

PREPARATION FOR KROK-1

Stomatological faculty (from booklets)

2014

- ◉ 6 Poisoning with corrosive sublimate caused acute renal insufficiency. Its progress included four stages: 1) initial, 2) oligoanuria, 4) recovery. Name the third stage of acute renal insufficiency:
- ◉ **A. Polyuric**
- ◉ **B. Pathochemical**
- ◉ **C. Ischemic**
- ◉ **D. Metabolic**
- ◉ **E. Hemodynamic**
- ◉

9 A patient with Itsenko-Cushing syndrome has persistent hyperglycemia and glycosuria, hypertension, osteoporosis, obesity. Increased synthesis and hypersecretion of the following hormone will be observed in this case:

- A. Thyroxin
- B. Glucagon
- C. Adrenaline
- D. Cortisol
- E. Aldosterone

- ◉ **10** A newborn has signs of dyspepsia after milk feeding. Symptoms of dyspepsia disappear when milk is substituted for glucose solution. The newborn has low activity of the following enzyme:
 - ◉ **A. Invertase**
 - ◉ **B. Lactase**
 - ◉ **C. Isomaltase**
 - ◉ **D. Maltase**
 - ◉ **E. Amylase**

- ◉ 11 An experimental rat got intra-abdominal injection of 10 ml of 40% glucose solution. 60 minutes later the rat passed into a comatose state as a result of dehydration. What is the mechanism of development of this state?
- ◉ **A. Rise of osmotic pressure of extracellular fluid**
- ◉ B. Loss of salts and water
- ◉ C. Reduction of vasopressin secretion
- ◉ D. Rise of oncotic pressure of extracellular fluid
- ◉ E. Acid-base disbalance
- ◉

- ◉ **13** A patient has hyperkalemia and hyponatremia. Such changes might be caused by hyposecretion of the following hormone:
- ◉ **A. Natriuretic**
- ◉ **B. Parathormone**
- ◉ **C. Aldosterone**
- ◉ **D. Vasopressin**
- ◉ **E. Cortisol**

- ◉ **18** Examination of experimental rats that have been getting only carbohydrate feed for a long time revealed accumulation of water in tissues. What is the leading pathogenetic mechanism of edema development?
- ◉ **A.** Dysregulatory
- ◉ **B.** Membranogenic
- ◉ **C. Hypooncotic**
- ◉ **D.** Lymphogenous
- ◉ **E.** Hyperosmolar

- ◉ 19 A 30 year old woman has been continuously using lipstick with a fluorescent substance that led to development of a limited erythema on the prolabium, slight peeling, and later small transversal sulci and fissures. Microscopical examination of the affected zone revealed in the connective tissue sensitized lymphocytes and macrophages, effects of cytolysis. What type of immunological hypersensitivity has developed on the lip?
- ◉ A. IV type (cellular cytotoxicity)
- ◉ B. III type (immune complex cytotoxicity)
- ◉ C. Granulomatosis
- ◉ D. I type (reagin type)
- ◉ E. II type (antibody cytotoxicity)
- ◉

- 24 A 62 year old patient with cerebral haemorrhage was admitted to the neurological department in grave condition. Objectively: increase of respiration depth and rate with its following reduction to apnoea, thereafter respiration cycle restores. What respiration type is it?
- A. Apneustic
- B. Biot's
- C. Cheyne-Stokes
- D. Kussmaul's
- E. Gasping

- 27 Analysis of a dentist's urine obtained at the end of his working day revealed protein concentration at the rate of 0,7 g/l. His morning urine hadn't such changes. What is this phenomenon called?
- **A. Functional proteinuria**
- B. Hematuria
- C. Extrarenal proteinuria
- D. Nonselective proteinuria
- E. Organic proteinuria
-

- ◉ 34 As a result of improper feeding an infant got full-blown diarrhea A. One of its main consequences is excretion of large amount of sodium bicarbonate E. What form of acid-base balance disturbance is it?
- ◉ A. Respiratory acidosis
- ◉ B. Respiratory alkalosis
- ◉ C. Metabolic alkalosis
- ◉ D. **Excretory acidosis**
- ◉ E. Acid-base balance won't be disturbed

- ◉ 36 Examination of a patient 24 hours after appendectomy revealed neutrophilic leukocytosis with regenerative shift. What is the most probable mechanism of development of absolute leukocytosis in peripheral blood?
- ◉ A. Redistribution of leukocytes in the organism
- ◉ B. Slower emigration of leukocytes to the tissues
- ◉ C. **Intensification of leukopoiesis**
- ◉ D. Reduction of leukolysis
- ◉ E. Immunity activation
- ◉

- ◉ 53 A patient has mental retardation, small height, brachydactyly, mongoloid slant. Analysis of his karyotype revealed trisomy 21. What chromosomal anomaly is it?
- ◉ A. Specific fetopathy
- ◉ B. Klinefelter's syndrome
- ◉ C. Trisomy X
- ◉ D. **Down's disease**
- ◉ E. Turner's syndrome

- ◉ 57 A 10 year old child underwent Mantoux test (with tuberculin). 48 hours later there apperaed a papule up to 8 mm in diameter on the site of tuberculin injection.

Tuberculin injection caused the following hypersensitivity reaction:

- ◉ A. Arthus reaction
- ◉ B. Atopic reaction
- ◉ C. **IV type hypersensitivity reaction**
- ◉ D. II type hypersensitivity reaction
- ◉ E. Seroreaction

- ◉ 61 A mountain climber spent a long time in the mountains. Erythrocyte number has risen from $5,0 \cdot 10^{12}/l$ up to $6,0 \cdot 10^{12}/l$. What factor stimulated erythropoiesis?
- ◉ A. **Decrease of O_2 in the arterial blood**
- ◉ B. Decrease of O_2 in the venous blood
- ◉ C. Increase of O_2 in the venous blood
- ◉ D. Increase of O_2 in the cells
- ◉ E. Increase of O_2 in the arterial blood
- ◉

- ◉ 63 A typical symptom of cholera is great loss of water and sodium ions. What mechanism underlies development of diarrhea in this case?
- ◉ A. Aldosterone oxidation in adrenal cortex
- ◉ B. Increased corticotropin synthesis
- ◉ C. **Activation of adenylate cyclase of enterocytes**
- ◉ D. Increased secretion of renin by the cells of renal arterioles
- ◉ E. Inhibition of vasopressin synthesis in hypothalamus
- ◉

- ◉ 64 A 28 year old woman consulted a doctor about sterility. Examination revealed underdeveloped ovaries and uterus, irregular menstrual cycle. Study of sex chromatin revealed 2 Barr's bodies in most somatic cells. What chromosome disease is the most probable in this case?
- ◉ A. Turner's syndrome
- ◉ B. Patau's syndrome
- ◉ C. Edwards' syndrome
- ◉ D. **Triplo-X syndrome**
- ◉ E. Klinefelter's syndrome

- ◉ 68 A 43 year old female patient was admitted to the hospital with complaints of pain in the right subcostal area, skin itch. Examination revealed hypalgesia and hematomolysis, skin icteritiousness, bradycardia, hypotoni A. What is the most probable cause of these symptoms?
- ◉ A. Diabetes mellitus
- ◉ B. Intensification of erythrocyte haemolysis
- ◉ C. **Cholemia**
- ◉ D. Parenchymatous jaundice
- ◉ E. Hepatocellular jaundice

- ◉ **73** Clinical examination of a female patient revealed reduction of basal metabolism by 40%, gain in body mass, drop of body temperature, face puffiness, sexual disfunctions, inertness and apathy, lowered intelligence. These symptoms are caused by disfunction of the following endocrine gland:
 - ◉ A. Hypofunction of parathyroid glands
 - ◉ B. Hypophysis hyperfunction
 - ◉ C. Hyperfunction of thyroid gland
 - ◉ **D. Hypofunction of thyroid gland**
 - ◉ E. Epiphysis hypofunction

74 A patient has been suffering from diabetes mellitus for 5 years. As a result of not keeping to a diet the patient passed into a comatose state. Emergency doctor injected him glucose. The patient's state got better. What is the most probable type of coma in this case?

- A. Hepatic
- B. Hyperglycemic
- C. Acidotic
- D. Hypothyreoid
- E. **Hypoglycemic**

- ⦿ **80** What changes will be observed in an isolated heart after introduction of adrenaline into the perfusion solution?
- ⦿ **A.** Increase of heart force
- ⦿ **B.** Diastolic arrest
- ⦿ **C.** Decrease of heart force
- ⦿ **D.** Increase of heart rate
- ⦿ **E. Increase of heart rate and force**

- ◉ 84 A child has abnormal formation of tooth enamel and dentin as a result of low concentration of calcium ions in blood. Such abnormalities might be caused by deficiency of the following hormone:
 - ◉ A. Thyrocalcitonin
 - ◉ B. **Parathormone**
 - ◉ C. Thyroxin
 - ◉ D. Somatotropic hormone
 - ◉ E. Triiodothyronine

- 86 A patient consulted a doctor about acute pain in the right subcostal area. During examination the doctor noticed yellowed sclera of the patient. Laboratory analyses revealed high activity of alanine-aminotransferase and negative reaction to stercobilin in feces. What disease are these symptoms typical for?
- A. Haemolytic jaundice
- B. **Cholelithiasis**
- C. Chronic gastritis
- D. Hepatitis
- E. Chronic colitis
-

89 During the preventive examination of a miner a doctor revealed changes in cardiovascular fitness being evidence of cardiac insufficiency at a stage of compensation. What is the main evidence of compensation of cardiac activity?

