
C	Corticotropin
D	Insulin
E	Aldosterone
№	krok 2023
Тема	PATHOPHISIOLOGY OF EXTREMAL STATES

Текст завдання	A comatose patient has been delivered to a hospital. He has a 5-year history of type 2 diabetes mellitus. Objectively: breathing is deep and noisy, there is a smell if acetone around the patient. The concentration of glucose in blood is 15,2 millimole/l, of ketone bodies - 100 micromole/l. These disorders are typical for the following complication of this disease:
Правильна відповідь	Ketoacidotic coma
B	Hepatic coma
C	Hyperglycemic coma
D	Hypoglycemic coma
E	Hyperosmolar coma
№	krok 2023
Тема	blood pathophysiology
Текст завдання	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, $8 \cdot 10^{12}$/l, leukocytes - $8 \cdot 10^{9}$/l, Hb- 90 g/l. What complication is it?
Правильна відповідь	Haemorrhage
B	Penetration
C	Perforation
D	Canceration
E	Pyloric stenosis
№	krok 2023
Тема	PATHOPHISIOLOGY OF EXTREMAL STATES
Текст завдання	As a result of a trauma apatient 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:
Правильна відповідь	Erectile
B	Latent
C	Terminal
D	Torpid
E	-
№	krok 2023
Тема	pathophysiology of respiration

Текст завдання	A patient with evident pneumosclerosis that developed after infiltrative pulmonary tuberculosis presents with respiratory failure. What is its pathogenetic type?
Правильна відповідь	Restrictive
B	Obstructive
C	Disregulative
D	Reflectory
E	Apneustic
№	krok 2023
Тема	allergy
Текст завдання	A patient has been diagnosed with acute glomerulonephritis that developed after he had had streptococcal infection. It is most likely that the affection of basal glomerular membrane is caused by an allergic reaction of the following type:
Правильна відповідь	Immune complex
B	Anaphylactic
C	Cytotoxic
D	Delayed
E	Stimulating
№	krok 2023
Тема	Endocrinal pathophysiology
Текст завдання	A 45-year-old woman has been diagnosed with endemic goiter. What mechanism has caused hyperplasia of thyroid gland in this patient?
Правильна відповідь	Increased thyrotropin production
B	Increased thyroxine production
C	Increased iodine absorption
D	Increased hydration of derma and hypodermic cellulose
E	Increased catecholamine production
№	krok 2023
Тема	Blood pathophysiology
Текст завдання	As a result of a road accident a 26-year-old man is in the torpid phase of shock. Blood count: leukocytes - 3, 2 $\cdot^{9}$/l. What is the leading mechanism of leukopenia development?
Правильна відповідь	Leukocyte redistribution in the bloodstream

B	Leukopoiesis inhibition
C	Faulty release of mature leukocytes from the bone marrow into the blood
D	Leukocyte destruction in the hematopietic organs
E	Increased excretion of the leukocytes from the organism
№	krok 2023
Тема	digestive pathophysiology. jaundice
Текст завдання	An infectious disease unit admitted a patient with signs of jaundice caused by hepatitis virus. Select an indicator that is specific only for parenchymatous jaundice:
Правильна відповідь	Increase in ALT and AST rate
B	Hyperbilirubinemia
C	Bilirubinuria
D	Cholaemia
E	Urobilinuria
№	krok 2023
Тема	digestive pathophysiology
Текст завдання	Toxic affection of liver results in dysfunction of protein synthesis. It is usually accompanied by the following kind of dysproteinemia:
Правильна відповідь	Absolute hypoproteinemia
B	Relative hypoproteinemia
C	Absolute hyperproteinemia
D	Relative hyperproteinemia
E	Paraproteinemia
№	krok 2023
Тема	pathophysiology of aCID-base BALANCE
Текст завдання	A 30-year-old comatous patient with type I diabetes mellitus had been admitted to a hospital. Laboratory tests revealed hyperglycemia, ketonemia. Which of the following metabolic disorders might be found in this patient?
Правильна відповідь	Metabolic acidosis
B	Metabolic alkalosis
C	Respiratory acidosis
D	Respiratory alkalosis

E	Normal acid-base state
№	krok 2023
Тема	BLOOD pathophysiology
Текст завдання	A 26-year-old pregnant woman is under treatment at an inpatient hospital. After a continuous attack of vomiting she was found to have reduced volume of circulating blood. What kind of change in general blood volume is the case?
Правильна відповідь	Polycythemic hypovolemia
B	Simple hypovolemia
C	Oligocythemic hypovolemia
D	Polycythemic hypervolemia
E	Oligocythemic hypervolemia
№	krok 2023
Тема	ALLERGY
Текст завдання	A 45-year-old male died from disseminated tuberculosis. On autopsy the symptoms of tuberculosis were confirmed by both microscopical and histological analyses. All the affected organs had epithelioid cell granulomas with caseous necrosis in the centre. What kind of hypersensitivity reaction underlies the process of granuloma development?
Правильна відповідь	Delayed
B	Antibody-dependent cytotoxicity
C	Complement-dependent cytotoxicity
D	Anaphylactic
E	Immune complex
№	krok 2017
Topic	Cardiac PATHOPHYSIOLOGY
Task	A patient with chronic heart failure presents with increased blood viscosity. Capillaroscopy detected damage to the vessel walls of the microcirculation system. What disorder is possible in the given case?
Correct answer	Blood ”sludge” phenomenon
B	Thrombosis
C	Embolism
D	Arterial hyperemia
E	Venous hyperemia
№	krok 2017, 2014

Topic	blood PATHOPHYSIOLOGY
Task	A 3-year-old boy with pronounced hemorrhagic syndrome has no anti-hemophilic globulin A (factor VIII) in the blood plasma. Hemostasis has been impaired at the following stage:
Correct answer	Internal mechanism of prothrombinase activation
B	External mechanism of prothrombinase activation
C	Conversion of prothrombin to thrombin
D	Conversion of fibrinogen to fibrin
E	Blood clot retraction
№	krok 2017
Topic	cancer
Task	A 63-year-old man suffers from esophageal carcinoma, presents with metastases into the mediastinal lymph nodes and cancerous cachexia. What pathogenetic stage of neoplastic process is observed in the patient?
Correct answer	Progression
B	Promotion
C	Transformation
D	Initiation
E	-
№	krok 2017
Topic	PATHOPHYSIOLOGY of cns
Task	Examination of the patient with traumatic brain injury revealed that he has lost the ability to discern the movement of an object on the skin. What part of the cerebral cortex is damaged?
Correct answer	Posterior central gyrus
B	Occipital lobe
C	Parietal lobe
D	Frontal lobe
E	Anterior central gyrus
№	krok 2017, 2016
Topic	PATHOPHYSIOLOGY of respiration
Task	A patient demonstrates sharp decrease of pulmonary surfactant activity. This condi-tion can result in:
Correct answer	Alveolar tendency to recede

B	Decreased airways resistance
C	Decreased work of expiratory muscles
D	Increased pulmonary ventilation
E	Hyperoxemia
№	krok 2017
Topic	inflammation
Task	A 30-year-old man complains of suffocation, heaviness in the chest on the right, general weakness. Body temperature is 38,9^{o} Objectively the right side of the chest lags behind the left side during respiration. Pleurocentesis yielded exudate. What is the leading factor of exudation in the patient?
Correct answer	Increased permeability of the vessel wall
B	Increased blood pressure
C	Hypoproteinemia
D	Erythrocyte aggregation
E	Decreased resorption of pleural fluid
№	krok 2017
Topic	PATHOPHYSIOLOGY of liver
Task	A 46-year-old woman suffering from cholelithiasis developed jaundice. Her urine became dark yellow, while feces are light-colored. What substance will be the most increased in concentration in the blood serum in this case?
Correct answer	Conjugated bilirubin
B	Unconjugated bilirubin
C	Biliverdine
D	Mesobilirubin
E	Urobilinogen
№	krok 2017
Topic	cardiac PATHOPHYSIOLOGY
Task	A 15-year-old teenager complains of lack of air, general weakness, palpitati-ons. Heart rate is 130/min., BP is 100/60 mm Hg. ECG: QRS complex has normal shape and duration. The number of P waves and ventricular complexes is equal, T wave merges with P wave. What type of cardiac arrhythmia is observed in the teenager?
Correct answer	Sinus tachycardia
B	Sinus extrasystole

C	Atrial fibrillation
D	Atrial thrill
E	Paroxysmal atrial tachycardia
№	krok 2017
Topic	endocrine PATHOPHYSIOLOGY
Task	During removal of the hyperplastic thyroid gland of a 47-year-old woman, the parathyroid gland was damaged. One month after the surgery the pati-ent developed signs of hypoparathyroi-dism: frequent convulsions, hyperreflexia, laryngospasm. What is the most likely cause of the patient's condition?
Correct answer	Hypocalcemia
B	Hyponatremia
C	Hyperchlorhydria
D	Hypophosphatemia
E	Hyperkalemia
№	krok 2017
Topic	endocrine PATHOPHYSIOLOGY
Task	On examination the patient presents with hirsutism, moon-shaped face, stretch marks on the abdomen. BP is 190/100 mm Hg, blood glucose is 17,6 mmol/l. What pathology is such clinical presentation characteristic of?
Correct answer	Adrenocortical hyperfunction
B	Hyperthyroidism
C	Hypothyroidism
D	Gonadal hypofunction
E	Hyperfunction of the insular apparatus
№	krok 2017
Topic	PATHOPHYSIOLOGY of cns
Task	A 64-year-old woman presents with di-sturbed fine motor function of her fingers, marked muscle rigidity, and tremor. The neurologist diagnosed her with Parkinson's disease. What brain structures are damaged resulting in this disease?
Correct answer	Substantia nigra
B	Thalamus
C	Red nuclei
D	Cerebellum

E	Reticular formation
№	krok 2017
Topic	PATHOPHYSIOLOGY of digestion
Task	After pancreatic surgery the patient developed hemorrhagic syndrome with di-sturbed 3rd stage of blood clotting. What will be the most likely mechanism of the hemostatic disorder?
Correct answer	Fibrinolysis activation
B	Decrease of prothrombin synthesis
C	Decrease of fibrinogen synthesis
D	Qualitative abnormalities of fibri-nogenesis
E	Fibrin-stabilizing factor deficiency
№	krok 2017
Topic	PATHOPHYSIOLOGY of liver
Task	A patient with jaundice has high total bilirubin that is mainly indirect (unconjugated), high concentration of stercobilin in the feces and urine. The level of direct (conjugated) bilirubin in the blood plasma is normal. What type of jaundice can be suspected?
Correct answer	Hemolytic
B	Parenchymal (hepatic)
C	Mechanical
D	Neonatal
E	Gilbert’s disease
№	krok 2017
Topic	PATHOPHYSIOLOGY of vessels
Task	A woman, who has been suffering from marked hypertension for 15 years, has lately developed dyspnea, palpitations, slightly decreased systolic pressure, while diastolic pressure remains the same. What is the main mechanism of heart failure development in this case?
Correct answer	Cardiac overload due to increased vascular resistance
B	Cardiac overload due to increased blood volume
C	Damage to the myocardium
D	Disorder of impulse conduction in the myocardium
E	Dysregulation of cardiac function
№	krok 2017

Topic	PATHOPHYSIOLOGY of respiration
Task	A patient, who has been suffering from bronchial asthma for a long time, developed acute respiratory failure. What is the main mechanism of pathology development in this case?
Correct answer	Obstructive disorders of pulmonary ventilation
B	Restrictive disorders of pulmonary venti-lation
C	Pulmonary blood supply disturbance
D	Pulmonary enzyme system disturbance
E	Decreased elasticity of the pulmonary tissue
№	krok 2017
Topic	endocrine PATHOPHYSIOLOGY
Task	A 40-year-old woman has undergone thyroidectomy. Histological study of thyroid gland found the follicles to be of different size and contain foamy colloid, follicle epi-thelium is high and forms papillae, there is focal lymphocytic infiltration in the stroma. Diagnose the thyroid gland disease:
Correct answer	Basedow's disease
B	Hashimoto's thyroiditis
C	Riedel's thyroiditis
D	De Quervain's disease
E	Nodular goiter
№	krok 2017
Topic	cardiac PATHOPHYSIOLOGY
Task	Due to blood loss the circulating blood volume of a patient decreased. How will it affect the blood pressure in this patient?
Correct answer	Systolic and diastolic pressure will decrease
B	Only systolic pressure will decrease
C	Only diastolic pressure will decrease
D	Systolic pressure will decrease, while diastolic will increase
E	Diastolic pressure will decrease, while systolic will increase
№	krok 2017
Topic	PATHOPHYSIOLOGY of kidneys
Task	A man presents with glomerular fi-ltration rate of 180 ml/min., while norm is ± 25 ml/min. The likely cause of it is the decreased:
Correct answer	Plasma oncotic pressure

B	Effective filtration pressure
C	Hydrostatic blood pressure in the glomerular capillaries
D	Renal blood flow
E	Permeability of the renal filter
№	krok 2017
Topic	allergy
Task	A 10-year-old child had cut his leg with a glass shard, when playing, and was delivered to the outpatient department to receive antitetanus serum. To prevent development of anaphylactic shock the serum was introduced by Bezredka method. This method of organism hyposensitization is based on the following mechanism:
Correct answer	Binding of mast cell-fixed IgE
B	Blocking of mast cell mediators synthesis
C	Stimulation of immune tolerance to antigen
D	Stimulation of antigen-specific IgG2
E	Stabilization of mast cell membranes
№	krok 2017
Topic	PATHOPHYSIOLOGY of kidneys
Task	A 38-year-old man, who has been suffering from systemic lupus erythematosus for 3 years, developed di-ffuse renal lesions accompanied by massi-ve edemas, marked proteinuria, hyperli-pidemia, and dysproteinemia. What is the most likely mechanism of proteinuria develoment in this case?
Correct answer	Autoimmune damage to the nephrons
B	Inflammatory damage to the nephrons
C	Ischemic damage to the tubules
D	Increased blood proteins
E	Morbid affection of the urinary tracts
№	krok 2017
Topic	PATHOPHYSIOLOGY of cns
Task	During experiment a part of the brain was extracted, which resulted in asynergy and dysmetria development in the test ani-mal. What part of the brain was extracted in the animal?
Correct answer	Cerebellum
B	Frontal lobe

C	Parietal lobe
D	Mesencephalon
E	Reticulum
№	krok 2017
Topic	cancer
Task	Autopsy of a man, who served on a nuclear submarine, revealed the followi-ng pathologies: bone marrow atrophy (panmyelophthisis), anemia, leukopenia, thrombocytopenia, lymphocytes disi-ntegration in the lymph nodes, spleen, gastrointestinal lymphatic system, and hemorrhages into the adrenal glands. What disease had developed in this case?
Correct answer	Acute radiation sickness
B	Decompression sickness
C	Acute leukemia
D	Acute anemia
E	Vibration disease
№	krok 2017
Topic	allergy
Task	After sensitization a test animal recei-ved subcutaneously a dose of antigen. At the site of injection a fibrinous inflammati-on developed with alteration of vessel walls, basal substance, and fibrous structures of connective tissue. The inflammation took form of mucoid and fibrinoid degeneration, fibrinoid necrosis. What immune response occurred in the test animal?
Correct answer	Immediate hypersensitivity
B	Delayed hypersensitivity
C	Transplantation immune reaction
D	Normergic reaction
E	Granulomatosis
№	krok 2017, 2014
Topic	PATHOPHYSIOLOGY of cns
Task	A patient complaining of pain in the left shoulder-blade region has been diagnosed with miocardial infarction. What kind of pain does the patient have?
Correct answer	Radiating
B	Visceral
C	Phantom

D	Protopathic
E	Epicritic
№	krok 2017, 2013
Topic	PATHOPHYSIOLOGY of liver
Task	An unconscious patient was delivered by ambulance to the hospital. On objective examination the patient was found to have no reflexes, periodical convulsions, irregular breathing. After laboratory examination the patient was diagnosed with hepatic coma. Disorders of the central nervous system develop due to the accumulation of the following metabolite:
Correct answer	Ammonia
B	Urea
C	Glutamine
D	Bilirubin
E	Histamine
№	krok 2017
Topic	blood PATHOPHYSIOLOGY
Task	Blood test of an athlete shows the following: erythrocytes - 5, $5 \cdot 10^{12}$/l, hemoglobin - 180 g/l, leukocytes - $7 \cdot 10^{9}$/l, neutrophils - 64%, basophils - 0,5%, eosinophils - 0,5%, monocytes - 8%, lymphocytes - 27%. These values primari-ly indicate the stimulation of:
Correct answer	Erythropoiesis
B	Leukopoiesis
C	Lymphopoiesis
D	Granulocytopoiesis
E	Immunogenesis
№	krok 2017
Topic	PATHOPHYSIOLOGY of thermoregulation
Task	A patient with pneumonia has body temperature of $39,2^{o}C$. What cells are the main producers of endogenous pyrogen that had caused such temperature rise?
Correct answer	Monocytes
B	Eosinophils
C	Neutrophils
D	Endotheliocytes

E	Fibroblasts
№	krok 2017, 2016
Topic	PATHOPHYSIOLOGY of cns
Task	A patient had a trauma that caused dysfunction of motor centers regulating activity of head muscles. These centers can normally be located in the following area of the cerebral cortex:
Correct answer	Inferior part of the precentral gyrus
B	Superior part of the precentral gyrus
C	Supramarginal gyrus
D	Superior parietal lobule
E	Angular gyrus
№	krok 2017
Topic	respiratory PATHOPHYSIOLOGY
Task	Water affects the mucosa of lower nasal passages resulting in diving reflex. This responce manifests itself as:
Correct answer	Reflex apnea
B	Reflex dyspnea
C	Reflex hyperpnea
D	Cough
E	Bronchial spasm
№	krok 2017, 2014, 2013
Topic	PATHOPHYSIOLOGY of vessels
Task	A 67-year-old man consumes eggs, pork fat, butter, milk and meat. Blood test results: cholesterol - 12,3 mmol/l, total lipids - 8,2 g/l, increased low-density lipoprotein fraction (LDL). What type of hyperlipoproteinemia is observed in the patient?
Correct answer	Hyperlipoproteinemia type IIa
B	Hyperlipoproteinemia type I
C	Hyperlipoproteinemia type IIb
D	Hyperlipoproteinemia type IV
E	Cholesterol, hyperlipoproteinemia
№	krok 2017
Topic	allergy

Task	A 22-year-old woman ate some seafood. 5 hours later her torso and distal parts of her limbs developed small itchy papules which were partially fused together. One day later the rash disappeared spontaneously. Specify the hypersensitivity mechanism underlying these changes:
Correct answer	Atopy (local anaphylaxis)
B	Systemic anaphylaxis
C	Cellular cytotoxicity
D	Immune complex hypersensitivity
E	Antibody-dependent cell-mediated cytolysis
№	krok 2017, 2014
Topic	PATHOPHYSIOLOGY of liver
Task	A patient has been admitted to the contagious isolation ward with signs of jaundice caused by hepatitis virus. Which of the symptoms given below is strictly specific for hepatocellular jaundice?
Correct answer	Increase of ALT, AST level
B	Hyperbilirubinemia
C	Bilirubinuria
D	Cholemia
E	Urobilinuria
№	krok 2017
Topic	endocrine PATHOPHYSIOLOGY
Task	A 30-year-old man with diabetes mellitus type I was hospitalized. The patient is comatose. Laboratory tests revealed hyperglycemia and ketonemia. What metabolic disorder can be detected in this patient?
Correct answer	Metabolic acidosis
B	Metabolic alkalosis
C	Respiratory acidosis
D	Respiratory alkalosis
E	Acid-base balance is normal
№	krok 2017
Topic	endocrine PATHOPHYSIOLOGY
Task	A 30-year-old woman developed the si-gns of virilism (body hair growth, balding temples, disturbed menstrual cycle). What hormone can cause this condition when hyperproduced?

Correct answer	Testosterone
B	Estriol
C	Relaxin
D	Oxytocin
E	Prolactin
№	krok 2017
Topic	endocrine PATHOPHYSIOLOGY
Task	After a severe stress the patient presents with eosinopenia in the blood test. In this case the decreased number of eosi-nophils can explain changes in the level of the following hormones:
Correct answer	Glucocorticoids
B	Adrenaline
C	Insulin
D	Mineralocorticoids
E	Vasopressin
№	krok 2017
Topic	blood PATHOPHYSIOLOGY
Task	A 30-year-old patient's blood test revealed the following: erythrocyte count is $6 \cdot 10^{12}$/l, hemoglobin is 10,55 mmol/l. Vaquez's disease was diagnosed. Name the leading part of pathogenesis in this case:
Correct answer	Neoplastic erythroid hyperplasia
B	Iron-deficiency
C	B_{12}-deficiency
D	Hypoxia
E	Acidosis
№	krok 2017
Topic	endocrine PATHOPHYSIOLOGY
Task	On examination the patient is found to have low production of adrenocorticotropic hormone. How would this affect production of the other hormones?
Correct answer	Decrease adrenocorticotropic hormones synthesis
B	Decrease hormone synthesis in the adrenal medulla
C	Decrease insulin synthesis

D	Increase sex hormones synthesis
E	Increase thyroid hormones synthesis
№	krok 2017, 2016
Topic	PATHOPHYSIOLOGY of cns
Task	Parkinson's disease is caused by disturbance of dopamine synthesis. What brain structure synthesizes this neurotransmitter?
Correct answer	Substantia nigra
B	Globus pallidus
C	Corpora quadrigemina
D	Red nuclei
E	Hypothalamus
№	krok 2017, 2015
Topic	blood PATHOPHYSIOLOGY
Task	A patient visited a dentist to extract a tooth. After the tooth had been extracted, bleeding from the tooth socket continued for 15 minutes. Anamnesis states that the patient suffers from active chronic hepatitis. What phenomenon can extend the time of hemorrhage?
Correct answer	Decrease of fibrinogen content in blood
B	Thrombocytopenia
C	Hypocalcemia
D	Increased activity of anticoagulation system
E	Decrease of albumine content in blood
№	krok 2017
Topic	respiratory PATHOPHYSIOLOGY
Task	During ascent into mountains a person develops increased respiration rate and rapid heart rate. What is the cause of these changes?
Correct answer	Decrease of O_2 partial pressure
B	Increase of CO_2 partial pressure
C	Increase of blood pH
D	Increase of nitrogen content in air
E	Increase of air humidity
№	krok 2017
Topic	cardiac PATHOPHYSIOLOGY

Task	A 67-year-old man was delivered to the cardiology unit with complaints of periodi-cal pain in the heart, dyspnea after even insignificant physical exertion, cyanosis, and edemas. ECG revealed additional contracti-ons of the heart ventricles. Name this type of rhythm disturbance:
Correct answer	Extrasystole
B	Bradycardia
C	Tachycardia
D	Flutter
E	Fibrillation
№	krok 2017
Topic	respiratoty PATHOPHYSIOLOGY
Task	A patient developed increased blood content of HCO_3^- against the background of repeated and uncontrollable vomiti-ng. What will be the leading mechanism in compensation of developed acid-base imbalance?
Correct answer	Decreased pulmonary ventilation
B	Increased pulmonary ventilation
C	Increased renal reabsorption of bi-carbonate
D	Increased renal reabsorption of ammonia
E	-
№	krok 2017
Topic	PATHOPHYSIOLOGY of cns
Task	During the exam a student was unable to correctly answer all the questions in his question card, which was accompanied by the reddening of his face and hot sensation. What type of arterial hyperemia did the student develop in this case?
Correct answer	Neurotonic
B	Metabolic
C	Postischemic
D	Pathologic
E	Neuroparalytic
№	krok 2016
Topic	acid-base PATHOPHYSIOLOGY
Task	A patient suffers from disrupted patency of the airways at the level of small and medium-sized bronchial tubes. What changes of acid-base balance can occur in the patient?

