МИНИСТЕРСТВО ЗДРАВООХРАНЕНИЯ РЕСПУБЛИКИ БЕЛАРУСЬ

УЧРЕЖДЕНИЕ ОБРАЗОВАНИЯ
«ГОМЕЛЬСКИЙ ГОСУДАРСТВЕННЫЙ МЕДИЦИНСКИЙ УНИВЕРСИТЕТ»

Кафедра патологической физиологии

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ЭКЗАМЕНАЦИОННЫЕ ТЕСТОВЫЕ ЗАДАНИЯ ПО ПАТОЛОГИЧЕСКОЙ ФИЗИОЛОГИИ

Учебно-методическое пособие
для студентов 3 курса факультета по подготовке специалистов
для зарубежных стран, обучающихся на английском языке,
медицинских вузов

MULTIPLE CHOICE QUESTIONS ON PATHOPHYSIOLOGY EXAM

Teaching workbook
for 3rd year students of the Faculty for training specialists
for foreign countries, studying in English
of higher medical education institutions

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Учебно-методическое пособие содержит тестовые задания, составленные в соответствии с типовой учебной программой для вузов по специальности «Лечебное дело», утвержденной Министерством здравоохранения Республики Беларусь 20 мая 2015 года. Решение этих заданий позволит углубить и закрепить знания студентов при изучении патологической физиологии.

Предназначено для студентов 3 курса факультета по подготовке специалистов для зарубежных стран, обучающихся на английском языке, медицинских вузов.

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LIST OF ABBREVIATION

ADH — antidiuretic hormone (vasopressin)
ARDS — adult respiratory distress syndrome
ATP — adenosinetriphosphate
ATPase — adenosinetriphosphatase
CD — claster of differentiation
cGMP — cyclic guanine monophosphate
CNS — central nervous system
DIC — disseminated intravascular coagulation
DNA — deoxyribonucleic acid
ECG — electrocardiogram
ESR — erythrocyte sedimentation rate
G-6-PD — glucose-6-phosphate dehydrogenase
HIV — human immunodeficient virus
HLA — human leukocyte antigens
Ig — immunoglobulin
IL — interleukins
MCH — mean corpuscular hemoglobin
pO_2 — partial pressure of oxygen
pCO_2 — partial pressure of carbon dioxide
RBC — red blood cell
RNA — ribonucleic acid
ROS — reactive oxygen species
WBC — white blood cell
α-MSH — α-Melanocyte-stimulating hormone

INTRODUCTION TO THE DISCIPLINE "PATHOLOGICAL PHYSIOLOGY". GENERAL DOCTRINE ABOUT DISEASE. GENERAL ETIOLOGY AND PATHOGENESIS

Choose one correct answer

1. Long term persistent changes in a structure and function of organs (tissues) is called:

Variants of answer:

a) disease;
b) pathological reaction;
c) pathological process;
d) pathological condition;
e) typical pathological process.

2. Identify a pathological reactions:

Variants of answer:

a) tumor;
b) pathological reflex;
c) hypoxia;
d) trauma;
e) myocardial infarction.

3. Identify a typical pathological processes:

Variants of answer:

a) tumor growth;
b) atherosclerosis;
c) mucosa ulcer;
d) polydactylism;
e) gigantism.

4. Identify a disease:

Variants of answer:

a) edema;
b) fever;
c) tumor growth;
d) lung cancer;
e) papilloma.

5. Specificity of disease is defined by:
Variants of answer:
a) causes of disease;
b) environment factors;
c) condition in which act causes of disease;
d) changed reactivity;
e) constitutional type.

6. Specify a possible outcome of disease:
Variants of answer:
a) death;
b) relapse;
c) fever;
d) remission;
e) superinfection.

7. Etiology is:
Variants of answer:
a) doctrine about disease causes;
b) doctrine about a causes and conditions of disease occurrence;
c) doctrine about set of conditions that cause the development of diseases;
d) doctrine about specific mechanisms of development of pathological processes;
e) doctrine about environment factors.

8. Pathogenesis is:
Variants of answer:
a) doctrine about a mechanisms of origin, course and outcome of disease;
b) doctrine about disease causes;
c) specific mechanisms of a development of pathological processes;
d) doctrine about set of conditions that cause a development of diseases;
e) doctrine about outcomes of disease.

9. The main link in pathogenesis of disease is:
Variants of answer:
a) primary damage of a body;
b) damage, causes most of a disease symptoms;
c) damage, entailing a vicious circle;
d) causes of disease occurrence;
e) conditions of disease occurrence.

10. Sanogenesis studies:
Variants of answer:
a) mechanisms of disease development;

b) causes of diseases occurrence;
c) recovery mechanism;
d) pathological processes;
e) pathological systems.

11. Extreme mechanisms of sanogenesis include:
Variants of answer:
a) vomiting
b) activation of erythropoiesis
c) process of detoxication
d) formation of antibodies
e) progressive hypertrophy

12. Terminal conditions include:
Variants of answer:
a) pathological system
b) shock
c) biological death
d) clinical death
e) collapse

PATHOGENIC EFFECTS OF ENVIRONMENTAL FACTORS ON THE HUMAN BODY

Choose one correct answer

1. Identify a mechanism of cell damage in excessive ultraviolet rays:
Variants of answer:
a) energy deficit;
b) intensification of lipid peroxidation;
c) hydrolysis of secondary messengers;
d) activation of complement system;
e) cavitation.

2. Specific damaging effects of ultrasound on cells is:
Variants of answer:
a) formation of free radicals;
b) violation of DNA replication;
c) inhibition of cellular enzymes;

d) cavitation;
e) energy deficit.

3. The main etiological factor of acute mountain (altitude) sickness is:
Variants of answer:
a) increase in barometric pressure;
b) decrease in O_2 partial pressure in the air;
c) ultraviolet radiation;
d) low temperature;
e) physical exercises.

4. Main manifestations of caisson disease are due to:
Variants of answer:
a) compression;
b) saturation;
c) desaturation;
d) cavitation;
e) decay.

5. At stage of decompensation in exogenous overheating, heat production is:
Variants of answer:
a) increase;
b) decrease;
c) initial decrease with subsequent increase;
d) no changes;
e) stop.

6. At stage of compensation in hypothermia arise:
Variants of answer:
a) peripheral vasodilatation;
b) decrease in metabolic rate;
c) increase in glycogenolysis in liver and muscles;
d) increased sweating;
e) muscular weakness.

7. Breaking of thermoregulation in severe hypothermia is due to inhibition of:
Variants of answer:
a) cortex;
b) thalamus;
c) extrapyramidal centers;
d) hypothalamus;
e) spinal cord.

8. Identify cells, tissues or organs which are radiosensitive:
Variants of answer:
a) brain (nerve cells);
b) erythrocytes;
c) bone marrow;
d) muscular tissue;
e) joints.

9. Radiation cell damage manifested by:
Variants of answer:
a) activation of lysosomal enzymes;
b) acidosis;
c) water radiolysis;
d) violation of electrolytes distribution;
e) alkalosis.

10. Primary radiotoxins are:
Variants of answer:
a) hydroperoxides and peroxides;
b) ketoaldehydes;
c) phenols and polyphenols;
d) proteins and polypeptides;
e) kinins.

11. In which forms of acute radiation sickness a patient can survive:
Variants of answer:
a) bone marrow;
b) gastrointestinal;
c) toxemic;
d) cerebral;
e) cardiovascular.

12. The main target in cells for ionizing radiation is:
Variants of answer:
a) cytoplasmic membrane;
b) DNA;
c) ribosomes;
d) mitochondria;
e) peroxisomes.

THE ROLE OF HEREDITY IN PATHOLOGY

Choose one correct answer

1. Mutagen is called a factor that can cause:

Variants of answer:

a) state of hypersensitivity in humans;

b) changes in the genetic structure of a biological object, which are then transmitted by inheritance;

c) a sensitisation to allergen;

d) depression of antimutagens;

e) a fetopathy.

2. Phenocopies is:

Variants of answer:

a) a disease resembling by current with hereditary;

b) a disease caused by changes in genotype;

c) a phenotype of patients with hereditary disease;

d) a gametopathies;

e) twins with heredity disease.

3. Chromosomal disease is resulted in:

Variants of answer:

a) gene mutations;

b) genomic mutations;

c) fetopathy;

d) gametopathy;

e) deletion of single gen.

4. Indicate a location of responsible gene in autosomal recessive genetic disease:

Variants of answer:

a) X chromosome;

b) Y chromosome;

c) any one of 22 autosomes;

d) X chromosome and one autosome;

e) X chromosome and Y chromosome.

5. Disease with hereditary predisposition is:

Variants of answer:

a) atherosclerosis;

b) achondroplasia;
c) myopia;
d) hemophilia A;
e) Down syndrome.

6. Monogenic disease is:
Variants of answer:
a) glycogen storage disease;
b) diabetes mellitus;
c) atherosclerosis;
d) pulmonary arterial hypertension;
e) Edwards syndrome.

7. Phenylketonuria is caused by:
Variants of answer:
a) gene mutations;
b) chromosomal mutations;
c) genomic mutations;
d) mutation of sex chromosomes;
e) mutation in mitochondrial DNA.

8. Indicate a disease that is chromosome disease:
Variants of answer:
a) Klinefelter syndrome;
b) hemophilia;
c) sickle cell anemia;
d) Alzheimer disease;
e) diabetes mellitus.

9. Klinefelter syndrome has a karyotypes:
Variants of answer:
a) 45 chromosome, X0;
b) 47 chromosome (+21), XX;
c) 47 chromosome, XXY;
d) 45 chromosome, Y0;
e) 47 chromosome, XXX.

10. Hereditary sex linked diseases is:
Variants of answer:
a) Patau syndrome;
b) hemophilia;
c) albinism;

d) phenylketonuria;
e) Klinefelter syndrome.

11. Phenylketonuria is manifested by:
Variants of answer:
a) microcephaly;
b) mental retardation;
c) simian crease" in palm;
d) deformed ears;
e) polydactyl.

12. Blastopathy is:
Variants of answer:
a) occurs in first 15 days from zygote formation;
b) genomic mutations;
c) occurs in 16 to 56 days from zygote formation;
d) occurs in gametes;
e) chromosome mutation.

THE ROLE OF REACTIVITY, CONSTITUTION AND AGE IN THE DEVELOPMENT OF PATHOLOGY

Choose one correct answer

1. Reactivity is property of an organism to:
Variants of answer:
a) perceive environmental factors;
b) resist action of environment factors;
c) reacts differentiately on an action of environment factors;
d) protect the organism by special tissue structures;
e) produce antibodies.

2. Resistance is property of an organism to:
Variants of answer:
a) perceive environmental factors;
b) resist the action of factors of external and internal environment;
c) reacts differentiately on the action of environment factors;
d) destroy of environmental factors;
e) mental stability.

3. Individual reactivity is determined by:

Variants of answer:

a) hereditary information;
b) gender;
c) age;
d) body constitution;
e) species of animal.

4. A more frequent occurrence of stomach ulcers in people with blood group I is associated:

Variants of answer:

a) group reactivity;
b) individual adaptation;
c) individual-specific reactivity;
d) species reactivity;
e) physiological reactivity.

5. Manifestation of nonspecific physiological reactivity is:

Variants of answer:

a) protective reflexes;
b) allergy;
c) immune system;
d) lymphadenitis;
e) immune deficit condition.

6. Active resistance is provided by:

Variants of answer:

a) bloodbrain barrier;
b) mucosas;
c) skin;
d) vaccination;
e) HCl in stomach.

7. Positive hypergia:

Variants of answer:

a) external manifestations of reaction are expressed;
b) due to development of active defence reactions;
c) as a result of immunodeficiency;
d) inadequate response;
e) manifested by fulminant inflammation.

8. Manifestation of passive resistance include:

Variants of answer:

a) emigration of leukocytes;

b) hereditary antimicrobial immunity;
c) acute phase response;
d) immunity after infectious diseases;
e) vaccination.

9. Insensitivity of human to dogs plague is explained by:
Variants of answer:
a) group reactivity;
b) individual specific reactivity;
c) group adaptation;
d) species resistance;
e) acquired antimicrobial immunity.

10. Asthenic type of constitution (according to M.V. Chernorutskii) is characterized by:
Variants of answer:
a) predisposing to diabetes mellitus;
b) broad chest;
c) horizontal position of heart;
d) high level of basal metabolism;
e) tendency to acidosis.

11. Hypersthenic type of constitution (according to M.V. Chernorutskii) has predisposing to:
Variants of answer:
a) low level of basal metabolism;
b) Addison's disease;
c) hypertension;
d) hernia of abdominal wall;
e) reduced cholesterol level.