- A. **Myocardium hypertrophy**
- B. Dyspnea
- C. Tachycardia
- D. Cyanosis
- E. Rise of arterial pressure

- 96 On the 2nd day after myocardium infarction the patient's systolic arterial pressure abruptly dropped down to 60 mm Hg. This was accompanied by tachycardia up to 140 bpm, dyspnea, loss of consciousness. What is the leading mechanism in the pathogenesis of this shock?
- A. **Decrease of stroke volume**
- B. Anaphylactic reaction to myocardial proteins
- C. Decrease of circulating blood volume
- D. Paroxysmal tachycardia
- E. Intoxication by the products of necrotic degeneration

- ◉ 97 A patient with fracture of femoral bone in the area of surgical neck got symptoms of acute dextroventricular insufficiency as a result of pulmonary embolism. What type of embolism is it?
- ◉ **A. Fat**
- ◉ B. Metastatic
- ◉ C. Air
- ◉ D. Gas
- ◉ E. Tissue

- ◉ 101 A patient has high sunlight sensitivity of skin. During standing his urine turns dark-brown. What is the most probable cause of this condition?
- ◉ A. Pellagra
- ◉ B. Albinism
- ◉ C. Haemolytic jaundice
- ◉ D. Alkaptonuria
- ◉ E. Porphyria
- ◉

- 105 A patient with apparent icteritiousness of skin, sclera and mucous membranes was admitted to the hospital. The patient's urine was of brown ale colour, analysis revealed presence of direct bilirubin. Feces had low concentration of bile pigments. What type of jaundice is it?
- **A. Parenchymatous**
- B. Obturative
- C. Haemolytic
- D. Conjugated
- E. Absorbtion

- ◉ **117** 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?
- ◉ **A. Substitution of haemoblast**
- ◉ **B. Intravascular hemolysis of erythrocytes**
- ◉ **C. Deficiency of vitamin B₁₂**
- ◉ **D. Reduced synthesis of erythropoietin**
- ◉ **E. Chronic haemorrhage**

- ◉ 125 A 40 year old European works in a Southeast Asian country. He complains that it is hard to bear high temperature under conditions of high relative humidity. The reason for it is difficult heat emission by way of:
 - ◉ A. Evaporation
 - ◉ B. Convection and heat conduction
 - ◉ C. Convection
 - ◉ D. Heat conduction
 - ◉ E. Radiation

- ◉ 127 A patient has been diagnosed with alkaptonuria. This pathology is caused by deficiency of the following enzyme:
- ◉ A. **Oxidase of homogentisic acid**
- ◉ B. DOPA decarboxylase
- ◉ C. Glutamate dehydrogenase
- ◉ D. Phenylalanine hydroxylase
- ◉ E. Pyruvate dehydrogenase

- ◉ 136 A patient suffering from essential arterial hypertension got hypertensive crisis that caused an attack of cardiac asthma. What is the leading mechanism of cardiac insufficiency in this case?
- ◉ A. Myocardium damage
- ◉ B. Disturbed blood inflow to the heart
- ◉ C. Absolute coronary insufficiency
- ◉ D. **Cardiac overload due to increased resistance**
- ◉ E. Cardiac overload due to increased blood volume

- ◉ 138 Examination of mountain climbers who have spent a long time in a high-altitude region revealed increase of erythrocyte number (over $6 \cdot 10^{12}/l$) and haemoglobin concentration (over 170 g/l). What mechanism caused this phenomenon?
- ◉ A. Improved ability of tissue for oxygen utilization
- ◉ B. Weakening of erythrocyte haemolysis in bloodstream
- ◉ C. Intensified production of erythropoietin by the kidneys
- ◉ D. Weakening of intracellular erythrocyte haemolysis
- ◉ E. Intensified processes of anoxic energy production
- ◉

- ◉ 144 Blood analysis of a patient suffering from jaundice revealed increase of total bilirubin by its indirect fraction. Urine and feces have intense colouring. What is the most probable mechanism of these abnormalities?
- ◉ A. Obstruction of bile outflow from the liver
- ◉ B. Impaired transformation of urobilinogen in the liver
- ◉ C. Damage of liver parenchyma
- ◉ D. Impaired generation of direct bilirubin
- ◉ E. **Increased haemolysis of erythrocytes**

- ◉ 146 A 48 year old male patient was admitted to the hospital with acute attack of chronic glomerulonephritis. Examination revealed chronic renal failure. What is the cause of hyperazotemia by chronic renal failure?
- ◉ A. **Reduction of glomerular filtration**
- ◉ B. Reduction of tubular excretion
- ◉ C. Disorder of water-electrolytic metabolism
- ◉ D. Reduction of tubular reabsorption
- ◉ E. Disorder of protein metabolism

- ◉ 147 Examination of a patient who has recently had a hepatic disease revealed low concentration of prothrombin in blood. First of all this will cause disturbance of:
- ◉ A. Vasculothrombocytic haemostasis
- ◉ B. First phase of coagulation haemostasis
- ◉ C. Fibrinolysis
- ◉ D. Anticoagulative blood properties
- ◉ E. **Second phase of coagulation haemostasis**

- ◉ 152 A 60 year old patient complains of tongue burning, excessive salivation and glossalgia effects that came 5 days after he started using a metal dental bridge. Objectively: mucous membrane of oral cavity is edematic and hyperemic. What form of stomatitis is it?
- ◉ A. Gangrenous
- ◉ B. **Catarrhal**
- ◉ C. Purulent
- ◉ D. Fibrinous
- ◉ E. Ulcerous
- ◉

- 159 A patient was admitted to the infectious diseases department. His skin was dry, with low turgor; he had rice-water stool. The patient was diagnosed with cholera. This disease is ordinarily accompanied by the following disorder of water-electrolytic balance:
 - A. Hyperosmotic hypohydration
 - B. Hyposmotic hyperhydration
 - C. Hypoosmotic hypohydration
 - D. Hyperosmotic hyperhydration
 - E. **Isoosmotic hypohydration**
 -

- ◎ 165 Patients suffering from relapsing typhus have fever that can be characterized by several days of high temperature alternating with periods of normal temperature. Such temperature curve is called:
 - ◎ A. **Febris recurrens**
 - ◎ B. Febris atypica
 - ◎ C. Febris hectica
 - ◎ D. Febris intermittens
 - ◎ E. Febris continua

- ◉ **169** A female patient with pyelonephritis was admitted to the urological department. Examination revealed an associated infection accompanied by pyelovenous reflux. This complication was induced by affection of the following structure:
 - ◉ A. Renal tubules
 - ◉ B. Renal corpuscle
 - ◉ **C. Fornical renal apparatus**
 - ◉ D. Excretory renal tracts
 - ◉ E. Straight tubules

- ◉ **175** Microscopic examination of periodontium revealed plethoric vessels, edema of connective tissue along with infiltration by single neutrophils. What type of exudative inflammation in the periodontium is it?
- ◉ A. Putrid
- ◉ B. Purulent
- ◉ C. Catarrhal
- ◉ D. Fibrinous
- ◉ **E. Serous**

- ⦿ 180. ECG of a patient showed that RR interval equaled 1,5 s, heart rate equaled 40 bpm. What is cardiac pacemaker?
- ⦿ A. Sinus node
- ⦿ B. Left branch of His' bundle
- ⦿ C. **Atrioventricular node**
- ⦿ D. His' bundle
- ⦿ E. Right branch of His' bundle

- ◉ **181** For the purpose of anaesthetization a patient got injection of local anesthetic. A few minutes later the patient got dyspnea and tachycardia; he lost consciousness. What type of shock is it?
- ◉ **A. Anaphylactic**
- ◉ **B. Cardiogenic**
- ◉ **C. Burn**
- ◉ **D. Haemorrhagic**
- ◉ **E. Traumatic**

- ◉ **192** A 35 year old patient complains about permanent thirst, poor appetite. He drinks 9 l water per day. Daily diuresis is increased, urine is colourless, its relative density is 1,005. The most probable cause of this pathology development is damage of:
- ◉ A. Epiphysis
- ◉ B. Basal membrane of glomerular capillaries
- ◉ C. Adenohypophysis
- ◉ D. Epithelium of renal tubuli
- ◉ **E. Hypothalamic nuclei**

- ◉ 197 Abnormal chromosome disjunction during meiosis resulted in formation of: an ovum with 22 autosomes and polar body with 24 chromosomes. If such an ovum would be fertilized with a normal spermatozoon (22+X) the child might have the following syndrome:
 - ◉ A. Klinefelter's syndrome
 - ◉ B. Trisomy X
 - ◉ C. **Turner's syndrome**
 - ◉ D. Down's syndrome
 - ◉ E. Edwards' syndrome