Correct answer	Respiratory acidosis
B	Respiratory alkalosis
C	Metabolic acidosis
D	Metabolic alkalosis
E	Acid-base balance remains unchanged
№	krok 2016
Topic	PATHOPHYSIOLOGY of vessels
Task	Upon toxic damage of hepatic cells resulting in disruption of liver function the patient developed edemas. What changes of blood plasma are the main cause of edema development?
Correct answer	Decrease of albumin content
B	Increase of globulin conten
C	Decrease of fibrinogen conten
D	Increase of albumin conten
E	Decrease of globulin conten
№	krok 2016, 2015
Topic	endocrine PATHOPHYSIOLOGY
Task	A 35-year-old man with peptic ulcer disease has undergone antrectomy. After the surgery secretion of the following gastrointestinal hormone will be disrupted the most:
Correct answer	Gastrin
B	Histamine
C	Secretin
D	Cholecystokinin
E	Neurotensin
№	krok 2016
Topic	PATHOPHYSIOLOGY of cns
Task	A patient with hypertension has developed headache, tinnitus, vomiting, hi-gh BP up to 220/160 mm Hg. On exami-nation: facial asymmetry on the right, voli-tional mobility is absent, increased tendon reflexes and muscle tone of extremities on the right. What motor disorder of nervous system occurred in this case?
Correct answer	Hemiplegia
B	Paraplegia

C	Tetraplegia
D	Hyperkinesis
E	Monoplegia
№	krok 2016
Topic	PATHOPHYSIOLOGY of cns
Task	After a traffic accident a 36-year-old patient has developed muscle paralysis of the extremitis on the right, lost pain and thermal sensitivity on the left, and partially lost tactile sensitivity on both sides. What part of the brain is the most likely to be damaged?
Correct answer	Right-hand side of the spinal cord
B	Motor cortex on the left
C	Left-hand side of the spinal cord
D	Anterior horn of the spinal cord
E	Posterior horn of the spinal cord
№	krok 2016
Topic	blood PATHOPHYSIOLOGY
Task	A 59-year-old woman has been hospiali-zed in a surgical ward due to exacerbation of chronic osteomyelitis of the left shin. Blood test: leukocytes - 15, $0 \cdot 10^9$/l. Leukogram: myelocytes - 0%, metamyelocytes - 8%, stab neutrophils - 28%, segmented neutrophils - 32%, lymphocytes - 29%, monocytes - 3%. Such blood count would be called:
Correct answer	Regenerative left shift
B	Right shift
C	Hyperregenerative left shift
D	Degenerative left shift
E	Regenerative-degenerative left shift
№	krok 2016, 2015, 2014
Topic	endocrine PATHOPHYSIOLOGY
Task	A 41-year-old man has a history of recurrent attacks of heartbeats (paroxysms), profuse sweating, headaches. Examination revealed hypertension, hyperglycemia, increased basal metabolic rate, and tachycardia. These clinical presentations are typical of the following adrenal pathology:
Correct answer	Hyperfunction of the medulla
B	Hypofunction of the medulla
C	Hyperfunction of the adrenal cortex

D	Hypofunction of the adrenal cortex
E	Primary aldosteronism
№	krok 2016
Topic	allergy
Task	A 12-year-old child developed nephri-tic syndrome (proteinuria, hematuria, cyli-ndruria) 2 weeks after a case of tonsilli-tis, which is a sign of affected glomerular basement membrane in the kidneys. What mechanism is the most likely to cause the basement membrane damage?
Correct answer	Immune complex
B	Granulomatous
C	Antibody-mediated
D	Reaginic
E	Cytotoxic
№	krok 2016
Topic	PATHOPHYSIOLOGY of digestion
Task	A 42-year-old patient complains of pain in the epigastral area, vomiting; vomit masses have the color of coffee-grounds; the patient suffers from melena. Anamnesis records gastric ulcer disease. Blood formula: erythrocytes - 2, $8 \cdot 10^{12}$/l, leukocytes - $8 \cdot 10^{9}$/l, Hb- 90 g/l. What complication is it?
Correct answer	Hemorrhage
B	Penetration
C	Perforation
D	Canceration
E	Pyloric stenosis
№	krok 2016
Topic	blood PATHOPHYSIOLOGY
Task	Examination of a 52-year-old woman has revealed a decrease in the amount of red blood cells and an increase in free hemoglobin in the blood plasma (hemoglobinemia). Color index is 0,85. What type of anemia is being observed in the patient?
Correct answer	Acquired hemolytic
B	Hereditary hemolytic
C	Acute hemorrhagic
D	Chronic hemorrhagic

E	Anemia due to diminished erythropoiesis
№	krok 2016
Topic	PATHOPHYSIOLOGY of cns
Task	Due to destruction of certain structures of the brainstem an animal has lost its ori-entation reflexes in response to strong light stimuli. What structures were destroyed?
Correct answer	Anterior quadrigeminal bodies
B	Posterior quadrigeminal bodies
C	Red nuclei
D	Vestibular nuclei
E	Substantia nigra
№	krok 2016
Topic	allergy
Task	Development of both immune and allergic reactions is based upon the same mechanisms of immune system response to an antigen. What is the main difference between immune and allergic reactions?
Correct answer	Development of tissue lesion
B	Amount of released antigen
C	Antigen structure
D	Routes by which antigens are delivered into the body
E	Hereditary predisposition
№	krok 2016
Topic	respiratory PATHOPHYSIOLOGY
Task	An uconscious young man in the state of morphine intoxication has been delivered into an admission room. The patient’s respiration is slow and shallow due to suppressi-on of the respiratory center. What kind of respiratory failure occurred in this case?
Correct answer	Ventilatory disregulation
B	Ventilatory obstruction
C	Ventilatory restriction
D	Perfusion
E	Diffusion
№	krok 2016
Topic	blood PATHOPHYSIOLOGY

Task	10 minutes after the beginning of heavy physical work a person demonstrates increase of erythrocyte number in blood from $4,0 \cdot 10^{12}$/l to $4,5 \cdot 10^{12}$/l. What is the cause of this phenomenon?
Correct answer	Erythrocytes exit from depot
B	Suppression of erythrocyte destruction
C	Erythropoiesis activation
D	Increase of cardiac output
E	Water loss
№	krok 2016
Topic	PATHOPHYSIOLOGY of cns
Task	After a craniocerebral injury a patient has lost the ability to recognize shapes of objects by touch (stereognosis). What area of cerebral cortex normally contains the relevant center?
Correct answer	Superior parietal lobule
B	Inferior parietal lobule
C	Supramarginal gyrus
D	Postcentral gyrus
E	Angular gyrus
№	krok 2016
Topic	cardiac PATHOPHYSIOLOGY
Task	Cardiac arrest occurred in a patient during a surgery of the small intestine. What regulatory mechamisms resulted in the cardiac arrest in this case?
Correct answer	Unconditioned parasympathetic reflexes
B	Unconditioned sympathetic reflexes
C	Conditioned parasympathetic reflexes
D	Conditioned sympathetic reflexes
E	Metasympathetic reflexes
№	krok 2016
Topic	PATHOPHYSIOLOGY of cns
Task	Vestibular receptors of semicircular canals of an animal have been destroyed. What reflexes will disappear as a result?
Correct answer	Statokinetic reflex during movements with angular acceleration
B	Statokinetic reflex during movements with linear acceleration

C	Head-righting reflex
D	Body-righting reflex
E	Primary orienting reflex
№	krok 2016
Topic	blood PATHOPHYSIOLOGY
Task	Cellular composition of exudate largely depends on the etiological factor of inflammation. What leukocytes are the first to be involved in the focus of inflammation caused by pyogenic bacteria?
Correct answer	Neutrophil granulocytes
B	Monocytes
C	Myelocytes
D	Eosinophilic granulocytes
E	Basophils
№	krok 2016, 2014
Topic	PATHOPHYSIOLOGY of kidneys
Task	A patient has insufficient blood supply to the kidneys, which caused the development of pressor effect due to the constriction of arterial resistance vessels. This is the result of the vessels being greately affected by the following substance:
Correct answer	Angiotensin II
B	Angiotensinogen
C	Renin
D	Catecholamines
E	Norepinephrine
№	krok 2016
Topic	cardiac PATHOPHYSIOLOGY
Task	A 67-year-old patient complains of periodic heartache, dyspnea during light physical activities. ECG reveals extraordinary contractions of heart ventricles. Such arrhythmia is called:
Correct answer	Extrasystole
B	Bradycardia
C	Tachycardia
D	Flutter
E	Fibrillation

№	krok 2016, 2015, 2014
Topic	respiratory PATHOPHYSIOLOGY
Task	When studying the signs of pulmonary ventilation, reduction of forced expiratory volume has been detected. What is the likely cause of this phenomenon?
Correct answer	Obstructive pulmonary disease
B	Increase of respiratory volume
C	Increase of inspiratory reserve volume
D	Increase of pulmonary residual volume
E	Increase of functional residual lung capacity
№	krok 2016
Topic	endocrine PATHOPHYSIOLOGY
Task	Leading symptoms of primary hyperparathyroidism are osteoporosis and renal damage resulting in urolithiasis development. What substances are the basis of uroliths in such cases?
Correct answer	Calcium phosphate
B	Uric acid
C	Cystine
D	Bilirubin
E	Cholesterol
№	krok 2016
Topic	PATHOPHYSIOLOGY of cns
Task	A patient with injury sustained to a part of the central nervous system demonstrates disrupted coordination and movement amplitude, muscle tremor during volitional movements, poor muscle tone. What part of the central nervous system was injured?
Correct answer	Cerebellum
B	Medulla oblongata
C	Oliencephalon
D	Mesencephalon
E	Prosencephalon
№	krok 2016
Topic	blood PATHOPHYSIOLOGY

Task	After an extended treatment wi-th sulfanamides a patient has developed macrocytic anemia. Production of active forms of the following vitamin is disrupted in such a condition:
Correct answer	Folic acid
B	Thiamine
C	Riboflavin
D	Pyridoxine
E	Cyanocobalamin
№	krok 2016
Topic	respiratory PATHOPHYSIOLOGY
Task	When ascending to the top of Elbrus, a mountain climber experiences oxygen starvation, dyspnea, palpitations, and numbness of the extremities. What kind of hypoxia has developed in the mountain cli-mber?
Correct answer	Hypoxic
B	Circulatory
C	Hemic
D	Tissue
E	Cardiac
№	krok 2016
Topic	blood PATHOPHYSIOLOGY
Task	A 62-year-old patient has been hospi-talized due to massive cerebral hemorrhage. Blood pressure is 70/30 mm Hg, heart rate is 120/min., respiratory rate is 4/min., unconscious, no response to external sti-muli. Such condition can be determined as:
Correct answer	Coma
B	Shock
C	Collapse
D	Stress
E	Agony
№	krok 2016, 2015, 2014
Topic	PATHOPHYSIOLOGY of vessels
Task	After a road accident a victim has tachycardia, arterial blood pressure 130/90 mm Hg, tachypnoe, the skin is pale and dry, excitation of central nervous system is observed. What shock stage is the patient most likely in?
Correct answer	Erectile

B	Terminal
C	Torpid
D	Preshock (compensation stage)
E	Agony
№	krok 2016, 2013
Topic	endocrine PATHOPHYSIOLOGY
Task	A patient with signs of osteoporosis and urolithiasis has been admitted to an endocrinology department. Blood test revealed hypercalcemia and hypophosphatemia. These changes are associated with abnormal synthesis of the following hormone:
Correct answer	Parathyroid hormone
B	Calcitonin
C	Cortisol
D	Aldosterone
E	Calcitriol
№	krok 2016, 2013
Topic	endocrine PATHOPHYSIOLOGY
Task	A 30-year-old woman exhibits signs of virilism (growth of body hair, balding temples, menstrual disorders). This condition can be caused by overproduction of the following hormone:
Correct answer	Testosterone
B	Oestriol
C	Relaxin
D	Oxytocin
E	Prolactin
№	krok 2016
Topic	cardiac PATHOPHYSIOLOGY
Task	A patient complains of palpitations after stress. Pulse is 104/min., P-Q=0,12 seconds, there are no changes in QRS complex. What type of arrhythmia does the patient have?
Correct answer	Sinus tachycardia
B	Sinus bradycardia
C	Sinus arrhythmia
D	Ciliary arrhythmia

E	Extrasystole
№	krok 2016, 2015
Topic	endocrine PATHOPHYSIOLOGY
Task	A 6-year-old child suffers from delayed growth, disrupted ossification processes, decalcification of the teeth. What can be the cause?
Correct answer	Vitamin D deficiency
B	Decreased glucagon production
C	Insulin deficiency
D	Hyperthyroidism
E	Vitamin C deficiency
№	krok 2016
Topic	blood PATHOPHYSIOLOGY
Task	A 30-year-old patient's blood test has revealed the following: erythrocyte count is $6 \cdot 10^{12}$/l, hemoglobin is 10,55 mmol/l. Vaquez's disease was diagnosed. Name the leading part of pathogenesis:
Correct answer	Neoplastic erythroid hyperplasia
B	Iron-deficiency
C	B_{12}-deficiency
D	Hypoxia
E	Acidosis
№	krok 2016
Topic	cardiac PATHOPHYSIOLOGY
Task	An athlete (long-distance runner) during a contest developed a case of acute cardi-ac insufficiency. This pathology resulted from:
Correct answer	Cardiac volume overload
B	Disrupted coronary circulation
C	Direct damage to myocardium
D	Pericardium pathology
E	Cardiac pressure overload
№	krok 2016
Topic	PATHOPHYSIOLOGY of water-electrolite balance

Task	30 minutes after drinking mango juice a child suddenly developed a local swelli-ng in the area of the soft palate, which impeded swallowing and, eventually, respi-ration. Mucosa of the swollen area was hyperemic and painless. Blood test revealed moderate eosinophilia. Body temperature was normal. Anamnesis states that the elder sister of the child has been suffering from bronchial asthma attacks. What kind of edema has developed in the child?
Correct answer	Allergic
B	Inflammatory
C	Cardiac
D	Alimentary
E	Hepatic
№	krok 2015
Topic	PATHOPHYSIOLOGY of cns
Task	Poisoning caused by botulinum toxin that prevents calcium ions from entering axone nerve endings of motoneurons is life-threatening because it can lead to:
Correct answer	Respiratory arrest
B	Cardiac arrest
C	Vasotonic disorder
D	Vomiting
E	Diarrhea
№	krok 2015
Topic	PATHOPHYSIOLOGY of liver
Task	A 16-year-old adolescent is diagnosed with hereditary UDP (uridine diphosphate) glucuronyltransferase deficiency. Laboratory tests revealed hyperbili-rubinemia caused mostly by increased blood content of the following substance:
Correct answer	Unconjugated bilirubin
B	Conjugated bilirubin
C	Urobilinogen
D	Stercobilinogen
E	Biliverdine
№	krok 2015
Topic	allergy

Task	A 12-year-old child has developed nephritic syndrome (proteinuria, hematuria, cylindruria) 2 weeks after the case of tonsillitis, which is a sign of affected glomerular basement membrane in the kidneys. What mechanism is the most likely to cause the basement membrane damage?
Correct answer	Immune complex
B	Granulomatous
C	Antibody-mediated
D	Reaginic
E	Cytotoxic
№	krok 2015
Topic	allergy
Task	Several minutes after a dentist admini-stered novocaine for local anaesthesia of a patient's tooth, the following symptoms sharply developed in the patient: fatigue, skin itching. Objectively the following can be observed: skin hyperemia, tachycardia, BP dropped down to 70/40 mm Hg. What kind of allergic reaction is this pathology?
Correct answer	Anaphylactic
B	Cytotoxic
C	Stimulating
D	Cell-mediated immune reaction
E	Immune complex
№	krok 2015
Topic	PATHOPHYSIOLOGY of kidneys
Task	Glomerular filtration of a person, who has been starving for a long time, has increased by 20%. The most likely cause of filtration changes in the given conditions is:
Correct answer	Decrease of blood plasma oncotic pressure
B	Increase of systemic blood pressure
C	Increase of renal filter permeability
D	Increase of filtration factor
E	Increase of renal plasma flow
№	krok 2015
Topic	PATHOPHYSIOLOGY of vessels
Task	A patient with hypertensic crisis has increased content of angiotensin II in blood. Angiotensin pressor effect is based on:

Correct answer	Contraction of arteriole muscles
B	Activation of biogenic amine synthesis
C	Prostaglandin hyperproduction
D	Vasopressin production stimulation
E	Activation of kinin–kallikrein system
№	krok 2015, 2014
Topic	blood PATHOPHYSIOLOGY
Task	A patient is diagnosed with hereditary coagulopathy that is characterised by factor VIII deficiency. Specify the phase of blood clotting during which coagulation will be di-srupted in the given case:
Correct answer	Thromboplastin formation
B	Thrombin formation
C	Fibrin formation
D	Clot retraction
E	-
№	krok 2015, 2012, 2011
Topic	PATHOPHYSIOLOGY of acid-base balance
Task	An infant has pylorospasm, weakness, hypodynamia, convulsions as a result of frequent vomiting. What kind of acid-base disbalance is it?
Correct answer	Excretory alkalosis
B	Excretory acidosis
C	Metabolic acidosis
D	Exogenous nongaseous acidosis
E	Gaseous alkalosis
№	krok 2015, 2014
Topic	blood PATHOPHYSIOLOGY
Task	A 37-year-old woman complains of headache, vertigo, troubled sleep, numbness of limbs. For the last 6 years she has been working at a gasdischarge lamp-producing factory in a lead-processing shop. Blood test findings: low hemoglobin and RBC level, serum iron concentration exceeds the norm by several times. Specify the type of anemia:
Correct answer	Iron refractory anemia
B	Iron-deficiency anemia

C	Minkowsky-Shauffard disease
D	Hypoplastic anemia
E	Metaplastic anemia
№	krok 2015
Topic	PATHOPHYSIOLOGY of liver
Task	An unconscious patient was delivered by ambulance to the hospital. On objecti-ve examination the patient was found to present no reflexes, periodical convulsi-ons, irregular breathing. After laboratory examination the patient was diagnosed with hepatic coma. Disorders of the central nervous system develop due to accumulati-on of the following metabolite:
Correct answer	Ammonia
B	Urea
C	Glutamine
D	Bilirubin
E	Histamine
№	krok 2015
Topic	PATHOPHYSIOLOGY of kidneys
Task	A patient has insufficient blood supply to the kidneys, which has caused the development of pressor effect due to constriction of arterial resistance vessels. This condition results from the vessels being strongly affected by the following substance:
Correct answer	Angiotensin II
B	Angiotensinogen
C	Renin
D	Catecholamines
E	Norepinephrine
№	krok 2015
Topic	endocrine PATHOPHYSIOLOGY
Task	A 4-year-old child with hereditary renal lesion has signs of rickets; vitamin D concentration in blood is normal. What is the most probable cause of rickets development?
Correct answer	Impaired synthesis of calcitriol
B	Increased excretion of calcium
C	Hyperfunction of parathyroid glands
D	Hypofunction of parathyroid glands

E	Lack of calcium in food
№	krok 2015
Topic	PATHOPHYSIOLOGY of cns
Task	A patient had a trauma that caused dysfunction of motor centres regulating activity of head muscles. In what parts of cerebral cortex can the respective centre normally be located?
Correct answer	Inferior part of precentral gyrus
B	Superior part of precentral gyrus
C	Supramarginal gyrus
D	Superior parietal lobule
E	Angular gyrus
№	krok 2015, 2014
Topic	allergy
Task	During blood transfusion a patient has developed intravascular erythrocyte hemolysis. What kind of hypersensitivity does the patient have?
Correct answer	II type (antibody-dependent)
B	I type (anaphylactic)
C	III type (immune complex)
D	IV type (cellular cytotoxicity)
E	IV type (granulomatosis)
№	krok 2015, 2014, 2013
Topic	PATHOPHYSIOLOGY of kidneys
Task	Due to the use of poor-quality measles vaccine for preventive vaccination, a 1-year-old child developed an autoimmune renal injury. The urine was found to contain macromolecular proteins. What process of urine formation was disturbed?
Correct answer	Filtration
B	Reabsorption
C	Secretion
D	Reabsorption and secretion
E	Secretion and filtration
№	krk 2015
Topic	blood PATHOPHYSIOLOGY

Task	During determining the blood group according to the AB0 system with salt soluti-ons of monoclonal antibodies agglutination did not occur with any of the solutions. What blood group is it?
Correct answer	0 (I)
B	A (II)
C	B (III)
D	AB (IV)
E	-
№	krok 2015
Topic	PATHOPHYSIOLOGY of cns
Task	As a result of a mechanical injury an over 10 cm long portion of a peripheral nerve was damaged. This caused an impairment of the upper limb activity. The patient was offered nerve transplantation. What gli-al cells will participate in regeneration and provide the trophism of the injured limb?
Correct answer	Schwann cells
B	Fibrous cells
C	Protoplasmic cells
D	Microglia
E	Ependymal cells
№	krok 2015
Topic	endocrine PATHOPHYSIOLOGY
Task	A 30-year-old man with diabetes mellitus type I was hospitalised. The patient is comatose. Laboratory tests revealed hyperglycemia and ketonemia. What metabolic disorder can be detected in this patient?
Correct answer	Metabolic acidosis
B	Metabolic alkalosis
C	Respiratory acidosis
D	Respiratory alkalosis
E	Normal acid-base balance
№	krok 2015
Topic	endocrine PATHOPHYSIOLOGY
Task	A 15-year-old patient has fasting plasma glucose level 4,8 mmol/l, one hour after glucose challenge it becomes 9,0 mmol/l, in 2 hours it is 7,0 mmol/l, in 3 hours it is 4,8 mmol/l. Such parameters are characteristic of:

Correct answer	Subclinical diabetes mellitus
B	Diabetes mellitus type 1
C	Diabetes mellitus type 2
D	Healthy person
E	Cushing’s disease
№	krok 2015
Topic	PATHOPHYSIOLOGY of digestion
Task	A 43-year-old patient suffers from acute pancreatitis with disrupted common bile duct patency. What condition can develop in this case?
Correct answer	Mechanical jaundice
B	Hemolytic jaundice
C	Hepatocellular jaundice
D	Hepatic coma
E	Portal hypertension
№	krok 2015
Topic	allergy
Task	A 3-year-old child has eaten some strawberries. Soon he developed a rash and itching. What was found in the child’s leukogram?
Correct answer	Eosinophilia
B	Hypolymphemia
C	Neutrophilic leukocytosis
D	Monocytosis
E	Lymphocytosis
№	krok 2015
Topic	blood PATHOPHYSIOLOGY
Task	A patient is diagnosed with chronic atrophic gastritis attended by deficiency of Castle’s intrinsic factor. What type of anemia does the patient have?
Correct answer	B_{12}-deficiency anemia
B	Iron refractory anemia
C	Hemolytic anemia
D	Iron-deficiency anemia