12. Free radical theory of aging:
Variants of answer:
a) cells accumulate waste products as a consequence of normal metabolic processes;
b) aging process is caused by damage to the genetic structure of the DNA;
c) cells become permanently damaged from the life-long and unrelenting attack of free radicals;
d) normal physiological process;
e) aging process is caused by cardiovascular disease.

CELL DAMAGE

Choose one correct answer

1. Specify mechanism of cell damage:
Variants of answer:
a) increasing contingency of oxidative phosphorylation;
b) activation of DNA repair system;
c) repression of pathogenic genes;
d) intensification of free radical lipid peroxidation;
e) activation of antioxidant systems.

2. Amphiphilic compounds in high concentrations:
Variants of answer:
a) reduce cell membrane permeability;
b) increase cell membrane permeability;
c) in form of monomers incorporated into the hydrophobic membrane layer;
d) oxidize a lipids;
e) destroy a membrane proteins.

3. Specify a mechanism of cell membrane damage:
Variants of answer:
a) intensification of free radical and lipoperoxide reactions;
b) activation of glucose transport into the cell;
c) adsorption of proteins on cell membrane;
d) activation of buffer systems;
e) activation of antioxidant systems.

4. A direct consequence of acidosis in cell is:
Variants of answer:
a) inactivation of lysosomal protease;
b) increase in permeability of lysosomal membrane;
c) activation of glycolysis;
d) activation of Na^+/K^+ -ATPase;
e) adsorption of proteins on cell membrane.

5. An increase of free ionized calcium in a cell is accompanied by:
Variants of answer:
a) inactivation of phospholipase C;
b) activation of lipid peroxidation;
c) cytoplasmic membrane hyperpolarization;

d) increase in free calmodulin;
e) hypocalcaemia.

6. Mechanism of cell damage due to changes in its genetic program:
Variants of answer:
a) repression of pathogenic genes;
b) gene translocation;
c) repression of normal genes;
d) expression of genes of major histocompatibility complex;
e) synthesis of RNA.

7. Dysfunction of cell receptor apparatus can be due to:
Variants of answer:
a) activation of Na^+/K^+ -ATPase;
b) activation of calmodulin;
c) activation of guanylate cyclase;
d) desensitization;
e) activation of secondary messengers.

8. Specify a basis mechanism for cells reperfusion damage:
Variants of answer:
a) activation of glycolysis;
b) activation of ATP synthesis and transport;
c) accumulation of K^+ ions in cell;
d) increase of free radicals in cell;
e) multiplication of mitochondria.

9. Specify a features of cell apoptosis:
Variants of answer:
a) DNA cleavage in strictly defined areas;
b) release and activation of lysosomal enzymes;
c) cell swelling;
d) ruptures of membranes;
e) inflammation.

10. Specify a features of cell necrosis:
Variants of answer:
a) condensation of chromatin;
b) ruptures of membranes;
c) cell shrinkage;
d) formation of cell fragments containing chromatin;
e) cellular fragmentation.

11. Specify a non-enzymatic antioxidant defence factor of cells:
Variants of answer:
a) vitamin E;
b) vitamin D;
c) bivalent iron ions;
d) glucuronidase;
e) catalase.

12. Specify intracellular adaptive mechanisms in acute cell damage:
Variants of answer:
a) inactivation of glycolysis;
b) intensification the transport of calcium ions into the cell;
c) activation of antioxidant defence factors and buffer systems;
d) hyperplasia of subcellular structures;
e) hypertrophy of cell.

TYPICAL FORMS OF MICROCIRCULATORY DISORDERS

Choose one correct answer

1. A role of juxtacapillary blood flow is:
Variants of answer:
a) regulation of capillary blood flow and transcapillary metabolism;
b) depositing of blood in zone of microcirculation;
c) acceleration of venous flow;
d) mobilization of blood from depot;
e) activation of renin-angiotensin-aldosterone system.

2. A cause of intravascular disturbances of hemomicrocirculation is:
Variants of answer:
a) slowing of blood flow;
b) increased permeability of blood vessels;
c) reaction of tissue basophils;
d) calcification of microvessels walls;
e) compression of arterioles.

3. Specify a substance that increase permeability of microvessel wall:
Variants of answer:
a) noradrenaline;

b) ascorbic acid;
c) albumin;
d) histamine;
e) renin.

4. Specify a reason for slowing of blood flow:
Variants of answer:
a) reducing rigidity of the RBCs membrane;
b) decrease in concentrations of leukocytes;
c) increase in blood viscosity;
d) hemodilution;
e) decrease in blood viscosity.

5. Indicate an organ that has absolute insufficient of collaterals:
Variants of answer:
a) brain;
b) skeletal muscles;
c) liver;
d) stomach wall;
e) lungs.

6. Resorptive lymphatic insufficiency occurs at:
Variants of answer:
a) increasing concentration of proteins in tissue;
b) overloading transport capacity of lymphatic vessels;
c) decreasing concentration of proteins in blood;
d) mechanical obstruction of lymph flow;
e) heart failure.

7. Dynamic lymphatic insufficiency occurs at:
Variants of answer:
a) increasing concentration of proteins in tissue;
b) overloading transport capacity of lymphatic vessels;
c) increasing concentration of proteins in blood;
d) mechanical obstruction of lymph flow;
e) hypohydration.

8. "Sludge" phenomenon is developed at:
Variants of answer:
a) arterial hyperemia;
b) increase in membrane potential of RBCs;
c) venous congestion;

d) decrease in oncotic pressure of blood;
e) hypervolemia.

9. Capillary-trophic insufficiency leads to:
Variants of answer:
a) dystrophy;
b) hypertrophy;
c) development of tumors;
d) lymphatic edema;
e) arterial hyperemia;

10. Stasis is:
Variants of answer:
a) arrest of blood flow in vessels of microcirculatory system;
b) constriction of afferent vessels;
c) aggregation, adhesion and agglutination of blood cells;
d) accumulation of proteins in interstitial tissue with fibrosis;
e) arrest of blood flow in clinical death.

PERIPHERAL CIRCULATORY DISORDERS

Choose one correct answer

1. Specify typical peripheral circulatory disorder:
Variants of answer:
a) atherosclerosis;
b) pathological deposit of blood;
c) ischemia;
d) hypertension;
e) anemia.

2. Specify a factor which can lead to arterial hyperemia:
Variants of answer:
a) mechanical irritation of the organ;
b) application of tourniquet on extremity;
c) obturation by thrombus of arterial lumen;
d) action of catecholamines;
e) mechanical obstruction venous outflow.

3. Specify a microcirculation change in arterial hyperemia:
Variants of answer:
a) decreased a number of functioning capillaries;
b) reduction intracapillary pressure;
c) decreased lymph outflow from tissues;
d) increased filtration of fluid from vessels into tissue;
e) decreased venous outflow.

4. Specify a characteristic of arterial hyperemia:
Variants of answer:
a) cyanosis of organ or tissue;
b) redness of organ or tissue;
c) decrease in temperature on tissue surface;
d) decreasing tissue turgor;
e) paleness of organ or tissue.

5. Indicate a condition which can lead to venous congestion:
Variants of answer:
a) heart failure;
b) tachycardia;
c) constriction of precapillary sphincter;
d) compression of afferent vessels;
e) mechanical irritation of the organ.

6. Indicate a manifestation of venous congestion:
Variants of answer:
a) increasing tissue turgor;
b) increase in temperature of the surface tissue;
c) cyanosis of organ or tissue;
d) redness of organ or tissue;
e) paleness of organ or tissue.

7. Indicate a possible consequence of venous congestion:
Variants of answer:
a) intensification of organ function;
b) tissue hypertrophy;
c) sclerosis, cirrhosis of the organ;
d) increasing tissue oxygenation;
e) tissue hyperplasia.

8. Which of factors can lead to ischemia:
Variants of answer:
a) thrombus obturation of arterioles;

b) compression of veins by scar tissue;
c) dilation of arterioles;
d) right heart failure;
e) increase of collateral blood flow.

9. Specify a characteristic of ischemic area:
Variants of answer:
a) lowering a temperature of surface tissue;
b) increasing a temperature of internal organs;
c) cyanosis of organ or tissue;
d) increase in tissue turgor;
e) redness of organ or tissue.

10. Indicate a possible consequence of deep vein thrombosis in lower limbs:
Variants of answer:
a) embolism of cerebral arteries;
b) pulmonary thromboembolism;
c) portal hypertension;
d) renal embolism;
e) myocardial infarction.

11. Fat embolism can be caused by:
Variants of answer:
a) fracture of long bones and pelvic bones;
b) vertebral and ribs fracture;
c) intramuscular injection of oil solutions;
d) hypercholesterolemia;
e) excess uptake of fatty food.

12. Emboli into systemic circulation can be entered from:
Variants of answer:
a) venous system of systemic circulation;
b) arterial system of systemic circulation;
c) arterial system of pulmonary circulation;
d) right atrium;
e) right ventricle.

INFLAMMATION

Choose one correct answer

1. A causes of aseptic inflammation can be:
Variants of answer:
a) transient tissue hyperoxia;
b) hemorrhage in tissue;
c) contamination by pyogenous streptococcus;
d) enteral administration of nonsterile foreign proteins;
e) secondary pyogenous foci in sepsis.

2. Acute inflammatory response is characterized by:
Variants of answer:
a) formation of inflammatory granulomas;
b) ischemia in zone of inflammation;
c) accumulation of lymphocytes in inflammation area;
d) accumulation of neutrophils in inflammation area;
e) monocytosis.

3. Area of acute inflammation is characterized by:
Variants of answer:
a) hyperoncia;
b) hyposmia;
c) alkalosis;
d) intracellular increase in potassium ions;
e) hypooncia.

4. Edema in inflammation is developed due to:
Variants of answer:
a) increase in oncotic pressure of blood;
b) decrease in pressure in venules;
c) decrease in vascular permeability;
d) increase in osmotic pressure of interstitial fluid;
e) decrease in interstitial oncotic pressure.

5. Arterial hyperemia in zone of inflammation is developed due to:
Variants of answer:
a) histamine;
b) adrenaline;
c) noradrenaline;

d) increase in hyaluronidase activity;
e) cortisol.

6. Specify a normal sequence of leukocytes emigration in zone of acute inflammation:

Variants of answer:

a) eosinophils, lymphocytes, neutrophils;
b) neutrophils, basophils, monocytes;
c) monocytes, lymphocytes, neutrophils;
d) neutrophils, monocytes, lymphocytes;
e) lymphocytes, basophils, eosinophils.

7. Adhesion of leukocytes to endothelium of microcirculatory vessels primarily is found in:

Variants of answer:

a) arterioles;
b) metarterioles;
c) capillaries;
d) postcapillary venules;
e) arteries.

8. Mediator of early phase of inflammation (primary mediator) is:

Variants of answer:

a) lysosomal enzymes;
b) kinins;
c) prostaglandins;
d) cyclic nucleotides;
e) leukotriens.

9. Exudate in opposite of transudate has:

Variants of answer:

a) large number of WBCs;
b) yellow colour;
c) pH 7.8;
d) less proteins;
e) many RBCs.

10. Cells of chronic inflammation are:

Variants of answer:

a) macrophages;
b) mast cells;
c) neutrophils;

d) platelets;
e) basophils.

11. Specify a process which inhibit inflammation:
Variants of answer:
a) vasodilation;
b) increase in vascular permeability;
c) decreased blood velocity;
d) decreased emigration of leukocytes;
e) activation of leukocytes.

12. Indicate an anti-inflammatory hormones:
Variants of answer:
a) aldosterone;
b) cortisol;
c) testosterone;
d) thyroxine;
e) gastrin.

INFECTIOUS PROCESS. FEVER

Choose one correct answer

1. Superinfection is:
Variants of answer:
a) reinfection by the same pathogen until recovery;
b) presence of bacteria or viruses in blood;
c) infectious process with simultaneously by two or more agents;
d) infectious process caused by virulent microorganisms;
e) viral infection after bacterial.

2. Sepsis:
Variants of answer:
a) is caused by staphylococcus only;
b) is contagious;
c) fail to develop immunity;
d) has specific morphological substrate;
e) develops after every bacterial infections.

3. Indicate a factor which can cause development of fever:

Variants of answer:

a) inflammation caused by sunburn;

b) exogenous hyperthermia;

c) hot drinks;

d) intense exercise;

e) uncouples oxidation and phosphorylation.

4. Specify a mechanism involved in an increase of body temperature at fever:

Variants of answer:

a) increase in coupling oxidation and phosphorylation;

b) peripheral vasodilation;

c) increased sweating;

d) intensification of contractile "muscle thermogenesis";

e) tachypnoe.

5. Indicate a factor inducing a synthesis of endogenous pyrogens:

Variants of answer:

a) bacterial toxins;

b) biogenic amines;

c) hormones;

d) prostaglandins;

e) adrenaline.