2011 YEAR

- ◉ 2 In course of parallel experiments some rats were being subjected to continuous direct solar irradiation and some were being irradiated while placed into a glass box. The animals that received a dose of direct irradiation got tumours on parts of their skin not coated with hair. This phenomenon is associated with the influence of the following factor:
 - ◉ A. Exogenous chemical carcinogens
 - ◉ B. Biological carcinogens
 - ◉ C. **Ultraviolet radiation**
 - ◉ D. Infrared radiation
 - ◉ E. Endogenous chemical carcinogens

- ◎ 5 A patient has a first-degree atrioventricular block accompanied by the prolongation of P-Q interval up to 0,25 s. Under such conditions the following myocardial function will be disturbed:
 - ◎ A. Excitability
 - ◎ B. Conduction
 - ◎ C. -
 - ◎ D. Automatism
 - ◎ E. Contractibility

⦿ 6 Blood test of a patient suffering from atrophic gastritis gave the following results: RBCs - $2,0 \times 10^{12}/l$, Hb - 87 g/l, colour index - 1,3, WBCs - $4,0 \times 10^9/l$, thrombocytes - $180 \times 10^9/l$. Anaemia might have been caused by the following substance deficiency:

- ⦿ A. Vitamin K
- ⦿ B. Iron
- ⦿ C. Vitamin A
- ⦿ D. Vitamin B₁₂
- ⦿ E. Zinc

- ◉ 8 Examination of a 45-year-old man who had kept to a vegetarian diet for a long time revealed negative nitrogen balance. Which peculiarity of his diet is the cause of this phenomenon?
- ◉ A. Excess of water
- ◉ B. Excess of carbohydrates
- ◉ C. Lack of proteins
- ◉ D. Lack of fats
- ◉ E. Lack of vitamins

- ◉ 8 Examination of a 45-year-old man who had kept to a vegetarian diet for a long time revealed negative nitrogen balance. Which peculiarity of his diet is the cause of this phenomenon?
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- ◉ C. Lack of proteins
- ◉ D. Lack of fats
- ◉ E. Lack of vitamins

- ◉ 11 A 30-year-old woman has subnormal concentration of enzymes in the pancreatic juice. This might be caused by the hyposecretion of the following gastrointestinal hormone:
 - ◉ A. Secretin
 - ◉ B. Gastro-inhibiting peptide
 - ◉ C. Somatostatin
 - ◉ D. Cholecystikinin-pancreozymin
 - ◉ E. Vaso-intestinal peptide

- 16 A child suspected for tuberculosis underwent Mantoux test. 24 hours after allergen injection there appeared a swelling, hyperaemia and tenderness. What are the main components in the development of this reaction?
- A. Granulocytes, T-lymphocytes and IgG
- B. B-lymphocytes, IgM
- C. Macrophages, B-lymphocytes and monocytes
- D. Mononuclears, T-lymphocytes and lymphokines
- E. Plasmatic cells, T-lymphocytes and lymphokines

- ◉ 17 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, phosphorus - 1,9 millimole/l. These changes are associated with:
 - ◉ A. Hyperparathyroidism
 - ◉ **B. Hypoparathyroidism**
 - ◉ C. Hypoadosteronism
 - ◉ D. Hypothyroidism
 - ◉ E. Hyperaldosteronism

- ◉ 18 A teenager had his tooth extracted under novocain anaesthesia. 10 minutes later he presented with skin pallor, dyspnea, hypotension. When this reaction is developed and the allergen achieves tissue basophils, it reacts with:
 - ◉ A. T-lymphocytes
 - ◉ B. IgA
 - ◉ C. IgD
 - ◉ D. IgM
 - ◉ E. IgE

- ◉ 19 A 58-year-old female patient complains of rapid fatigability, performance decrement, sleepiness, dyspnea during fast walking. In blood: RBCs - $4,0 \cdot 10^{12}/l$, Hb - 80 g/l, CI - 0,6; a large number of annulocytes and microcytes. What anaemia are these presentations typical for?
- ◉ A. Posthemorrhagic
- ◉ B. Sickle-cell
- ◉ C. Pernicious
- ◉ D. Haemolytic
- ◉ E. Iron-deficient

- 24 In the third period of fever a patient had a critical body temperature drop accompanied by tachycardia and arterial pressure drop down to 80/60 mm Hg. Specify a type of collapse developed as a result of these changes:
 - A. Cardiogenic
 - B. **Infectious-and-toxical collapse**
 - C. Haemorrhagic
 - D. Pancreatic
 - E. Orthostatic

- ◉ . **28** A patient with a trigeminus inflammation has been suffering from progressing parodontitis for the last few years. What is the leading factor in the parodontitis development in this case?
- ◉ **A.** Low immunoglobulin production
- ◉ **B.** Hypoactivity of kallicrein-kinin system
- ◉ **C.** Hypoactivity of leukocytic elastase
- ◉ **D.** Neurodystrophical changes in parodontium
- ◉ **E.** Increase of vagus tonus

- ◉ **29** A man has a considerable decrease in diuresis as a result of 1,5 l blood loss. The primary cause of such diuresis disorder is the hypersecretion of the following hormone:
- ◉ **A.** Natriuretic
- ◉ **B.** Parathormone
- ◉ **C.** Corticotropin
- ◉ **D.** Vasopressin
- ◉ **E.** Cortisol

- ◉ 35 Parodontitis is treated with calcium preparations and a hormone that stimulates tooth mineralization and inhibits tissue resorption. What hormone is it?
- ◉ A. Parathormone
- ◉ B. Calcitonin
- ◉ C. Adrenalin
- ◉ D. Thyroxine
- ◉ E. Aldosterone

- ◉ 36 After prolonged exercising people usually experience intense muscle pain. What is its most likely cause?
- ◉ A. Accumulation of creatinine in muscles
- ◉ B. Intensified disintegration of muscle proteins
- ◉ C. Increased concentration of ADP in muscles
- ◉ D. Accumulation of lactic acid in muscles
- ◉ E. Increased muscle excitability

- ◉ 37 A couple has a son with haemophili a. The parents are healthy but the maternal grandfather also has haemophili a. Specify the type of inheritance:
- ◉ A. Autosomal dominant
- ◉ B. Dominant sex-linked
- ◉ C. Recessive autosomal
- ◉ D. Recessive sex-linked
- ◉ E. Semidominance

- ◉ 39 A 46-year-old female patient complaining of having alveolar haemorrhage for 6 hours after a tooth extraction, general weakness and dizziness was delivered to a hospital. The patient has a history of essential hypertension. Objectively: pale skin and mucous membranes. In blood: Hb - 80 g/l, Ht - 30%, bleeding and coagulation time is normal. What complication had been provoked by the haemorrhage?
- ◉ A. Iron deficiency anaemia
- ◉ B. Folic acid deficiency anaemia
- ◉ C. Haemolytic anaemia
- ◉ D. Chronic posthaemorrhagic anaemia
- ◉ E. Acute posthaemorrhagic anaemia
- ◉

- ◉ 43 A patient suffering from stenocardia takes 100 mg of acetylsalicylic acid daily. What is the effect of acetylsalicylic acid in this patient?
- ◉ A. Prothrombin rate reduction
- ◉ B. Cholesterol rate reduction
- ◉ C. Inhibition of blood coagulation
- ◉ D. Inhibition of thrombocyte aggregation
- ◉ E. Dilatation of coronary vessels

- ◉ 44 A patient complains of frequent gingival haemorrhages he has been experiencing since his childhood. Blood test revealed a deficiency in blood-coagulation factor VIII. This means that the patient has an impairment of:
 - ◉ A. Thrombocyte aggregation
 - ◉ B. Thrombin generation
 - ◉ C. Thrombocyte adhesion
 - ◉ D. Prothrombinase generation
 - ◉ E. Fibrin generation

- ◉ 45 Examination of newborns in one of the Ukrainian cities revealed a baby with phenylketonuria. The baby's parents don't suffer from this disease and have two other healthy children. Specify the most likely parents' genotype with phenylketonuria gene:
- ◉ A. $Aa \times aa$
- ◉ B. $Aa \times Aa$
- ◉ C. $Aa \times AA$
- ◉ D. $aa \times aa$
- ◉ E. $AA \times aa$
- ◉

- ◉ 52 A 29-year-old female patient has moon face, upper body obesity, striae on her anterior abdominal wall, hirsutism; urine shows an increased rate of 17-oxy ketosteroids. What disease are these presentations typical for?
- ◉ A. **Itsenko-Cushing syndrome**
- ◉ B. Secondary aldosteronism
- ◉ C. Primary aldosteronism
- ◉ D. Conn's syndrome
- ◉ E. Pheochromocytoma

- ◉ **58** A child presents with symptoms of psychic and physical retardation (cretinism). It is usually associated with the following hormone deficiency:
- ◉ **A.** Insulin
- ◉ **B.** **Thyroxin**
- ◉ **C.** Calcitonin
- ◉ **D.** Testosterone
- ◉ **E.** Somatotropic