E	Protein-deficiency anemia
№	krok 2015
Topic	PATHOPHYSIOLOGY of liver
Task	A 50-year-old man, who has been suffering from chronic hepatic failure for several years, has developed ascites. What is the main mechanism of this disorder development?
Correct answer	Increased pressure in portal vein system
B	Decrease of albumin and globulin synthesis in liver
C	Increased content of low-density and very low-density lipoproteins in blood
D	Neurotoxins appearing in blood
E	Increase of blood oncotic pressure
№	krok 2015
Topic	respiratory PATHOPHYSIOLOGY
Task	A 30-year-old man has sustained an injury to his thorax in a traffic incident, whi-ch caused disruption of his external respiration. What type of ventilatory difficulty can be observed in the given case?
Correct answer	Restrictive extrapulmonary ventilatory impairment
B	Restrictive pulmonary ventilatory impairment
C	Obstructive ventilatory impairment
D	Impaired ventilation regulation dysfunction
E	Cardiovascular collapse
№	krok 2015
Topic	blood PATHOPHYSIOLOGY
Task	Biochemical analysis of an infant’s erythrocytes revealed evident glutathione peroxidase deficiency and low concentration of reduced glutathione. What pathological condition can develop in this infant?
Correct answer	Hemolytic anemia
B	Pernicious anemia
C	Megaloblastic anemia
D	Sicklemia
E	Iron-deficiency anemia
№	krok 2015
Topic	PATHOPHYSIOLOGY of cns

Task	Parkinson’s disease is caused by disruption of dopamine synthesis. What brain structure synthesizes this neurotransmitter?
Correct answer	Substantia nigra
B	Globus pallidus
C	Corpora quadrigemina
D	Red nucleus
E	Hypothalamus
№	krok 2015
Topic	PATHOPHYSIOLOGY of vessels
Task	A 27-year-old patient with injury to the neck has lost approximately 30% of the blood volume. The patient’s condition is severe: blood pressure is 60/40 mm Hg, heart rate is 140/min., respiratory rate is 30/min., conscious. Characterize the condition of the patient’s circulatory system:
Correct answer	Hypovolemic shock
B	Cardiogenic shock
C	Collapse
D	Coma
E	Arterial hypertension
№	krok 2014
Topic	PATHOPHYSIOLOGY of digestion
Task	Feces of a patient contain high amount of undissociated fats and have grayish-white color. Specify the cause of this phenomenon:
Correct answer	Obturation of bile duct
B	Hypoactivation of pepsin by hydrochloric acid
C	Hypovitaminosis
D	Enteritis
E	Irritation of intestinal epithelium
№	krok 2014
Topic	respiratory PATHOPHYSIOLOGY
Task	A patient has increased thickness of alveolarcapillary membrane caused by a pathologic process. The direct consequence will be reduction of the following value:
Correct answer	Diffusing lung capacity
B	Oxygen capacity of blood

C	Respiratory minute volume
D	Alveolar ventilation of lungs
E	Expiratory reserve volume
№	krok 2014
Topic	blood PATHOPHYSIOLOGY
Task	Examination of a 52-year-old female patient has revealed a decrease in the amount of red blood cells and an increase in free hemoglobin in the blood plasma (hemoglobinemia). Color index is 0,85. What type of anemia is being observed in the patient?
Correct answer	Acquired hemolytic
B	Hereditary hemolytic
C	Acute hemorrhagic
D	Chronic hemorrhagic
E	Anemia due to diminished erythropoiesis
№	krok 2014
Topic	PATHOPHYSIOLOGY of vessels
Task	A 43-year-old-patient has arterial hypertension caused by an increase in cardiac output and general peripheral resistance. Specify the variant of hemodynamic development of arterial hypertension in the given case:
Correct answer	Eukinetic
B	Hyperkinetic
C	Hypokinetic
D	Combined
E	–
№	krok 2014
Topic	allergy
Task	The development of both immune and allergic reactions is based upon the same mechanisms of the immune system response to an antigen. What is the main difference between the immune and allergic reactions?
Correct answer	Development of tissue lesion
B	Amount of released antigen
C	Antigen structure
D	Routes by which antigens are delivered into the body
E	Hereditary predisposition

№	krok 2014
Topic	PATHOPHYSIOLOGY of cns
Task	After a craniocerebral injury a patient is unable to recognize objects by touch. What part of brain has been damaged?
Correct answer	Postcentral gyrus
B	Occipital lobe
C	Temporal lobe
D	Precentral gyrus
E	Cerebellum
№	krok 2014
Topic	PATHOPHYSIOLOGY of cns
Task	As a result of a craniocerebral injury, a patient has a decreased skin sensitivity. What area of the cerebral cortex is likely to be damaged?
Correct answer	Posterior central gyrus
B	Occipital region
C	Cingulate gyrus
D	Frontal cortex
E	Anterior central gyrus
№	krok 2014
Topic	endocrine PATHOPHYSIOLOGY
Task	Diabetic nephropathy with uremia has developed in a patient with pancreatic diabetes. The velocity of glomerular filtration is 9 ml/min. What mechanism of a decrease in glomerular filtration velocity and chronic renal failure development is most likely in the case of this patient?
Correct answer	Reduction of active nephron mass
B	Decrease in systemic arterial pressure
C	Obstruction of nephron tubules with hyaline casts
D	Tissue acidosis
E	Arteriolar spasm
№	krok 2014
Topic	PATHOPHYSIOLOGY of digestion

Task	A patient has a critical impairment of protein, fat and hydrocarbon digestion. Most likely it has been caused by low secretion of the following digestive juice:
Correct answer	Pancreatic juice
B	Saliva
C	Gastric juice
D	Bile
E	Intestinal juice
№	krok 2014
Topic	PATHOPHYSIOLOGY of cns
Task	During an animal experiment,surgical damage of certain brain structures has caused deep prolonged sleep. What structure is most likely to cause such condition, if damaged?
Correct answer	Reticular formation
B	Basal ganglion
C	Red nuclei
D	Hippocampus
E	Cerebral cortex
№	krok 2014
Topic	blood PATHOPHYSIOLOGY
Task	A patient is diagnosed with iron-deficiency sideroachrestic anemia, progression of which is characterised by skin hyperpigmentation, pigmentary cirrhosis, heart and pancreas affection. Iron level in the blood serum is increased. What disorder of iron metabolism causes this disease?
Correct answer	Failure to assimilate iron leading to iron accumulation in tissues
B	Excessive iron intake with food
C	Disorder of iron absorption in bowels
D	Increased iron assimilation by body
E	-
№	krok 2014
Topic	endocrine PATHOPHYSIOLOGY

Task	According to the results of glucose tolerance test, the patient has no disorder of carbohydrate tolerance. Despite that, glucose is detected in the patients's urine (5 mmol/l). The patient has been diagnosed with renal diabetes. What renal changes cause glucosuria in this case?
Correct answer	Decreased activity of glucose reabsorption enzymes
B	Increased activity of glucose reabsorption enzymes
C	Exceeded glucose reabsorption threshold
D	Increased glucose secretion
E	Increased glucose filtration
№	krok 2014
Topic	endocrine PATHOPHYSIOLOGY
Task	In the course of an experiment adenohypophysis of an animal has been removed. The resulting atrophy of thyroid gland and adrenal cortex has been caused by deficiency of the following hormone:
Correct answer	Tropic hormones
B	Thyroid hormones
C	Somatotropin
D	Cortisol
E	Thyroxin
№	krok 2014
Topic	PATHOPHYSIOLOGY of cns
Task	Degenerative changes in posterior and lateral columns of spinal cord (funicular myelosis) caused by methylmalonic acid accumulation occur in patients with B_{12}-deficiency anemia. This results in synthesis disruption of the following substance:
Correct answer	Myelin
B	Acetylcholine
C	Norepinephrine
D	Dopamine
E	Serotonin
№	krok 2014
Topic	PATHOPHYSIOLOGY of cns
Task	As a result of an injury, the integrity of the anterior spinal cord root was broken. Specify the neurons and their processes that had been damaged:

Correct answer	Axons of motor neurons
B	Motor neuron dendrites
C	Axons of sensory neurons
D	Dendrites of sensory neurons
E	Dendrites of association neurons
№	krok 2014
Topic	PATHOPHYSIOLOGY of cns
Task	A patient complains of pain in the heart area during acute attack of gastric ulcer. What vegetative reflex can cause this painful feeling?
Correct answer	Viscerovisceral reflex
B	Viscerodermal reflex
C	Visceromotor reflex
D	Dermatovisceral reflex
E	Motorvisceral reflex
№	krok 2014
Topic	cardiac PATHOPHYSIOLOGY
Task	Since a patient has had myocardial infarction, his atria and ventricles contract independently from each other with a frequency of 60-70 and 35-per minute. Specify the type of heart block in this case:
Correct answer	Complete atrioventricular
B	Partial atrioventricular
C	Sino-atrial
D	Intra-atrial
E	Intraventricular
№	krok 2014
Topic	PATHOPHYSIOLOGY water-electrolite balance
Task	A patient has severe blood loss caused by an injury. What kind of dehydration will be observed in this particular case?
Correct answer	Iso-osmolar
B	Hyposmolar
C	Hyperosmolar
D	Normosmolar

E	–
№	krok 2014
Topic	allergy
Task	A 30-year-old patient has dyspnea fits, mostly at night. He has been diagnosed with bronchial asthma. What type of allergic reaction according to the Gell-Coombs classification is most likely in this case?
Correct answer	Anaphylactic
B	Cytotoxic
C	Stimulating
D	Immune complex
E	Delayed-type hypersensitivity
№	krok 2014
Topic	aLLERgy
Task	In allergic diseases, a dramaic increase in basophilic leukocyte number in patients' blood is observed. This phenomenon is due to the following basophil function:
Correct answer	Participation of heparin and histamine in metabolism
B	Phagocytosis of microorganisms and small particles
C	Immunoglobulin synthesis
D	Phagocytosis of immune complexes
E	Participation in blood clotting
№	krok 2014
Topic	respiratory PATHOPHYSIOLOGY
Task	A public utility specialist went down into a sewer well without protection and after a while lost consciousness. Ambulance doctors diagnosed him with hydrogen sulfide intoxication. What type of hypoxia developed?
Correct answer	Hemic
B	Overload
C	Tissue
D	Circulatory
E	Respiratory
№	krok 2014
Topic	endocrine PATHOPHYSIOLOGY

Task	A patient with signs of osteoporosis and urolithiasis has been admitted to the endocrinology department. Blood test has revealed hypercalcemia and hypophosphatemia. These changes are associated with abnormal synthesis of the following hormone:
Correct answer	Parathyroid hormone
B	Calcitonin
C	Cortisol
D	Aldosterone
E	Calcitriol
№	krok 2014
Topic	cardiac PATHOPHYSIOLOGY
Task	A patient complains of palpitation after stress. The pulse is 104 bpm, P-Q=0,12 seconds, there are no changes of QRS complex. What type of arrhythmia does the patient have?
Correct answer	Sinus tachycardia
B	Sinus bradycardia
C	Sinus arrhythmia
D	Ciliary arrhythmia
E	Extrasystole
№	krok 2014
Topic	PATHOPHYSIOLOGY of acid-bace balance
Task	A patient has the oxyhemoglobin dissociation curve shifted to the left. What blood changes induce this condition?
Correct answer	Alkalosis, hypocapnia, temperature drop
B	Acidosis, hypercapnia, temperature rise
C	Acidosis, hypercapnia, temperature drop
D	Acidosis, hypocapnia, temperature rise
E	-
№	krok 2013
Topic	respiratory PATHOPHYSIOLOGY
Task	A 23-year-old patient has been admitted to a hospital with a craniocerebral injury. The patient is in a grave condition. Respiration is characterized by prolonged convulsive inspiration followed by a short expiration. What kind of respiration is it typical for?
Correct answer	Apneustic
B	Gasping breath

C	Kussmaul’s
D	Cheyne-Stokes
E	Biot’s
№	krok 2013
Topic	PATHOPHYSIOLOGY of cns
Task	A patient got a gunshot wound of hip which damaged the sciatic nerve. Any impact on the affected limb causes severe, excruciating pain. What mechanism of pain is most likely in this case?
Correct answer	Causalgic
B	Reflex
C	Phantom
D	Endorphin hypofunction
E	Enkephalin hypofunction
№	krok 2013
Topic	respiratory PATHOPHYSIOLOGY
Task	A patient with bronchial asthma has developed acute respiratory failure. What kind of respiratory failure occurs in this case?
Correct answer	Obstructive disturbance of alveolar ventilation
B	Restrictive ventilatory defect
C	Perfusion
D	Diffusion
E	Dysregulation of alveolar ventilation
№	krok 2013
Topic	BLOOD PATHOPHYSIOLOGY
Task	On the fifth day after the acute blood loss a patient has been diagnosed with hypochromic anemia. What is the main mechanism of hypochromia development?
Correct answer	Release of immature red blood cells from the bone marrow
B	Impaired iron absorption in the intestines
C	Increased destruction of red blood cells in the spleen
D	Impaired globin synthesis
E	Increased excretion of body iron
№	krok 2013

Topic	PATHOPHYSIOLOGY OF ACID-BACE BALANCE
Task	A patient with diabetes developed a diabetic coma due to the acid-base imbalance. Specify the kind of this imbalance:
Correct answer	Metabolic acidosis
B	Metabolic alkalosis
C	Respiratory acidosis
D	Gaseous alkalosis
E	Non-gaseous alkalosis
№	krok 2013
Topic	PATHOPHYSIOLOGY OF VESSELS
Task	Microscopy of the coronary artery of a dead 53-year-old patient revealed luminal occlusion due to a fibrous plaque with some lipids. The most likely form of atherosclerosis in this case is:
Correct answer	Liposclerosis
B	Lipidosis
C	Prelipid stage
D	Atheromatosis
E	Ulceration
№	krok 2013
Topic	RESPIRATORY PATHOPHYSIOLOGY
Task	Measurements of the arterial pCO_2 and pO_2 during an attack of bronchial asthma revealed hypercapnia and hypoxemia respectively. What kind of hypoxia occurred in this case?
Correct answer	Respiratory
B	Hemic
C	Circulatory
D	Tissue
E	Histotoxic
№	krok 2013
Topic	PATHOPHYSIOLOGY OF ACID-BASE BALANCE
Task	A patient with respiratory failure has blood pH of 7,35. pCO_2 test revealed hypercapnia. Urine pH test revealed an increase in the urine acidity. What form of acid-base imbalance is the case?
Correct answer	Compensated respiratory acidosis

B	Compensated metabolic acidosis
C	Decompensated metabolic acidosis
D	Compensated respiratory alkalosis
E	Decompensated respiratory alkalosis
№	krok 2013
Topic	PATHOPHYSIOLOGY OF LIVER
Task	A patient with jaundice has high total bilirubin that is mainly indirect (unconjugated), high concentration of stercobilin in the stool and urine. The level of direct (conjugated) bilirubin in the blood plasma is normal. What kind of jaundice can you think of?
Correct answer	Hemolytic
B	Parenchymal (hepatic)
C	Mechanical
D	Neonatal jaundice
E	Gilbert’s disease
№	krok 2013
Topic	PATHOPHYSIOLOGY OF CNS
Task	A male with a lesion of one of the CNS parts has asthenia, muscular dystonia, balance disorder. Which CNS part has been affected?
Correct answer	Cerebellum
B	Black substance
C	Reticular formation
D	Red nuclei
E	Vestibular nuclei
№	krok 2013
Topic	PATHOPHYSIOLOGY OF DIGESTION
Task	A patient has normally coloured stool including a large amount of free fatty acids. The reason for this is a disturbance of the following process:
Correct answer	Fat absorption
B	Fat hydrolysis
C	Biliary excretion
D	Choleresis
E	Lipase secretion

№	krok 2013
Topic	PATHOPHYSIOLOGY OF VESSELS
Task	A patient with a pathology of the cardiovascular system developed edemata of the lower extremities. What is the mechanism of cardiac edema development?
Correct answer	Increased hydrostatic pressure at the venous end of the capillary
B	Increased oncotic pressure
C	Increased hydrostatic pressure at the arterial end of the capillary
D	Reduced osmotic pressure
E	Lymph efflux disorder
№	krok 2013
Topic	CARDIAC PATHOPHYSIOLOGY
Task	During the fight, a man had a cardiac arrest due to the strong blow to the upper region of the anterior abdominal wall. Which of the following mechanisms has led to the cardiac arrest?
Correct answer	Parasympathetic unconditioned reflexes
B	Sympathetic unconditioned reflexes
C	Parasympathetic conditioned reflexes
D	Sympathetic conditioned reflexes
E	Peripheral reflexes
№	krok 2013
Topic	BLOOD PATHOPHYSIOLOGY
Task	A pregnant woman underwent AB0 blood typing. Red blood cells were agglutinated with standard sera of the I and II blood groups, and were not agglutinated with the III group serum. What is the patient’s blood group?
Correct answer	B(III)
B	0(I)
C	A(II)
D	AB(IV)
E	–
№	krok 2013
Topic	PATHOPHYSIOLOGY OF KIDNEYS

Task	A male patient has been diagnosed with acute poststreptococcal glomerulonephritis. It is most likely that the lesion of the basement membrane of renal corpuscles was caused by the following allergic reaction:
Correct answer	Immune complex
B	Anaphylactic
C	Cytotoxic
D	Delayed
E	Stimulating
№	krok 2013
Topic	INFLAMMATION
Task	The cellular composition of exudate largely depends on the etiological factor of inflammation. What leukocytes are the first to get into the focus of inflammation caused by pyogenic bacteria?
Correct answer	Neutrophil granulocytes
B	Monocytes
C	Myelocytes
D	Eosinophilic granulocytes
E	Basophils
№	krok 2013
Topic	CARDIAC PATHOPHYSIOLOGY
Task	A 35-year-old male developed acute heart failure while running for a long time. What changes in the ionic composition can be observed in the cardiac muscle?
Correct answer	Accumulation of Na^+ and Ca^{2+} ions in the myocardium cells
B	Accumulation of K^+ and Mg^{2+} ions in the myocardium cells
C	Reduction of Na^+ and Ca^{2+} ions in the myocardium cells
D	Reduction of K^+ and Mg^{2+} ions in the extracellular space
E	Reduction of Na^+ and Ca^{2+} ions in the extracellular space
№	krok 2013
Topic	PATHOPHYSIOLOGY OF LIVER
Task	Enzymatic jaundices are accompanied by abnormal activity of UDP-glucuronyl transferase. What compound is accumulated in blood serum in case of these pathologies?

Correct answer	Unconjugated bilirubin
B	Conjugated bilrubin
C	Dehydrobilirubin
D	Hydrobilirubin
E	Choleglobin
№	krok 2013
Topic	RESPIRATORY PATHOPHYSIOLOGY
Task	Diseases of the respiratory system and circulatory disorders impair the transport of oxygen, thus leading to hypoxia. Under these conditions the energy metabolism is carried out by anaerobic glycolysis. As a result, the following substance is generated and accumulated in blood:
Correct answer	Lactic acid
B	Pyruvic acid
C	Glutamic acid
D	Citric acid
E	Fumaric acid
№	krok 2013
Topic	ENDOCRINE PATHOPHYSIOLOGY
Task	A 19-year-old male was found to have an elevated level of potassium in the secondary urine. These changes might have been caused by the increase in the following hormone level:
Correct answer	Aldosterone
B	Oxytocin
C	Adrenaline
D	Glucagon
E	Testosterone
№	krok 2013
Topic	CARDIAC PATHOPHYSIOLOGY
Task	Analysis of the ECG revealed the missing of several PQRST cycles. The remaining waves and complexes are not changed. Specify the type of arrhythmia:
Correct answer	Sinoatrial block
B	Atrial fibrillation

C	Atrioventricular block
D	Atrial premature beat
E	Intraatrial block
№	krok 2013
Topic	CARDIAC PATHOPHYSIOLOGY
Task	ECG of a patient displays an abnormally long R wave (up to 0,18 s). This is caused by a decrease in the conduction velocity of the following heart structures:
Correct answer	Ventricles
B	Atria
C	Atrio-ventricular node
D	Right ventricle
E	Left ventricle
№	krok 2013
Topic	CARDIAC PATHOPHYSIOLOGY
Task	Since a patient has had myocardial infarction, atria and ventricles contract independently from each other with a frequency of 60-70 and 35-40 per minute. Specify the type of heart block in this case:
Correct answer	Complete atrioventricular
B	Partial atrioventricular
C	Sino-atrial
D	Intra-atrial
E	Intraventricular
№	krok 2013
Topic	PATHOPHYSIOLOGY OF CNS
Task	A male working as a blacksmith has been tested for auditory acuity. The tests revealed 50% hearing loss in the low-frequency range and a near-normal auditory acuity in the high-frequency range. This condition has been caused by the damage to the following structures of the auditory system:
Correct answer	Corti’s organ - closer to helicotrema
B	Corti’s organ - closer to the oval foramen
C	Median part of the Corti’s organ
D	Muscles of the middle ear

E	Eardrum
№	krok 2013
Topic	ALLERGY
Task	10 days after having quinsy caused by beta-hemolytic streptococcus a 6-year-old child exhibited symptoms of glomerulonephritis. What mechanism of glomerular lesion is most likely in this case?
Correct answer	Immunocomplex
B	Cellular cytotoxicity
C	Anaphylaxis
D	Atopy
E	Antibody-dependent cell-mediated cytolysis
№	krok 2013
Topic	BLOOD PATHOPHYSIOLOGY
Task	In a car accident a man got injured and lost a lot of blood. What changes in peripheral blood are most likely to occur on the 2nd day after the injury?
Correct answer	Erythropenia
B	Hypochromia
C	Anisocytosis
D	Microplania
E	Significant reticulocytosis
№	krok 2013
Topic	PATHOPHYSIOLOGY OF LIVER
Task	Due to the blockage of the common bile duct (which was radiographically confirmed), the biliary flow to the duodenum was stopped. We should expect the impairment of:
Correct answer	Fat emulsification
B	Protein absorption
C	Carbohydrate hydrolysis
D	Secretion of hydrochloric acid
E	Salivation inhibition
№	krok 2013
Topic	BLOOD PATHOPHYSIOLOGY

Task	After the prolonged vomiting a pregnant 26-year-old woman was found to have the reduced volume of circulating blood. What change in the total blood volume can be the case?
Correct answer	Polycythemic hypovolemia
B	Simple hypovolemia
C	Oligocythemic hypovolemia
D	Polycythemic hypervolemia
E	Oligocythemic hypervolemia
№	krok 2013
Topic	CARDIAC PATHOPHYSIOLOGY
Task	A patient with extensive myocardial infarction has developed heart failure. What pathogenetic mechanism contributed to the development of heart failure in the patient?
Correct answer	Reduction in the mass of functioning myocardiocytes
B	Pressure overload
C	Volume overload
D	Acute cardiac tamponade
E	Myocardial reperfusion injury
№	krok 2013
Topic	ENDOCRINE PATHOPHYSIOLOGY
Task	As a result of a home injury, a patient suffered a significant blood loss, which led to a fall in blood pressure. Rapid blood pressure recovery after the blood loss is provided by the following hormones:
Correct answer	Adrenaline, vasopressin
B	Cortisol
C	Sex hormones
D	Oxytocin
E	Aldosterone
№	krok 2013
Topic	PATHOPHYSIOLOGY OF VESSELS
Task	A patient with constant headaches, pain in the occipital region, tinnitus, dizziness has been admitted to the cardiology department. Objectively: AP- 180/110 mm Hg, heart rate - 95/min. Radiographically, there is a stenosis of one of the renal arteries. Hypertensive condition in this patient has been caused by the activation of the following system:

Correct answer	Renin-angiotensin
B	Hemostatic
C	Sympathoadrenal
D	Kinin
E	Immune
№	krok 2013
Topic	PATHOPHYSIOLOGY OF CNS
Task	A patient complains that at the bare mention of the tragic events that once occurred in his life he experiences tachycardia, dyspnea and an abrupt rise in blood pressure. What structures of the CNS are responsible for these cardiorespiratory reactions in this patient?
Correct answer	Cerebral cortex
B	Cerebellum
C	Lateral hypothalamic nuclei
D	Specific thalamic nuclei
E	Quadrigemina of mesencephalon
№	krok 2013
Topic	PATHOPHYSIOLOGY OF VESSELS
Task	A female patient complains of vision impairment. On examination she was found to have obesity, fasting hyperglycemia. What complication of diabetes can cause vision impairment?
Correct answer	Microangiopathy
B	Macroangiopathy
C	Atherosclerosis
D	Neuropathy
E	Glomerulopathy
№	krok 2013
Topic	ALLERGY
Task	A 3-year-old child had eaten some strawberries. Soon he developed a rash and itching. What was found in the child’s leukogram?
Correct answer	Eosinophilia
B	Hypolymphemia
C	Neutrophilic leukocytosis

D	Monocytosis
E	Lymphocytosis
№	krok 2013
Topic	PATHOPHYSIOLOGY OF VESSELS
Task	A 12-year-old patient was found to have blood serum cholesterol at the rate of 25 mmol/l. The boy has a history of hereditary familial hypercholesterolemia, which is caused by the impaired synthesis of the following protein receptors:
Correct answer	Low density lipoproteins
B	High density lipoproteins
C	Chylomicrons
D	Very low density lipoproteins
E	Intermediate density lipoproteins
№	krok 2012
Topic	PATHOPHYSIOLOGY OF DIGESTION
Task	A 30 year old woman has subnormal concentration of enzymes in the pancreatic juice. This might be caused by the hyposecretion of the following gastroi-ntestinal hormone:
Correct answer	Cholecystokininpancreozymin
B	Somatostatin
C	Secretin
D	Gastro-inhibiting peptide
E	Vaso-intestinal peptide
№	krok 2012
Topic	PATHOPHYSIOLOGY OF VESSELS
Task	A month after surgical constriction of rabbit’s renal artery the considerable increase of systematic arterial pressure was observed. What of the following regulation mechanisms caused the animal’s pressure change?
Correct answer	Angiotensin-II
B	Vasopressin
C	Adrenaline
D	Noradrenaline
E	Serotonin
№	krok 2012

Topic	ENDOCRINE PATHOPHYSIOLOGY
Task	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:
Correct answer	Parathormone
B	Thyrocalcitonin
C	Thyroxin
D	Somatotropic hormone
E	Triiodothyronine
№	krok 2012
Topic	PATHOPHYSIOLOGY OF CNS
Task	A patient presents with the following motor activity disturbances: tremor, ataxia and asynergia movements, dysarthria. The disturbances are most likely to be localized in:
Correct answer	Cerebellum
B	Basal ganglions
C	Limbic system
D	Brainstem
E	Medulla oblongata
№	krok 2012
Topic	PATHOPHYSIOLOGY OF VESSELS
Task	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:
Correct answer	Vasopressin
B	Corticotropin
C	Natriuretic
D	Cortisol
E	Parathormone
№	krok 2012
Topic	ENDOCRINE PATHOPHYSIOLOGY
Task	Parodontitis is treated with calcium preparations and a hormone that stimulates tooth mineralization and inhibits tissue resorption. What hormone is it?