6. Endogenous pyrogen is:

Variants of answer:

a) IL1;

b) bacterial toxins;

c) glucocorticoids;

d) α–MSH;

e) IL2.

7. Specify a mechanism of increase in body temperature in first stage of fever:

Variants of answer:

a) decrease in threshold of sensitivity of central heat thermoreceptors;

b) offset the setpoint of temperature homeostasis at a higher level;

c) increase in threshold of sensitivity of central cold thermoreceptors;

d) decrease in tone of parasympathetic nerves;

e) decrease in sensitivity of cold thermoreceptors.

8. Specify a manifestation of first stage of fever:
Variants of answer:
a) chills;
b) feeling hot;
c) skin hyperemia;
d) decrease in diuresis;
e) profuse sweating.

9. Specify a manifestation of second stage of fever:
Variants of answer:
a) chills;
b) skin hyperemia;
c) skin dryness;
d) increase in diuresis;
e) pale skin.

10. A third stage of fever is characterized by:
Variants of answer:
a) chills;
b) pale skin;
c) decrease in diuresis;
d) increased sweating;
e) skin dryness.

IMMUNOPATHOLOGICAL PROCESSES

Choose one correct answer

1. Typical form of immunity disorder is:
Variants of answer:
a) leukemia;
b) immunodeficiency;
c) lymphadenopathy;
d) thymic hypotrophy;
e) inflammation.

2. Active sensitization can be caused by injection of:
Variants of answer:
a) antigens;

b) immunostimulants;
c) specific antibodies;
d) sensibilized lymphocytes-effectors;
e) physiological solution.

3. Indicate a disease developing on I type of immune damage:
Variants of answer:
a) myasthenia gravis;
b) anaphylactic shock;
c) serum sickness;
d) contact dermatitis;
e) autoimmune thyroiditis.

4. Specify a process playing the main role in pathogenesis of I type of immune damage:
Variants of answer:
a) interaction of antibodies (IgE, IgG4) fixed on the target cells with antigen;
b) interaction of circulating antibodies (IgG, IgM class) with antigen on surface of target cells with the participation of complement, phagocytes and NK cells;
c) interaction of circulating antibodies (IgG, IgM class) with excess of antigen to form immune complexes;
d) interaction of sensitized lymphocytes with antigen;
e) formation of antireceptor antibodies.

5. Specify a disease that can be developed in type II immune damage:
Variants of answer:
a) Hashimoto thyroiditis;
b) anaphylactic shock;
c) contact dermatitis;
d) serum sickness;
e) anaphylactic shock.

6. Specify a process playing the main role in pathogenesis of II type of immune damage:
Variants of answer:
a) interaction of antibodies (IgE, IgG4) fixed on the target cells with antigen;
b) interaction of circulating antibodies (IgG, IgM class) with antigen on surface of target cells with the participation of complement, phagocytes and NK cells;
c) interaction of circulating antibodies (IgG, IgM class) with excess of antigen to form immune complexes;
d) interaction of sensitized lymphocytes with antigen;
e) formation of antireceptor antibodies.

7. Specify a disease which can be developed in type III immune damage:

Variants of answer:

a) pollen allergy;

b) serum sickness;

c) autoimmune hemolytic anemia;

d) contact dermatitis;

e) bronchial asthma.

8. Specify a process playing the main role in pathogenesis of III type of immune damage:

Variants of answer:

a) interaction of antibodies (IgE, IgG4) fixed on the target cells with antigen;

b) interaction of circulating antibodies (IgG, IgM class) with antigen on surface of target cells with the participation of complement, phagocytes and NK cells;

c) interaction of circulating antibodies (IgG, IgM class) with excess of antigen to form immune complexes;

d) interaction of sensitized lymphocytes with antigen;

e) formation of antireceptor antibodies.

9. Indicate the disease developing in type IV of immune damage:

Variants of answer:

a) contact dermatitis;

b) Arthus phenomenon;

c) food allergy;

d) anaphylactic shock;

e) bronchial asthma.

10. Specify a process playing the main role in pathogenesis of IV type of immune damage:

Variants of answer:

a) interaction of antibodies (IgE, IgG4) fixed on the target cells with antigen;

b) interaction of circulating antibodies (IgG, IgM class) with antigen on surface of target cells with the participation of complement, phagocytes and NK cells;

c) interaction of circulating antibodies (IgG, IgM class) with excess of antigen to form immune complexes;

d) interaction of sensitized lymphocytes with antigen;

e) formation of antireceptor antibodies.

11. Indicate an autoimmune disease with formation of organo-nonspecific autoantibodies:

Variants of answer:

a) Hashimoto thyroiditis;

b) postvaccination encephalomyelitis;
c) systemic lupus erythematosus;
d) postinfarction myocarditis;
e) autoimmune hemolytic anemia.

12. Specify a cells containing primary autoantigens:
Variants of answer:
a) cells of periosteum;
b) nerve cells;
c) cells of renal capsule;
d) myocardial cells;
e) liver cells.

13. Primary immunodeficiency disorders are:
Variants of answer:
a) genetically determined;
b) arising as complications of infections;
c) side effects of chemotherapy;
d) result of malnutrition;
e) result of HIV infections.

14. Congenital Bruton agammaglobulinemia is characterized by:
Variants of answer:
a) patients susceptible to viral infection;
b) number of plasma cells is significantly increased;
c) IgG, IgA, and IgM in peripheral blood are reduced;
d) is a result from mutation of HLA gene;
e) IgG significantly are increased, IgE are reduced.

15. Secondary immunodeficiency can occur in:
Variants of answer:
a) viral infections;
b) benign tumors;
c) gas embolism;
d) renal arterial hypertension;
e) mutation of genes.

16. The main target cells of immune system for HIV infection is:
Variants of answer:
a) B-lymphocytes;
b) CD8;
c) CD4;
d) T-suppressor;
e) neutrophils.

TYPICAL METABOLIC DISORDERS. DISORDERS OF PROTEIN, VITAMINS, NUCLEIC ACIDS METABOLISMS. STARVATION

Choose one correct answer

1. Positive nitrogen balance can appear at:
Variants of answer:
a) infectious diseases;
b) organism growth;
c) starvation;
d) thermal burns;
e) use of catabolic hormones.

2. Negative nitrogen balance can appear at:
Variants of answer:
a) organism growth;
b) pregnancy;
c) starvation;
d) excessive secretion or use of anabolic hormones;
e) lactation.

3. Hyperproteinemia can appear at:
Variants of answer:
a) hemoconcentration;
b) liver diseases;
c) protein malabsorption;
d) proteinuria;
e) starvation.

4. Paraproteins is:
Variants of answer:
a) a qualitative changed gamma globulins;
b) a qualitative changes albumins;
c) a decrease in albumin;
d) a change in ratio of protein fractions;
e) Ig fixed on antigens.

5. A reason for increasing basal metabolism is:
Variants of answer:
a) febrile state;

b) sleeping state;
c) CNS lesions;
d) hypoxia;
e) coma.

6. A first period of starvation is characterized by:
Variants of answer:
a) increasing concentration of insulin in blood;
b) increasing concentration of glucose in blood;
c) increase in glycogen stores;
d) activation of gluconeogenesis;
e) splitting of proteins.

7. Manifestation of second period of starvation include:
Variants of answer:
a) activation of immune defence;
b) edemas;
c) increased basal metabolism;
d) leukocytosis;
e) glycogenolysis.

8. Specify a manifestation of protein deficiency syndromes:
Variants of answer:
a) occurs in old person;
b) hypocholesterolemia;
c) impaired growth;
d) hypoglycemia;
e) always accompanied with low weight.

9. A primary biochemical disturbance in gout is excessive formation of:
Variants of answer:
a) uric acid;
b) creatinine;
c) urea;
d) albumin;
e) lactic acid.

10. Neutralization of ammonia in a body can occur through:
Variants of answer:
a) urea synthesis;
b) glycogen synthesis;
c) deamination of amino acids;
d) synthesis of biogenic amines;
e) synthesis of albumin.

11. Vitamin A deficiency manifested by:
Variants of answer:
a) keratomalacia;
b) polyneuritis;
c) anemia;
d) ossification disorders;
e) bleeding.

12. Vitamin C deficiency is accompanied by:
Variants of answer:
a) violation of bone mineralization;
b) inhibition of redox reactions;
c) megaloblastic type of hemopoiesis;
d) violation of synthesis of blood clotting factors;
e) increase in excitability of nerve tissue.

DISORDERS OF CARBOHYDRATE AND LIPID METABOLISMS

Choose one correct answer

1. Specify a typical form of carbohydrate metabolism disorders:
Variants of answer:
a) diabetes mellitus;
b) alimentary hyperglycemia;
c) hypoglycemia;
d) renal diabetes;
e) diabetes insipidus.

2. Specify a factor causing hypoglycemia:
Variants of answer:
a) predominance of processes of excitation in CNS;
b) decrease in insulin production;
c) limiting of carbohydrate intake with food;
d) increase in activity of sympathetic nervous system;
e) increase in glucagon.

3. Specify a factor causing hyperglycemia:
Variants of answer:
a) predominance of inhibitory processes in CNS;

b) increase in vasopressin production;
c) limiting of carbohydrate intake with food;
d) increase in activity of sympathetic nervous system;
e) increase in insulin production.

4. Glycosuria is observed at:
Variants of answer:
a) diabetes mellitus;
b) diabetes insipidus;
c) hyperlipidemia;
d) hyperlactacidemia;
e) obesity.

5. Diabetes mellitus is characterized by:
Variants of answer:
a) increase in protein synthesis in the body
b) activation of glycogenogenesis;
c) intensification of glycolysis;
d) intensification of lipolysis;
e) inhibition of glyconeogenesis.

6. In diabetes mellitus type I is observed:
Variants of answer:
a) relative insulin deficiency;
b) absolute insulin deficiency;
c) hyperinsulinism;
d) normal insulin level;
e) relative excess of insulin.

7. A manifestation of protein metabolism disorders in diabetes mellitus is:
Variants of answer:
a) positive nitrogen balance;
b) increased gluconeogenesis;
c) weakening gluconeogenesis;
d) decreased amino acids in blood;
e) decreased absorption of proteins from intestine.

8. Main link in pathogenesis of diabetic hyperosmolar coma is:
Variants of answer:
a) pronounced hypernatremia;
b) uncompensated ketoacidosis;
c) pronounced hyperglycemia;
d) hyperosmia of cells hyaloplasm;
e) hypoglycemia.

9. Modification of lipoproteins can be due to:
Variants of answer:
a) hypoglycemia;
b) activation of lipid peroxidation;
c) etherification of cholesterol;
d) increased triglyceride serum level;
e) unbalance diet.

10. A complication of atherosclerosis is:
Variants of answer:
a) vasospasm;
b) aorta angusta;
c) vein thrombosis;
d) stroke;
e) endocarditis.

11. Etiological factor of obesity is:
Variants of answer:
a) hypercortisolism;
b) hyperthyroidism;
c) hypoparathyroidism;
d) starvation;
e) panhypopituitarism.

12. Negative effect of obesity is:
Variants of answer:
a) fatty liver;
b) digestive disorders;
c) acceleration of atherogenesis;
d) increased risk of hypotension;
e) glomerulonephritis.

DISORDERS OF ACIDBASE BALANCE, WATERELECTROLYTE AND MINERAL METABOLISM

Choose one correct answer

1. Specify a cause of respiratory acidosis:
Variants of answer:
a) renal pathology;

b) pulmonary hypoventilation;
c) long-term nutrition with acidic food;
d) diabetes mellitus;
e) excitation of respiratory center.

2. Severe hypercapnia during respiratory acidosis leads to:
Variants of answer:
a) dilatation of arterioles;
b) bronchospasm;
c) bronchodilation;
d) decrease in blood pressure;
e) muscular weakness.

3. Specify a cause of nonrespiratory acidosis:
Variants of answer:
a) diabetes mellitus;
b) pulmonary hypoventilation;
c) excitation of respiratory center;
d) vomiting;
e) diuretic therapy.

4. Compensatory reaction to metabolic acidosis is:
Variants of answer:
a) compensatory increase in blood pCO2;
b) exchange of hydrogen ions for potassium in cells;
c) increased bicarbonate excretion into urine by kidneys;
d) alveolar hypoventilation;
e) activation of anaerobic glycolysis.

5. A cause of respiratory alkalosis is:
Variants of answer:
a) diabetes mellitus;
b) chronic circulatory failure;
c) excitation of respiratory center;
d) pulmonary hypoventilation;
e) vomiting.

6. A cause of nonrespiratory alkalosis is:
Variants of answer:
a) alveolar hyperventilation;
b) diarrhea;
c) diabetes mellitus;

d) overproduction of mineralocorticoids;
e) heart failure.