- ◉ 64 After the traumatic tooth extraction a patient is complaining of acute, dull, poorly-localized pain in gingiva, body temperature rise up to 37,5°C. The patient has been diagnosed with alveolitis. Specify the kind of pain in this patient:
 - ◉ A. **Protopathic**
 - ◉ B. Epicritic
 - ◉ C. Phantom
 - ◉ D. Visceral
 - ◉ E. Heterotopic

- ◉ 74 A 35-year-old female patient with a chronic renal disease has developed osteoporosis. The cause of this complication is the deficiency of the following substance:
- ◉ A. D_2
- ◉ B. 1,25-dihydroxy- D_3
- ◉ C. Cholesterol
- ◉ D. 25-hydroxy- D_3
- ◉ E. D_3

- ◉ **78** A 25-year-old patient has been diagnosed with chronic hepatitis. The patient complains of 10 kg weight loss within 2 months. Objectively: the patient has dry peeling skin, pale with yellow shade, petechial haemorrhages, stomatorrhagi a. Petechial haemorrhages and stomatorrhagia are caused by the disturbance of the following hepatic function:
 - ◉ A. Detoxication
 - ◉ B. Depositing
 - ◉ C. **Protein synthesizing**
 - ◉ D. Glycogen synthesizing
 - ◉ E. Chromogenic

- ◉ **80** Heart rate of an adult man is 40/min.
This rate is possible due to the following
element of the cardiac conduction system:
- ◉ **A.** Sinoatrial node
- ◉ **B.** Purkinje's fibers
- ◉ **C.** His' bundle
- ◉ **D.** His' bundle branches
- ◉ **E.** Atrioventricular node

- **81** A patient with a history of chronic glomerulonephritis presents with azotemia, oliguria, hypo- and isosthenuria, proteinuria. What is the leading factor in the pathogenesis of these symptoms development under chronic renal failure?
- A. Tubular hyposecretion
- B. Intensification of sodium reabsorption
- C. **Mass decrease of active nephrons**
- D. Intensification of glomerular filtration
- E. Disturbed permeability of glomerular membranes
-

- ◉ 84 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?
- ◉ A. Cardiac tamponade
- ◉ B. Collapse
- ◉ C. Chronic left-ventricular failure
- ◉ D. Acute left-ventricular failure
- ◉ E. Chronic right-ventricular failure

- **85** A patient was delivered to a hospital after having been exposed to ionizing radiation. He presents with vomiting, anorexia, pain in different region of abdomen, bloody feces, elevation of body temperature, inertness. Such clinical presentations are typical for the following form of acute radiation disease:
 - A. Bone-marrow
 - B. Cerebral
 - C. Combined
 - D. **Intestinal**
 - E. Toxemic

- ◉ 91 Before the cells can utilize the glucose, it is first transported from the extracellular space through the plasma membrane inside them. This process is stimulated by the following hormone:
 - ◉ A. Glucagon
 - ◉ B. Adrenalin
 - ◉ C. **Insulin**
 - ◉ D. Aldosterone
 - ◉ E. Thyroxin

- ◉ 92 A patient presents with the following motor activity disturbances: tremor, ataxia and asynergia f movements, dysarthria. The disturbances are most likely to be localized in:
 - ◉ A. Cerebellum
 - ◉ B. Brainstem
 - ◉ C. Medulla oblongata
 - ◉ D. Limbic system
 - ◉ E. Basal ganglions

- ◉ 101 It is known that patients with diabetes mellitus are more subject to inflammatory processes, they have low regeneration and slower wound healing. What is the reason for this?
- ◉ A. Decrease in lipolysis
- ◉ B. Accelerated gluconeogenesis
- ◉ C. Intensification of catabolism
- ◉ D. Decrease in proteosynthesis
- ◉ E. Increase in lipolysis

- ◉ **102** A 29-year-old patient was delivered to a hospital because of intoxication with carbon monoxide. Objectively: the patient presents with symptoms of severe hypoxia - evident dyspnea, cyanosis, tachycardia. What compound is produced as a result of intoxication with carbon monoxide?
- ◉ A. Carbhemoglobin
- ◉ B. Oxyhemoglobin
- ◉ C. Methemoglobin
- ◉ D. **Carboxyhemoglobin**
- ◉ E. Sulfhemoglobin

- ◉ 103 A patient with obliterating endarteritis underwent ganglionic sympathectomy. What type of arterial hyperaemia should have developed as a result of the surgery?
- ◉ A. Reactive
- ◉ B. Neurotonic
- ◉ C. Neuroparalytic
- ◉ D. Metabolic
- ◉ E. Functional

- 104 In the second week of being ill with viral hepatitis a patient presented with sleep disorder, headache, aggressiveness, unbearable skin itch. Objectively: AP drop, decrease in blood coagulation and reflectory activity, bradycardia. What is the cause of these changes?
- A. Urobilinemia
- B. Stercobilinemia
- C. Hypercholesterolemia
- D. Hyperlipemia
- E. Cholemia
-

- ◉ **106** A patient with diabetes mellitus lapsed into diabetic coma as a result of acid-base disbalance. Specify the type of disbalance:
- ◉ A. Non-gaseous alkalosis
- ◉ B. Metabolic alkalosis
- ◉ C. Gaseous alkalosis
- ◉ D. **Metabolic acidosis**
- ◉ E. Respiratory acidosis

- ◉ 113 In the focus of inflammation the vessels of microvasculature exhibit an increased permeability and hydrodynamic pressure rise. Inter-tissue fluid has an increase in osmotic concentration and dispersity of protein structures. What type of edema will develop in this case?
- ◉ A. Combined
- ◉ B. Membranogenic
- ◉ C. Colloid osmotic
- ◉ D. Lymphogenous
- ◉ E. Hydrodynamic

- ◉ 114 A child has abnormal formation of tooth enamel and dentin as a result of low concentration of calcium ions in blood. Such abnormalities might be caused by deficiency of the following hormone:
 - ◉ A. Parathormone
 - ◉ B. Triiodothyronine
 - ◉ C. Thyrocalcitonin
 - ◉ D. Somatotropic hormone
 - ◉ E. Thyroxin

- ◉ 115 A 49-year-old woman spent a lot of time standing. As a result of it she got leg edema. What is the most likely cause of the edema?
- ◉ A. Increase in systemic arterial pressure
- ◉ B. Decrease in hydrostatic pressure of blood in veins
- ◉ C. Increase in hydrostatic pressure of blood in veins
- ◉ D. Increase in oncotic pressure of blood plasma
- ◉ E. Decrease in hydrostatic pressure of blood in arteries
- ◉

- ◉ 120 A patient who has been treated for viral hepatitis B developed symptoms of hepatic insufficiency. What changes indicating disorder in protein metabolism are likely to be observed in this case?
- ◉ A. Absolute hyperalbuminemia
- ◉ B. Absolute hypoalbuminemia
- ◉ C. Absolute hyperfibrinogenemia
- ◉ D. Absolute hyperglobulinemia
- ◉ E. Protein rate in blood will stay unchanged

- ⦿ 122 After an attack of bronchial asthma a patient had his peripheral blood tested. What changes can be expected?
- ⦿ A. Eosinophilia
- ⦿ B. Lymphocytosis
- ⦿ C. Erythrocytosis
- ⦿ D. Thrombocytopenia
- ⦿ E. Leukopenia

- ⦿ **126** Analysis of a newborn's urine revealed phenylpyruvic acid. Its presence in urine is associated with the following pathology:
- ⦿ A. Alkaptonuria
- ⦿ B. **Phenylketonuria**
- ⦿ C. Tyrosinosis
- ⦿ D. Gout
- ⦿ E. Albinism

- ◉ 127 HIV has gp41 and gp120 on its surface interacts with target cells of an organism. Which of the following human lymphocyte antigens is gp120 complementary bound with?
- ◉ A. CD 4
- ◉ B. CD 19
- ◉ C. CD 28
- ◉ D. CD 8
- ◉ E. CD 3

- ◉ **128** A 50-year-old male patient suffers from chronic bronchitis, complains about dyspnea during physical activity, sustained cough with sputum. After examination he was diagnosed with pulmonary emphysema. This complication is caused by:
 - ◉ A. Decrease in lung compliance
 - ◉ B. Decrease in lung perfusion
 - ◉ C. **Decrease in lung elasticity**
 - ◉ D. Decrease in alveolar ventilation
 - ◉ E. Ventilation-perfusion disbalance

- ◉ 131 A 20-year-old patient complains of morbid thirst and hyperdiuresis (up to 10 l daily). Glucose concentration in blood is normal but it is absent in urine. The patient has been diagnosed with diabetes insipidus. What hormonal drug is the most appropriate for management of this disorder?
- ◉ A. Vasopressin
- ◉ B. Thyroxin
- ◉ C. Insulin
- ◉ D. Cortisol
- ◉ E. Oxytocin