Correct answer	Calcitonin
B	Parathormone
C	Adrenalin
D	Aldosterone
E	Thyroxine
№	krok 2012
Topic	BLOOD PATHOPHYSIOLOGY
Task	Having helped to eliminate consequences of a failure at a nuclear power plant, a worker got an irradiation doze of 500 roentgen. He complains of headache, nausea, dizziness. What changes in leukocytes quantity can be expected 10 hours after irradiation?
Correct answer	Neutrophilic leukocytosis
B	Lymphocytosis
C	Leukopenia
D	Agranulocytosis
E	Leukemia
№	krok 2012
Topic	RESPIRATORY PATHOPHYSIOLOGY
Task	After an attack of bronchial asthma a patient had his peripheral blood tested. What changes can be expected?
Correct answer	Eosinophilia
B	Leukopenia
C	Lymphocytosis
D	Thrombocytopenia
E	Erythrocytosis
№	krok 2012
Topic	PATHOPHYSIOLOGY OF CNS
Task	After the traumatic tooth extraction a patient is complaining of acute, dull, poorlylocalized pain in gingiva, body temperature rise up to 37, $5^{o}C$. The patient has been diagnosed with alveolitis. Specify the kind of pain in this patient:
Correct answer	Protopathic
B	Epicritic
C	Visceral
D	Heterotopic

E	Phantom
№	krok 2012
Topic	PATHOPHYSIOLOGY OF VESSELS
Task	A 50 year old patient suffers from essential hypertension. After a physical stress he experienced muscle weakness, breathlessness, cyanosis of lips, skin and face. Respiration was accompanied by distinctly heard bubbling rales. What mechanism underlies the development of this syndrome?
Correct answer	Acute left-ventricular failure
B	Chronic right-ventricular failure
C	Chronic left-ventricular failure
D	Collapse
E	Cardiac tamponade
№	krok 2012
Topic	BLOOD PATHOPHYSIOLOGY
Task	A patient suffering from chronic myeloleukemia has got the following symptoms of anemia: decreased number of erythrocytes and low haemoglobin concentration, oxyphilic and polychromatophilic normocytes, microcytes. What is the leading pathogenetic mechanism of anemia development?
Correct answer	Substitution of haemoblast
B	Intravascular hemolysis of erythrocytes
C	Deficiency of vitamin B_{12}
D	Reduced synthesis of erythropoietin
E	Chronic haemorrhage
№	krok 2012
Topic	PATHOPHYSIOLOGY OF VESSELS
Task	A patient with obliterating endarteritis underwent ganglionic sympathectomy. What type of arterial hyperaemia should have developed as a result of the surgery?
Correct answer	Neuroparalytic
B	Neurotonic
C	Metabolic
D	Functional
E	Reactive

№	krok 2012, 2011, 2009
Topic	PATHOPHYSIOLOGY OF DIGESTION
Task	A patient suffering from chronic hyperacidic gastritis takes an antacid drug for heartburn elimination. After its ingestion the patient feels better but at the same time he has a sensation of stomach swelling. Which of the following drugs might be the cause of such side effect?
Correct answer	Sodium hydrocarbonate
B	Magnesium oxide
C	Magnesium trisilicate
D	Aluminium hydrooxide
E	.Pepsin
№	krok 2012, 2010, 2008
Topic	ENDOCRINE PATHOPHYSIOLOGY
Task	A 44 year old woman complains of general weakness, heart pain, significant increase of body weight. Objectively: moon face, hirsutism, AP is 165/100 mm Hg, height - 164 cm, weight - 103 kg; the fat is mostly accumulated on her neck, thoracic girdle, belly. What is the main pathogenetic mechanism of obesity?
Correct answer	Increased production of glucocorticoids
B	Reduced production of thyroid hormones
C	Increased insulin production
D	Reduced glucagon production
E	Increased mineralocorticoid production
№	krok 2012
Topic	PATHOPHYSIOLOGY OF CNS
Task	As a result of a trauma a patient has damaged anterior roots of spinal cord. What structures have been affected?
Correct answer	Axons of motoneurons and axons of neurons of lateral horns
B	Central processes of sensitive neurons of spinal ganglions
C	Peripheral processes of sensitive spinal ganglions
D	Axons of neurons of lateral horns
E	Dendrites of neurons of spinal ganglions
№	krok 2012
Topic	CARDIAC PATHOPHYSIOLOGY

Task	After a serious psychoemotional stress a 48 year old patient suddenly developed acute heart ache irradiating to the left arm. Nitroglycerine relieved pain after 10 minutes. What is the leading pathogenetic mechanism of this process development?
Correct answer	Spasm of coronary arteries
B	Dilatation of peripheral vessels
C	Obstruction of coronary vessels
D	Compression of coronary vessels
E	Increase in myocardial oxygenConsumption
№	krok 2012
Topic	PATHOPHYSIOLOGY OF DIGESTION
Task	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, $8 \cdot 10^{12}$/l, leukocytes - $8 \cdot 10^{9}$/l, Hb- 90 g/l. What complication is it?
Correct answer	Haemorrhage
B	Penetration
C	Perforation
D	Canceration
E	Pyloric stenosis
№	krok 2012, 2011
Topic	PATHOPHYSIOLOGY OF LIVER
Task	Blood analysis of a patient with jaundice reveals conjugated bilirubinemia, increased concentration of bile acids. There is no stercobilinogen in urine. What type of jaundice is it?
Correct answer	Obstructive jaundice
B	Hepatocellular jaundice
C	Parenchymatous jaundice
D	Hemolytic jaundice
E	Cythemolytic jaundice
№	krok 2012, 2007
Topic	PATHOPHYSIOLOGY OF CNS
Task	As a result of damage to certain structures of brainstem an animal lost orientation reflexes. What structures were damaged?
Correct answer	Quadritubercular bodies

B	Medial nuclei of reticular formation
C	Red nuclei
D	Vestibular nuclei
E	Black substance
№	krok 2012
Topic	CARDIAC PATHOPHYSIOLOGY
Task	The patient with acute miocardial infarction was given intravenously different solutions during 8 hours with medical dropper 1500 ml and oxygen intranasally. He died because of pulmonary edema. What caused the pulmonary edema?
Correct answer	Volume overload of the left ventricular
B	Decreased oncotic pressure due to hemodilution
C	Allergic reaction
D	Neurogenic reaction
E	Inhalation of the oxygen
№	krok 2012
Topic	PATHOPHYSIOLOGY OF KIDNEYS
Task	A patient has been diagnosed with acute glomerulonephritis that developed after he had had streptococcal infection. It is most likely that the affection of basal glomerular membrane is caused by an allergic reaction of the following type:
Correct answer	Immune complex
B	Anaphylactic
C	Cytotoxic
D	Delayed
E	Stimulating
№	krok 2012
Topic	ALLERGY
Task	Examination of patients with periodontitis revealed the interdependence between the rate of affection of periodontal tissues and the amount of lysozymes in saliva and gingival liquid. These results can be obtained during studying the following protection system of an organism:
Correct answer	Non-specific resistance
B	Humoral immunity
C	Cellular immunity

D	Autoresponsiveness
E	Tolerance
№	krok 2012
Topic	CARDIAC PATHOPHYSIOLOGY
Task	The patient with acute miocardial infarction was given intravenously different solutions during 8 hours with medical dropper 1500 ml and oxygen intranasally. He died because of pulmonary edema. What caused the pulmonary edema?
Correct answer	Volume overload of the left ventricular
B	Decreased oncotic pressure due to hemodilution
C	Allergic reaction
D	Neurogenic reaction
E	Inhalation of the oxygen
№	krok 2012
Topic	PATHOPHYSIOLOGY OF KIDNEYS
Task	A patient has been diagnosed with acute glomerulonephritis that developed after he had had streptococcal infection. It is most likely that the affection of basal glomerular membrane is caused by an allergic reaction of the following type:
Correct answer	Immune complex
B	Anaphylactic
C	Cytotoxic
D	Delayed
E	Stimulating
№	krok 2012, 2011
Topic	PATHOPHYSIOLOGY OF KIDNEYS
Task	Acute renal impairment caused death of a bleeding patient. Autopsy revealed enlarged kidneys with a broad pale pink cortical layer expressively demarcated from dark red renal pyramids. Macroscopic examination revealed lack of epithelial nuclei of convoluted tubules, tubulorrhexis, phlebostasis. The cell nuclei of choroid glomus and straight tubules were present. What pathology is it?
Correct answer	Necronephrosis
B	Infarction
C	Glomerulonephritis
D	Pyelonephritis
E	Nephrosis

№	krok 2012
Topic	BLOOD PATHOPHYSIOLOGY
Task	As a result of a road accident a 26-year-old man is in the torpid phase of shock. Blood count: leukocytes - 3, 2 $\cdot^{9}$/l. What is the leading mechanism of leukopenia development?
Correct answer	Leukocyte redistribution in the bloodstream
B	Leukopoiesis inhibition
C	Faulty release of mature leukocytes from the bone marrow into the blood
D	Leukocyte destruction in the hematopietic organs
E	Increased excretion of the leukocytes from the organism
№	krok 2012
Topic	ENDOCRINE PATHOPHYSIOLOGY
Task	A 5-month-old boy was hospitalized for tonic convulsions. He has a life-time history of this disease. Examination revealed coarse hair, thinned and fragile nails, pale and dry skin. In blood: calcium - 1,5 millimole/l, phosphor - 1,9 milli-mole/l. These changes are associated with:
Correct answer	Hypoparathyroidism
B	Hyperparathyroidism
C	Hyperaldosteronism
D	Hypoaldosteronism
E	Hypothyroidism
№	krok 2012
Topic	PATHOPHYSIOLOGY OF VESSELS
Task	As a result of a trauma a patient has developed traumatic shock that led to the following disorders: AP is 140/90 mm Hg, Ps is 120 bpm. The patient is fussy, talkative, pale. Such state relates to the following shock phase:
Correct answer	Erectile
B	Latent period
C	Terminal
D	Torpid
E	-
№	krok 2012
Topic	ALLERGY

Task	Examination of a child who frequently suffers from infectious diseases revealed that IgG concentration in blood serum was 10 times less than normal, IgA and IgM concentration was also significantly reduced. Analysis showed also lack of B-lymphocytes and plasmocytes. What disease are these symptoms typical for?
Correct answer	Bruton’s disease
B	Swiss-type agammaglobulinemia
C	Dysimmunoglobulinemia
D	Louis-Bar syndrome
E	Di George syndrome
№	krok 2012, 2010
Topic	PATHOPHYSIOLOGY OF KIDNEYS
Task	A 4 year old child with hereditary renal lesion has signs of rickets, vitamin D concentration in blood is normal. What is the most probable cause of rickets development?
Correct answer	Impaired synthesis of calcitriol
B	Increased excretion of calcium
C	Hyperfunction of parathyroid glands
D	Hypofunction of parathyroid glands
E	Lack of calcium in food
№	krok 2012
Topic	PATHOPHYSIOLOGY OF LIVER
Task	An infectious disease unit admitted a patient with signs of jaundice caused by hepatitis virus. Select an indicator that is specific only for parenchymatous jaundice:
Correct answer	Increase in ALT and AST rate
B	Hyperbilirubinemia
C	Bilirubinuria
D	Cholaemia
E	Urobilinuria
№	krok 2012
Topic	BLOOD PATHOPHYSIOLOGY
Task	A 26 year old pregnant woman is under treatment at an inpatient hospital. After a continuous attack of vomiting she was found to have reduced volume of circulating blood. What kind of change in general blood volume is the case?

Correct answer	Polycythemic hypovolemia
B	Simple hypovolemia
C	Oligocythemic hypovolemia
D	Polycythemic hypervolemia
E	Oligocythemic hypervolemia
№	krok 2012, 2009
Topic	PATHOPHYSIOLOGY OF ACID-BASE BALANCE
Task	After taking poor-quality food a patient developed repeated episodes of diarrhea. On the next day he presented with decreased arterial pressure, tachycardia, extrasystole. Blood *pH* is 7,18. These abnormalities were caused by the development of:
Correct answer	Nongaseous acidosis
B	Gaseous acidosis
C	Nongaseous alkalosis
D	Gaseous alkalosis
E	Metabolic alkalosis
№	krok 2011
Topic	CARDIAC PATHOPHYSIOLOGY
Task	Heart rate of a 30-year-old man under emotional stress reached 112 bpm. The reason for the heart rate increase is the altered condition of the following conducting system of heart:
Correct answer	Sinoatrial node
B	Purkinje's fibers
C	His' bundle branches
D	Atrioventricular node
E	His' bundle
№	krok 2011, 2009
Topic	CARDIAC PATHOPHYSIOLOGY
Task	ECG of a 44-year-old patient shows signs of hypertrophy of both ventricles and the right atrium. The patient was diagnosed with the tricuspid valve insufficiency. What pathogenetic variant of cardiac dysfunction is usually observed in case of such insufficiency?
Correct answer	Heart overload by volume
B	Heart overload by resistance
C	Primary myocardial insufficiency

D	Coronary insufficiency
E	Cardiac tamponade
№	krok 2011, 2009
Topic	ENDOCRINE PATHOPHYSIOLOGY
Task	A 46-year-old patient suffering from the diffuse toxic goiter underwent resection of the thyroid gland. After the surgery the patient presents with appetite loss, dyspepsia, increased neuromuscular excitement. The body weight remained unchanged. Body temperature is normal. Which of the following has caused such a condition in this patient?
Correct answer	Reduced production of parathormone
B	Increased production of thyroxin
C	Increased production of calcitonin
D	Increased production of thyroliberin
E	Reduced production of thyroxin
№	krok 2011
Topic	PATHOPHYSIOLOGY OF DIGESTION
Task	A coprological survey revealed light-colored feces containing drops of neutral fat. The most likely reason for this condition is the disorder of:
Correct answer	Bile inflow into the bowel
B	Gastric juice acidity
C	Pancreatic juice secretion
D	Intestinal juice secretion
E	Intestinal absorption
№	krok 2011, 2010
Topic	CARDIAC PATHOPHYSIOLOGY
Task	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?
Correct answer	Left ventricle
B	Right ventricle
C	Right atrium
D	Left atrium
E	-

№	krok 2011, 2009
Topic	RESPIRATORY PATHOPHYSIOLOGY
Task	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?
Correct answer	Respiratory volume
B	Vital capacity of lungs
C	Inspiratory reserve volume
D	Expiratory reserve volume
E	Total lung capacity
№	krok 2011
Topic	PATHOPHYSIOLOGY OF KIDNEYS
Task	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:
Correct answer	Decrease in the oncotic pressure of blood plasma
B	Increase in the systemic arterial pressure
C	Increase in the permeability of the renal filter
D	Increase of the filtartion quotient
E	Increase of the renal blood flow
№	krok 2011
Topic	ENDOCRINE PATHOPHYSIOLOGY
Task	A 12-year-old teenager has significantly put off weight within 3 months; glucose concentration rose up to 50 millimole/l. He fell into a coma. What is the main mechanism of its development?
Correct answer	Hyperosmolar
B	Hypoglycemic
C	Ketonemic
D	Lactacidemic
E	Hypoxic
№	krok 2011
Topic	PATHOPHYSIOLOGY OF VESSELS

Task	A patient with coronary disease has been diagnosed with myocardial hypertrophy, tachycardia and a decrease in minute blood volume. What is the leading mechanism of cardiac hystiocyte damage in this case?
Correct answer	Damage of specific membrane pumps
B	Increase in α and β adrenoreceptors quantity
C	Mg^{2+} loss by cardiac hystiocytes
D	Ca^{2+} loss by cardiac hystiocytes
E	Cardiac hystiocyte dehydration
№	krok 2011
Topic	PATHOPHYSIOLOGY OF LIVER
Task	Blood analysis of a patient with jaundice reveals conjugated bilirubinemia, increased concentration of bile acids. There is no stercobilinogen in urine. What type of jaundice is it?
Correct answer	Obstructive jaundice
B	Hepatocellular jaundice
C	Parenchymatous jaundice
D	Hemolytic jaundice
E	Cythemolytic jaundice
№	krok 2011, 2007
Topic	PATHOPHYSIOLOGY OF ACID-BASE BALANCE
Task	A newborn child with pylorostenosis has often repeating vomiting accompanied by apathy, weakness, hypertonicity, sometimes convulsions. What disorder form of acid-base balance is it?
Correct answer	Nongaseous alkalosis
B	Gaseous alkalosis
C	Gaseous acidosis
D	Metabolic acidosis
E	Excretory acidosis
№	krok 2011, 2009
Topic	ALLERGY
Task	A 10-year-old child had the mantoux tuberculin test administered. 48 hours later a papule up to 8 mm in diameter appeared on the site of the injection. What type of hypersensitivity reaction developed after the tuberculin injection?
Correct answer	Type IV hypersensitivity reaction

B	Arthus phenomenon
C	Seroreaction
D	Atopic reaction
E	Type II hypersensitivity reaction
№	krok 2011
Topic	ENDOCRINE PATHOPHYSIOLOGY
Task	The patient with complaints of permanent thirst applied to the doctor. Hyperglycemia, polyuria and increased concentration of 17-ketosteroids in the urine were revealed. What disease is the most likely?
Correct answer	Steroid diabetes
B	Insulin-dependent diabetes mellitus
C	Myxoedema
D	Type I glycogenosis
E	Addison's disease
№	krok 2011
Topic	BLOOD PATHOPHYSIOLOGY
Task	A 19-year-old female patient has had low haemoglobin rate of 90-95 g/l since childhood. Blood count results obtained after hospitalisation are as follows: erythrocytes - 3, $2 \cdot 10^{12}$/l, Hb- 85 g/l, colour index - 0,78; leukocytes - 5, $6 \cdot 10^{9}$/l, platelets - $210 \cdot 10^{9}$/l. Smear examination revealed anisocytosis, poikilocytosis and target cells. Reticulocyte rate is 6%. Iron therapy was ineffective. What blood pathology corresponds with the described clinical presentations?
Correct answer	Thalassemia
B	Enzymopathy
C	Membranopathy
D	Sickle-cell anemia
E	Favism
№	krok 2011
Topic	CARDIAC PATHOPHYSIOLOGY
Task	A 45-year-old patient was admitted to the cardiological department. ECG data: negative *P* wave overlaps *QRS* complex, diastolic interval is prolonged after extrasystole. What type of extrasystole is it?
Correct answer	Atrioventricular
B	Sinus

C	Atrial
D	Ventricular
E	Bundle-branch
№	krok 2011
Topic	ENDOCRINE PATHOPHYSIOLOGY
Task	A patient complains of hydruria (7 liters per day) and polydipsia. Examination reveals no disorders of carbohydrate metabolism. These abnormalities might be caused by the dysfunction of the following endocrine gland:
Correct answer	Neurohypophysis
B	Adenohypophysis
C	Islets of Langerhans (pancreatic islets)
D	Adrenal cortex
E	Adrenal medulla
№	krok 2011
Topic	PATHOPHYSIOLOGY OF IMMUNITY
Task	A 38-year-old male patient has been ill with systemic lupus erythematosus for three years. He was diagnosed with diffuse renal affection accompanied by massive edemata and expressive proteinuria. What is the most likely cause of proteinuria development?
Correct answer	Autoimmune renal affection
B	Aseptic renal affection
C	Ischemic renal affection
D	Urinary bladder inflammation
E	Urinary tracts inflammation
№	krok 2011
Topic	PATHOPHYSIOLOGY OF TEMPERATURE
Task	A student failed to answer all the questions of examination paper correctly. As a result he blushed, felt hot and lost confidence. What type of arterial hyperemia has developed in this case?
Correct answer	Neurotonic hyperemia
B	Neuroparalytic hyperemia
C	Metabolic hyperemia
D	Pathologic hyperemia
E	Postishemic hyperemia

№	krok 2011
Topic	RESPIRATORY PATHOPHYSIOLOGY
Task	A patient with marked pneumofibrosis that developed after infiltrating pulmonary tuberculosis has been diagnosed with respiratory failure. What is its pathogenetic type?
Correct answer	Restrictive
B	Obstructive
C	Dysregulatory
D	Reflex
E	Apneistic
№	krok 2011
Topic	ALLERGY
Task	During surgical manipulations a patient has been given novocaine injection for anesthesia. 10 minutes later the patient developed paleness, dyspnea, hypotension. What type of allergic reaction is it?
Correct answer	Anaphylactic immune reaction
B	Cellulotoxic immune reaction
C	Aggregate immune reaction
D	Stimulating immune reaction
E	Cell-mediated immune reaction
№	krok 2011
Topic	BLOOD PATHOPHYSIOLOGY
Task	Blood count of an athlete is as follows: erythrocytes - 5, $5 \cdot 10^{12}$/l, Hb- 112 g/l, leukocytes - $7 \cdot 10^{9}$/l, neutrophils - 64%, basophils - 0,5%, eosinophils - 0,5%, monocytes - 8%, lymphocytes - 27%. First of all, such results indicate the stimulation of:
Correct answer	Erythropoiesis
B	Leukopoiesis
C	Lymphopoiesis
D	Granulocytopoiesis
E	Immunogenesis
№	krok 2011
Topic	PATHOPHYSIOLOGY OF VESSELS