7. Metabolic alkalosis is characterized by:
Variants of answer:
a) decrease in blood pH;
b) compensatory decrease in blood pCO2;
c) increase of standard bicarbonate;
d) increase of ammoniogenesis in kidneys;
e) compensatory hyperventilation.

8. Specify a mechanism of edema development:
Variants of answer:
a) decrease in oncotic pressure of blood;
b) increase in osmotic pressure of blood;
c) decrease in permeability of vessels wall;
d) decrease in venous pressure;
e) decrease in interstitial oncotic pressure.

9. An initial factor in a mechanism of development of cardiac edema is:
Variants of answer:
a) oncotic;
b) osmotic;
c) membranogenic;
d) hemodynamic;
e) thrombotic.

10. Oncotic factor has a leading role in a pathogenesis of edema in:
Variants of answer:
a) swelling Kwinke;
b) inflammation;
c) heart failure;
d) nephrotic syndrome;
e) mechanical lymphatic insufficiency.

11. A manifestation of hypokalemia is:
Variants of answer:
a) cardiac arrhythmia;
b) hypertension;
c) tetany;
d) bleeding;
e) paralysis.

12. A manifestation of hypercalcemia is:
Variants of answer:
a) decreased neuromuscular excitability;
b) tetany;
c) bleeding;
d) metabolic alkalosis;
e) tremor.

HYPOXIA

Choose one correct answer

1. One of leading role in a pathogenesis of hypoxic cell damage play :
Variants of answer:
a) accumulation of Ca^{2+} in mitochondria;
b) inhibition of glycolysis;
c) mobilization of creatine phosphate;
d) decrease of sodium in cell;
e) activation of lipolysis.

2. A cause of exogenous hypoxia is:
Variants of answer:
a) hypovitaminosis B12;
b) heart failure;
c) carbon monoxide poisoning;
d) mountain sickness;
e) lung emphysema.

3. Specify a factor that cause cell damage in hyperoxygenation:
Variants of answer:
a) excess of ROS in cells;
b) excess of potassium ions in cells;
c) decrease of sodium in cells;
d) hypercapnia;
e) hypocapnia.

4. Specify a cause of respiratory hypoxia:
Variants of answer:
a) lung emphysema;
b) decrease in pO_2 in air;

c) carbon monoxide poisoning;
d) mitral valve insufficiency;
e) mountain sickness.

5. Specify a cause of circulatory hypoxia:
Variants of answer:
a) carbon monoxide poisoning;
b) pulmonary arterial hypertension;
c) myocarditis;
d) poisoning by nitrates;
e) mountain sickness.

6. Specify a cause of hemic hypoxia:
Variants of answer:
a) poisoning by nitrates;
b) lung emphysema;
c) mitral valve insufficiency;
d) myocarditis;
e) hypoglycemia.

7. Specify a cause for tissue hypoxia:
Variants of answer:
a) iron deficiency anemia;
b) cyanide poisoning;
c) carbon monoxide poisoning;
d) mountain sickness;
e) heart failure.

8. During which type of hypoxia arterio-venous oxygen difference significantly decreases:
Variants of answer:
a) respiratory;
b) hemic;
c) circulatory;
d) tissue;
e) over-utilizing.

9. Specify a change in cells during hypoxia which may be considered as a compensatory:
Variants of answer:
a) increase of sodium in cell;
b) activation of glycolysis;

c) activation of lipid peroxidation;
d) activation of phospholipase A2;
e) increase in intracellular calcium.

10. Indicate a change in a body during acute hypoxia in compensation stage:
Variants of answer:
a) bradycardia;
b) muscle vasodilation;
c) brain vasodilation;
d) coronary vasospasm;
e) hypotension.

EXTREME CONDITIONS

Choose one correct answer

1. Specify a condition that is relate to an extreme:
Variants of answer:
a) diabetic coma;
b) immunodeficiency;
c) hyperhydration;
d) hypervolemia;
e) clinical death.

2. Select a manifestation characteristic for erectile phase of traumatic shock:
Variants of answer:
a) arterial hypotension;
b) activation of sympathoadrenal system;
c) loss of consciousness;
d) pulmonary hypoventilation;
e) bradycardia.

3. Select a manifestation of decompensation stage of shock:
Variants of answer:
a) activation of sympathoadrenal system;
b) motor and speech excitation;
c) deposit of blood;
d) tachycardia and arterial hypertension;
e) peripheral vasospasm.

4. Leading link in pathogenesis of cardiogenic shock is:
Variants of answer:
a) decrease in blood volume;
b) massive blood lose;
c) fall of vascular tone;
d) weakening of heart pumping function;
e) mast cell degranulation and histamine release.

5. Specify a possible cause of collapse:
Variants of answer:
a) hypercorticism;
b) decrease in venous return;
c) polycythemic hypervolemia;
d) widespread arteriolovenular shunting of blood;
e) peripheral vasospasm.

6. Specify a type of collapse by mechanism of development:
Variants of answer:
a) iscemic;
b) respiratory;
c) cardiogenic;
d) hypervolemic;
e) hypertonic.

7. Specify a violation characteristic for cardiogenic collapse:
Variants of answer:
a) reduction in minute heart ejection;
b) hypervolemia;
c) increase in blood pressure;
d) decrease in final systolic volume;
e) increase in systolic volume.

8. Cause of coma can be:
Variants of answer:
a) normosmolar hypervolemia;
b) extracellular hyperhydration;
c) anemia;
d) endocrinopathy;
e) intensive physical exercises.

9. Indicate a violation which is a basic link in pathogenesis of diabetic coma in diabetes mellitus type I:
Variants of answer:
a) hyperketonemia;

b) hypernatremia;
c) lactic acidosis;
d) hyperglycemia;
e) hypercholesterolemia.

10. Indicate a change that is characteristic for coma:
Variants of answer:
a) emotional lability;
b) activation of organs function;
c) loss of consciousness;
d) hyperreflexia;
e) respiratory arrest.

11. Indicate a factor that contribute to the development of stress:
Variants of answer:
a) activation of opioid system;
b) activation of serotonergic system;
c) activation of sympathoadrenal system;
d) increase in formation of prostaglandins in tissues;
e) activation of antioxidant system.

12. Specify a hormones which content is increased in blood during stress reactions:
Variants of answer:
a) insulin;
b) androgens;
c) ADH;
d) glucocorticoids;
e) gonadotropin.

13. Specify the most typical consequences of prolonged stress:
Variants of answer:
a) hypo and dystrophy of adrenal cortex;
b) activation of humoral immunity;
c) anemia;
d) arterial hypotension;
e) lymphadenopathy.

14. Specify a stress-limiting system:
Variants of answer:
a) complement system;
b) serotonergic system;
c) adrenergic system;
d) renin angiotensin aldosterone system;
e) hypothalamic-pituitary-adrenal system.

PATHOLOGY OF TISSUE GROWTH. TUMORS

Choose one correct answer

1. Specify typical form of tissue growth pathology:
Variants of answer:
a) dysplasia;
b) tissue necrosis;
c) hyperplasia of mitochondria;
d) sarcoma;
e) apoptosis.

2. Specify a factor that inhibit cell division:
Variants of answer:
a) cGMP;
b) growth factors;
c) decrease in surface tension of cells;
d) chalones;
e) somatomedin C.

3. A mechanism of protooncogenes activation is:
Variants of answer:
a) changes in activity of enzymes of fatty acids β-oxidation;
b) doubling of nuclear DNA number during mitosis;
c) mutation in mitochondrial DNA;
d) insertion of promoter;
e) RNA synthesis.

4. An "oncoproteins" are:
Variants of answer:
a) cause tumors;
b) synthesized in oncogenes;
c) cause a transition of genes in oncogenes;
d) inhibit tumor progression;
e) receptors on tumors cells.

5. Indicate endogenous substances that can have a carcinogenic effect:
Variants of answer:
a) IgD;
b) complement component C3a;
c) epinephrine;

d) free radical;
e) catalase.

6. A term "tumor progression" refers to:
Variants of answer:
a) increase in tumor mass;
b) metastasis of tumor cells;
c) constant appearance of more malignant cell clones;
d) beginning of oncoproteins synthesis;
e) appearance of complication due to tumor growth.

7. Specify a feature characteristic of benign tumors:
Variants of answer:
a) rapid formation of a tumor node;
b) expansive growth;
c) recurrence;
d) high degree of tumor progression;
e) high risk of metastasis.

8. Specify a characteristic that in a malignant rather than a benign tumor:
Variants of answer:
a) develops a blood supply;
b) unlimited cells division;
c) unlimited grows without growth signal;
d) metastasis;
e) energy atypism.

9. Specify a factor which protect tumor cells from immune system:
Variants of answer:
a) allogeneic inhibition;
b) release of enzyme destroying NK cells;
c) phagocytosis of NK cells;
d) internalization of antigenic structures of tumor cell;
e) formation of tight barrier surrounded tumor cells.

10. A systemic complication of malignant tumor is:
Variants of answer:
a) cachexia;
b) compression of surrounding tissue;
c) stimulation of immunity;
d) perforation into hollow organs due to tumor necrosis;
e) obstruction of venous drainage by tumors.

11. Specify a possible cause of cancer recurrence:
Variants of answer:
a) suppression of local immunity factors;
b) low activity of anticellular mechanisms of antitumor resistance;
c) maintain viable tumor cells after its removal;
d) penetration of "tumor" RNA fragment in normal cell;
e) decreased antioxidant activities.

12. Antimutagenic factors include:
Variants of answer:
a) folic acid, methionine, interferon;
b) anticonvulsants;
c) anti-cancer drugs;
d) X-ray contrast agents;
e) Epstein-Barr virus.

PATHOPHYSIOLOGY OF BLOOD. CHANGE OF TOTAL BLOOD VOLUME. BLOOD LOSS

Choose one correct answer

1. Decreased hematocrit index is observed at:
Variants of answer:
a) 4–5 days after acute blood loss;
b) pernicious vomiting;
c) burn shock;
d) erythremia (polycythaemia vera);
e) dehydration.

2. Polycythemic hypovolemia is observed at:
Variants of answer:
a) heart failure;
b) extensive burns;
c) erythremia (polycythaemia vera);
d) 4–5 days after acute blood loss;
e) hemolytic anemia.

3. Oligocythemic normovolemia is observed at:
Variants of answer:
a) chronic heart failure;

b) erythremia (polycythaemia vera);
c) acute hemolytic anemia;
d) burn shock;
e) polycystic kidney disease.

4. Polycythemic normovolemia is observed at:
Variants of answer:
a) burn shock;
b) acute hemolytic anemia;
c) chronic hypoxia;
d) 14 days after acute blood loss;
e) iron deficiency anemia.

5. Normocythemic hypervolemia is observed at:
Variants of answer:
a) large amount of blood transfusion;
b) shock;
c) heart defects;
d) kidney disease;
e) chronic hypoxia.

6. Oligocythemic hypervolemia is observed at:
Variants of answer:
a) heart defects;
b) erythremia;
c) intravenous injection of physiological solution;
d) shock;
e) aplastic anemia.

7. Polycythemic hypervolemia is observed at:
Variants of answer:
a) intravenous injection of physiological solution;
b) erythremia (polycythaemia vera);
c) shock;
d) hyperhydration;
e) burns.

8. Specify the main link in pathogenesis of first stage of acute post-hemorrhagic anemia:
Variants of answer:
a) vessel damage;
b) iron deficiency;

c) hemic type of hypoxia;
d) decrease in circulating blood volume;
e) thrombocytopenia.

9. Vascular reflex phase of compensatory stage after acute blood loss is characterized by:

Variants of answer:
a) spasm of peripheral vessels due to release of catecholamines;
b) erythropoiesis;
c) dilation of peripheral vessels;
d) release of atrial natriuretic peptide;
e) spasm of cerebral arteries.

10. Reticulocytosis after acute blood loss develops:

Variants of answer:
a) after 5–6 days;
b) after 4–5 days;
c) after 24–48 hours;
d) immediately after blood loss;
e) after 3 weeks.

11. Specify changes in blood volume that occur within 2–3 hours after acute blood loss of moderate severity:

Variants of answer:
a) oligocythemic hypovolemia;
b) simple hypovolemia;
c) oligocythemic normovolemia;
d) simple normovolemia;
e) oligocythemic hypervolemia.

12. Chronic post-hemorrhagic anemia is characterized by:

Variants of answer:
a) hypochromia of erythrocytes;
b) reticulocytosis (15–20 %).
c) increase in coefficient of transferrin saturation;
d) increase in sideroblasts in bone marrow;
e) hyperchromia of erythrocytes.

PATHOPHYSIOLOGY OF BLOOD. PATHOPHYSIOLOGY OF ERYTHROCYTES. DYSERYTHROPOIETIC ANEMIAS

Choose one correct answer

1. Erythrocyte sedimentation rate is decreased at:
Variants of answer:
a) acute inflammation;
b) sickle cell anemia;
c) iron deficiency anemia;
d) leukemia;
e) chronic inflammation.