- ◉ **133** According to the phenotypic diagnosis a female patient has been provisionally diagnosed with X-chromosome polysomia. This diagnosis can be confirmed by a cytogenetic method. What karyotype will allow to confirm the diagnosis?
- ◉ A. 48(XXY)
 - ◉ B. 47(XXX)
 - ◉ C. 48(XXXY)
 - ◉ D. 46(XX)
 - ◉ E. 47(XXY)

- ◉ 134 In course of an experiment a white rat was being stimulated with a stress factor (electric current). The researchers could observe muscle hypononia, arterial hypotension, hypothermia. What period of general adaptation syndrome is it?
- ◉ A. Shock phase
- ◉ B. Exhaustion stage
- ◉ C. Antishock phase
- ◉ D. Resistance stage
- ◉ E. -

- ◉ **139** As a result of a road accident a 26-year-old man is in the torpid phase of shock. Blood count: leukocytes - $3,2 \cdot 10^9/l$. What is the leading mechanism of leukopenia development?
- ◉ **A.** Faulty release of mature leukocytes from the bone marrow into the blood
- ◉ **B.** Leukocyte destruction in the hematopoietic organs
- ◉ **C.** Leukopoiesis inhibition
- ◉ **D. Leukocyte redistribution in the bloodstream**
- ◉ **E.** Increased excretion of the leukocytes from the organism
- ◉

- ◉ 147 Indirect calorimetry allowed to establish that a 30-year-old male patient had a 30% decrease in basal metabolic rate. This might be caused by the reduced concentration of the following hormones in blood plasma:
 - ◉ A. Catecholamines
 - ◉ B. Glucocorticoids
 - ◉ C. Triiodothyronine, tetraiodothyronine
 - ◉ D. Thyrocalcitonin, parathormone
 - ◉ E. Somatoliberin, somatostatin

- ◉ **150** A man is in the state of rest. He has been forcing himself to breath deeply and frequently for 3-4 minutes. What effect will it have upon acid-bace balance of the organism?
- ◉ A. Metabolic alkalosis
- ◉ B. **Respiratory alkalosis**
- ◉ C. Metabolic acidosis
- ◉ D. Respiratory acidosis
- ◉ E. There will be no change in acid-base balance
- ◉

- 165 A patient suffering from glomerulonephritis was found to have anasarca, AP of 185/105 mm Hg, anaemia, leukocytosis, hyperazotemia, hypoproteinaemia. What factor indicates that glomerulonephritis has been complicated by the nephrotic syndrome?
- A. Anaemia
- B. Arterial hypertension
- C. Hypoproteinaemia
- D. Hyperazotemia
- E. Leukocytosis
-

- ◉ **176** A nurse accidentally injected a nearly double dose of insulin to a patient with diabetes mellitus. The patient lapsed into a hypoglycemic coma. What drug should be injected in order to help him out of coma?
- ◉ **A. Glucose**
- ◉ **B. Insulin**
- ◉ **C. Lidase**
- ◉ **D. Somatotropin**
- ◉ **E. Noradrenaline**

- ◉ **185** An inflammation is characterized by the dilatation of blood capillaries in the region of injury, reduced circulation, increased permeability of vessel walls. What cells play the main part in the development of these changes?
- ◉ A. Plasmocytes
- ◉ B. Macrophages
- ◉ C. Eosinophils
- ◉ D. Tissue basophils
- ◉ E. Fibroblasts

- ◉ **197** After a tourniquet application a patient was found to have petechial haemorrhages. The reason for it is the dysfunction of the following cells:
- ◉ **A.** Neutrophils
- ◉ **B.** Monocytes
- ◉ **C.** Eosinophils
- ◉ **D.** Lymphocytes
- ◉ **E.** Platelets

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- ◉ 1 A child has abnormal formation of tooth enamel and dentin as a result of low concentration of calcium ions in blood. Such abnormalities might be caused by deficiency of the following hormone:
 - ◉ A. Thyroxin
 - ◉ B. Triiodothyronine
 - ◉ C. Somatotropic hormone
 - ◉ D. Thyrocalcitonin
 - ◉ E. **Parathormone**

- 2 A patient at the early stage of diabetes mellitus was found to have polyuria. What is its cause?
- A. Hypercholesterolemia
- B. Hyperkalemia
- C. Hypocholesterolemia
- D. **Hyperglycemia**
- E. Ketonemia
-



- ◉ 12 Before the cells can utilize the glucose, it is first transported from the extracellular space through the plasma membrane inside them. This process is stimulated by the following hormone:
 - ◉ A. Glucagon
 - ◉ B. **Insulin**
 - ◉ C. Aldosterone
 - ◉ D. Thyroxin
 - ◉ E. Adrenalin

- ◉ 19 After the traumatic tooth extraction a patient is complaining of acute, dull, poorly-localized pain in gingiva, body temperature rise up to 37,5°C. The patient has been diagnosed with alveolitis. Specify the kind of pain in this patient:
 - ◉ A. Visceral
 - ◉ B. Heterotopic
 - ◉ C. Protopathic
 - ◉ D. Epicritic
 - ◉ E. Phantom

- 21 A child presents with body shortness, mental deficiency, mongoloid palpebral fissures, epicanthal fold, enlarged grooved tongue protruding from the mouth, high palate, malocclusion, diastema, cross striation of lips. What hereditary disease are these presentations typical for?
- A. Turner's syndrome
- B. Patau's syndrome
- C. Klinefelter's syndrome
- D. Edwards' syndrome
- E. Down syndrome
-

- ◉ 25 A woman who had taken alcohols during her pregnancy had a child with cleft palate and upper lip. These presentations are indicative of some chromosomal anomalies. What process do they result from?
- ◉ A. Ontogenesis
- ◉ B. Carcinogenesis
- ◉ C. Teratogenesis
- ◉ D. Mutagenesis
- ◉ E. Phylogenesis

- 34 A child with renal insufficiency exhibits delayed teeth eruption. This is most likely caused by the abnormal formation of the following substance:
- A. α -ketoglutarate
- B. $1,25 (\text{OH})_2\text{D}_3$
- C. Glutamate
- D. Glycocyamine
- E. Hydroxylysine

- ◉ **35** A 67-year-old patient complains of periodic heart ache, dyspnea during light physical activities. ECG reveals extraordinary contractions of heart ventricles. Such arrhythmia is called:
- ◉ A. Fibrillation
- ◉ **B. Extrasystole**
- ◉ C. Tachycardia
- ◉ D. Bradycardia
- ◉ E. Flutter

- ◉ 39 Examination of a patient revealed that dental hypoplasia was caused by hypovitaminosis of vitamins A and D. These vitamins were administered perorally but they didn't have any medicinal effect. What is the probable cause of disturbed vitamin assimilation?
- ◉ A. Hyperchlorhydria
- ◉ B. Bile acid deficiency
- ◉ C. Achlorhydria
- ◉ D. Hypochlorhydria
- ◉ E. Achylia

- ◉ 40 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?
- ◉ A. Metabolic acidosis
- ◉ B. Metabolic alkalosis
- ◉ C. Normal acid-base state
- ◉ D. Respiratory acidosis
- ◉ E. Respiratory alkalosis

- ◉ 43 Wound healing is accompanied by the development of a connective tissue cicatrice which is formed on the site of the tissue defect. What cells are responsible for this process?
- ◉ A. Melanocytes
- ◉ B. Macrophages
- ◉ C. Mastocytes
- ◉ D. Fibroblasts
- ◉ E. Fibrocytes

- ◉ 44 After a tourniquet application a patient was found to have petechial haemorrhages. The reason for it is the dysfunction of the following cells:
- ◉ A. Monocytes
- ◉ B. Platelets
- ◉ C. Eosinophils
- ◉ D. Neutrophils
- ◉ E. Lymphocytes

- ◉ 47 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 millimole/l. These changes are associated with:
 - ◉ A. Hypothyroidism
 - ◉ B. Hypoparathyroidism
 - ◉ C. Hyperparathyroidism
 - ◉ D. Hypoaldosteronism
 - ◉ E. Hyperaldosteronism

- **51** A patient was delivered to a hospital after having been exposed to ionizing radiation. He presents with vomiting, anorexia, pain in different region of abdomen, bloody feces, elevation of body temperature, inertness. Such clinical presentations are typical for the following form of acute radiation disease:
 - A. Bone-marrow
 - B. Combined
 - C. **Intestinal**
 - D. Cerebral
 - E. Toxemic

- ◉ 56 A man has a considerable decrease in diuresis as a result of 1,5 l blood loss. The primary cause of such diuresis disorder is the hypersecretion of the following hormone:
- ◉ A. Parathormone
- ◉ B. Corticotropin
- ◉ C. Cortisol
- ◉ D. Vasopressin
- ◉ E. Natriuretic

- ◉ **66** Toxic affection of liver results in dysfunction of protein synthesis. It is usually accompanied by the following kind of dysproteinemia:
 - ◉ A. Absolute hyperproteinemia
 - ◉ B. Relative hypoproteinemia
 - ◉ C. **Absolute hypoproteinemia**
 - ◉ D. Paraproteinemia
 - ◉ E. Relative hyperproteinemia
 - ◉