Task	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?
Correct answer	Systemic constriction of the venous vessels
B	Systemic dilatation of the arterial resistive vessels
C	Decrease in the circulating blood volume
D	Increase in the heart rate
E	Weakening of the pumbing ability of heart
№	krok 2011
Topic	PATHOPHYSIOLOGY OF IMMUNITY
Task	After an immunoassay a child was diagnosed with immunodeficiency of humoral immunity. What is the reason for the primary immunodeficiency development in the child?
Correct answer	Hereditary abnormality of immune system
B	Embryonal development abnormalities
C	Pathometabolism in mother’s organism
D	Immune responsiveness and resistance disorders
E	Toxic damage of B-lymphocytes
№	krok 2011
Topic	PATHOPHYSIOLOGY OF KIDNEYS
Task	A patient with massive burns developed acute renal insufficiency characterized by a significant and rapid deceleration of glomerular filtration. What is the mechanism of its development?
Correct answer	Reduction of renal blood flow
B	Damage of glomerular filter
C	Reduction of functioning nephron number
D	Rise of pressure of tubular fluid
E	Renal artery embolism
№	krok 2011
Topic	PATHOPHYSIOLOGY OF WATER-ELECTROLITE BALANCE
Task	A patient with enteritis accompanied by massive diarrhea has low water rate in the extracellular space, high water rate inside the cells and low blood osmolarity. What is such disturbance of waterelectrolytic metabolism called?
Correct answer	Hypoosmolar hypohydration

B	Hyperosmolar hypohydration
C	Osmolar hypohydration
D	Hypoosmolar hyperhydration
E	Hyperosmolar hyperhydration
№	krok 2011
Topic	PATHOPHYSIOLOGY OF THMPERATURE
Task	A 25-year-old man has spent a long time in the sun under high air humidity. As a result of it his body temperature rose up to $39^{o}C$. What pathological process is it?
Correct answer	Hyperthermia
B	Infectious fever
C	Hypothermia
D	Noninfectious fever
E	Burn disease
№	krok 2011
Topic	BLOOD PATHOPHYSIOLOGY
Task	A 26-year-old man is in the torpid shock phase as a result of a car accident. In blood: 3, $2 \cdot 10^{9}$/l. What is the leading mechanism of leukopenia development?
Correct answer	Redistribution of leukocytes in bloodstream
B	Leikopoiesis inhibition
C	Disturbed going out of mature leukocytes from the marrow into the blood
D	Lysis of leukocytes in the blood-forming organs
E	Intensified elimination of leukocytes from the organism
№	krok 2009
Topic	BLOOD PATHOPHYSIOLOGY
Task	A patient underwent a surgery for excision of a cyst on pancreas. After this he developed haemorrhagic syndrome with apparent disorder of blood coagulation. Development of this complication can be explained by:
Correct answer	Activation of FIbrinolytic system
B	InsufFIcient FIbrin production
C	Reduced number of thrombocytes
D	Activation of anticoagulation system

E	Activation of Christmas factor
№	krok 2009
Topic	BLOOD PATHOPHYSIOLOGY
Task	A 38-year-old patient with an uterine haemorrhage lasting for 2 days was delivered to the admission ward. Which of the following will be revealed in the patient's blood?
Correct answer	Decrease in the haematocrite index
B	Eosinophilia
C	Deceleration in ESR
D	Leukocytosis
E	Increase in the colour index
№	krok 2009
Topic	PATHOPHYSIOLOGY OF CNS
Task	After a hypertonic crisis a patient presents with lacking spontaneous movements in his right arm and leg, muscle tone of these extremities is increased. What type of motor dysfunction has developed in this case?
Correct answer	Central paralysis
B	Peripheral paralysis
C	Peripheral paresis
D	Reßectrory paresis
E	Central paresis
№	krok 2009
Topic	PATHOPHYSIOLOGY OF VESSELS
Task	A 70-year-old patient suffers from atherosclerosis complicated by the lower limb thrombosis that has caused gangrene on his left toes. What is the most likely cause of the thrombosis origin?
Correct answer	Thrombocyte adhesion
B	Prothrombinase activation
C	Transformation of prothrombin into thrombin
D	Transformation of FIbrinogen into FIbrin
E	Impaired heparin synthesis
№	krok 2009
Topic	PATHOPHYSIOLOGY OF IMMUNITY

Task	A female patient suffering from bronchial asthma had got a viral infection that provoked status asthmaticus with fatal outcome. Histological examination of lungs revealed spasm and edema of bronchioles, apparent inFIltration of their walls with lymphocytes, eosinophils and other leukocytes; labrocyte degranulation. What mechanism of hypersensitivity underlies the described alterations?
Correct answer	Reagin reaction
B	Inßammatory
C	Autoimmune
D	Immune complex
E	Immune cytolysis
№	krok 2009
Topic	PATHOPHYSIOLOGY OF IMMUNITY
Task	A patient was admitted to the hospital with an asphyxia attack provoked by a spasm of smooth muscles of the respiratory tracts. This attack was mainly caused by alterations in the following parts of the airways:
Correct answer	Small bronchi
B	Median bronchi
C	Large bronchi
D	Terminal bronchioles
E	Respiratory part
№	krok 2009
Topic	PATHOPHYSIOLOGY of liver
Task	A 48-year-old patient was admitted to the hospital with complaints about weakness, irritability, sleep disturbance. Objectively: skin and scleras are of yellow colour. In blood: increased concentration of total bilirubin with prevailing direct bilirubin. The feces are acholic. The urine is dark (contains bile pigments). What type of jaundice is it?
Correct answer	Mechanic
B	Haemolytic
C	Parenchymatous
D	Gilbert’s syndrome
E	Crigler-Najjar syndrome
№	krok 2009
Topic	PATHOPHYSIOLOGY of kidneys

Task	Two weeks after lacunar tonsillitis a 20-year-old man started complaining about general weakness, lower eyelid edemata. After examination the patient was diagnosed with acute glomerulonephritis. What are the most likely pathological changes in the urine formula?
Correct answer	Proteinuria
B	Cylindruria
C	Presence of fresh erythrocytes
D	Pyuria
E	Natriuria
№	krok 2009
Topic	PATHOPHYSIOLOGY of kidneys
Task	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:
Correct answer	Decrease in the oncotic pressure of blood plasma
B	Increase in the systemic arterial pressure
C	Increase in the permeability of the renal FIlter
D	Increase of the FIltartion quotient
E	Increase of the renal blood ßow
№	krok 2009
Topic	cardiac PATHOPHYSIOLOGY
Task	A 49-year-old patient consulted a doctor about increased fatigability and dyspnea provoked by physical activity. ECG results: heart rate - 50/min, *P Q* -interval is prolonged, *QRS* - complex is unchanged, the number of *P* -waves exceeds the number of *QRS* -complexes. What type of arrhythmia is it?
Correct answer	Atrioventricular block
B	Extrasystole
C	Sinus bradycardia
D	Ciliary arrhythmia
E	Sinoatrial block
№	krok 2009
Topic	endocrine PATHOPHYSIOLOGY

Task	A patient with android-type obesity had been suffering from arterial hypertension, hyperglycemia, glycosuria for a long time and died from the cerebral haemorrhage. Pathologic examination revealed pituitary basophil adenoma, adrenal cortex hyperplasia. What is the most likely diagnosis?
Correct answer	Itsenko-Cushing's syndrome
B	Diabetes mellitus
C	Acromegalia
D	Pituitary nanism
E	Adiposogenital dystrophy
№	krok 2009
Topic	endocrine PATHOPHYSIOLOGY
Task	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?
Correct answer	Adrenal glands
B	Parathyroid glands
C	Seminal glands
D	Substernal gland
E	Thyroid gland
№	krok 2009
Topic	endocrine PATHOPHYSIOLOGY
Task	A girl has been diagnosed with adrenogenital syndrome (pseudohermaphroditism). This pathology is caused by hypersecretion of the following adrenal hormone:
Correct answer	Androgens
B	Estrogens
C	Mineralocorticoids
D	Glucocorticoids
E	Catecholamines
№	krok 2009
Topic	PATHOPHYSIOLOGY of carbohydrate metabolism
Task	A 12-year-old teenager has signiFIcantly put off weight within 3 months; glucose concentration rose up to 50 millimoleł. He fell into a coma. What is the main mechanism of its development?

Correct answer	Hyperosmolar
B	Hypoglycemic
C	Ketonemic
D	Lactacidemic
E	Hypoxic
№	krok 2009
Topic	blood PATHOPHYSIOLOGY
Task	As a result of increased permeability of the erythrocyte membrane in a patient with microspherocytic anaemia (Minkowsky-Shauffard disease) cells receive sodium ions and water. Erythrocytes take form of spherocytes and can be easily broken down. What is the leading mechanism of erythrocyte damage in this case?
Correct answer	Electrolytic osmotic
B	Calcium
C	Acidotic
D	Protein
E	Nucleic
№	krok 2009
Topic	PATHOPHYSIOLOGY of liver
Task	A patient presents with icteritiousness of skin, scleras and mucous membranes. Blood plasma the total bilirubin is increased, stercobilin is increased in feces, urobilin is increased in urine. What type of jaundice is it?
Correct answer	Haemolytic
B	Gilbert’s disease
C	Parenchymatous
D	Obturational
E	Cholestatic
№	krok 2009
Topic	PATHOPHYSIOLOGY of vessels
Task	As a result of a trauma a patient has developed traumatic shock that led to the following disorders: AP is 140/90 mm Hg, Ps is 120 bpm. The patient is fussy, talkative, pale. Such state relates to the following shock phase:
Correct answer	Erectile
B	Latent period

C	Terminal
D	Torpid
E	–
№	krok 2009
Topic	blood PATHOPHYSIOLOGY
Task	After a disease a 16-year-old boy is presenting with decreased function of protein synthesis in the liver as a result of vitamin *K* deFIciency. This may cause disorder of:
Correct answer	Blood coagulation
B	Erythrocyte sedimentation rate
C	Anticoagulant production
D	Erythropoietin production
E	Osmotic blood pressure
№	krok 2009
Topic	PATHOPHYSIOLOGY of vessels
Task	In response to a change in body position from horizontal to vertical blood circulation system develops reßectory pressor reaction. Which of the following is its compulsory component?
Correct answer	Systemic constriction of the venous vessels
B	Systemic dilatation of the arterial resistive vessels
C	Decrease in the circulating blood volume
D	Increase in the heart rate
E	Weakening of the pumbing ability of heart
№	krok 2009
Topic	PATHOPHYSIOLOGY of vessels
Task	As a result of a road accident a driver has gotten a trauma. Now he is in shock condition and presents with a decrease in daily diuresis down to 300 ml. What is the main pathogenetic factor of such alteration in the diuresis?
Correct answer	Arterial pressure drop
B	Oncotic blood pressure drop
C	Increase in vascular permeability
D	Decrease in number of the functioning glomerules
E	Secondary hyperaldosteronism

№	krok 2009
Topic	blood PATHOPHYSIOLOGY
Task	A patient suffers from the haemorrhagic syndrome that shows itself in frequent nasal bleedings, posttraumatic and spontaneous intracutaneous and intraarticular haemorrhages. After a laboratory study a patient was diagnosed with the type B haemophilia. This disease is provoked by the deFIcit of the following factor of blood coagulation:
Correct answer	IX
B	VIII
C	XI
D	V
E	VII
№	krok 2009
Topic	PATHOPHYSIOLOGY of vessels
Task	A 58-year-old patient suffers from the cerebral atherosclerosis. Examination revealed hyperlipoidemia. What class of lipoproteins will most probably show increase in concentration in this patient’s blood serum?
Correct answer	Low-density lipoproteins
B	High-density lipoproteins
C	Fatty acid complexes with albumins
D	Chylomicrons
E	Cholesterol
№	krok 2009
Topic	PATHOPHYSIOLOGY of kidneys
Task	A patient with massive burns developed acute renal insufFIciency characterized by a signiFIcant and rapid deceleration of glomerular FIltration. What is the mechanism of its development?
Correct answer	Reduction of renal blood ßow
B	Damage of glomerular FIlter
C	Reduction of functioning nephron number
D	Rise of pressure of tubular ßuid
E	Renal artery embolism
№	krok 2009
Topic	cardiac PATHOPHYSIOLOGY

Task	A patient with severe course of respiratory viral infection presented with clinical signs of progressing heart failure that led to his death in the 2nd week of disease. Autopsy revealed that the heart cavities were signiFIcantly dilated, the heart was ßabby. Histological examination of the myocardium revealed microvascular plethora and diffuse stroma inFIltration with lymphocytes and histiocytes. What is the most likely diagnosis?
Correct answer	Myocarditis
B	Stenocardia
C	Acute coronary insufFIciency
D	Myocardial infarction
E	Cardiomyopathy
№	krok 2009
Topic	PATHOPHYSIOLOGY of vessels
Task	A section of the left lung was found to have an area of dense red tissue. The area was cone-shaped, stood out distinctly from the healthy tissue, with its base directed to the pleura. The dissected tissue was granular, darkred. What is the most likely diagnosis?
Correct answer	Haemorrhagic infarction
B	Lung abscess
C	Lung gangrene
D	Primary tuberculous affection
E	Croupous pneumonia
№	krok 2009
Topic	respiratory PATHOPHYSIOLOGY
Task	Vagus nerves of an experimental animal have been cut on the both sides. What respiratory changes will result from this?
Correct answer	Respiration will become deep and infrequent
B	Respiration will become shallow and frequent
C	Respiration will become deep and frequent
D	Respiration will become shallow and infrequent
E	There will be no respiratory changes
№	krok 2008
Topic	PATHOPHYSIOLOGY of digestion
Task	After consumption of rich food a patient has nausea and heartburn, steatorrhea. This condition might be caused by:
Correct answer	Bile acid deficiency

B	Increased lipase secretion
C	Disturbed tripsin synthesis
D	Amylase deficiency
E	Disturbed phospholipase synthesis
№	krok 2008
Topic	PATHOPHYSIOLOGY of acid-base balance
Task	An infant has apparent diarrhea resulting from improper feeding. One of the main diarrhea effects is plentiful excretion of sodium bicarbonate. What form of acidbase balance disorder is the case?
Correct answer	Metabolic acidosis
B	Metabolic alkalosis
C	Respiratory acidosis
D	Respiratory alkalosis
E	No disorders of acid-base balance will be observed
№	krok 2008, 2010
Topic	PATHOPHYSIOLOGY of digestion
Task	A patient is ill with diabetes mellitus accompanied by hyperglycemia on an empty stomach (7,2 millimole/l). The hyperglycemia rate can be retrospectively estimated (over the last 48 weeks before the examination) on the ground of the rate of the following blood plasma protein:
Correct answer	Glycated hemoglobin
B	Albumin
C	Fibrinogen
D	C-reactive protein
E	Ceruloplasmin
№	krok 2008
Topic	blood PATHOPHYSIOLOGY
Task	A 20 year old patient complains of general weakness, dizziness, quick fatigability. Blood analysis results: Hb- 80 g/l. Microscopical examination results: erythrocytes are of modified form. This condition might be caused by:
Correct answer	Sickle-cell anemia
B	Hepatocellular jaundice
C	Acute intermittent porphyria

D	Obturative jaundice
E	Addison’s disease
№	krok 2008
Topic	PATHOPHYSIOLOGY of kidneys
Task	As a result of long-term starvation the glomerular filtration of a man wasaccelerated by 20%. The most probable cause of filtration changes under such conditions is:
Correct answer	Fall of oncotic pressure of blood plasma
B	Rise of systemic arterial pressure
C	Increased permeability of renal filter
D	Growth of filtration coefficient
E	Increase of renal plasma flow
№	krok 2008
Topic	PATHOPHYSIOLOGY of liver
Task	A patient has yellow skin colour, dark urine, dark-yellow feces. What substance will have strengthened concentration in the blood serum?
Correct answer	Unconjugated bilirubin
B	Conjugated bilirubin
C	Mesobilirubin
D	Verdoglobin
E	Biliverdin
№	krok 2008
Topic	cardiac PATHOPHYSIOLOGY
Task	ECG of a patient with hyperfunction of thyroid gland showed heart hurry. It isindicated by depression of the following ECG element:
Correct answer	$R - R$ interval
B	$P - Q$ segment
C	$P - Q$ interval
D	$P - T$ interval
E	QRS complex
№	krok 2008

Topic	PATHOPHYSIOLOGY of vessels
Task	While playing volleyball a sportsman made a jump and landed on the outside edge of his foot. He felt acute pain in the talocrural joint, active movements are limited, passive movements are unlimited but painful. A bit later there appeared a swelling in the area of external ankle, the skin became red and warm. What type of peripheral circulation disturbance is the case?
Correct answer	Arterial hyperemia
B	Stasis
C	Embolism
D	Venous hyperemia
E	Thrombosis
№	krok 2008, 2010
Topic	PATHOPHYSIOLOGY of digestion
Task	A patient complains of frequent diarrheas, especially after consumption of rich food, weight loss. Laboratory examination revealed steatorrhea; his feces were hypocholic. What might have caused such condition?
Correct answer	Obturation of biliary tracts
B	Inflammation of mucous membrane of small intestine
C	Lack of pancreatic lipase
D	Lack of pancreatic phospholipase
E	Unbalanced diet
№	krok 2008
Topic	PATHOPHYSIOLOGY of kidneys
Task	A 65 year old man suffering from gout complains of kidney pain. Ultrasound examination revealed renal calculi. The most probable cause of calculi formation is the strengthened concentration of the following substance:
Correct answer	Uric acid
B	Cholesterol
C	Bilirubin
D	Urea
E	Cystine
№	krok 2008
Topic	PATHOPHYSIOLOGY of digestion

Task	2 years ago a patient underwent resection of pyloric part of stomach. He complains of weakness, periodical dark shadows beneath his eyes, dyspnea. In blood: Hb - 70 g/l, erythrocytes - 3, $0 \cdot 10^{12}/l$, colour index - 0,7. What changes of erythrocytes in blood smears are the most typical for this condition?
Correct answer	Microcytes
B	Megalocytes
C	Schizocytes
D	Ovalocytes
E	Macrocytes
№	krok 2008
Topic	endocrine PATHOPHYSIOLOGY
Task	Parents of a 10 year old boy consulted a doctor about extension of hair-covering, growth of beard and moustache, low voice. Intensified secretion of which hormone must be assumed?
Correct answer	Of testosterone
B	Of somatotropin
C	Of oestrogen
D	Of progesterone
E	Of cortisol
№	krok 2008
Topic	cardiac PATHOPHYSIOLOGY
Task	An animal with aortic valve insufficiency got hypertrophy of its left heart ventricle. Some of its parts have local contractures. What substance accumulated in the myocardiocytes caused these contractures?
Correct answer	Calcium
B	Potassium
C	Lactic acid
D	Carbon dioxide
E	Sodium
№	krok 2008
Topic	endocrine PATHOPHYSIOLOGY
Task	A girl is diagnosed with adrenogenital syndrome (pseudohermaphroditism). This pathology was caused by hypersecretion of the following adrenal hormone:

Correct answer	Androgen
B	Estrogen
C	Aldosterone
D	Cortisol
E	Adrenalin
№	krok 2008
Topic	blood PATHOPHYSIOLOGY
Task	A 56 year old patient came to a hospital with complaints about general weakness, tongue pain and burning, sensation of limb numbness. In the past he underwent resection of forestomach. In blood: Hb- 80 g/l; erythrocytes - 2, $0 \cdot 10^{12}$/l; colour index - 1,2, leukocytes - 3, $5 \cdot 10^{9}$/l. What anemia type is it?
Correct answer	B_{12}-folate deficient
B	Hemolytic
C	Posthemorrhagic
D	Aplastic
E	Iron-deficient
№	krok 2008, 2010
Topic	PATHOPHYSIOLOGY of vessels
Task	A 30 year old woman has face edemata. Examination revealed proteinuria (5,87 g/l), hypoproteinemia, dysproteinemia, hyperlipidemia. What condition is the set of these symptoms typical for?
Correct answer	Nephrotic syndrome
B	Nephritic syndrome
C	Chronic pyelonephritis
D	Acute renal failure
E	Chronic renal failure
№	krok 2008
Topic	PATHOPHYSIOLOGY of kidneys
Task	A patient with nephrotic syndrome has massive edemata of his face and limbs. What is the leading pathogenetic mechanism of edemata development?
Correct answer	Drop of oncotic blood pressure
B	Increase of vascular permeability

C	Rise of hydrodynamic blood pressure
D	Lymphostasis
E	Increase of lymph outflow
№	krok 2008, 2010
Topic	PATHOPHYSIOLOGY of thermoragulation
Task	Examination of a man who had been working hard under higher temperature of the environment revealed abnormal quantity of blood plasma proteins. What phenomenon is the case?
Correct answer	Relative hyperproteinemia
B	Absolute hyperproteinemia
C	Absolute hypoproteinemia
D	Dysproteinemia
E	Paraproteinemia
№	krok 2008
Topic	PATHOPHYSIOLOGY of cns
Task	A 28 year old man had a gunshot wound of shin that resulted in an ulcer from the side of the injury. What is the main factor of neurodystrophy pathogenesis in this case?
Correct answer	Traumatization of peripheral nerve
B	Psychical stress
C	Microcirculation disturbance
D	Infection
E	Tissue damage
№	krok 2008, 2010
Topic	blood PATHOPHYSIOLOGY
Task	Two hours after an exam a student had a blood count done and it was revealed that he had leukocytosis without significant leukogram modifications. What is the most probable mechanism of leukocytosis development?
Correct answer	Redistribution of leukocytes in the organism
B	Leukopoiesis intensification
C	Deceleration of leukocyte lysis
D	Deceleration of leukocyte migration to the tissues
E	Leukopoiesis intensification and deceleration of leukocyte lysis

№	krok 2008
Topic	PATHOPHYSIOLOGY of vessels
Task	A driver who got a trauma in a road accident and is shocked has reduction of daily urinary output down to 300 ml. What is the main pathogenetic factor of such diuresis change?
Correct answer	Drop of arterial pressure
B	Drop of oncotic blood pressure
C	Increased vascular permeability
D	Decreased number of functioning glomerules
E	Secondary hyperaldosteronism
№	krok 2008
Topic	cardiac PATHOPHYSIOLOGY
Task	A patient ill with chronic cardiac insufficiency was prescribed an average therapeutic dose of digoxin. Two weeks after begin of its taking there appeared symptoms of drug intoxication (bradycardia, extrasystole, nausea). Name the phenomenon that caused accumulation of the drug in the organism?
Correct answer	Material cumulation
B	Functional cumulation
C	Tolerance
D	Tachyphylaxis
E	Idiosyncrasy
№	krok 2008
Topic	respiratory PATHOPHYSIOLOGY
Task	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?
Correct answer	It will come to a standstill
B	No changes will be observed
C	Diaphragmal respiration will be maintained, thoracic respiration will disappear
D	Thoracic respiration will be maintained, diaphragmal respiration will disappear
E	It will become infrequent and deep
№	krok 2008
Topic	cardiac PATHOPHYSIOLOGY