2. Specify anemia that is dyserythropoietic:
Variants of answer:
a) anemia Addison-Biermer;
b) thalassemia;
c) sickle cell anemia;
d) chronic posthemorrhagic anemia;
e) autoimmune hemolytic anemia.

3. Microcytosis of erythrocytes is observed at:
Variants of answer:
a) acute posthemorrhagic anemia;
b) aplastic anemia;
c) anemia Addison-Biermer;
d) iron deficiency anemia;
e) folic acid deficiency anemia.

4. Specify anemia that is regenerative (hyperregenerative):
Variants of answer:
a) iron deficiency anemia;
b) autoimmune hemolytic anemia;
c) folic acid deficiency anemia;
d) aplastic anemia;
e) anemia Addison-Biermer.

5. Hypochromia of erythrocytes is observed at:
Variants of answer:
a) hereditary sideroblastic anemia;

b) aplastic anemia;
c) folic acid deficiency anemia;
d) sickle cell anemia;
e) anemia Addison-Biermer.

6. Increased MCH is detected at:
Variants of answer:
a) iron deficiency anemia;
b) chronic posthemorrhagic anemia;
c) hereditary sideroblastic anemia;
d) thalassemia;
e) pernicious anemia Addison-Biermer.

7. Megaloblastic type of hemopoiesis is observed at:
Variants of answer:
a) pernicious anemia Addison-Biermer;
b) α-thalassemia;
c) iron deficiency anemia;
d) chronic posthemorrhagic anemia;
e) thalassemia.

8. Most common reason of iron deficiency anemia is:
Variants of answer:
a) chronic blood loss;
b) ionizing radiation;
c) parasitizing broad tapeworm;
d) deficiency of intrinsic factor Castle;
e) diet with low vegetables.

9. Specify hematological parameters typical for iron deficiency anemia:
Variants of answer:
a) megaloblastic type of hemopoiesis;
b) hypochromia of erythrocytes;
c) reticulocytosis (15–20 %);
d) decrease in latent iron binding capacity;
e) presence of RBCs with Jolly bodies.

10. B12 deficiency anemia is characterized by:
Variants of answer:
a) hypochromia of erythrocytes;
b) normoblastic type of hemopoiesis;
c) presence of RBCs with Jolly bodies and Cabot rings;
d) anisocytosis with a predominance of microcytes;
e) reticulocytosis (15–20 %).

11. Specify hematological parameters typical for aplastic anemia:
Variants of answer:
a) reticulocytosis;
b) leukocytosis;
c) bone marrow hypoplasia;
d) thrombocytosis;
e) erythrocytosis.

12. Metaplastic anemia is observed at:
Variants of answer:
a) chronic blood loss;
b) vitamin B12 deficiency;
c) effects on ionizing radiation on the body;
d) metastases of malignant tumors in bone marrow;
e) parasitizing broad tapeworm.

PATHOPHYSIOLOGY OF BLOOD. HEMOLYTIC ANEMIAS. ERYTHROCYTOSIS

Choose one correct answer

1. Specify hematological parameters typical for hemolytic anemia:
Variants of answer:
a) reticulocytosis;
b) leukopenia;
c) hyperchromic RBCs;
d) bone marrow hypoplasia;
e) thrombocytopenia.

2. Intravascular hemolysis is typical for:
Variants of answer:
a) hereditary spherocytosis;
b) thalassemia;
c) paroxysmal nocturnal hemoglobinuria;
d) sickle cell anemia;
e) iron deficiency anemia.

3. Intracellular hemolysis is typical for:
Variants of answer:
a) sepsis;

b) acetic acid poisoning;
c) hereditary spherocytosis;
d) anemia of G-6-PD deficiency;
e) hemolytic disease of newborn.

4. Specify heredity hemolytic anemia:
Variants of answer:
a) hemolytic disease of newborn;
b) paroxysmal nocturnal hemoglobinuria;
c) thalassemia;
d) hereditary sideroblastic anemia;
e) folic acid deficiency anemia.

5. Heredity hemolytic anemia membranopathy is:
Variants of answer:
a) hereditary spherocytosis (anemia Minkovsky-Shoffar's);
b) thalassemia;
c) sickle cell anemia;
d) paroxysmal nocturnal hemoglobinuria;
e) hemolytic disease of newborn.

6. Hemolytic crisis at Gl-6-PD deficiency anemia can occurs at:
Variants of answer:
a) night time;
b) eating faba bean;
c) eating dairy products;
d) using tocopherol;
e) deficiency of intrinsic factor Castle.

7. Specify hematological parameters typical for sickle cell anemia:
Variants of answer:
a) decrease in color index;
b) sickle shape of RBCs;
c) ESR acceleration;
d) thrombocytopenia;
e) leukopenia.

8 Specify hematological parameters typical for thalassemia:
Variants of answer:
a) increase in color index;

b) ESR slowdown;
c) target shape of RBCs;
d) presence of RBCs with Jolly bodies and Cabot rings;
e) megalocytes.

9. Acquired hemolytic anemia is:
Variants of answer:
a) thalassemia;
b) transfusion of incompatible blood group;
c) sickle cell anemia;
d) pernicious anemia Addison-Biermer;
e) hereditary spherocytosis.

10. Specify the reason of nonimmune hemolytic anemias:
Variants of answer:
a) rhesus incompatibility;
b) snake venoms;
c) drug-dependent antibodies;
d) G-6-PD deficiency;
e) autoantibodies.

11. Intensification of erythropoiesis without increasing synthesis of erythropoietin occurs at:
Variants of answer:
a) any absolute erythrocytosis;
b) any relative erythrocytosis;
c) erythremia (polycythaemia vera);
d) erythrocytosis caused by hypoxia;
e) erythrocytosis due to kidney disease.

12. Secondary (symptomatic) absolute erythrocytosis can occur at:
Variants of answer:
a) erythremia;
b) kidney tumors;
c) chronic blood loss;
d) diarrhea;
e) Gaisbock's syndrome.

PATHOPHYSIOLOGY OF LEUKON. CHANGES IN QUANTITATIVE AND QUALITATIVE COMPOSITION OF WHITE BLOOD CELLS

Choose one correct answer

1. Peripheral blood in acute appendicitis is characterized by:
Variants of answer:
a) leukopenia;
b) basophilia;
c) neutrophilia with shift to the left;
d) lymphocytosis;
e) eosinophilia.

2. Peripheral blood in urticaria is characterized by:
Variants of answer:
a) neutrophilia with shift to the left;
b) eosinophilia;
c) lymphopenia;
d) monocytosis;
e) neutrophilia with shift to the right.

3. Peripheral blood in viral infections is characterized by:
Variants of answer:
a) basophilia;
b) neutrophilia with shift to the left;
c) lymphocytosis;
d) monocytopenia;
e) neutrophilia with shift to the right.

4. Specify a pathological leukocytosis:
Variants of answer:
a) myogenic;
b) inflammatory;
c) digestive;
d) stress;
e) pregnancy.

5. Reactive leukocytosis is observed at:
Variants of answer:
a) pregnancy;

b) pneumonia;
c) stress;
d) food intake;
e) leukemia.

6. Specify a disease which is characterized by absolute neutrophilia:
Variants of answer:
a) acute appendicitis;
b) typhoid fever;
c) pulmonary tuberculosis;
d) rubella;
e) bronchial asthma.

7. Specify a disease accompanied by eosinophilia:
Variants of answer:
a) allergic rhinitis;
b) bacterial pneumonia;
c) acute appendicitis;
d) rubella;
e) myocardial infarction.

8. Specify a disease accompanied by monocytosis:
Variants of answer:
a) measles;
b) typhoid fever;
c) myocardial infarction;
d) bacterial pneumonia;
e) acute appendicitis.

9. Specify a disease with absolute lymphocytosis:
Variants of answer:
a) immune form of agranulocytosis;
b) tuberculosis;
c) dehydration;
d) acute appendicitis;
e) B12 deficiency anemia.

10. Indicate a disease that accompanied by neutropenia:
Variants of answer:
a) hypercorticoidism;
b) acute radiation sickness;
c) myocardial infarction;

d) stress;
e) acute inflammation.

11. Agranulocytosis is:
Variants of answer:
a) increase in agranulocytes in blood;
b) increase in granulocytes in blood;
c) disappearance of specific granularity in cells;
d) severe decrease of granulocytes in blood;
e) decrease in agranulocytes in blood.

12. Specify a hematological parameter typical for leukemoid reaction myeloid type:
Variants of answer:
a) promyelocytes, myelocytes and metamyelocytes in blood;
b) absolute lymphopenia;
c) thrombocytosis;
d) anemia;
e) lymphocytosis.

HEMOBLASTOSIS. LEUKEMIA

Choose one correct answer

1. Leukemia is:
Variants of answer:
a) benign tumor of hematopoietic tissue;
b) malignant tumor of hematopoietic tissue of bone marrow;
c) increase a number of leukocytes;
d) severe leukocytosis during bacterial infections;
e) decrease a number of leukocytes.

2. Specify etiological factors of leukemia:
Variants of answer:
a) carcinogens;
b) infections;
c) stress;
d) endocrine disorders;
e) inflammation.

3. A base for leukemia dividing to acute and chronic is:

Variants of answer:

a) cells differentiation;
b) current of disease;
c) severity of manifestations;
d) count of WBCs in blood;
e) appearance of metastasis.

4. Aleukemic form of leukemia is characterized by:

Variants of answer:

a) severe leukopenia;
b) many blasts in blood;
c) normal number of leukocyte in blood;
d) absence of leukocytes in peripheral blood;
e) severe leukocytosis.

5. The term "hiatus leukemicus" refers to:

Variants of answer:

a) severe thrombocytopenia and anemia;
b) severe leukocytosis with nuclear shift to the left;
c) severe leukocytosis with nuclear shift to the right;
d) absence of immature neutrophils in presence of blasts and mature cells;
e) disappearance of leukocytes in peripheral blood.

6. Specify a hematological parameter typical for acute lymphoblastic leukemia:

Variants of answer:

a) presence of blast cells with a negative reaction to lipids;
b) appearance of promyelocytes and myelocytes in blood;
c) increase of eosinophils and basophils;
d) neutrophilia;
e) relative lymphocytosis.

7. Specify a hematological parameter typical for chronic myeloid leukemia:

Variants of answer:

a) presence of promyelocytes, myelocytes and metamyelocytes in blood;
b) hiatus leukemicus;
c) neutrophilia with shift to the right;
d) relative lymphocytosis;
e) neutropenia.

8. Specify a hematological parameter typical for chronic lymphocytic leukemia:

Variants of answer:

a) lymphocytosis up to 80 %;
b) appearance of myeloblasts in blood ;
c) relative lymphocytosis;
d) predominance of lymphoblast;
e) promyelocytes, myelocytes and metamyelocytes in blood.

9. Botkin – Gumprecht shadows in blood smear is:

Variants of answer:

a) artefact;
b) hypochromic RBCs;
c) neutrophils with toxic granulation;
d) destroyed lymphocytes (shell);
e) pathological inclusion in RBCs.

10. Specify a hematological parameter typical for multiple myeloma:

Variants of answer:

a) increase in plasma cells in blood;
b) monocytosis;
c) Botkin – Gumprecht cells;
d) hiatus leukemicus;
e) neutrophilia with shift to the left.

11. Bence-Jones protein in urine appear at:

Variants of answer:

a) chronic myeloid leukemia;
b) acute lymphoblastic leukemia;
c) multiple myeloma;
d) erythremia (polycythaemia vera);
e) acute myeloblastic leukemia.

12. Anemia in leukemia is due to:

Variants of answer:

a) leukocytosis;
b) inhibition of spleen function;
c) oppression of erythropoiesis;
d) decrease in blood circulating volume;
e) hemodilution.

PATHOLOGY OF HEMOSTASIS SYSTEM

Choose one correct answer

1. Specify a typical hemostatic disorder:
Variants of answer:
a) thrombotic syndrome;
b) consumption coagulopathy;
c) violation of blood rheology;
d) sludge phenomenon;
e) stasis.

2. Indicate an endogenous anticoagulant:
Variants of answer:
a) bradykinin;
b) heparin;
c) histamine;
d) nitric oxide;
e) Hageman factor.

3. Coagulation hemostasis can be impaired as a result of:
Variants of answer:
a) decrease a number of platelets;
b) impaired function of platelets;
c) deficiency of VIII factor;
d) hereditary angiopathy;
e) hypersplenism.

4. Specify a cause of thrombocytopenia:
Variants of answer:
a) 5th day after acute blood loss;
b) hypersensitivity type III;
c) benign tumor;
d) hypersplenism;
e) deficiency of XI factor.