- ◉ **69** A 62-year-old patient with cerebral haemorrhage was admitted to the neurological department in grave condition. Objectively: increase of respiration depth and rate with its following reduction to apnoea, thereafter respiration cycle restores. What respiration type is it?
- ◉ **A.** Biot's
- ◉ **B.** Cheyne-Stokes
- ◉ **C.** Gasping
- ◉ **D.** Apneustic
- ◉ **E.** Kussmaul's

- ◉ 70 Parodontitis is treated with calcium preparations and a hormone that stimulates tooth mineralization and inhibits tissue resorption. What hormone is it?
- ◉ A. **Calcitonin**
- ◉ B. Aldosterone
- ◉ C. Parathormone
- ◉ D. Thyroxine
- ◉ E. Adrenalin

- ◉ **73** A patient with anacydic gastritis has the following blood formula: erythrocytes - $2,5 \cdot 10^{12}/l$; Hb - 50 g/l; colour index - 0,6; reticulocytes - 0,02%; microcytosis. What type of anaemia is it?
- ◉ A. Hypoplastic
- ◉ B. Folic acid-deficient
- ◉ C. **Iron-deficient**
- ◉ D. Protein-deficient
- ◉ E. Aplastic

- ◉ 74 A group of students who were climbing up a mountain presented with euphoria, tachypnea, tachycardia. Specify the immediate reason for hypocapnia accompanying mountain sickness:
- ◉ A. Erythrocytosis
- ◉ B. Increase in respiration rate and depth
- ◉ C. Increase in heart rate
- ◉ D. Decrease in respiration depth
- ◉ E. Anaemia
- ◉

- ◉ 78 HIV has gp41 and gp120 on its surface interacts with target cells of an organism. Which of the following human lymphocyte antigens is gp120 complementary bound with?
- ◉ A. CD 28
- ◉ B. CD 4
- ◉ C. CD 3
- ◉ D. CD 19
- ◉ E. CD 8

- ◉ **83** A 45-year-old woman has been diagnosed with endemic goiter. What mechanism has caused hyperplasia of thyroid gland in this patient?
- ◉ A. Increased thyroxine production
- ◉ B. Increased catecholamine production
- ◉ C. **Increased thyrotropin production**
- ◉ D. Increased hydration of derma and hypodermic cellulose
- ◉ E. Increased iodine absorption
- ◉

- ◉ **84** 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?
- ◉ A. Pyloric stenosis
- ◉ B. **Haemorrhage**
- ◉ C. Penetration
- ◉ D. Canceration
- ◉ E. Perforation

- ◉ **89** A patient with diabetes mellitus lapsed into diabetic coma as a result of acid-base disbalance. Specify the type of disbalance:
- ◉ A. Respiratory acidosis
- ◉ B. Gaseous alkalosis
- ◉ C. Metabolic alkalosis
- ◉ D. **Metabolic acidosis**
- ◉ E. Non-gaseous alkalosis

- ◉ 94 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:
 - ◉ A. Delayed
 - ◉ B. Stimulating
 - ◉ C. Anaphylactic
 - ◉ D. Cytotoxic
 - ◉ E. Immune complex

- ◉ **96** 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?
- ◉ **A.** Serotonin
- ◉ **B.** Angiotensin-II
- ◉ **C.** Noradrenaline
- ◉ **D.** Adrenaline
- ◉ **E.** Vasopressin

- ◉ **99** A woman had taken synthetic hormones during her pregnancy. Her newborn girl presents with excessive hairiness which has formal resemblance to adrenogenital syndrome. This sign of variability is called:
- ◉ A. Heterosis
- ◉ B. Recombination
- ◉ C. **Phenocopy**
- ◉ D. Mutation
- ◉ E. Replication

- 102 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?
- A. Reduced synthesis of erythropoietin
- B. Chronic haemorrhage
- C. Intravascular hemolysis of erythrocytes
- D. Deficiency of vitamin B₁₂
- E. Substitution of haemoblast

- ◉ 119 Cytogenetic examination of a patient with dysfunction of the reproductive system revealed normal karyotype 46,XY in some cells, but most cells have Klinefelter's syndrome karyotype - 47,XXY. Such phenomenon of cell inhomogeneity is called:
- ◉ A. Inversion
- ◉ B. Heterogeneity
- ◉ C. Duplication
- ◉ D. **Mosaicism**
- ◉ E. Transposition

- ◉ **120** An 18-year-old boy applied to a geneticist. The boy has asthenic constitution: narrow shoulders, broad pelvis, nearly hairless face. Evident mental deficiency. The provisional diagnosis was Klinefelter's syndrome. What method of clinical genetics will enable the doctor to confirm this diagnosis?
- ◉ A. Genealogical
- ◉ B. Population-and-statistical
- ◉ C. Dermatoglyphics
- ◉ D. Twin study
- ◉ **E. Cytogenetic**

- ◉ 121 A man permanently lives high in the mountains. What changes of blood characteristics can be found in his organism?
- ◉ A. Increase of erythrocytes number
- ◉ B. Decrease of colour index of blood
- ◉ C. Decrease of reticulocytes number
- ◉ D. Erythroblasts in blood
- ◉ E. Decrease of hemoglobin content

- ◉ 130 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?
- ◉ A. Immune complex
- ◉ B. Complement-dependent cytotoxicity
- ◉ C. Delayed
- ◉ D. Antibody-dependent cytotoxicity
- ◉ E. Anaphylactic

- ◉ 133 As a result of a trauma a patient has developed traumatic shock. The patient is fussy, talkative, pale. AP- 140/90 mm Hg, Ps- 120 bpm. This condition is consistent with the following shock phase:
 - ◉ A. Torpid
 - ◉ B. Terminal
 - ◉ C. Latent
 - ◉ D. Erectile
 - ◉ E. -

- ◉ 134 A 26-year-old pregnant woman is under treatment at an in-patient 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?
- ◉ A. Oligocythemmic hypervolemia
- ◉ B. Polycythemmic hypervolemia
- ◉ C. Simple hypovolemia
- ◉ D. Oligocythemmic hypovolemia
- ◉ E. Polycythemmic hypovolemia

- ◉ **139** In the second week of being ill with viral hepatitis a patient presented with sleep disorder, headache, aggressiveness, unbearable skin itch. Objectively: AP drop, decrease in blood coagulation and reflexory activity, bradycardia. What is the cause of these changes?
- ◉ A. Hypercholesterolemia
- ◉ B. Stercobilinemia
- ◉ C. Urobilinemia
- ◉ D. Hyperlipemia
- ◉ E. **Cholemia**

- ◉ 141 According to the phenotypic diagnosis a female patient has been provisionally diagnosed with X-chromosome polysomia. This diagnosis can be confirmed by a cytogenetic method. What karyotype will allow to confirm the diagnosis?
- ◉ A. 47(XXX)
- ◉ B. 48(XXXY)
- ◉ C. 46(XX)
- ◉ D. 47(XXY)
- ◉ E. 48(XXYY)

- ◉ 142 A man got into ice-cold water and died soon as a result of abrupt exposure to cold. In such cases an organism loses heat most intensively by the way of:
- ◉ A. Heat conduction and radiation
- ◉ B. Radiation
- ◉ C. Heat conduction
- ◉ D. Convection
- ◉ E. -

- ◉ 144 A 67-year-old patient has atherosclerosis of cardiac and cerebral vessels. Examination revealed hyperlipidemia. What class of blood plasma lipoproteids is most important in atherosclerosis pathogenesis?
- ◉ A. High-density lipoproteids
- ◉ B. Chylomicrons
- ◉ C. α -lipoproteids
- ◉ D. Low-density lipoproteids
- ◉ E. -

- ◉ 146 As a result of dysfunction of protein synthesis in liver a patient with hepatic insufficiency has disturbed synthesis of procoagulants, prothrombin, fibrinogen. Which of the listed syndromes can be expected in this patient?
- ◉ A. Haemorrhagic
- ◉ B. Acholia syndrome
- ◉ C. Portal haemorrhagic syndrome
- ◉ D. Hepatolienal syndrome
- ◉ E. Cholaemia syndrome

- 155 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 of 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:
 - A. Ketoacidotic coma
 - B. Hyperglycemic coma
 - C. Hyperosmolar coma
 - D. Hepatic coma
 - E. Hypoglycemic coma
 -

- ◉ **157** There is a strict time limit for people to stay at a height of 8000 m above sea level without oxygen cylinders. Specify the life-limiting factor in this case:
- ◉ **A.** Temperature
- ◉ **B.** Humidity rate
- ◉ **C.** Partial pressure of oxygen in air
- ◉ **D.** Rate of ultraviolet radiation
- ◉ **E.** Earth gravity
- ◉

- ◉ 160 Examination of a 40-year-old man ill with stenosing (without metastases) esophageal carcinoma revealed the following changes: atrophy of skeletal muscles and fatty tissue. His skin is sallow, epidermis is attenuated, heart has grown smaller. Myocardium and liver are brown. What is the most probable diagnosis?
- ◉ A. Brown atrophy
- ◉ B. Alimentary cachexia
- ◉ C. Cancerous cachexia
- ◉ D. Addison's disease
- ◉ E. Myasthenia