Task	In course of an experiment a peripheral section of vagus of an expiremental animal is being stimulated. What changes will be observed?
Correct answer	Heart rate fall
B	Heart hurry
C	Pupil dilation
D	Increase of respiration rate
E	Bronchi dilation
№	krok 2008
Topic	cardiac PATHOPHYSIOLOGY
Task	In course of severe respiratory viral infection there appeared clinical signs of progressing cardiac insufficiency that caused death of a patient in the 2nd week of disease. Autopsy revealed that the heart was sluggish, with significant cavity dilatation. Histological examination of myocardium revealed plephora of microvessels and diffuse infiltration of stroma by lymphocytes and histiocytes. What disease corresponds with the described picture?
Correct answer	Myocarditis
B	Stenocardia
C	Acute coronary insufficiency
D	Myocardium infarction
E	Cardiomyopathy
№	krok 2008
Topic	blood PATHOPHYSIOLOGY
Task	Parents of a 3 year old child have been giving him antibiotics with purpose of preventing enteric infections for a long time. A month later the child’s condition changed for the worse. Blood examination revealed apparent leukopenia and granulocytopenia. What is the most probable mechanism of blood changes?
Correct answer	Myelotoxic
B	Autoimmune
C	Redistributive
D	Age-specific
E	Hemolytic
№	krok 2008
Topic	PATHOPHYSIOLOGY of digestion

Task	A patient ill with enteritis accompanied by massive diarrhea has low water rate in the extracellular space, high water rate inside the cells and low blood osmolarity. What is such disturbance of water-electrolytic metabolism called?
Correct answer	Hypoosmolar hypohydration
B	Hyperosmolar hypohydration
C	Osmolar hypohydration
D	Hypoosmolar hyperhydration
E	Hyperosmolar hyperhydration
№	krok 2008
Topic	PATHOPHYSIOLOGY of digestion
Task	A patient ill with chronic gastritis went for endogastric pH-metry that allowed to reveal decreased acidity of gastric juice. It is indicative of diminished function of the following cells:
Correct answer	Parietal exocrinocytes
B	Chief exocrinocytes
C	Endocrinocytes
D	Cervical cells
E	Accessory cells
№	krok 2008
Topic	PATHOPHYSIOLOGY of vessels
Task	A 70 year old man is ill with vascular atherosclerosis of lower extremities and coronary heart disease. Examination revealed disturbance of lipidic blood composition. The main factor of atherosclerosis pathogenesis is the excess of the following lipoproteins:
Correct answer	Low-density lipoproteins
B	Cholesterol
C	High-density lipoproteins
D	Intermediate density lipoproteins
E	Chylomicrons
№	krok 2008
Topic	allergy

Task	A 30 year old woman has applied a lipstick with a fluorescent substance for a long time. Then she got a limited erythema and slight peeling on her lip border, later there appeared transversal striae and cracks. Special methods of microscopic examination of the affected area helped to reveal sensibilized lymphocytes and macrophages in the connective tissue; cytolysis. What type of immunological hypersensitivity was developed?
Correct answer	IV type (cellular cytotoxicity)
B	I type (reaginic)
C	II type (antibody cytotoxicity)
D	III type (immune complex cytotoxicity)
E	.Granulomatosis
№	krok 2008
Topic	PATHOPHYSIOLOGY of vessels
Task	A patient ill with essential arterial hypertension had a hypertensic crisis that resulted in an attack of cardiac asthma. What is the leading mechanism of cardiac insufficiency in this case?
Correct answer	Heart overload caused by high pressure
B	Heart overload caused by increased blood volume
C	Absolute coronary insufficiency
D	Myocardium damage
E	Blood supply disturbance
№	krok 2008
Topic	endocrine PATHOPHYSIOLOGY
Task	Rats being under stress have muscular hypertonia and high arterial pressure, high glucose concentration in blood and intensified secretion of corticotropin and corticosteroids. In what stress phase are these animals?
Correct answer	Antishock phase
B	Exhaustion
C	Shock phase
D	Erectile
E	Terminal
№	krok 2008
Topic	PATHOPHYSIOLOGY of vessels

Task	A 45 year old woman is ill with breast cancer. Her left arm has symptoms of lymphatic system insufficiency - limb edema, lymph node enlargement. What form of lymphatic circulation insufficiency is it?
Correct answer	Mechanic insufficiency
B	Dynamic insufficiency
C	Resorption insufficiency
D	Combined insufficiency
E	-
№	krok 2008
Topic	endocrine PATHOPHYSIOLOGY
Task	An endocrinal gland with parenchyma consisting of epithelium and neural tissue is under morphological examination. Epithelial trabecules have two types of cells: chromophilic and chromophobic. Identify this organ:
Correct answer	Hypophysis
B	Adrenal glands
C	Hypothalamus
D	Thyroid gland
E	Parathyroid gland
№	krok 2008
Topic	blood PATHOPHYSIOLOGY
Task	A 26 year old man is in the torpid shock phase as a result of a car accident. In blood: 3, $2 \cdot 10^9$/l. What is the leading mechanism of leukopenia development?
Correct answer	Redistribution of leukocytes in bloodstream
B	Leikopoiesis inhibition
C	Disturbed going out of mature leukocytes from the marrow into the blood
D	Lysis of leukocytes in the blood-forming organs
E	Intensified elimination of leukocytes from the organism
№	krok 2008
Topic	PATHOPHYSIOLOGY of vessels
Task	A patient had hemorrhagic stroke. Blood examination revealed strengthened kinin concentration.The patient was prescribed contrical. It was administered in order to inhibit the following proteinase:
Correct answer	Kallikrein

B	Pepsin
C	Trypsin
D	Chemotrypsin
E	Collagenase
№	krok 2007
Topic	PATHOPHYSIOLOGY of vessels
Task	A patient was delivered to the hospital by an emergency team. Objectively: grave condition, unconscious, adynamy. Cutaneous surfaces are dry, eyes are sunken, face is cyanotic. There is tachycardia and smell of acetone from the mouth. Analysis results: blood glucose - 20,1 micromole/l (standard is 3,3-5,5 micromole/l), urine glucose - 3,5% (standard is - 0). What is the most probable diagnosis?
Correct answer	Hyperglycemic coma
B	Hypoglycemic coma
C	Acute heart failure
D	Acute alcoholic intoxication
E	Anaphylactic shock
№	krok 2007
Topic	blood PATHOPHYSIOLOGY
Task	Having helped to eliminate consequences of a failure at a nuclear power plant, a worker got an irradiation doze of 500 roentgen. He complains of headache, nausea, dizziness. What changes in leukocytes quantity can be expected 10 hours after irradiation?
Correct answer	Neutrophilic leukocytosis
B	Lymphocytosis
C	Leukopenia
D	Agranulocytosis
E	Leukemia
№	krok 2007
Topic	respiratory PATHOPHYSIOLOGY
Task	A 12 y.o. boy who suffers from bronchial asthma has an acute attack of asthma: evident expiratory dyspnea, skin pallor. What type of alveolar ventilation disturbance is it?
Correct answer	Obstructive
B	Restrictive

C	Throracodiaphragmatic
D	Central
E	Neuromuscular
№	krok 2007
Topic	PATHOPHYSIOLOGY of digestion
Task	A patient complains of frequent diarrheas, especially after consumption of fattening food, and of body weight loss. Laboratory examination revealed steatorrhea; hypocholic feces. What can be the cause of this condition?
Correct answer	Obturation of biliary tracts
B	Mucous membrane inflammation of small intestine
C	Lack of pancreatic lipase
D	Lack of pancreatic phospholipase
E	Unbalanced diet
№	krok 2007
Topic	respiratory PATHOPHYSIOLOGY
Task	A group of mountain climbers went through the blood analysis at the height of 3000 m. It revealed decrease of $H\,CO_3$ to 15 micromole/l (standard is 22-micromole/l). What is the mechanism of $H\,CO_3$ decrease?
Correct answer	Hyperventilation
B	Intensification of acidogenesis
C	Hypoventilation
D	Decrease of ammoniogenesis
E	Decrease of bicarbonate reabsorption in kidneys
№	krok 2007
Topic	PATHOPHYSIOLOGY of digestion
Task	After intake of rich food a patient feels nausea and sluggishness; with time there appeared signs of steatorrhea. Blood cholesterine concentration is 9,2 micromole/l. This condition was caused by lack of:
Correct answer	Bile acids
B	Triglycerides
C	Fatty acids
D	Phospholipids
E	Chylomicrons

№	krok 2007
Topic	PATHOPHYSIOLOGY of thermoregulation
Task	A patient who suffers from pneumonia has high body temperature. What biologically active substance plays the leading part in origin of this phenomenon?
Correct answer	Interleukin-I
B	Histamine
C	Bradykinin
D	Serotonin
E	Leukotrienes
№	krok 2007
Topic	PATHOPHYSIOLOGY of vessels
Task	Inflammation of a patient’s eye was accompanied by accumulation of turbid liquid with high protein at the bottom of anterior chamber that was called hypopyon. What process underlies the changes under observation?
Correct answer	Disturbance of microcirculation
B	Primary alteration
C	Secondary alteration
D	Proliferation
E	-
№	krok 2007
Topic	cardiac PATHOPHYSIOLOGY
Task	Heart rate of a man permanently equals 40 beats pro minute. What is the pacemaker?
Correct answer	Atriventricular node
B	Sinoatrial node
C	His’ bundle
D	His’ bundle branches
E	Purkinje’s fibers
№	krok 2007
Topic	PATHOPHYSIOLOGY of liver

Task	A 48 y.o. patient was admitted to the hospital with complaints about weakness, irritability, sleep disturbance. Objectively: skin and scleras are yellow. In blood: conjugated bilirubin, cholalemia. Feces are acholic. Urine is of dark colour (bilirubin). What jaundice is it?
Correct answer	Mechanic
B	Hemolytic
C	Parenchymatous
D	Gilbert's syndrome
E	Crigler-Najjar syndrome
№	krok 2007
Topic	cardiac PATHOPHYSIOLOGY
Task	A patient who suffers from severe disorder of water-salt metabolism experienced cardiac arrest in diastole. What is the most probable mechanism of cardiac arrest in diastole?
Correct answer	Hyperkaliemia
B	Hypernatremia
C	Organism dehydratation
D	Hypokaliemia
E	Hyponatremia
№	krok 2007
Topic	PATHOPHYSIOLOGY of vessels
Task	A patient who suffers from heart failure has enlarged liver, edemata of lower extremities, ascites. What is the leading mechanism in the development of this edema?
Correct answer	Hydrodynamic
B	Colloid osmotic
C	Lymphogenous
D	Membranogenic
E	-
№	krok 2007
Topic	cardiac PATHOPHYSIOLOGY
Task	Examination of an isolated cardiomyocyte revealed that it didn't generate excitation impulses automatically. This cardiomyocyte was obtained from:

Correct answer	Ventricles
B	Sinoatrial node
C	Atrioventricular node
D	His’ bundle
E	Purkinje’s fibers
№	krok 2007
Topic	cardiac PATHOPHYSIOLOGY
Task	A 49 y.o. woman consulted a doctor about heightened fatigue and dyspnea during physical activity. ECG: heart rate is 50/min, PQ is extended, QRS is unchanged, P wave quanity exceeds quantity of QRS complexes. What type of arrhythmia does the patient have?
Correct answer	Atrioventricular block
B	Extrasystole
C	Sinus bradycardia
D	Ciliary arhythmia
E	Sinoatrial block
№	krok 2007
Topic	allergy
Task	A woman has been applying a new cosmetic preparation for a week that resulted in eyelid inflammation accompanied by hyperemia, infiltrationand painfulness. What type of allergic reaction was developed?
Correct answer	IV
B	I
C	II
D	III
E	V
№	krok 2007
Topic	endocrine PATHOPHYSIOLOGY
Task	A 40 y.o. patient complains of intensive heartbeats, sweating, nausea, vision impairment, arm tremor, hypertension. From his anamnesis: 2 years ago he was diagnosed with pheochromocytoma. Hyperproduction of what hormones causes the given pathology?
Correct answer	Catecholamines
B	Aldosterone
C	Glucocorticoids

D	ACTH
E	Thyroid hormones
№	krok 2007
Topic	respiratory PATHOPHYSIOLOGY
Task	A 56 y.o. patient has been suffering from thyreotoxicosis for a long time. What type of hypoxia can be developed?
Correct answer	Tissue
B	Hemic
C	Circulatory
D	Respiratory
E	Mixed
№	krok 2007
Topic	blood PATHOPHYSIOLOGY
Task	Examination of a 43 y.o. anephric patient revealed anemia symptoms. What is the cause of these symptoms?
Correct answer	Reduced synthesis of erythropoietins
B	Enhanced destruction of erythrocytes
C	Iron deficit
D	Vitamin B_{12} deficit
E	Folic acid deficit
№	krok 2007
Topic	PATHOPHYSIOLOGY of immunity
Task	48 hours after performing tuberculin test (Mantoux test) to a child a 10 mm papule appeared on the spot of tuberculin introduction. What hypersensitivity mechanism underlies these changes?
Correct answer	Cellular cytotoxicity
B	Anaphylaxis
C	Antibody-dependent cytotoxicity
D	Immune complex cytotoxicity
E	Granulomatosis
№	krok 2007
Topic	PATHOPHYSIOLOGY of kidneys

Task	Violation of safety rules resulted in calomel intoxication. Two days later the daily diuresis was 620 ml. A patient experienced headache, vomiting, convulsions, dyspnea, moist rales in lungs. What pathology is it?
Correct answer	Acute renal insufficiency
B	Chronic renal insufficiency
C	Uraemic coma
D	Glomerulonephritis
E	Pyelonephritis
№	krok 2007
Topic	endocrine PATHOPHYSIOLOGY
Task	Osmotic pressure of a man's 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:
Correct answer	Vasopressin
B	Aldosteron
C	Cortisol
D	Adrenocorticotropin
E	Natriuretic
№	krok 2007
Topic	blood PATHOPHYSIOLOGY
Task	A 55 y.o. woman consulted a doctor about having continuous cyclic uterine hemorrhages for a year, weakness, dizziness. Examination revealed skin pallor. Hemogram: Hb- 70 g/l, erythrocytes - 3, $2 \cdot 10^{12}$/l, color index - 0,6, leukocytes 6, $0 \cdot 10^{9}$/l, reticulocytes - 1%; erythrocyte hypochromia. What anemia is it?
Correct answer	Chronic posthemorrhagic anemia
B	Hemolytic anemia
C	Aplastic anemia
D	B_{12}-folate-deficiency anemia
E	Iron-deficiency anemia
№	krok 2007
Topic	blood PATHOPHYSIOLOGY

Task	A 23 y.o. patient complains of weakness, temperature rise up to 38 – ^0C. Objectively: liver and spleen are enlarged. Hemogram: Hb- 100 g/l, erythrocytes - 2, $9 \cdot 10^{12}$/l, leukocytes - 4, $4 \cdot 10^9$/l, thrombocytes - 48 $\cdot 10^9$/l, segmentonuclear neutrophils - 17%, lymphocytes - 15%, blast cells - 68%. All cytochemical reactions are negative. Make a hematological conclusion:
Correct answer	Undifferentiated leukosis
B	Chronic myeloleukosis
C	Acute myeloblastic leukosis
D	Acute lymphoblastic leukosis
E	Acute erythromyelosis
№	krok 2007
Topic	cardiac PATHOPHYSIOLOGY
Task	A patient who has been suffering from cardiac insufficiency for several months has been taking digoxin on an outpatient basis. At a certain stage of treatment there appeared symptoms of drug overdose. What phenomenon underlies the development of this complication?
Correct answer	Material cumulation
B	Habituation
C	Sensibilization
D	Functional cumulation
E	Tachyphylaxis
№	krok 2007
Topic	PATHOPHYSIOLOGY of immunity
Task	A patient with clinical presentations of immunodeficiency went through immunological examinations. They revealed significant loss of cells that form rosettes with erythrocytes of a ram. What conclusion can be made according to the analysis data?
Correct answer	Decrease of T-lymphocytes rate
B	Decrease of B-lymphocytes rate
C	Decrease of natural killer cell rate
D	Decrease of complement system rate
E	Insufficiency of effector cells of humoral immunity
№	krok 2007
Topic	endocrine PATHOPHYSIOLOGY

Task	A 45 y.o. woman suffers from Cushing's syndrome - steroid diabetes. Biochemical examination revealed: hyperglycemia, hypochloremia. Which of the undermentioned processes is the first to be activated?
Correct answer	Gluconeogenesis
B	Glycogenolysis
C	Glucose reabsorption
D	Glucose transport to the cell
E	Glycolysis
№	krok 2007
Topic	cardiac PATHOPHYSIOLOGY
Task	A patient who suffers from acute myocarditis has clinical signs of cardiogenic shock. What of the under-mentioned pathogenetic mechanisms plays the main part in shock development?
Correct answer	Disturbance of pumping ability of heart
B	Depositing of blood in organs
C	Reduction of diastolic flow to the heart
D	Decrease of vascular tone
E	Increase of peripheral vascular resistance
№	krok 2007
Topic	PATHOPHYSIOLOGY of kidneys
Task	On the 6th day of treatment a patient with acute renal insufficiency developed polyuria. Diuresis intensification at the beginning of polyuria stage of acute renal insufficiency is caused by:
Correct answer	Renewal of filtration in nephrons
B	Volume expansion of circulating blood
C	Growth of natriuretic factor
D	Reduction of aldosteron content in plasma
E	Reduction of vasopressin content in plasma
№	krok 2007
Topic	PATHOPHYSIOLOGY of immmunity
Task	An experimental animal was first sensibilized wheeupon an antigen dose was introduced subcutaneously. This injection resulted in the development of a fibrinous inflammation with alteration of vessel walls, basal substance and fibrous structures of connective tissue in form of mucoid and fibrinoid swelling and necrosis. What immunological reaction took place?

Correct answer	Immediate hypersensitivity
B	Delayedtype hypersensitivity
C	Reaction of transplantation immunity
D	Normergic reaction
E	Granulomatosis
№	krok 2007
Topic	PATHOPHYSIOLOGY of thermoregulation
Task	A patient who had been working hard under conditions of elevated temperature of the environment, has now a changed quantity of blood plasma proteins. What penomenon is the case?
Correct answer	Relative hyperproteinemia
B	Absolute hyperproteinemia
C	Absolute hypoproteinemia
D	Disproteinemia
E	Paraproteinemia
№	krok 2010
Topic	PATHOPHYSIOLOGY of liver
Task	A 46 year old woman suffering from chololithiasis developed jaundice. Her urine became dark-yellow and feces became colourless. Blood serum will have the highest concentration of the following substance:
Correct answer	Conjugated bilirubin
B	Unconjugated bilirubin
C	Biliverdin
D	Mesobilirubin
E	Urobilinogen
№	krok 2010
Topic	endocrine PATHOPHYSIOLOGY
Task	A patient suffering from infectious mononucleosis has been taking glucocorticosteroids for two weeks. This resulted in remission but the patient got exacerbation of chronic tonsillitis. This complication is induced by the following effect of glucocorticosteroids:
Correct answer	Immunosuppressive
B	Anti-inflammatory
C	Anti-shock

D	Antiallergenic
E	Antitoxic
№	krok 2010
Topic	blood PATHOPHYSIOLOGY
Task	A 34 year old woman was diagnosed with hereditary microspherocytic hemolytic anemia (Minkowsky-Shauffard disease). What mechanism caused haemolysis of erythrocytes?
Correct answer	Membranopathy
B	Enzymopathy
C	Hemoglobinopathy
D	Autoimmune disorder
E	Bone marrow hypoploasia
№	krok 2010
Topic	blood PATHOPHYSIOLOGY
Task	A 25 year old Palestinian woman complains of weakness, dizziness, dyspnea. In anamnesis: periodically exacerbating anemia. In blood: Hb - 60 g/l, erythrocytes 2, $5 \cdot 10^{12}$/l, reticulocytes - $35^{o}/_{oo}$, anisocytosis and poikilocytosis of erythrocytes, a lot of target cells and polychromatophils. What type of anemia is it?
Correct answer	Thalassemia
B	Sickle-cell anemia
C	Minkowsky-Shauffard disease
D	Addison-Biermer disease
E	Glucose 6-phosphate dehydrogenase-deficient anemia
№	krok 2010
Topic	inflammation
Task	Inflammatory processes cause synthesis of protein of acute phase in an organism. What substances stumulate their synthesis?
Correct answer	Interleukin-1
B	Immunoglobulins
C	Interferons
D	Biogenic amins
E	Angiotensin
№	krok 2010

Topic	respiratory PATHOPHYSIOLOGY
Task	A patient staying in the pulmonological department was diagnosed with pulmonary emphysema accompanied by reduced elasticity of pulmonary tissue. What type of respiration is observed?
Correct answer	Expiratory dyspnea
B	Inspiratory dyspnea
C	Superficial respiration
D	Infrequent respiration
E	Periodic respiration
№	krok 2010
Topic	PATHOPHYSIOLOGY of cns
Task	After destruction of CNS structures an animal lost orientative reflexes. What structure was destroyed?
Correct answer	Quadrigeminal plate
B	Red nucleus
C	Lateral vestibular nuclei
D	Black substance
E	Medial reticular nuclei
№	krok 2010
Topic	endocrine PATHOPHYSIOLOGY
Task	A patient suffering from pheochromocytoma complains of thirst, dry mouth, hunger. Blood test for sugar revealed hyperglycemia. What type of hyperglycemia is it?
Correct answer	Adrenal
B	Hypercorticoid
C	Alimentary
D	Somatotropic
E	Hypoinsulinemic
№	krok 2010
Topic	blood PATHOPHYSIOLOGY
Task	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:
Correct answer	Water loss with sweat

B	Increased number of erythrocytes
C	Increased protein concentration in plasm
D	Increased circulating blood volume
E	Increased diuresis
№	krok 2010
Topic	allergy
Task	Examination of a child who frequently suffers from infectious diseases revealed that IgG concentration in blood serum was 10 times less than normal, IgA and IgM concentration was also significantly reduced. Analysis showed also lack of B-lymphocytes and plasmocytes. What disease are these symptoms typical for?
Correct answer	Bruton's disease
B	Swiss-type agammaglobulinemia
C	Dysimmunoglobulinemia
D	Louis-Bar syndrome
E	Di George syndrome
№	krok 2010
Topic	endocrine PATHOPHYSIOLOGY
Task	Examination of a 42 year old patient revealed a tumour of adenohypophysis. Objectively: the patient's weight is 117 kg, he has moon-like hyperemic face, red-blue striae of skin distension on his belly. Osteoporosis and muscle dystrophy are present. AP is 210/140 mm Hg. What is the most probable diagnosis?
Correct answer	Cushing's disease
B	Cushing's syndrome
C	Conn's disease
D	Diabetes mellitus
E	Essential hypertension
№	krok 2010
Topic	endocrine PATHOPHYSIOLOGY
Task	Patients who suffer from severe diabetes and don't receive insulin have metabolic acidosis. This is caused by increased concentration of the following metabolites:
Correct answer	Ketone bodies
B	Fatty acids