5. Thrombocytopathy is:
Variants of answer:
a) Glanzmann thrombasthenia;
b) hemophilia C;
c) Werlhof disease;
d) decrease in number of thrombocytes;
e) acquired coagulopathy.

6. Specify a cause of acquired coagulopathy:
Variants of answer:
a) chronic blood loss;
b) amyloidosis;
c) liver cirrhosis;
d) hemolytic jaundice;
e) hypersplenism.

7. Hemophilia A is characterized by:
Variants of answer:
a) violation of internal mechanism of formation of prothrombinase activity;
b) prolonged prothrombin time;
c) capillary type of bleeding;
d) positive tourniquet test;
e) spontaneous activation of hemostasis.

8. Indicate a cause of DIC syndrome:
Variants of answer:
a) amniotic fluid embolism;
b) heart failure;
c) Arthus phenomenon;
d) liver disease;
e) deficiency of clotting factors.

9. The first stage of DIC is mainly related to:
Variants of answer:
a) activation of hemostasis;
b) activation of fibrinolysis;
c) depletion of clotting factors;
d) activation of primary anticoagulants;
e) depletion of anticoagulants.

10. The second stage of DIC is mainly related to:
Variants of answer:
a) inhibition of fibrinolysis;
b) activation of hemostasis;
c) depletion of clotting factors;
d) activation of primary anticoagulants;
e) hypoxia of organs with thrombus.

11. Specify a cause of angiopathy:
Variants of answer:
a) hepatitis;

b) allergic reaction;
c) hypoglycaemia;
d) myocardial infarction;
e) hypotension;

12. Specify a cause of thrombophilia:
Variants of answer:
a) obstructive jaundice;
b) acute radiation sickness;
c) burns;
d) hepatitis;
e) deficiency of Von Willebrand factor.

PATHOPHYSIOLOGY OF BLOOD CIRCULATORY SYSTEM. CARDIAC MALFUNCTION

Choose one correct answer

1. Heart failure is characterized by:
Variants of answer:
a) increase in stroke volume;
b) increase in cardiac output;
c) decrease in myocardial contractility;
d) decrease in final systolic volume;
e) decrease in final diastolic pressure.

2. Myocardial form of heart failure is caused by:
Variants of answer:
a) congenital heart septum defects;
b) mitral valve insufficiency;
c) myocardial infarction;
d) secondary hypertension;
e) hypervolemia.

3. Specify a cause of increased preload in left ventricular:
Variants of answer:
a) hypertension;
b) aortic valve stenosis;
c) aortic valve insufficiency;
d) tricuspid valve stenosis;
e) pulmonary embolism.

4. Specify a cause of increased afterload in left ventricular:
Variants of answer:
a) aortic stenosis;
b) mitral valve insufficiency;
c) decrease in blood volume;
d) pulmonary embolism;
e) tricuspid valve insufficiency.

5. Specify a possible cause of left ventricular failure:
Variants of answer:
a) pulmonary hypertension;
b) left ventricular myocardial infarction;
c) emphysema;
d) liver disease;
e) tricuspid valve insufficiency.

6. Specify the most frequent cause of right heart failure:
Variants of answer:
a) brain ischemia;
b) liver disease;
c) pulmonary disease;
d) renal disease;
e) splenomegaly.

7. Specify the main manifestation of acute left heart failure:
Variants of answer:
a) splenomegaly;
b) pulmonary edema;
c) ankle edema;
d) distended neck veins;
e) ascites.

8. Specify the main manifestation of acute right heart failure:
Variants of answer:
a) venous blood stasis in pulmonary circulation;
b) pulmonary edema;
c) ascites;
d) cardiac pseudoasthma;
e) lung atelectasis.

9. Indicate a stage of myocardial hypertrophy:
Variants of answer:
a) compensatory hypertrophy;

b) starting hypertrophy;
c) compensatory cardiosclerosis;
d) initial;
e) terminal.

10. Specify the main risk factor of myocardial infarction:
Variants of answer:
a) atherosclerosis;
b) hypothyroidism;
c) fat depletion;
d) iron deficiency anemia;
e) using aspirin.

11. Specify noncoronarogenic type of myocardial infarctions:
Variants of answer:
a) atherosclerotic;
b) electrolyte-steroid;
c) coronary thrombosis;
d) embolism of coronary vessels;
e) thrombosis of coronary vessels.

12. Inhibition of left ventricle contractility in myocardial infarction is always accompanied by:
Variants of answer:
a) decreased final diastolic volume of left ventricle;
b) increased heart rate;
c) increased final diastolic volume of left ventricle;
d) increased blood pressure;
e) increased systolic volume.

CIRCULATORY DISORDERS WITH VESSELS DYSFUNCTION

Choose one correct answer

1. Specify a substance that effect on peripheral vascular resistance and such increased a blood pressure:
Variants of answer:
a) nitric oxide;
b) bradykinin;
c) prostacyclin;

d) angiotensin II;
e) aldosterone.

2. Specify a substance that have vasodilating effect:
Variants of answer:
a) ADH;
b) kinins;
c) aldosterone;
d) glucocorticoids;
e) epinephrine.

3. Indicate a mechanism of short term hemodynamic regulation:
Variants of answer:
a) CNS reflex to ischemia;
b) vasopressin system;
c) changes in transcapillary exchange;
d) renal system monitoring liquid volume;
e) hypertrophy of heart.

4. Specify a substance included in antihypertensive system:
Variants of answer:
a) nitric oxide;
b) angiotensin II;
c) catecholamines;
d) endothelins;
e) vasopressin.

5. Specify a number of blood pressure characteristic for hypertension grade I:
Variants of answer:
a) 177 / 105 mm Hg;
b) 145 / 95 mm Hg;
c) 160 / 85 mm Hg;
d) 180 / 110 mm Hg;
e) 130 / 85 mm Hg.

6. Essential hypertension occurs:
Variants of answer:
a) in absence of significant organic lesions of internal organs;
b) as a result of adrenal glands dysfunction;
c) as a result of primary kidneys dysfunction;
d) as a result of endocrine dysfunction;
e) as a result of cerebral ischemia.

7. Specify a disease that is accompanied usually by hypertension:
Variants of answer:
a) Cushing s syndrome;
b) heat failure;
c) Waterhouse-Friderichsen syndrome;
d) hypothyroidism;
e) Addison's disease.

8. Renal hypertension can occurs in:
Variants of answer:
a) pheochromocytoma;
b) polycystic kidney disease;
c) traumatic brain injury;
d) hyperaldosteronism;
e) diabetes insipidus.

9. Endocrine hypertension can occurs in:
Variants of answer:
a) total hypofunction of adrenal cortex;
b) pituitary cachexia;
c) hyperfunction of adrenal medulla;
d) hypogonadism;
e) hypoaldosteronism.

10. Specify a possible outcome of long turn hypertension:
Variants of answer:
a) myocarditis;
b) cardiosclerosis;
c) hypoaldosteronism;
d) collapse;
e) diabetes mellitus.

11. Arterial hypotension develops at:
Variants of answer:
a) cerebral ischemia;
b) benign corticosteroma;
c) traumatic shock;
d) polycystic kidney disease;
e) pheochromocytoma.

12. Acute hypotension can cause:
Variants of answer:
a) ascites;

b) hemic hypoxia;
c) polyuria;
d) coronary insufficiency;
e) hemorrhagic stroke.

CARDIAC ARRHYTHMIA

Choose one correct answer

1. Hypokalemia can causes:
Variants of answer:
a) PR segment lengthens;
b) ST depression;
c) peaked T waves;
d) premature ventricular complexes;
e) broadening of QRS complexes.

2. Specify a type of arrhythmias that is caused by mechanism of reentry:
Variants of answer:
a) sinoatrial block;
b) ventricular paroxysmal tachycardia;
c) atrioventricular block;
d) sinus tachycardia;
e) left bundle branch block.

3. Specify a sign of sinus tachycardia:
Variants of answer:
a) heart rate up 100 to180 in min;
b) severe changes in shape of P wave;
c) heart rate more than 300 in min;
d) occurs in hypothyroidism;
e) it is paroxysm of premature ventricular complexes.

4. Specify a sign of sinus bradycardia:
Variants of answer:
a) it is heterotopic arrhythmia;
b) occurs during exercise;
c) associated with decreases in sinus node automaticity;
d) occurs due to dropped QRS complexes;
e) broadening of QRS complexes.

5. Specify a signs of complete left bundle branch block:
Variants of answer:
a) decrease in heart rate;
b) it is abnormal automaticity;
c) broadening of P wave;
d) broadening and distortion of R wave in leads V5, 6;
e) occurs only during exercise.

6. Atrioventricular block I degree is characterized by:
Variants of answer:
a) PQ interval greater than 0.20;
b) deformation of P wave;
c) periodically dropped QRS complexes;
d) complete dissociation of atrial and ventricular rhythms;
e) broadening QRS complex.

7. Specify an ECG signs of complete heart block:
Variants of answer:
a) irregular PP interval;
b) ST depression;
c) PP interval shorter than RR interval;
d) broadening QRS complex;
e) heart contractions rare than 20 per minute.

8. Ventricular fibrillation is:
Variants of answer:
a) group of premature ventricular contractions;
b) complete dissociation of atrial and ventricular contractions;
c) chaotic contraction of single groups of cardiomyocytes;
d) tachycardia with rhythm 250 to 300 per minute;
e) only atrial contraction.

9. Specify an ECG signs of ventricular fibrillation:
Variants of answer:
a) ventricular excitation is ordered;
b) deformation of P wave;
c) PP interval shorter than RR interval;
d) regular, similar in shape and amplitude waves on ECG;
e) elements of ventricular complex in ECG can not be detected.

10. Specify an ECG signs of paroxysmal atrial tachycardia:
Variants of answer:
a) broadening QRS complex;

b) heart rate is correct in most cases;
c) PP interval shorter than RR interval;
d) ST depression;
e) waves on ECG.

11. Premature ventrical contraction is characterized by:
Variants of answer:
a) deformation of P wave;
b) ST depression;
c) deformation and broadening of extrasystolic QRS complex;
d) incomplete compensatory pause;
e) disorders of impulse conduction.

12. Premature atrial contraction is characterized by:
Variants of answer:
a) absence of P wave before the extraordinary ventricular complex;
b) disorders of impulse conduction;
c) broadening and deformation of ventricular complex;
d) complete compensatory pause;
e) ST depression.

PATHOPHYSIOLOGY OF EXTERNAL RESPIRATION

Choose one correct answer

1. Specify a condition with inspiratory type of dyspnea:
Variants of answer:
a) bronchial asthma attack;
b) laryngeal edema;
c) pulmonary edema;
d) bronchitis;
e) broken ribs.

2. Specify a condition with expiratory type of dyspnea:
Variants of answer:
a) narrowing of trachea;
b) bronchial asthma attack;
c) laryngeal edema;
d) compression of trachea by enlarged thyroid gland;
e) mechanical asphyxia.

3. Restrictive type of ventilation disorders is developed at:

Variants of answer:

a) chronic bronchitis;
b) bronchial asthma;
c) laryngospasm;
d) intercostal myositis;
e) emphysema.

4. Specify a disease with obstructive type of ventilation disorders:

Variants of answer:

a) lobar pneumonia;
b) pleurisy;
c) bronchial asthma;
d) pulmonary atelectasis;
e) broken V-VII ribs.

5. Indicate a pathology that can cause an alveolar hyperventilation:

Variants of answer:

a) overheating;
b) lung tumor;
c) exudative pleurisy;
d) bronchial asthma;
e) heart failure.

6. Specify a reason for reducing lung perfusion:

Variants of answer:

a) cardiovascular failure;
b) bronchial asthma;
c) emphysema;
d) pleurisy;
e) lung tumor.

7. Specify a reason for violation of diffuse properties of alveolar-capillary membranes:

Variants of answer:

a) cardiovascular failure;
b) bronchial asthma;
c) silicosis;
d) lung tumor;
e) laryngospasm.

8. An amplitude of respiration during Cheyne Stokes respiration:

Variants of answer:

a) increasing and then decreasing;
b) constant;
c) decreasing;
d) increasing;
e) decreasing and then increasing.

9. Indicate a type of breathing that can be developed at decreasing excitability of respiratory center:

Variants of answer:

a) Biots respiration;
b) Kussmauls respiration;
c) polypnea;
d) hyperpnea;
e) Grokko-Frugoni breath.

10. Indicate a type of breathing corresponding an agonal:

Variants of answer:

a) Cheyne Stokes respiration;
b) Biots respiration;
c) gasping respiration;
d) undulatory respiration;
e) dissociative respiration.

11. Initial and leading pathogenic link in pathogenesis of ARDS is:

Variants of answer:

a) alveolar hyperventilation;
b) pulmonary arterial hypertension;
c) lung edema;
d) increasing the pulmonary vascular permeability for protein;
e) reducing amount of surfactant.