- ◉ **168** An employee was working with radioactive substances and as a result of an incident he was irradiated with 4 Gr. He complains about headache, nausea, dizziness. What changes of blood formula can be expected 10 hours after irradiation?
- ◉ **A. Neutrophilic leukocytosis**
- ◉ **B. Lymphocytosis**
- ◉ **C. Agranulocytosis**
- ◉ **D. Neutropenia**
- ◉ **E. Leukopenia**

- ◉ 175 Roentgenologically confirmed obstruction of common bile duct resulted in preventing bile from inflowing to the duodenum. What process is likely to be disturbed?
- ◉ A. Hydrochloric acid secretion in stomach
- ◉ B. Carbohydrate hydrolysis
- ◉ C. Protein absorption
- ◉ D. **Fat emulcation**
- ◉ E. Salivation inhibition

- ◉ **176** A patient with evident pneumosclerosis that developed after infiltrative pulmonary tuberculosis presents with respiratory failure. What is its pathogenetic type?
- ◉ A. Apneustic
- ◉ B. Obstructive
- ◉ C. Reflectory
- ◉ D. Restrictive
- ◉ E. Disregulative

- ◉ 177 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:
- ◉ A. Hyperbilirubinemia
- ◉ B. Increase in ALT and AST rate
- ◉ C. Cholaemia
- ◉ D. Bilirubinuria
- ◉ E. Urobilinuria

- ◉ **183** After a car accident a patient has been diagnosed with a fracture of spine. He is unable to move his lower extremities. This form of motor disorder is called:
- ◉ **A. Paralysis**
- ◉ **B. Paresis**
- ◉ **C. Hemiplegia**
- ◉ **D. Quadriplegia**
- ◉ **E. Paraplegia**

- ◉ **190** A man is in the state of rest. He has been forcing himself to breath deeply and frequently for 3-4 minutes. What effect will it have upon acid-bace balance of the organism?
- ◉ A. Metabolic alkalosis
- ◉ B. Metabolic acidosis
- ◉ C. Respiratory acidosis
- ◉ D. There will be no change in acid-base balance
- ◉ E. **Respiratory alkalosis**

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- ◉ 3 After a severe stress a patient was found to have eosinopenia. A decrease in the eosinophil number can be explained by the changed concentration of the following hormones:
 - ◉ A. Mineralocorticoids
 - ◉ B. Vasopressin
 - ◉ C. Adrenaline
 - ◉ D. **Glucocorticoids**
 - ◉ E. Insulin

- 9 A patient is 59 years old and works as director of a private enterprise. After the inspection by tax authorities he developed intense burning retrosternal pain radiating to the left arm. After 15 minutes the patient returned to normal. What is the leading mechanism for the development of stenocardia in this patient?
- A. Coronary thrombosis
- B. Intravascular aggregation of blood corpuscles
- C. Increased level of blood catecholamines
- D. Coronary atherosclerosis
- E. Functional overload of heart

- ◉ 13 An attack of tachycardia was stopped by pressing on the eyeballs. Which of the following reflexes underlies this phenomenon?
- ◉ A. Bernard reflex
- ◉ B. Aschner reflex
- ◉ C. Holtz reflex
- ◉ D. Bainbridge reflex
- ◉ E. Hering reflex

- ◉ 26 A 50-year-old woman with myocardial infarction has been delivered to the intensive care unit. Which enzyme's activity will be most increased during the first two days?
- ◉ A. Aspartate aminotransferase
- ◉ B. LDH₄
- ◉ C. LDH₅
- ◉ D. Alanine aminotransferase
- ◉ E. Alanine aminopeptidase
- ◉

○ 41 A patient has petechial hemorrhages on the gums, hard and soft palate, buccal mucosa. This is caused by the dysfunction of the following blood corpuscles:

- A. Platelets
- B. Monocytes
- C. Lymphocytes
- D. Erythrocytes
- E. Eosinophils
-

- ◉ 46 A 12-year-old male patient has tetanic convulsions. Which gland function may be impaired in this case?
- ◉ A. Glandula thyroidea
- ◉ B. Hypophysis
- ◉ C. Thymus
- ◉ D. Glandula pinealis
- ◉ E. Glandulae parathyroidae

- ◉ 47 The total number of leukocytes in patient's blood is $90 \times 10^9/\text{l}$. Leukogram: eosinophils - 0%, basophils - 0%, juvenile - 0%, stab neutrophils - 2%, segmentonuclear cells - 20%, lymphoblasts - 1%, prolymphocytes - 2%, lymphocytes - 70%, monocytes - 5%, Botkin-Gumprecht cells. Clinical examination revealed enlarged cervical and submandibular lymph nodes. Such clinical presentations are typical for the following pathology:
 - ◉ A. Infectious mononucleosis
 - ◉ B. Chronic myeloleukosis
 - ◉ C. **Chronic lympholeukosis**
 - ◉ D. Lymphogranulomatosis
 - ◉ E. Acute lympholeukosis
 - ◉

- ◉ 49 A 60-year-old man consulted a doctor about an onset of chest pain. In blood serum analysis showed a significant increase in the activity of the following enzymes: creatine kinase and its MB-isoform, aspartate aminotransferase. These changes indicate the development of the pathological process in the following tissues:
 - ◉ A. Cardiac muscle
 - ◉ B. Skeletal muscles
 - ◉ C. Smooth muscles
 - ◉ D. Lungs
 - ◉ E. Liver

- ◉ 52 A patient from Prykarpattia (at the foot of the Carpathian mountains) with endemic goiter consulted a doctor about suppuration of gingival angles and loosening of teeth. What is a major factor of periodontitis development in this case?
- ◉ A. Violation of swallowing
- ◉ B. Endocrine disorders
- ◉ C. Stress effects
- ◉ D. Hypersalivation
- ◉ E. Malnutrition

- ◉ **56** Platelet adhesion at the site of vascular injury is of great importance for the mechanisms of primary hemostasis. Which factor plays a major part in this process?
- ◉ A. Fitzgerald's
- ◉ B. Fletcher's
- ◉ C. Rosenthal's
- ◉ D. **Willebrand's**
- ◉ E. Hageman's

- ◉ **59** Electrophoretic study of blood serum of a patient with pneumonia revealed an increase in one of the protein fractions. What fraction is it?
- ◉ **A.** α_1 -globulins
- ◉ **B.** Albumins
- ◉ **C.** α_2 -globulins
- ◉ **D.** γ -globulins
- ◉ **E.** β -globulins

- ◉ **60** After the transfusion of the concentrated red blood cells the patient developed posttransfusion shock. What is the leading mechanism of acute renal failure in this case?
- ◉ **A.** Urinary excretion disorder
- ◉ **B.** Impairment of the renal incretory function
- ◉ **C.** Tubular reabsorption disorder
- ◉ **D.** **Glomerular filtration disorder**
- ◉ **E.** Tubular secretion disorder

- ◉ 62 A patient with diabetes mellitus developed ketoacidotic coma due to the acid-base disturbance. What type of disorder had arisen in this case?
- ◉ A. Gaseous alkalosis
- ◉ B. Nongaseous alkalosis
- ◉ C. Metabolic acidosis
- ◉ D. Exogenous acidosis
- ◉ E. Respiratory acidosis

- ◉ 63 Throughout a year a 37-year-old woman periodically got infectious diseases of bacterial origin, their course was extremely lingering, remissions were short. Examination revealed low level of major classes of immunoglobulins. The direct cause of this phenomenon may be the following cell dysfunction:
 - ◉ A. **Plasmocytes**
 - ◉ B. Macrophages
 - ◉ C. Phagocytes
 - ◉ D. Neutrophils
 - ◉ E. Lymphocytes

- ◉ 73 A 10-year-old child cut his leg with a piece of glass and was sent to a clinic for an anti-tetanus serum injection. In order to prevent the development of anaphylactic shock the Besredka desensitisation method was applied. What mechanism underlies this method?
- ◉ A. Inhibited synthesis of mast cells mediators
- ◉ B. Stimulation of the immunological antigen tolerance
- ◉ C. Binding of IgE receptors on mast cells
- ◉ D. Stimulation of antigen-specific IgG₂ synthesis
- ◉ E. Binding to IgE fixed to mast cells

- ◉ 75 An 18-year-old patient complains of general weakness, fatigue, low spirits. The patient is of the asthenic constitution type. Ps- 68/min., AP- 90/60 mm Hg. She has been found to have primary neurocirculatory hypotension. What is the leading factor of the arterial pressure drop in this patient?
- ◉ A. Decreased tonus of resistive vessels
- ◉ B. Decreased minute blood volume
- ◉ C. Hypovolemia
- ◉ D. Decreased cardiac output
- ◉ E. Deposition of blood in the veins of the systemic circulation

- ◉ **106** After a person had drunk 1,5 liters of water, the amount of urine increased significantly, and its relative density decreased to 1,001. These changes are a result of decreased water reabsorption in the distal nephron portion due to reduced secretion of:
- ◉ A. Angiotensin II
- ◉ **B. Vasopressin**
- ◉ C. Aldosterone
- ◉ D. Renin
- ◉ E. Prostaglandins
- ◉