C	Unsaturated fatty acids
D	Triacylglycerols
E	Cholesterol
№	krok 2010
Topic	cardiac PATHOPHYSIOLOGY
Task	A 47 year old man with myocardium infarction was admitted to the cardiological department. What changes of cellular composition of peripheral blood are induced by necrotic changes in the myocardium?
Correct answer	Neutrophilic leukocytosis
B	Monocytosis
C	Eosinophilic leukocytosis
D	Thrombocytopenia
E	Lymphopenia
№	krok 2010
Topic	cardiac PATHOPHYSIOLOGY
Task	A patient died from acute cardiac insufficiency, among clinical presentations there was gastrointestinal haemorrhage. Examination of mucous membrane of sromach revealed some defects reaching myenteron; their edges and bottom were mostly even and loose, some of them contained dark-red blood. What pathological process was revealed?
Correct answer	Acute ulcers
B	Chronic ulcers
C	Erosions
D	Thrombosis
E	Inflammation
№	krok 2010
Topic	blood PATHOPHYSIOLOGY
Task	A 5 year old child is ill with measles. Blood analysis revealed increase of total number of leukocytes up to $13 \cdot 10^9$/l. Leukogram: basophils - 0, eosinophils - 1, myelocytes - 0, juvenile neutrophi-ls - 0, band neutrophils - 2, segmented neutrophils - 41, lymphocytes - 28, monocytes - 28. Name this phenomenon:
Correct answer	Monocytosis
B	Agranulocytosis
C	Lymphocytosis

D	Eosinopenia
E	Neutropenia
№	krok 2010
Topic	PATHOPHYSIOLOGY of thermoregulation
Task	A 25 year old man has spent a long time in the sun under high air humidity. As a result of it his body temperature rose up to $39^{o}C$. What pathological process is it?
Correct answer	Hyperthermia
B	Infectious fever
C	Hypothermia
D	Noninfectious fever
E	Burn disease
№	krok 2010
Topic	PATHOPHYSIOLOGY of immunity
Task	A 50 year old man who was referred to the hospital for treatment of cervical lymphadenitis underwent test for induvidual sensitivity to penicillin. 30 seconds after he went hot all over, AP dropped down to 0 mm Hg that led to cardiac arrest. Resuscitation was unsuccessful. Autopsy results: acute venous plethora of internal organs; histological examination of skin (from the site of injection) revealed degranulation of mast cells (ti-ssue basophils). Degranulation was also revealed in myocardium and lungs. What type of hypersensitivity reaction is it?
Correct answer	Anaphylactic
B	Delayed-type hypersensitivity
C	Complement-mediated cytotoxic
D	Immunocomplex-mediated
E	–
№	krok 2018
Topic	pathophysiology
Task	A 40-year-old woman on examination presents with intensified basal metabolic rate. What hormone present in excess leads to such condition?
Correct answer	Triiodothyronine
B	Thyrocalcitonin
C	Glucagon

D	Aldosterone
E	Somatostatin
№	krok 2018
Topic	pathophysiology
Task	After a case of sepsis a 27-year-old woman developed ”bronzed” skin discoloration characteristic of Addison’s disease. Hyperpigmentation mechanism in this case is based on increased secretion of:
Correct answer	Melanocyte-stimulating hormone
B	Somatotropin
C	Gonadotropin
D	β-lipotropin
E	Thyroid-stimulating hormone
№	krok 2018
Topic	pathophysiology
Task	A 16-year-old girl presents with no hair on the pubis and in the armpits, her mammary glands are underdeveloped, no menstruations. What hormone imbalance can it be indicative of?
Correct answer	Ovarian failure
B	Hyperthyroidism
C	Hypothyroidism
D	Pancreatic islet failure
E	Adrenal medulla hyperfunction
№	krok 2018
Topic	pathophysiology
Task	Microscopy of the puncture sample obtained from the inflammation focus of the patient with cutaneous abscess revealed numerous blood cells of different types. What cells are the first to transfer from vessels to tissues during inflammation?
Correct answer	Neutrophils
B	Monocytes
C	Basocytes
D	Eosinophils
E	Lymphocytes
№	krok 2018

Topic	pathophysiology
Task	A lab rat has subcutaneously received mercury(II) chloride in the amount of 5 mg/kg. 24 hours later the plasma creatinine concentration increased several times. What mechanism of retention azotemia is observed in this case?
Correct answer	Decreased glomerular filtration
B	Increased creatinine production in the muscles
C	Increased creatinine reabsorption
D	Increased glomerular filtration
E	Increased creatinine production in the renal tubules
№	krok 2018
Topic	pathophysiology
Task	Due to trauma the patient has lost 25% of circulating blood volume. Name the emergency compensatory mechanism against blood loss:
Correct answer	Interstitial fluid inflow to the vessels
B	Restoration of blood protein composition
C	Increase of reticulocyte number
D	Restoration of erythrocyte number
E	Erythropoiesis activation
№	krok 2018
Topic	pathophysiology
Task	During removal of the hyperplastic thyroid gland of a 47-year-old woman, the parathyroid gland was damaged. One month after the surgery the patient developed signs of hypoparathyroidism: frequent convulsions, hyperreflexia, laryngospasm. What is the most likely cause of the patient’s condition?
Correct answer	Hypocalcemia
B	Hyponatremia
C	Hyperchlorhydria
D	Hypophosphatemia
E	Hyperkalemia
№	krok 2018
Topic	pathophysiology

Task	On examination the patient presents with hirsutism, moon-shaped face, stretch marks on the abdomen. BP is 190/100 mm Hg, blood glucose is 17.6 mmol/L. What pathology is such clinical presentation characteristic of?
Correct answer	Adrenocortical hyperfunction
B	Hyperthyroidism
C	Hypothyroidism
D	Gonadal hypofunction
E	Hyperfunction of the insular apparatus
№	krok 2018
Topic	pathophysiology
Task	A patient used an indirect-acting adrenergic agonist to treat rhinitis. After the patient has been putting in the nose drops for several days, the vasoconstrictive effect of the drug gradually diminished. Name this phenomenon:
Correct answer	Tachyphylaxis
B	Idiosyncrasy
C	Teratogenicity
D	Allergy
E	Cumulation
№	krok 2018
Topic	pathophysiology
Task	People, who for a long time remained in hypodynamic state, develop intense pain in the muscles after a physical exertion. What is the most likely cause of this pain?
Correct answer	Accumulation of lactic acid in muscles
B	Intensive breakdown of muscle proteins
C	Accumulation of creatinine in muscles
D	Decreased content of lipids in muscles
E	Increased content of ADP in muscles
№	krok 2018
Topic	pathophysiology
Task	A patient with hypochromic anemia has hair with split ends and suffers from hair loss. The nails are brittle. Gustatory sensations are affected. What is the mechanism of development of these symptoms?
Correct answer	Iron enzymes deficiency

B	Vitamin B_{12} deficiency
C	Low production of parathyroid hormone
D	Vitamin A deficiency
E	Low production of thyroid hormones
№	krok 2018
Topic	pathophysiology
Task	A patient suffers from hepatic cirrhosis. What substance excreted in urine should be analyzed to characterize the antitoxic function of liver?
Correct answer	Hippuric acid
B	Ammonium salts
C	Creatinine
D	Uric acid
E	Amino acids
№	krok 2018
Topic	pathophysiology
Task	Blood of the patients with diabetes mellitus shows increased content of free fatty acids. Name the most likely cause of this:
Correct answer	Increased activity of adipose triglyceride lipase
B	Accumulation of palmitoyl-CoA in cytosol
C	Activation of ketone bodies utilization
D	Activation of apoA1, apoA2, and apoA4 apolipoprotein synthesis
E	Decreased activity of plasma phosphatidylcholine-cholesterol-acyltransferase
№	krok 2018
Topic	pathophysiology
Task	A test animal receives electrical impulses that irritate the sympathetic nerve that innervates blood vessels of the skin. What reaction will it cause in the blood vessels?
Correct answer	Arterial and venous constriction
B	No reaction
C	Arterial dilation
D	Arterial and venous dilation
E	Venous dilation

№	krok 2018
Topic	pathophysiology
Task	A person has increased pulmonary ventilation due to physical exertion. What indicator of external respiration will be significantly increased compared to the resting state?
Correct answer	Respiratory volume
B	Vital lung capacity
C	Inspiratory reserve volume
D	Expiratory reserve volume
E	Total lung capacity
№	krok 2018
Topic	pathophysiology
Task	The carotid bodies on both sides were removed in a test animal. Which of the listed factors **WILL NOT** be able to cause hyperventilation in the test animal?
Correct answer	Hypoxemia
B	Physical exertion
C	Hypercapnia
D	Acidosis
E	Increase of core body temperature
№	krok 2018
Topic	pathophysiology
Task	After a psychic trauma a woman developed periodical increases in her blood pressure accompanied by headache, palpitations, and general weakness. What mechanism of hypertension development does this woman have?
Correct answer	Increased arteriolar tone
B	Increased circulating blood volume
C	Decreased cardiac output
D	Tachycardia
E	Venoconstriction
№	krok 2018
Topic	pathophysiology

Task	A 54-year-old man complains of general weakness, frequent colds, and bruises constantly appearing on his body. Blood test: erythrocytes - $2.5 \cdot 10^{12}$/L; Hb- 80 g/L; color index - 0.9; reticulocytes - absent; platelets - $50 \cdot 10^{9}$/L; leukocytes - $58 \cdot 10^{9}$/L; leukogram: basocytes - 5%, eosinophils - 15%, myeloblasts - 6%, myelocytes - 10%, juvenile - 18%, stab neutrophils - 26%, segmented neutrophils - 10%, lymphocytes 8%, monocytes - 2%, ESR - 40 mm/hour. What hematologic conclusion can be made?
Correct answer	Chronic myelogenous leukemia
B	Leukemoid response
C	Myeloblastic leukemia
D	Chronic lymphocytic leukemia
E	Basophilic eosinophilic leukocytosis
№	krok 2018
Topic	pathophysiology
Task	24 hours after an appendectomy the patient's blood test shows neutrophilic leukocytosis with a regenerative shift. What is the most likely mechanism of absolute leukocytosis development in the patient's peripheral blood?
Correct answer	Intensification of leukopoiesis
B	Leukocyte redistribution
C	Decreased leukocyte disintegration
D	Deceleration of leukocyte migration to the tissues
E	Immunity activation
№	krok 2018
Topic	pathophysiology
Task	A 38-year-old man, who has been suffering from systemic lupus erythematosus for 3 years, developed diffuse renal lesions accompanied by massive edemas, marked proteinuria, hyperlipidemia, and dysproteinemia. What is the most likely mechanism of proteinuria develoment in this case?
Correct answer	Autoimmune damage to the nephrons
B	Inflammatory damage to the nephrons
C	Ischemic damage to the tubules
D	Increased blood proteins
E	Morbid affection of the urinary tracts
№	krok 2018
Topic	pathophysiology

Task	A 59-year-old man, a business manager, developed intense burning retrosternal pain that irradiates to the left arm. The pain occurred in the evening after the tax audit. 5 minutes later the patient's condition normalized. What mechanism of angina pectoris development is leading in this patient?
Correct answer	Increased level of blood catecholamines
B	Coronary atherosclerosis
C	Intravascular aggregation of blood cells
D	Coronary artery thrombosis
E	Functional cardiac overload
№	krok 2018
Topic	pathophysiology
Task	A patient with a chemical burn has developed esophageal stenosis. The patient presents with acute weight loss due to problematic food intake. Blood test: erythrocytes - $3.0 \cdot 10^{12}$/L, Hb- 106 g/L, total protein - 57 g/L. What type of starvation does this patient suffer from?
Correct answer	Incomplete starvation
B	Protein starvation
C	Complete starvation
D	Water starvation
E	Absolute starvation
№	krok 2018
Topic	pathophysiology
Task	A woman has come to the hospital wi-th complaints of general weakness, dizziness, and dyspnea. Resently she has been taking levomycetin (chloramphenicol) for prevention of enteric infection. Blood test: erythrocytes - $1.9 \cdot 10^{12}$/L, hemoglobin - 58 g/L, color index - 0.9, leukocytes - 2.2 G/L, reticulocytes - 0.3%. What type of anemia is it indicative of?
Correct answer	Hypoplastic
B	Metaplastic
C	Aplastic
D	Hemolytic
E	Iron-deficiency
№	krok 2018
Topic	pathophysiology

Task	A 17-year-old girl suffers from periodical palpitations that last several minutes. Her heart rate is 200/min., rhythmic. What heart rhythm disorder developed in this patient?
Correct answer	Paroxysmal tachycardia
B	Sinus tachycardia
C	Sinus bradycardia
D	Extrasystole
E	Atrioventricular block
№	krok 2018
Topic	pathophysiology
Task	A woman with hypophyseal diabetes insipidus developed a water-mineral imbalance. What type of water-mineral imbalance develops in such cases?
Correct answer	Hyperosmolar dehydration
B	Hypoosmolar dehydration
C	Isoosmolar dehydration
D	Hypoosmolar hyperhydration
E	Hyperosmolar hyperhydration
№	krok 2018
Topic	pathophysiology
Task	When studying the pulmonary ventilation values, the reduction of forced expiratory volume has been detected. What is the likely cause of this phenomenon?
Correct answer	Obstructive pulmonary disease
B	Increase of respiratory volume
C	Increase of inspiratory reserve volume
D	Increase of pulmonary residual volume
E	Increase of functional residual lung capacity
№	krok 2018
Topic	pathophysiology
Task	A 50-year-old inpatient during examination presents with glucosuria and blood glucose of 3.0 mmol/L, which are the most likely to be caused by:
Correct answer	Renal disorder

B	Diabetes insipidus
C	Myxedema
D	Essential hypertension
E	Pellagra
№	krok 2018
Topic	pathophysiology
Task	A 52-year-old man presents with fever and pain in the joints. Both of his first metatarsophalangeal articulations are deformed, swollen, and reddened. Blood urea is high. The patient is diagnosed with gout. What is the main developmental factor in the pathogenesis of this disease?
Correct answer	Hyperuricemy
B	Argininosuccinic aciduria
C	Hyperazotemia
D	Hyperaminoacidemia
E	Citrullinuria
№	krok 2018
Topic	pathophysiology
Task	A victim of a traffic accident was received by the intensive care unit. The patient is in a grave condition that can be characterized as a severe pathologic process that leads to exhaustion of vital functions and puts the patient into the marginal state between life and death due to critical reduction of capillary circulation in the affected organs. The patient is in the state of:
Correct answer	Shock
B	Collapse
C	Coma
D	Agony
E	Preagony
№	krok 2018
Topic	pathophysiology
Task	A patient suffers from posttraumatic hemorrhage that resulted in development of hemorrhagic shock. What volume of circulating blood was lost by the patient?
Correct answer	25-40%
B	40-50%

C	12-25%
D	50-75%
E	3-20%
№	krok 2018
Topic	pathophysiology
Task	A 48-year-old man is unconscious. He has a history of several syncopal episodes with convulsions. ECG shows deformed QRS complexes unconnected with P waves, atrial contractions are approximately 70/min., ventricular contractions - 25-30/min. Name the type of arrhythmia in this case:
Correct answer	Complete atrioventricular block
B	First-degree atrioventricular block
C	Second-degree atrioventricular block
D	Intraatrial block
E	Intraventricular block
№	krok 2018
Topic	pathophysiology
Task	In human organism significant blood loss leads to decreased blood pressure, tachycardia, and weakness. Eventually the sensation of thirst appears. What hormone participates in the development of this sensation?
Correct answer	Angiotensin 2
B	Cortisol
C	Serotonin
D	Dopamine
E	Adrenalin
№	krok 2019
Topic	pathophysiology
Task	A 30-year-old person has been stung by a bee. The stung area exhibits edema, hyperemia, and elevated temperature. What is the initial pathogenetic factor of inflammatory edema in this case?
Correct answer	Disturbed lymphatic efflux
B	Decrease of oncotic blood pressure
C	Increase of osmotic pressure in the inflammation focus
D	Increase of microvascular permeability

E	Increase of capillary blood pressure
№	krok 2019
Topic	pathophysiology
Task	After hyperventilation an athlete developed a brief respiratory arrest. It occurred due to the following changes in the blood:
Correct answer	Increase of *CO2* and *O2* pressure
B	Decrease of *CO2* pressure
C	Increase of *CO2* pressure
D	Decrease of pH
E	Decrease of *O2* pressure
№	krok 2019
Topic	pathophysiology
Task	A patient with asphyxia after a brief respiratory arrest developed single infrequent respirations with passive expiration, after which he stopped breathing completely. What type of respiration was observed in this case?
Correct answer	Biot respiration
B	Kussmaul respiration
C	Gasping respiration
D	Cheyne-Stokes respiration
E	Apneustic respiration
№	krok 2019
Topic	pathophysiology
Task	A patient with obliterating endarteritis has undergone a ganglionic sympathectomy. Positive therapeutic effect of this surgery is associated with development of arterial hyperemia of the lower limbs, which can be described as:
Correct answer	Neuroparalytic
B	Metabolic
C	Working
D	Neurotonic
E	Reactive
№	krok 2019
Topic	pathophysiology

Task	A patient has been suffering from bronchial asthma for 15 years. What changes in the patient's leukogram can be expected in this case?
Correct answer	Leukopenia
B	Basophilia
C	Eosinophilia
D	Leukocytosis
E	Left shift
№	krok 2019
Topic	pathophysiology
Task	A 30-year-old woman developed facial edemas. Examination detected proteinuria (5.87 g/L), hypoproteinemia, dysproteinemia, and hyperlipidemia. Such combination of signs is characteristic of:
Correct answer	Chronic kidney failure
B	Nephrotic syndrome
C	Acute kidney failure
D	Chronic pyelonephritis
E	Nephritic syndrome
№	krok 2019
Topic	pathophysiology
Task	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?
Correct answer	Increased cardiac contraction force
B	Increased cardiac contraction force and frequency
C	Diastolic cardiac arrest
D	Decreased cardiac contraction force
E	Increased cardiac contraction frequency
№	krok 2019
Topic	pathophysiology
Task	Some diseases of large intestine lead to the changes in the quantitative ratio between mucosal epithelial cells. What cell types are normally predominant in the cryptal epithelium of the large intestine?
Correct answer	Ciliated columnar epithelial cells

B	Goblet cells
C	Cells with acidophilic granules
D	Poorly differentiated cells
E	Endocrine cells
№	krok 2019
Topic	pathophysiology
Task	Hematologic study shows the following pattern: erythrocytes - 2,8 • 10^{12}/L, Hb - 80 g/L, color index - 0.85, reticulocytes - 0,1%, platelets - 160 thousand per microliter, leukocytes - 60 ■ 10^{9}/L. Basocytes - 2%, eosinophils - 8%, promyelocytes - 5%, myelocytes - 5%, juvenile - 16%, stab neutrophils - 20%, segmented neutrophils - 34%, lymphocytes - 5%, monocytes - 5%. This clinical presentation indicates the following blood pathology:
Correct answer	Undifferentiated leukemia
B	Chronic myeloleukemia
C	Hemolytic anemia
D	Hypoplastic anemia
E	Acute myeloleukemia
№	krok 2019
Topic	pathophysiology
Task	A 14-year-old adolescent has diphtheria. During the peak of the disease against the background of acute drop in body temperature and tachycardia the blood pressure is 70/50 mm Hg. What type of vascular tone disturbance is it?
Correct answer	Acute hypotension
B	Essential hypotension
C	Somatoform autonomic dysfunction
D	Chronic hypotension
E	-
№	krok 2019
Topic	pathophysiology
Task	A 34-year-old man died in a comatose state. According to his family after a business trip to an African country he developed periodical jaundice attacks. Autopsy shows the following: dense, enlarged spleen with slate-black pulp; enlarged plethoric liver, gray-black on section; cerebral gray matter is brown-gray; cerebral white matter contains numerous small hemorrhages. What infectious disease can be suspected?

Correct answer	Generalized herpetic infection
B	Malaria
C	Generalized cryptococcosis
D	Meningococcemia
E	Prion infection
№	krok 2019
Topic	pathophysiology
Task	Regional lymph nodes surrounding an infected wound are enlarged. Histological examination shows increased number of macrophages, lymphocytes, and lymphatic follicles in the cortical layer of the lymph nodes, as well as a large amount of plasma cells. What process in the lymph nodes is indicated by these histological changes?
Correct answer	Neoplastic aberration
B	Transplant rejection
C	Antigen stimulation
D	Acquired deficiency of lymphoid tissue
E	Congenital deficiency of lymphoid tissue
№	krok 2019
Topic	pathophysiology
Task	A 63-year-old man, who has been suffering from chronic diffuse obstructive pulmonary emphysema for 15 years, died of progressive heart failure. Autopsy shows nutmeg liver cirrhosis, cyanotic induration of kidneys and spleen, ascites, and edemas of the lower limbs. What type of heart failure can be characterized by such changes in the internal organs?
Correct answer	Chronic heart failure
B	Chronic atrial failure
C	Acute right ventricular failure
D	Acute left ventricular failure
E	Acute global heart failure
№	krok 2019
Topic	pathophysiology
Task	A patient is diagnosed with severe *B 12- deficiency* anemia resulting in disturbed hematopoiesis and appearance of atypical erythrocytes in the blood. The patient has a history of total gastric resection. This diagnosis can be confirmed if the following cells are present in the peripheral blood:

Correct answer	Megalocytes
B	Elliptocytes
C	Anulocytes
D	Microcytes
E	Normocytes
№	krok 2019
Topic	pathophysiology
Task	A patient with diabetes mellitus after an insulin injection lost his consciousness and developed convulsions. What will be the result of a biochemical test for blood glucose level in this case?
Correct answer	10 mmol/L
B	2.5 mmol/L
C	5.5 mmol/L
D	8.0 mmol/L
E	3.3 mmol/L
№	krok 2019
Topic	pathophysiology
Task	A 3-year-old child has been brought by ambulance to the intensive care unit of the infectious diseases hospital. On examination the child is in severe condition, skin and mucosa are dry, tissue turgor is reduced. The patient’s history states that profuse diarrhea and recurrent vomiting were observed throughout the previous day after the child had eaten food products of poor quality. What type of salt and water imbalance is likely to have developed in the patient?
Correct answer	Isoosmolar hyperhydration
B	Hyperosmolar hyperhydration
C	Hypoosmolar dehydration
D	Isoosmolar dehydration
E	Hypoosmolar hyperhydration
№	krok 2019
Topic	pathophysiology
Task	An inflammation can be characterized by hemocapillary dilation in the affected area, decreased blood circulation, and increased vessel wall permeability. What cells play the key role in this process?
Correct answer	Tissue basophils

B	Fibroblasts
C	Eosinophils
D	Plasma cells
E	Macrophages
№	krok 2019
Topic	pathophysiology
Task	Autopsy of a 30-year-old man shows enlarged spleen (weight - 900.0 g), enlarged liver (weight - 4000.0 g), and enlarged lynph nodes. Bone marrow of the femoral shaft is bright red and moist. Microscopically in the liver there are thick infiltrates located mostly along the portal tract. The infiltrates consist of juvenile hemopoietic cells with round nuclei and thin layer of cytoplasm. What disease can be suspected?
Correct answer	Chronic lymphocytic leukemia
B	Acute myeloblastic leukemia
C	Acute lymphoblastic leukemia
D	Generalized lymphogranulomatosis
E	
№	krok 2019
Topic	pathophysiology
Task	**A** patient was hospitalized in a comatose state. The patient has a 5-year-long history of diabetes mellitus type 2. Objectively respiration is noisy, deep, with acetone breath odor. Blood glucose is 15.2 mmol/L, ketone bodies - 100 micromol/L. These signs are characteristic of the following diabetes complication:
Correct answer	Ketoacidotic coma
B	Hypoglycemic coma
C	Hepatic coma
D	Hyperglycemic coma
E	Hyperosmolar coma
№	krok 2019
Topic	pathophysiology
Task	A 12-year-old boy with clinical presentation of influenza has developed respiratory mycoplasmosis. What type of infection has developed under these conditions?
Correct answer	Mixed infection