12. Specify an initial and leading link in pathogenesis of respiratory distress syndrome of newborn:

Variants of answer:

a) pulmonary arterial hypertension;
b) lung edema;
c) reducing amount of surfactant;
d) violation of regulation of respiration;
e) alveolar hyperventilation.

PATHOPHYSIOLOGY OF DIGESTIVE SYSTEM

Choose one correct answer

1. Specify the consequence of hypersalivation:
Variants of answer:
a) difficulty chewing and swallowing act;
b) occurrence of inflammatory processes in the oral mucosa;
c) decrease of gastric secretory function;
d) neutralization of hydrochloric acid in gastric juice;
e) hyperhydration.

2. Patients with bulimia nervosa often have a problem:
Variants of answer:
a) acoria;
b) weight loss;
c) malnutrition;
d) hypervitaminosis;
e) difficulty chewing and swallowing act.

3. A cause of duodenogastric reflux can be:
Variants of answer:
a) increased secretion of gastrin;
b) atony of pyloric sphincter;
c) decreased secretion of gastrin;
d) achalasia of cardia sphincter;
e) increased secretion of glicentin.

4. Absence of gastric enzymes and hydrochloric acid is called:
Variants of answer:
a) achlorhydria;
b) acholia;
c) achylia;
d) achalasia;
e) cholemia.

5. Specify a consequences of achylia:
Variants of answer:
a) decrease in absorption of water and electrolytes;
b) increase in secretion of pancreatic juice;
c) constipation;
d) deterioration in digestion of proteins;
e) hyperacidity in stomach.

6. Specify a factor that play a significant role in pathogenesis of dumping syndrome:

Variants of answer:

a) slow evacuation of gastric contents;
b) inhibition of an autonomic nervous system;
c) rapid evacuation of gastric contents;
d) slow glucose absorption into the blood;
e) deficiency of insulin.

7. Specify a factor of aggression in pathogenesis of gastric ulcers:

Variants of answer:

a) glycocalyx mucus;
b) gastro-esophageal reflux;
c) Helicobacter pylori;
d) submucosal bicarbonate buffer;
e) rapid evacuation of gastric contents.

8. Development of pancreatic collapse is associated with:

Variants of answer:

a) excessive production of pancreatic enzymes;
b) insufficient production of pancreatic enzymes;
c) activation of kinin-kallikrein system by pancreatic enzymes;
d) regurgitation of pancreatic enzymes into a stomach in duodenogastric reflux;
e) inactivation of pancreatic enzymes.

9. Specify the main cause of malabsorption syndrome:

Variants of answer:

a) atrophy of microvilli of small intestine;
b) hyperacid gastritis;
c) gastric ulcer;
d) cholecystectomy;
e) duodenogastric reflux.

10. Secretory diarrhea is typical for:

Variants of answer:

a) cholera;
b) enterocolitis;
c) syndrome of intestine irritation;
d) salmonellosis;
e) gastritis.

11. Tendency to atonic constipation is typical for:

Variants of answer:

a) poor nutrition;

b) hypoacidity;
c) chronic enteritis;
d) increase of nervous vagus influences;
e) cholera.

12. Specify a possible causes of intestinal autointoxication:
Variants of answer:
a) hyposecretion of gastric juice;
b) weakening evacuation function of intestine;
c) bulimia;
d) acute pancreatitis;
e) acoria.

PATHOPHYSIOLOGY OF LIVER

Choose one correct answer

1. Portal hypertension can occur in:
Variants of answer:
a) hypovolemia;
b) left ventricular failure;
c) right ventricular failure;
d) overlay of portocaval anastomosis;
e) acute pancreatitis.

2. Specify an etiological factor that cause a primary liver damage:
Variants of answer:
a) viral hepatitis;
b) circulatory failure;
c) chronic kidney disease;
d) obesity;
e) stroke.

3. Specify a possible cause of hemolytic jaundice:
Variants of answer:
a) viral hepatitis;
b) hemolytic anemia;
c) toxic hepatitis;
d) bile ducts obstruction;
e) cirrhosis.

4. Select a sign of hemolytic jaundice:
Variants of answer:
a) increase of unconjugated bilirubin in blood;
b) cholemia;
c) bradycardia;
d) decrease in blood pressure;
e) acholia.

5. Specify a possible cause of parenchymal jaundice:
Variants of answer:
a) viral hepatitis;
b) hemolytic anemia;
c) sepsis;
d) malaria;
e) bile ducts obstruction.

6. Select a sign of parenchymal jaundice:
Variants of answer:
a) appearance of indirect bilirubin in urine;
b) increase in stercobilinogen in feces and urine;
c) increase in blood pressure;
d) elevated levels of direct bilirubin in blood;
e) acholia.

7. Specify a sign of mechanical jaundice:
Variants of answer:
a) decrease of unconjugated bilirubin in blood;
b) increase in blood pressure;
c) tachycardia;
d) cholemia;
e) increase in stercobilinogen in feces and urine.

8. Specify a sign of cholemia:
Variants of answer:
a) hypertension;
b) itchy skin;
c) tachycardia;
d) hypocholesterolemia;
e) dark color of feces.

9. Specify a sign of acholia:
Variants of answer:
a) constipation;

b) increase in vitamin K absorption;
c) steatorrhea;
d) hypercoagulability of blood proteins;
e) dark color of feces.

10. Specify a cause of secondary cholestasis:
Variants of answer:
a) infectious hepatitis;
b) concentration of bile;
c) cholangitis (cholangiolitis);
d) obturation of common bile duct by stones;
e) pancreatitis.

11. Indicate a pigment that gives a dark color of urine in obstructive jaundice:
Variants of answer:
a) conjugated bilirubin;
b) unconjugated bilirubin;
c) urobilin;
d) stercobilin;
e) stercobilinogen.

12. Which compound have a significant toxic effect on a body:
Variants of answer:
a) direct bilirubin (conjugated);
b) indirect bilirubin (unconjugated);
c) urobilinogen;
d) stercobilinogen;
e) urobilin.

PATHOPHYSIOLOGY OF KIDNEYS

Choose one correct answer

1. Specify the extrarenal abnormal urine component:
Variants of answer:
a) leached erythrocytes;
b) cylinders;
c) stercobilin;
d) hemoglobin;
e) protein.

2. Deficiency of which hormone can cause polyuria:
Variants of answer:
a) somatotropic;
b) vasopressin;
c) epinephrine;
d) oxytocin;
e) secretin.

3. Specify a cause of decreased glomerular filtration:
Variants of answer:
a) increase in blood pressure;
b) decrease in oncotic pressure of blood;
c) spasm of afferent glomerular arteriolas;
d) spasm of efferent glomerular arteriolas;
e) hyperhydration.

4. Specify a sign that indicate to violation of ultrafiltration in kidneys:
Variants of answer:
a) glycosuria;
b) acidaminuria;
c) proteinuria;
d) urobilinuria;
e) bilirubinuria.

5. Specify a cause of reduced tubular reabsorption:
Variants of answer:
a) hereditary enzyme deficiency in tubules;
b) excess of aldosterone;
c) excess of antidiuretic hormone;
d) hypoglycemia;
e) hypervolemia.

6. Specify a sign that characterize impaired renal tubular function:
Variants of answer:
a) decline in creatinine clearance;
b) azotemia;
c) proteinuria;
d) renal glucosuria;
e) hemoglobinuria.

7. Nephrotic syndrome is characterised by:
Variants of answer:
a) ketonuria;

b) glycosuria;
c) proteinuria;
d) urobilinuria;
e) hemoglobinuria.

8. Specify the link of pathogenesis of acute diffuse glomerulonephritis:
Variants of answer:
a) immune inflammation of renal basal membrane;
b) Staphylococcus in the circulating blood;
c) hypoxic damage of renal tubules;
d) infectious inflammatory kidney disease caused by gram negative micro-organisms;
e) violation of intrarenal circulation.

9. Specify a pathogenetic mechanism of acute renal failure:
Variants of answer:
a) violation of intrarenal circulation;
b) decreased synthesis of renin;
c) deficiency of enzyme in renal tubules;
d) Streptococcus in the circulating blood;
e) overproduction of aldosterone.

10. Uremic stage of chronic kidney disease is characterized by:
Variants of answer:
a) polyuria;
b) azotemia;
c) metabolic alkalosis;
d) increase in creatinine clearance;
e) increase in filtrate rate.

11. Infectious inflammatory kidney disease is:
Variants of answer:
a) tubulopathy;
b) pyelonephritis;
c) urolithiasis;
d) nephropathy of pregnant;
e) chronic renal failure.

12. Specify a factor that contribute to the development of nephrolithiasis:
Variants of answer:
a) hypoproteinemia;
b) increase of solubilizers in urine;
c) infection of renal parenchyma;
d) decreasing concentration of salt in blood;
e) decreasing concentration of salt in urine.

PATHOPHYSIOLOGY OF ENDOCRINE SYSTEM

Choose one correct answer

1. Transhypophyseal regulation is the basis for:
Variants of answer:
a) thyroid gland;
b) medulla of adrenal glands;
c) parathyroid glands;
d) Langerhans islets;
e) APUD system.

2. Parahypophyseal regulation is the basis for:
Variants of answer:
a) medulla of adrenal glands;
b) cortex of adrenal glands;
c) thyroid gland;
d) gonads;
e) growth.

3. Etiological factor of diabetes insipidus is:
Variants of answer:
a) overproduction of oxytocin;
b) inability to produce vasopressin;
c) reduction of aldosterone secretion;
d) overproduction of aldosterone;
e) overproduction of natriuretic peptide.

4. Acromegaly is manifested by:
Variants of answer:
a) hypoglycemia;
b) tendency to fat depletion;
c) increased sensitivity to insulin;
d) intensification of growth;
e) retardation of growth.

5. Specify a manifestation of pituitary dwarfism:
Variants of answer:
a) retardation of growth and development;
b) tendency to hypertension;
c) hyperglycemia;

d) tendency to fat depletion;
e) high growth.

6. Clinical manifestation of hyperthyroidism is:
Variants of answer:
a) obesity;
b) hypercholesterolemia;
c) increase in basal metabolic rate;
d) decrease in body temperature;
e) myxedema.

7. Hypothyroidism is characterized by:
Variants of answer:
a) myxedema;
b) exophthalmos;
c) increase in body temperature;
d) tachycardia;
e) tremor.

8. Partial anterior pituitary hyperfunction can leads to:
Variants of answer:
a) eunuchoidism;
b) Cushing's disease;
c) diabetes mellitus type I;
d) dwarfism;
e) hypoparathyroidism.

9. Clinical manifestation of Cushing's disease is:
Variants of answer:
a) hypotension;
b) overall obesity;
c) red striae;
d) myxedema;
e) cachexia.

10. Specify the main manifestation of Simmonds' disease:
Variants of answer:
a) atrophy of thyroid, adrenal and sex glands, muscles;
b) hypertrophy of thyroid, adrenal and sex glands;
c) increase in basal metabolic rate;
d) hyperthermia;
e) obesity.

11. Specify a manifestation of Addison's disease:
Variants of answer:
a) hypertension;
b) skin hyperpigmentation;
c) hyperglycemia;
d) oliguria;
e) exophthalmos.

12. Primary aldosteronism occurs at:
Variants of answer:
a) tumors of adrenal medulla;
b) increase in aldosterone secretion under the influence of angiotensin;
c) tumors of zona glomerulosa of adrenal cortex;
d) liver diseases;
e) kidney diseases.

PATHOPHYSIOLOGY OF NERVOUS SYSTEM

Choose one correct answer

1. Neurotropic toxic effects has:
Variants of answer:
a) aldosterone;
b) narcotics;
c) adenosine;
d) streptococcal exotoxin;
e) melatonin.

2. Physiological pain is characterized by:
Variants of answer:
a) occurs without pathogenic stimulus;
b) disorganize the body;
c) lasting;
d) adequate to strength and character of action;
e) mobilizes protective-adaptive reactions.

3. Pathological pain is characterised by:
Variants of answer:
a) adequate to strength and character of action;
b) mobilizes protective-adaptive reactions;

c) stops at elimination of stimulus;
d) occurs without pathogenic stimulus;
e) occurs with pathogenic stimulus.

4. Hypokinesis include:
Variants of answer:
a) clonic seizures;
b) tics;
c) paresis;
d) chorea;
e) athetosis.

5. Peripheral paralysis is characterized by:
Variants of answer:
a) increased spinal reflexes;
b) increase of muscle tone;
c) appearance of pathological reflexes;
d) muscle dystrophy and atrophy;
e) seizures.

6. Central paralysis is characterised by:
Variants of answer:
a) maintenance of voluntary movements;
b) absent of tendon reflexes;
c) muscle atrophy;
d) increase in muscle tone;
e) decrease in muscle tone.