- ◉ 107 During allergic rhinitis (inflammation of the nasal mucosa) the number of basophils in the connective tissue of the mucosa increases, which is accompanied by a tissue edema. This phenomenon is associated with the following function of tissue basophils:
 - ◉ A. Histamine synthesis
 - ◉ B. Phagocytosis
 - ◉ C. Heat production
 - ◉ D. Production of intercellular substance
 - ◉ E. Antibody formation

- ◉ **108** A patient with a craniocerebral injury presents with respiration characterized by progressively deeper respiratory movements followed by a gradual decrease that results in a temporary stop in breathing. What pattern of abnormal respiration are these features typical for?
- ◉ A. Biot's
- ◉ B. Apneustic
- ◉ C. Kussmaul's
- ◉ D. Gasping
- ◉ E. **Cheyne-Stokes**

- ◉ 110 A patient complains of toothache. On examination he has been diagnosed with pulpitis. Which factor played a main pathogenic role in the development of pain syndrome in this case?
- ◉ A. Increased intratissular pressure in the dental pulp
- ◉ B. Inadequate stimulation of a mandibular nerve branch
- ◉ C. Vasospasm
- ◉ D. Activation of one of the components of the complement system
- ◉ E. Interleukin action
- ◉

- ◉ **116** Injection of an anaesthetic before the tooth extraction resulted in development of anaphylactic shock accompanied by oliguria. What pathogenetic mechanism caused a decrease in diuresis in this case?
- ◉ A. Damage of glomerular filter
- ◉ B. Decrease in hydrostatic pressure in the renal corpuscle capillaries
- ◉ C. Increase in hydrostatic pressure in the Bowman's capsule
- ◉ D. Increase in vasopressin secretion
- ◉ E. Increase in oncotic pressure of blood plasma
- ◉

- 120 A patient with a pronounced icteritiousness of skin, sclera and mucous membranes has urine of dark beer colour and colourless feces. Direct bilirubin in blood is elevated, urine contains bilirubin. What type of jaundice is it?
- A. Excretory
- B. Conjugation
- C. Parenchymatous
- D. Hemolytic
- E. Obstructive
-

- ◉ 121 A 37-year-old patient has lost 5 kg in weight over the past three months, he complains of hand tremor, excessive sweating, exophthalmos, tachycardia. These changes might have been caused by the increased secretion of the following hormone:
 - ◉ A. Cortisol
 - ◉ B. **Thyroxine**
 - ◉ C. Glucagon
 - ◉ D. Insulin
 - ◉ E. Thyrocalcitonin

- ◉ **191** A 26-year-old woman at 40 weeks' gestation was admitted to the maternity ward. Examination revealed that the cervix was open, but uterine contractions were absent. The doctor gave her a hormonal drug to induce labor. Specify this drug:
- ◉ A. Testosterone
- ◉ B. ACTH
- ◉ C. Estrone
- ◉ D. **Oxytocin**
- ◉ E. Hydrocortisone

- ◉ **193** As a result of a rapid change from horizontal to vertical body position a 16-year-old girl lost consciousness. What is the reason for it?
- ◉ A. Arterial pressure rise
- ◉ B. -
- ◉ C. Increased venous return
- ◉ D. **Decreased venous return**
- ◉ E. Heart rate decrease

- ◉ **198** Detection of X-chromatin in somatic cells is used for the quick diagnosis of hereditary diseases associated with a change in the sex chromosome number. Vast majority of a man's cells have three X-chromatin bodies. What is the man's karyotype?
- ◉ A. 47, XXY
- ◉ B. 46, XY
- ◉ C. 48, XXXY
- ◉ D. 49, XXXXY
- ◉ E. 45, X

- ◉ 123 A patient consulted an immunologist about diarrhea, weight loss within several months, low-grade fever, enlarged lymph nodes. The doctor suspected HIV infection. What immunocompetent cells must be studied in the first place?
- ◉ A. B-lymphocytes
- ◉ B. **Helper T-lymphocytes**
- ◉ C. Suppressor T-lymphocytes
- ◉ D. Plasma cells
- ◉ E. Monocytes

- ◉ 130 A patient has a history of chronic obstructive bronchitis. Blood gas analysis revealed the development of hypoxemia and hypercapnia on the background of dyspnea, tachycardia and cyanosis. What disorder of external respiration is observed in the patient?
- ◉ A. Hypoperfusion
- ◉ B. Hypoventilation
- ◉ C. Hyperventilation
- ◉ D. Hyperdiffusion
- ◉ E. Hyperperfusion
- ◉

- ◉ 140 A pregnant women developed severe toxemia with exhausting recurrent vomiting throughout a day. By the end of the day she developed tetanic convulsions and bodily dehydration. The described changes were caused by the following type of acid-base disbalance:
 - ◉ A. Nongaseous metabolic acidosis
 - ◉ B. Gaseous acidosis
 - ◉ C. Nongaseous excretory acidosis
 - ◉ D. Gaseous alkalosis
 - ◉ E. Nongaseous excretory alkalosis

- 143 Phenylketonuria is a disease caused by a recessive gene that is localized in the autosome. The parents are heterozygous for this gene. They already have two sons with phenylketonuria and one healthy daughter. What is the probability that their fourth child will have the disease too?
- ⊙ A. 100%
 - ⊙ B. 50%
 - ⊙ C. 0%
 - ⊙ D. 75%
 - ⊙ E. 25%

◉ **148** A patient with periodontitis has developed gingival edema. The gums are of dark red colour. What local circulation disorder prevails in the gums of the patient?

◉

- ◉ A. Thrombosis
- ◉ B. Embolism
- ◉ C. **Venous hyperemia**
- ◉ D. Arterial hyperemia
- ◉ E. Ischemia

- ◉ 150 A 50-year-old patient has been examined by a dentist and found to have crimson smooth tongue. Blood analysis revealed a decrease in RBC level and hemoglobin concentration, colour index of 1,3, symptoms of megaloblastic hematopoiesis, degenerative changes in WBCs. What blood disorder was found in this patient?
- ◉ A. Myeloid leukemia
- ◉ B. Hemolytic anemia
- ◉ C. Iron deficiency anemia
- ◉ D. B₁₂-folic-acid-deficiency anemia
- ◉ E. Aplastic anemia

- ◉ **158** After the traumatic tooth extraction a patient is complaining of acute, dull, poorly-localized pain in gingiva, body temperature rise up to 37,5°C. The patient has been diagnosed with alveolitis. Specify the kind of pain in this patient:
 - ◉ A. Heterotopic
 - ◉ B. Epicritic
 - ◉ C. Phantom
 - ◉ D. **Protopathic**
 - ◉ E. Visceral
 - ◉

- 174 Examination of a chemical plant worker who had had a poisoning revealed an increase in total bilirubin concentration at the expense of indirect fraction. Feces and urine are characterized by high stercobilin concentration. The level of direct bilirubin in blood plasma is normal. What type of jaundice is the case?
- A. Obstructive
- B. Parenchymatous
- C. Mechanical
- D. Hemolytic
- E. Hepatic

- ◉ **176** After the exposure to ionizing radiation a person was found to have a decrease in blood granulocyte level. What mechanism underlies these changes?
- ◉ A. Increased disintegration of leucocytes
- ◉ B. **Leikopoiesis inhibition**
- ◉ C. Disturbed release of mature leukocytes from the bone marrow
- ◉ D. Increased passage of granulocytes into the tissues
- ◉ E. Autoimmune process development

- ◉ 177 In a hot weather, the microclimate in hot rooms is often normalized by fans. At the same time heat radiation from the human body increases through:
 - ◉ A. Radiation
 - ◉ B. Convection
 - ◉ C. Evaporation
 - ◉ D. Heat conduction
 - ◉ E. Conduction
 - ◉

- ◉ **181** A patient has a history of chronic heart failure. Which of the following hemodynamic parameters is a major symptom of cardiac decompensation development?
- ◉ **A.** Tachycardia development
- ◉ **B.** Increased central venous pressure
- ◉ **C.** Tonogenic dilatation
- ◉ **D.** Increased peripheral vascular resistance
- ◉ **E. Decreased stroke volume**

- ◉ **182** A patient has symptoms of atherosclerosis. What plasma lipid transport forms should have an increased concentration?
- ◉ **A. HDL**
- ◉ **B. Chylomicrons**
- ◉ **C. IDL**
- ◉ **D. VLDL**
- ◉ **E. LDL**

- ◉ **188** Examination of a patient revealed glycosuria and hyperglycemia. He complains of dry mouth, itchy skin, frequent urination, thirst. He has been diagnosed with diabetes mellitus. What is the cause of polyuria in this patient?
- ◉ A. Increased plasma oncotic pressure
- ◉ B. Decreased cardiac output
- ◉ C. Increased filtration pressure
- ◉ D. Increased urine osmotic pressure
- ◉ E. Decreased plasma oncotic pressure