B	Superinfection
C	Relapse
D	Iatrogenic infection
E	Autoinfection
№	krok 2019
Topic	pathophysiology
Task	A patient has been taking bisacodyl for a long time to treat chronic constipation. However, several weeks later the aperient effect of the drug diminished. What is the possible cause of this?
Correct answer	Functional cumulation
B	Acquired tolerance
C	Material cumulation
D	Drug dependence
E	Sensitization
№	krok 2019
Topic	pathophysiology
Task	A patient was hospitalized in a comatose state. The patient has a 5-year-long history of diabetes mellitus type 2. Objectively respiration is noisy, deep,' with acetone breath odor. Blood glucose is 15.2 mmol/L, ketone bodies - 100 micromol/L. These signs are characteristic of the following diabetes complication:
Correct answer	Ketoacidotic coma
B	Hypoglycemic coma
C	Hepatic coma
D	Hyperglycemic coma
E	Hyperosmolar coma
№	krok 2019
Topic	pathophysiology
Task	An uconscious young man in the state of morphine intoxication has been brought into an admission room. The patient’s respiration is slow and shallow due to suppression of the respiratory center. What kind of respiratory failure occurred in this case?
Correct answer	Diffusion
B	Ventilatory obstruction
C	Ventilatory disregulation

D	Ventilatory restriction
E	Perfusion
№	krok 2019
Topic	pathophysiology
Task	A 40-year-old person developed elevated blood pressure after an emotional excitement. What is the likely cause of this effect?
Correct answer	Increased sympathetic nervous system tone
B	Increased parasympathetic nervous system tone
C	Arteriolar dilation
D	Decreased cardiac contraction frequency
E	Hyperpolarization of cardiomyocytes
№	krok 2019
Topic	pathophysiology
Task	Antileukocytic antibodies are detected in the blood of a patient with leukopenia. What type of Coombs-Gell hypersensitivity reaction developed in this case?
Correct answer	Stimulating
B	Cytotoxic
C	Delayed-type hypersensitivity
D	Immune complex-mediated
E	Anaphylactic
№	krok 2019
Topic	pathophysiology
Task	A 56-year-old man presents for a checkup. The patient says he has to urinate quite frequently, but denies any dysuria or pain on urination. Past medical history is significant for diabetes mellitus type 2 and hypertension, both managed medically. Current medications are metformin, aspirin, rosuvastatin, captopril and furosemide. Laboratory findings are significant for the following: Glycated Hemoglobin (Hb Ale) 8.0%, Fasting Blood Glucose - 12 mmol/L. His doctor decides to add glibenclamide to the therapy. Which of the following is the most likely mechanism of this drug’s action?
Correct answer	Facilitation of glucose absorption in the intestine
B	Stimulation of insulin release
C	Stimulation of glucose reuptake by the cell
D	Inhibition of insulin release

E	-
№	krok 2019
Topic	pathophysiology
Task	A 38-year-old woman, who was diagnosed with systemic lupus erythematosus (SLE) 3 years ago, comes to her physician with a complaint of facial swelling and decreased urination that she first noticed 2 weeks ago. She currently takes azathioprine and corticosteroid. Her vital signs show blood pressure 150/90 mm Hg, pulse - 91/min., temperature - 36.8°C and respiratory rate - 15/min. On physical examination, the doctor notices erythematous rash on her face exhibiting a butterfly pattern. The laboratory studies reveal hypercholesterolemia, hypertriglyceridemia and proteinuria. Which of the following is the most likely mechanism of SLE's complication in this patient?
Correct answer	Immune complex-mediated glomerular disease
B	Increased plasma oncotic pressure
C	Decrease in renal blood flow (ischemic nephropathy)
D	Acute infection of the kidney
E	-
№	krok 2019
Topic	pathophysiology
Task	A 54-year-old woman has a total thyroidectomy for papillary thyroid carcinoma. 11 hours after operation she complains of tingling around her mouth. On physical examination, the Trousseau's sign and Chvostek's sign are present. Her condition rapidly deteriorates with laryngospasm and focal seizures. The surgeon suggests surgical destruction of parathyroid glands. Which of the following is the most likely cause of this patient's neurologic abnormality?
Correct answer	Hyperkalemia
B	Hyperchloremia
C	Hypocalcemia
D	Hypophosphatemia
E	Hyponatremia
№	krok 2019
Topic	pathophysiology
Task	A 34-year-old man visits his dentist complaining of toothache. After a dental procedure that involved extraction of several teeth, he develops severe bleeding lasting more than 15 minutes. He has a history of chronic hepatitis C. Which of the following is
Correct answer	the most likely cause of prolonged bleeding in this patient?

B	Hypofibrinogenemia
C	Hypoalbuminemia
D	Thrombocytopenia
E	Hypocalcemia
№	krok 2020
Topic	pathophysiology
Task	ECG shows absent P waves replaced by f waves, QRST complexes have irregular intervals between them (RR interval varies), R waves have different voltage. What type of arrhythmia is it?
Correct answer	Atrial fibrillation
B	Sinus tachycardia
C	Idioventricular rhythm
D	Paroxysmal tachycardia
E	Sinus arrhythmia
№	krok 2020
Topic	pathophysiology
Task	During inflammatory process, the vessels of the microvasculaturc develop increased permeability and hydrodynamic pressure. Protein structures in the interstitial fluid exhibit increased osmotic concentration and dispersion. What mechanism of edema formation will be observed during inflammatory process?
Correct answer	Colloid-osmotic
B	Membranogenic
C	Hydrodynamic
D	Lymphogenic
E	Mixed
№	krok 2020
Topic	pathophysiology
Task	A patient was diagnosed with a parathyroid tumor. He has generalized fibrous osteodystrophy and periodic attacks of renal colic. Ultrasound detected small stones in the kidneys. What is the most likely cause of kidney stone formation?
Correct answer	Hyperuricemy
B	Hypercholesterolemia
C	Hyperphosphatemia

D	Hypocalcemia
E	Hypercalcemia
№	krok 2020
Topic	pathophysiology
Task	Examination revealed high blood glucose. This complication occurs, when glucocorticosteroids affect a certain stage of carbohydrate metabolism. What stage of carbohydrate metabolism is affected?
Correct answer	Gluconeogenesis activation
B	Activation of the insulin breakdown
C	Increased absorption of glucose in the intestine
D	Glycogen synthesis activation
E	Glycogen synthesis inhibition
№	krok 2020
Topic	pathophysiology
Task	A 2-year-old child was diagnosed with thymic hypoplasia. What indicator of the immune system status is the most characteristic of this type of immunodeficiency?
Correct answer	Low levels of immunoglobulin M
B	Low B cell count
C	Absence of plasma cells
D	T and B cell deficiency
E	Low T cell count
№	krok 2020
Topic	pathophysiology
Task	Clinical blood testing is recommended to be done in the morning and on an empty stomach. What change in the blood composition is likely if a blood sample was obtained after a meal? .
Correct answer	Decreased erythrocyte count
B	Increased number of plasma proteins
C	Increased leukocyte count
D	Decreased platelet count
E	Increased erythrocyte count
№	krok 2020

Topic	pathophysiology
Task	A 40-year-old woman on examination presents with intensified basal metabolic rate. What hormone present in excess leads to such condition?
Correct answer	Glucagon
B	Aldosterone
C	Somatostatin
D	Thyrocalcitonin
E	Triiodothyronine
№	krok 2020
Topic	pathophysiology
Task	A 47-year-old woman with chronic pancreatitis accompanied by exocrine pancreatic insufficiency was prescribed pancreatic enzymes. What type of therapy is it?
Correct answer	Replacement therapy
B	Pathogenetic therapy
C	Etiotropic therapy
D	-
E	Preventive therapy
№	krok 2020
Topic	pathophysiology
Task	A 29-year-old man complains of headache, swelling, weight gain, low urine output, and marked weakness. Laboratory testing revealed increased concentration of TSH. The levels of estrogen, growth hormone, glucose, urea, and creatinine are normal. What medical condition corresponds with these signs?
Correct answer	Hypothyroidism
B	Acromegalia
C	Alimentary obesity
D	Glomerulonephritis
E	Hyperthyroidism
№	krok 2020
Topic	pathophysiology

Task	24 hours after an appendectomy the patient’s blood test shows neutrophilic leukocytosis with a regenerative shift. What is the most likely mechanism of absolute leukocytosis development in the patient’s peripheral blood?
Correct answer	Intensification of leukopoiesis
B	Decreased leukocyte disintegration
C	Leukocyte redistribution
D	Immunity activation
E	Deceleration of leukocyte migration to the tissues
№	krok 2020
Topic	pathophysiology
Task	A 48-year-old man is unconscious. He has a history of several syncopal episodes with convulsions. ECG shows deformed QRS complexes unconnected with P waves, atrial contractions are approximately 70/min., ventricular contractions - 25- 30/min. Name the type of arrhythmia in this case:
Correct answer	Complete atrioventricular block
B	Intraatrial block
C	Intraventricular block
D	First-degree atrioventricular block
E	Second-degree atrioventricular block
№	krok 2020
Topic	pathophysiology
Task	Decreased vasopressin synthesis causes polyuria and, as a result, marked dehydration. What is the mechanism of polyuria development?
Correct answer	Decreased canalicular reabsorption of Na ions
B	Decreased canalicular reabsorption of water
C	Increased glomerular filtration
D	Decreased canalicular reabsorption of proteins
E	Decreased rcabsorption of glucose
№	krok 2020
Topic	pathophysiology
Task	A person developed increased pulmonary ventilation due to physical exertion. What indicator of pulmonary function will be significantly increased compared to the resting state?

Correct answer	Respiratory volume
B	Total lung capacity
C	Expiratory reserve volume
D	Inspiratory reserve volume
E	Vital lung capacity
№	krok 2020
Topic	pathophysiology
Task	A woman with enteritis accompanied by severe diarrhea presents with the loss of water in the extracellular space, increased water content in the cells, and decreasing blood osmolarity. Name this type of water- electrolyte imbalance:
Correct answer	Hypoosmolar hypohydration
B	Hyperosmolar hyperhydration
C	Isoosmolar hypohydration
D	Hyperosmolar hypohydration
E	Hypoosmolar hyperhydration
№	krok 2020
Topic	pathophysiology
Task	A patient developed left ventricular heart failure. What compensatory responses in the patient’s body will be aimed at the prevention of pulmonary edema?
Correct answer	Reflex spasm of the pulmonary arterioles and decrease of blood pressure in the pulmonary microvasculature
B	Increased central venous pressure
C	Decreased peripheral resistance in the systemic arterioles
D	Blood accumulation in the systemic veins
E	Increased permeability of the pulmonary capillaries
№	krok 2020
Topic	pathophysiology
Task	A patient with heart failure developed edema. What is the main pathogenetic link of edema development in this case?
Correct answer	Decrease of cardiac output
B	Stagnation of blood
C	Changes in oncotic and osmotic blood pressure
D	Increased vascular permeability

E	Increased circulating blood volume
№	krok 2020
Topic	pathophysiology
Task	A 20-year-old man from the early childhood suffered from type I diabetes mellitus and was constantly undergoing insulin therapy. Within the last year he started breaking his diet and was taking his insulin doses irregularly. To detect possible complications, particularly glomerular diseases, the endocrinologist referred him for urinalysis. What is the first persistent sign of glomerular filtration disorder?
Correct answer	Proteinuria
B	Oxaluria
C	Leukocyturia
D	Hematuria
E	Cylindruria
№	krok 2020
Topic	pathophysiology
Task	What compensatory response occurs in the human body, when external temperature significantly rises?
Correct answer	Peripheral vasoconstriction
B	Increased muscle tone
C	Dilation of the cutaneous blood vessels
D	Dilation of the visceral blood vessels
E	Decreased perspiration
№	krok 2020
Topic	pathophysiology
Task	A patient hospitalized into the pulmonology department was diagnosed with pulmonary emphysema accompanied by the loss of elasticity in the pulmonary tissue. What type of respiration can be observed in this case?
Correct answer	Shallow breathing
B	Periodical breathing
C	Expiratory dyspnea
D	Slow breathing
E	Inspiratory dyspnea
№	krok 2021

Topic	pathophysiology
Task	A person has been bitten by a snake, which led to asphyxia and hemoglobin in urine. Erythrocyte hemolysis occurs in blood. Toxic snake venom causes:
Correct answer	Lysolecithin formation
B	Alkalosis development
C	Acidosis
D	Polyuria
E	Triglyceride formation
№	krok 2021
Topic	pathophysiology
Task	When a dentist applied hydrogen peroxide to the patient’s oral mucosa, it started frothing excessively. What enzyme breaks down hydrogen peroxide?
Correct answer	Catalase
B	Methemoglobin reductase
C	Acetyltransferase
D	*Glucose-6-phosphate dehydrogenase*
E	Cholinesterase
№	krok 2021
Topic	pathophysiology
Task	During a surgery with application of inhalation narcosis and muscle relaxants, the anesthesiologist noticed rapid increase of the patient’s body temperature to 43°C. What pathology developed in this patient?
Correct answer	Hyperthermic syndrome
B	Infection-induced fever
C	Physical hyperthermia
D	Overheating
E	Traumatic shock
№	krok 2021
Topic	pathophysiology
Task	Examination shows that total leukocyte count in the patient’s blood is 11 • 109/L, with 80% neutrophils, among which 9% are band neutrophils. Characterize the changes in the cell composition of «white» blood in this case:

Correct answer	Nuclear right shift of neutrophils
B	Nuclear left shift of neutrophils
C	Lymphocytosis
D	Neutropenia
E	Leukopenia
№	krok 2021
Topic	pathophysiology
Task	A man presents with decreased vasopressin synthesis, which causes polyuria and results in marked dehydration. What is the most likely polyuria mechanism in this case?
Correct answer	Decreased tubular reabsorption of protein
B	Decreased tubular reabsorption of water
C	Increased hydrostatic pressure
D	Disturbed glucose reabsorption
E	Disturbed tubular rcabsorption of Na ions
№	krok 2021
Topic	pathophysiology
Task	A 1.5-year-old boy, who previously received no regular immunization, was in contact with a measles patient. For urgent specific prevention, the child was administered donor gamma globulin. What type of immunity develops in this case?
Correct answer	Natural
B	Passive
C	Antitoxic
D	Local
E	Post-vaccination
№	krok 2021
Topic	pathophysiology
Task	Examination of a patient, who for a long time was taking glucocorticoids, detected lymphopenia. How can the functional state of the patient’s immune system be characterized?
Correct answer	Secondary immunodeficiency
B	Anaphylaxis
C	Autoantigen tolerance

D	Primary immunodeficiency
E	Congenital immunodeficiency
№	krok 2021
Topic	pathophysiology
Task	A patient was hospitalized in a comatose state. The patient has a 5-year- long history of diabetes me Hit us type 2. Objectively, his respiration is n deep, with acetone breath odor plus glucose is 15.2 mmol/L, ketone bodies - 100 micromol/L. These signs arc characteristic of the following diabetes complication:
Correct answer	Ketoacidotic coma-
B	Hepatic coma
C	Hypoglycemic coma
D	Hyperglycemic coma
E	Hyperosmolar coma
№	krok 2021
Topic	pathophysiology
Task	The patient’s arterial hypertension is caused by renal pathology. The main pathogenetic link oi this type of hypertension is the activation of the following system:
Correct answer	Renin-angiotensin
B	Parasympathetic
C	Sympathoadrenal
D	Kallikrein-kinin
E	Hypothalamic-pituitary
№	krok 2021
Topic	pathophysiology
Task	Increased resistance to blood ejection from the left ventricle has activated the homeometric compensation mechanism in the patient. In what pathological process can this compensation mechanism develop in the left ventricle?
Correct answer	Aortic valve insufficiency
B	Pulmonary embolism
C	Mitral stenosis
D	Aortic valve stenosis
E	Arterial hypotension

№	krok 2021
Topic	pathophysiology
Task	Blood plasma of a healthy person contains several dozens of protein types. If a person becomes ill, new types of proteins develop in the body. Among them there are acute phase proteins. Name one such protein:
Correct answer	Prothrombin
B	Immunoglobulin G
C	C-reactive protein
D	Immunoglobulin A
E	Fibrinogen
№	krok 2021
Topic	pathophysiology
Task	Hematologic study shows the following pattern: erythrocytes 2.8 • 1012/L, Hb - 80 g/L, color index - 0.85, reticulocytes - 0.1%, platelets - 160 thousand per microliter, leukocytes 60 • 109/L, basocytes - 2%, eosinophils 8%, promyelocytes - 5%, myelocytes 5%, juvenile - 16%, stab neutrophils 20%, segmented neutrophils - 34%, lymphocytes - 5%, monocytes - 5%. This clinical presentation indicates the following blood pathology:
Correct answer	Chronic myeloleukemia
B	Hemolytic anemia
C	Hypoplastic anemia
D	Acute myeloleukemia
E	Undifferentiated leukemia
№	krok 2021
Topic	pathophysiology
Task	After an open scapular fracture, a man suddenly died. Early autopsy detects frothy blood in the right ventricle and pulmonary arteries. What was the cause of death in this case?
Correct answer	Air embolism
B	Pulmonary edema
C	Bacterial embolism
D	Fat embolism
E	Tissue embolism
№	krok 2021

Topic	pathophysiology
Task	A patient has cardiac rhythm disturbance. ECG shows heart rate of 60/min., prolongation of PQ interval, and periodical loss of QRS complex. What cardiac rhythm disturbance is it?
Correct answer	First-degree incomplete AV block
B	His' right bundle branch block
C	Complete AV block
D	Sick sinus syndrome
E	Second-degree incomplete AV block
№	krok 2021
Topic	pathophysiology
Task	A child has signs of delayed physical and mental development (cretinism). This condition is caused by deficiency of the following hormone:
Correct answer	Thyroxine
B	Calcitonin
C	Somatotropin
D	Insulin
E	Testosterone
№	krok 2021
Topic	pathophysiology
Task	A man with tetanus developed acute respiratory failure. What type of respiratory failure develops in such cases?
Correct answer	Restrictive disorder of alveolar ventilation
B	Dysregulatory disorder of alveolar ventilation
C	Diffusion abnormality
D	Perfusion abnormality
E	Obstructive disorder of alveolar ventilation
№	krok 2021
Topic	pathophysiology
Task	A woman with enteritis accompanied by severe diarrhea presents with loss of water in the extracellular space, increased water content in the cells, and decreased blood osmolarity. Name this type of water- electrolyte imbalance:
Correct answer	Isoosmolar hypohydration

B	Hyperosmolar hyperhydration
C	Hypoosmolar hyperhydration
D	Hypoosmolar hypohydration
E	Hyperosmolar hypohydration
№	krok 2021
Topic	pathophysiology
Task	ECG of the patient shows increased duration of the QRS complex. What is the most likely cause?
Correct answer	Disturbed conduction in the atrioventricular node
B	Increased atrial excitability
C	Increased period of ventricular excitation
D	Increased atrial and ventricular excitability
E	Increased period of atrial excitation
№	krok 2021
Topic	pathophysiology
Task	A 43-year-old woman against the background of septic shock presents with thrombocytopenia, decreased fibrinogen levels, fibrin degradation products appearing in the blood, and petechial hemorrhages. Specify the cause of these changes:
Correct answer	Disseminated intravascular coagulation»
B	Disturbed platelet production
C	Autoimmune thrombocytopenia
D	Hemorrhagic diathesis
E	Exogenous intoxication
№	krok 2021
Topic	pathophysiology
Task	A patient with a many-year-long history of mandibular osteomyelitis developed edema, massive proteinuria, and hyperlipidemia. What condition is the most likely in this patient?
Correct answer	Chronic kidney disease
B	Nephrotic syndrome
C	Pyelonephritis
D	Nephritis
E	Urolithiasis

№	krok 2021
Topic	pathophysiology
Task	On clinical examination a woman presents with excessive sweating, tachycardia, loss of weight, and tremor. What endocrine pathology can cause these signs?
Correct answer	Hyperthyroidism
B	Hypoaldosteronism
C	Hypothyroidism
D	Hypergonadism
E	Hypogonadism
№	krok 2021
Topic	pathophysiology
Task	After a prolonged isoniazid treatment, the patient developed polyneuritis, paresthesia, memory disorders, and convulsions. What is the likely mechanism of the described isoniazid side-effects?
Correct answer	Disruption of cell membrane synthesis
B	Inhibition of RNA synthesis
C	Inhibition of pyridoxal phosphate formation &
D	Para-aminobenzoic acid antagonism
E	Inhibition of protein synthesis
№	krok 2021
Topic	pathophysiology
Task	A patient came to the doctor with complaints of general weakness and sleep disturbances. Objectively the patient’s skin is yellow. In blood there is increased concentration of direct bilirubin and bile acids. Acholic stool is observed. What condition can be characterized by these changes?
Correct answer	Familial nonhemolytic (Gilbert’s) syndrome
B	Chronic cholecystitis
C	Mechanical jaundice
D	Hemolytic jaundice
E	Parenchymatous jaundice
№	krok 2021
Topic	pathophysiology

Task	Increased levels of high-density lipoproteins lead to decreased risk of atherosclerosis. What is the mechanism of anti-atherosclerotic effect of high-density lipoproteins?
Correct answer	They extract cholesterol from tissues
B	They supply tissues with cholesterol
C	They facilitate cholesterol absorption in the intestine
D	They activate cholesterol transformation into bile acids
E	They take part in cholesterol breakdown
№	krok 2021
Topic	pathophysiology
Task	Dental implants were installed in a patient. Three weeks later, implant rejection occurred. What blood cells play the largest role in this pathological process?
Correct answer	T lymphocytes
B	B lymphocytes
C	Immunoglobulins E
D	Immunoglobulins M
E	Plasmacytes
№	krok 2021
Topic	pathophysiology
Task	A 58-year-old man with acute heart failure developed decreased daily diuresis - oliguria. What is the mechanism of this phenomenon?
Correct answer	Decreased permeability of membrane glomeruli
B	Decreased oncotic blood pressure
C	Decreased glomerular filtration
D	Decreased number of functional glomeruli
E	Increased hydrostatic pressure on the capillary wall
№	krok 2021
Topic	pathophysiology
Task	After a cerebral hemorrhage, the patient developed a significant loss of gustatory sensitivity. What cerebral structure is likely to be damaged in this case?
Correct answer	Hypothalamus

B	Amygdala
C	Substantia nigra
D	Hippocampus
E	Postcentral gyrus
№	krok 2021
Topic	pathophysiology
Task	A patient with heatstroke was delivered to the admission room. What compensatory reactions develop in the patient’s body in such case?
Correct answer	Coronary vasospasm
B	Peripherial vasodilatation
C	Increased heart rate
D	Peripheral vasoconstriction
E	Persistent hyperglycemia
№	krok 2021
Topic	pathophysiology
Task	A 16-year-old girl, who has been starving herself for a long time to lose weight, developed an edema. This phenomenon is mainly caused by:
Correct answer	Venous congestion and increased venous pressure
B	Deceleration of glomerular filtration rate
C	Hypoproteinemia due to protein synthesis disturbance
D	Hypoglycemia due to glycogen synthesis disturbance
E	Decreased production of vasopressin in the hypothalamus
№	krok 2021
Topic	pathophysiology
Task	Phenylketonuria belongs to the following group of molecular metabolic diseases:
Correct answer	Hereditary disorders of lipid metabolism
B	Amino acid metabolism disorders
C	Carbohydrate metabolism disorders
D	Hereditary disorders of connective tissue metabolism
E	Mineral metabolism disorders

№	krok 2022
Тема	pathophysiology
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