7. The most frequent cause of hemiparesis in humans is:
Variants of answer:
a) funicular myelosis;
b) hemorrhage into internal capsule;
c) damage of pyramidal tract at medulla oblongata level;
d) damage of pyramidal tract at spinal cord level;
e) damage of peripheral nerve.

8. Hyperkinesis include:
Variants of answer:
a) clonic seizures;
b) paresis;
c) triplegia;
d) paralysis;
e) paraplegia.

9. Violation of motor brain cortex is accompanied by:

Variants of answer:

a) clonic seizures;

b) chorea;

c) tremor;

d) sensitive ataxia;

e) phantom pain.

10. Violation of subcortical centers of motor analyzer is accompanied by:

Variants of answer:

a) clonic seizures;

b) tonic seizures;

c) chorea;

d) sensitive ataxia;

e) phantom pain.

11. Segmental disorders of autonomic nervous system are observed in lesions of:

Variants of answer:

a) spinal cord;

b) reticular formation;

c) hypothalamus;

d) cortex;

e) peripheral nerves.

12. Neurosis by pathogenesis can be directly linked with:

Variants of answer:

a) stomach ulcer;

b) Cushing s disease;

c) diffuse glomerulonephritis;

d) hepatitis;

e) aplastic anemia.

STANDARD OF ANSWERS TO THE TEST TASKS

INTRODUCTION TO THE DISCIPLINE "PATHOLOGICAL PHYSIOLOGY". GENERAL DOCTRINE ABOUT DISEASE. GENERAL ETIOLOGY AND PATHOGENESIS

№ question	Correct answers	№ question	Correct answers	№ question	Correct answers	№ question	Correct answers
1	d	4	d	7	b	10	c
2	b	5	a	8	a	11	a
3	a	6	a	9	b	12	d

PATHOGENIC EFFECTS OF ENVIRONMENTAL FACTORS ON THE HUMAN BODY

№ question	Correct answers	№ question	Correct answers	№ question	Correct answers	№ question	Correct answers
1	b	4	c	7	d	10	a
2	d	5	a	8	c	11	a
3	b	6	c	9	c	12	b

THE ROLE OF HEREDITY IN PATHOLOGY

№ question	Correct answers	№ question	Correct answers	№ question	Correct answers	№ question	Correct answers
1	b	4	c	7	a	10	b
2	a	5	a	8	a	11	b
3	b	6	a	9	c	12	a

THE ROLE OF REACTIVITY, CONSTITUTION AND AGE IN THE DEVELOPMENT OF PATHOLOGY

№ question	Correct answers	№ question	Correct answers	№ question	Correct answers	№ question	Correct answers
1	c	4	a	7	b	10	d
2	b	5	a	8	b	11	c
3	a	6	d	9	d	12	c

CELL DAMAGE

№ question	Correct answers	№ question	Correct answers	№ question	Correct answers	№ question	Correct answers
1	d	4	b	7	d	10	b
2	b	5	b	8	d	11	a
3	a	6	c	9	a	12	c

TYPICAL FORMS OF MICROCIRCULATORY DISORDERS

№ question	Correct answers	№ question	Correct answers	№ question	Correct answers	№ question	Correct answers
1	a	4	c	7	b	10	a
2	a	5	a	8	c		
3	d	6	a	9	a		

PERIPHERAL CIRCULATORY DISORDERS

№ question	Correct answers	№ question	Correct answers	№ question	Correct answers	№ question	Correct answers
1	c	4	b	7	c	10	b
2	a	5	a	8	a	11	a
3	d	6	c	9	a	12	b

INFLAMMATION

№ question	Correct answers	№ question	Correct answers	№ question	Correct answers	№ question	Correct answers
1	b	4	d	7	d	10	a
2	d	5	a	8	a	11	d
3	a	6	d	9	a	12	b

INFECTIOUS PROCESS. FEVER

№ question	Correct answers	№ question	Correct answers	№ question	Correct answers	№ question	Correct answers
1	a	4	d	7	b	10	d
2	c	5	a	8	a		
3	a	6	a	9	b		

IMMUNOPATHOLOGICAL PROCESSES

№ question	Correct answers	№ question	Correct answers	№ question	Correct answers	№ question	Correct answers
1	b	5	a	9	a	13	a
2	a	6	b	10	d	14	c
3	b	7	b	11	c	15	a
4	a	8	c	12	b	16	c

TYPICAL METABOLIC DISORDERS.
DISORDERS OF PROTEIN, VITAMINS,
NUCLEIC ACIDS METABOLISMS. STARVATION

№ question	Correct answers	№ question	Correct answers	№ question	Correct answers	№ question	Correct answers
1	b	4	a	7	b	10	a
2	c	5	a	8	c	11	a
3	a	6	d	9	a	12	b

DISORDERS OF CARBOHYDRATE AND LIPID METABOLISMS

№ question	Correct answers	№ question	Correct answers	№ question	Correct answers	№ question	Correct answers
1	c	4	a	7	b	10	d
2	c	5	d	8	c	11	a
3	d	6	b	9	b	12	c

DISORDERS OF ACIDBASE BALANCE,
WATERELECTROLYTE AND MINERAL METABOLISM

№ question	Correct answers	№ question	Correct answers	№ question	Correct answers	№ question	Correct answers
1	b	4	b	7	c	10	d
2	b	5	c	8	a	11	a
3	a	6	d	9	d	12	a

HYPOXIA

№ question	Correct answers	№ question	Correct answers	№ question	Correct answers	№ question	Correct answers
1	a	4	a	7	b	10	c
2	d	5	c	8	d		
3	a	6	a	9	b		

EXTREME CONDITIONS

№ question	Correct answers	№ question	Correct answers	№ question	Correct answers	№ question	Correct answers
1	a	5	b	9	a	13	a
2	b	6	c	10	c	14	b
3	c	7	a	11	c		
4	d	8	d	12	d		

PATHOLOGY OF TISSUE GROWTH. TUMORS

№ question	Correct answers	№ question	Correct answers	№ question	Correct answers	№ question	Correct answers
1	a	4	b	7	b	10	a
2	d	5	d	8	d	11	c
3	d	6	c	9	d	12	a

PATHOPHYSIOLOGY OF BLOOD.
CHANGE OF TOTAL BLOOD VOLUME. BLOOD LOSS

№ question	Correct answers	№ question	Correct answers	№ question	Correct answers	№ question	Correct answers
1	a	4	c	7	b	10	b
2	b	5	a	8	d	11	b
3	c	6	c	9	a	12	a

PATHOPHYSIOLOGY OF BLOOD.
PATHOPHYSIOLOGY OF ERYTHROCYTES.
DYSERYTHROPOIETIC ANEMIAS

№ question	Correct answers	№ question	Correct answers	№ question	Correct answers	№ question	Correct answers
1	b	4	b	7	a	10	c
2	a	5	a	8	a	11	c
3	d	6	d	9	b	12	d

PATHOPHYSIOLOGY OF BLOOD. HEMOLYTIC ANEMIAS. ERYTHROCYTOSIS

№ question	Correct answers	№ question	Correct answers	№ question	Correct answers	№ question	Correct answers
1	a	4	c	7	b	10	b
2	c	5	a	8	c	11	c
3	c	6	b	9	b	12	b

PATHOPHYSIOLOGY OF LEUKON.
CHANGES IN QUANTITATIVE AND QUALITATIVE
COMPOSITION OF WHITE BLOOD CELLS

№ question	Correct answers	№ question	Correct answers	№ question	Correct answers	№ question	Correct answers
1	c	4	b	7	a	10	b
2	b	5	b	8	a	11	d
3	c	6	a	9	b	12	a

HEMOBLASTOSIS. LEUKEMIA

№ question	Correct answers	№ question	Correct answers	№ question	Correct answers	№ question	Correct answers
1	b	4	c	7	a	10	a
2	a	5	d	8	a	11	c
3	a	6	a	9	d	12	c

PATHOLOGY OF HEMOSTASIS SYSTEM

№ question	Correct answers	№ question	Correct answers	№ question	Correct answers	№ question	Correct answers
1	a	4	d	7	a	10	c
2	b	5	a	8	a	11	b
3	c	6	c	9	a	12	c

PATHOPHYSIOLOGY OF BLOOD CIRCULATORY SYSTEM. CARDIAC MALFUNCTION

№ question	Correct answers	№ question	Correct answers	№ question	Correct answers	№ question	Correct answers
1	c	4	a	7	b	10	a
2	c	5	b	8	c	11	b
3	c	6	c	9	a	12	c

CIRCULATORY DISORDERS WITH VESSELS DYSFUNCTION

№ question	Correct answers	№ question	Correct answers	№ question	Correct answers	№ question	Correct answers
1	d	4	a	7	a	10	b
2	b	5	b	8	b	11	c
3	a	6	a	9	c	12	d

CARDIAC ARRHYTHMIA

№ question	Correct answers	№ question	Correct answers	№ question	Correct answers	№ question	Correct answers
1	d	4	c	7	c	10	b
2	b	5	d	8	c	11	c
3	a	6	a	9	e	12	a

PATHOPHYSIOLOGY OF EXTERNAL RESPIRATION

№ question	Correct answers	№ question	Correct answers	№ question	Correct answers	№ question	Correct answers
1	b	4	c	7	c	10	c
2	b	5	a	8	a	11	d
3	d	6	a	9	a	12	c

PATHOPHYSIOLOGY OF DIGESTIVE SYSTEM

№ question	Correct answers	№ question	Correct answers	№ question	Correct answers	№ question	Correct answers
1	d	4	c	7	c	10	a
2	a	5	d	8	c	11	a
3	b	6	c	9	a	12	b

PATHOPHYSIOLOGY OF LIVER

№ question	Correct answers	№ question	Correct answers	№ question	Correct answers	№ question	Correct answers
1	c	4	a	7	d	10	d
2	a	5	a	8	b	11	a
3	b	6	d	9	c	12	b

PATHOPHYSIOLOGY OF KIDNEYS

№ question	Correct answers	№ question	Correct answers	№ question	Correct answers	№ question	Correct answers
1	d	4	c	7	c	10	b
2	b	5	a	8	a	11	c
3	c	6	d	9	a	12	c

PATHOPHYSIOLOGY OF ENDOCRINE SYSTEM

№ question	Correct answers	№ question	Correct answers	№ question	Correct answers	№ question	Correct answers
1	a	4	d	7	a	10	a
2	a	5	a	8	b	11	b
3	b	6	c	9	c	12	c

PATHOPHYSIOLOGY OF NERVOUS SYSTEM

№ question	Correct answers	№ question	Correct answers	№ question	Correct answers	№ question	Correct answers
1	b	4	c	7	b	10	b
2	d	5	d	8	a	11	a
3	d	6	d	9	a	12	a

LITERATURE

1. *Литвицкий, П. Ф.* Задачи и тестовые задания по патофизиологии: учеб. пособие / П. Ф. Литвицкий; под. ред. П. Ф. Литвицкого. — М.: ГЭОТАР-МЕД, 2002. — 384 с.

2. *Литвицкий, П. Ф.* Задачи и тестовые задания по патофизиологии: учеб. пособие / П. Ф. Литвицкий; под. ред. П. Ф. Литвицкого. — 2-е изд., перераб. и доп. — М.: ГЭОТАР-МЕД, 2011. — 293 с.

3. *Новиков, Д. К.* Клиническая иммунология: учеб. пособие / Д. К. Новиков, П. Д. Новиков. — Витебск: ВГМУ, 2006. — 392 с.

4. Патофизиология: учебник: в 2 т. / под ред. В. В. Новицкого, Е. Д. Гольдберга, О. И. Уразовой. — 4-е изд., перераб. и доп. — ГЭОТАР-Медиа, 2009.

5. Патологическая физиология: учебник / под ред. Н. Н. Зайко, Ю. В. Быця. — 5-е изд. — М.: МЕДпрессинформ, 2008. — 635 с.

6. Тестовые задания по курсу патофизиологии / под ред. Г. В. Порядина, Ж. М. Салмаси. — 2-е изд. — М.: ГОУ ВУНЦМ МЗ РФ, 2000. — 352 с.

7. *Угольник, Т. С.* Тестовые задания по патологической физиологии. Общая патофизиология: учеб.-метод. пособие: в 3 ч. / Т. С. Угольник, И. В. Вуевская, Я. А. Чуйко. — Гомель: ГомГМУ, 2012. — Ч. 1. — 156 с.

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ПО ПАТОЛОГИЧЕСКОЙ ФИЗИОЛОГИИ
(на английском языке)**

**Учебно-методическое пособие
для студентов 3 курса факультета по подготовке специалистов
для зарубежных стран, обучающихся на английском языке,
медицинских вузов**

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