

№	крок 2023
Тема	Molecular genetic methods in microbiological diagnostic.
Текст завдання	Laboratory diagnostics of hepatitis B has determined the presence of viral DNA in the patient's blood. What reaction is usually used for this purpose?
Правильна відповідь	Polymerase chain reaction
B	Complement fixation test
C	Hemagglutination inhibition test
D	Enzyme-linked immunosorbent assay
E	Indirect hemagglutination test
№	крок 2023
Тема	Human immune system. Biology of immune response. Humoral and cellular immune response.
Текст завдання	A patient with bronchopulmonary aspergillosis developed allergic rhinitis. Enzyme-linked immunosorbent assay detects elevated levels of IgE. What cell type expresses receptors for IgE on its cell surface, which stimulates the cell to respond to parasites, such as worms?
Правильна відповідь	Mast cells
B	NK cells
C	Promonocytes
D	B cells
E	T cells
№	крок 2023
Тема	Salmonella of enteric typhus and paratyphoids. Salmonella – causative agents of acute gastroenterocolitis. Other pathogenic enterobacteria
Текст завдання	A repeated Widal agglutination test shows an increase from 1:100 to 1:400 in the titers of antibodies to S. typhi O-antigens in the patient's serum. How can the obtained results be interpreted?
Правильна відповідь	The patient has typhoid fever
B	The patient is a chronic carrier of typhoid microbes
C	The patient has a past history of typhoid fever
D	The patient is an acute carrier of typhoid microbes
E	The patient was previously vaccinated against typhoid fever
№	крок 2023
Тема	Corynebacteria. Mycobacteria

Текст завдання	A doctor suspects diphtheria in a patient. Bacterioscopy of a throat swab detected rod-shaped bacteria with volutin granules. What etiotropic drug would be the drug of choice in this case?
Правильна відповідь	Antidiphtheric antitoxic serum
B	Bacteriophage
C	Interferon
D	Diphtheria toxoid
E	Eubiotic
№	крок 2023
Тема	Microbiological bases of antimicrobial chemotherapy and antiseptics
Текст завдання	A 45-year-old man with acute pneumonia was prescribed a penicillin antibiotic. However, when tested for personal tolerance to this antibiotic, he developed an allergic response. What drug should be prescribed for treatment in this case?
Правильна відповідь	Erythromycin
B	Phenoxymethylpenicillin
C	Benzympenicillin
D	Bicillin-5
E	Ciprofloxacin
№	крок 2023
Тема	Immunity. Types of immunity. Antigens. Antibodies.
Текст завдання	A 10-year-old child underwent a Mantoux test (with tuberculin). After 48 hours, a papule up to 8 mm in diameter appeared at the site of tuberculin injection. What type of hypersensitivity reaction developed after administration of tuberculin?
Правильна відповідь	Type IV hypersensitivity reaction
B	Arthus reaction
C	Atopic reaction
D	Type II hypersensitivity reaction
E	Serum sickness
№	крок 2023
Тема	Salmonella of enteric typhus and paratyphoids
Текст завдання	Five days after a diarrhea onset, colonoscopy detected gray-green filmy deposits tightly attached to the underlying tissue in the inflamed rectal mucosa of the patient. What disease can be characterized by these pathological changes?

Правильна відповідь	Typhoid fever
B	Crohn's disease
C	Salmonellosis
D	Nonspecific ulcerative colitis
E	Dysentery
№	крок 2023
Тема	Spirochaetae
Текст завдання	During a regular examination, blood was taken from a vein of a pregnant woman for the Wasserman reaction. The reaction was positive. The patient and her husband deny extramarital sexual intercourse. What must be done to confirm or refute the diagnosis of syphilis?
Правильна відповідь	Perform the Treponema pallidum immobilization test
B	Repeat the Wasserman test
C	Obtain a smear from the urethra
D	Perform sedimentation tests
E	Perform the complement fixation test
№	крок 2023
Тема	Salmonella of enteric typhus and paratyphoids. Salmonella – causative agents of acute gastroenterocolitis. Other pathogenic enterobacteria
Текст завдання	A 43-year-old man was hospitalized with complaints of fever with chills, loss of appetite, malaise, diarrhea, and diffuse abdominal pain, observed for the last week. The fever started slowly and gradually increased to the current 39.8°C. The blood pressure is 110/70 mm Hg. Objectively, the tongue is coated, the spleen is enlarged, and there is a roseola rash on the abdomen. The Widal agglutination test to O-anigen is positive with titer of 1:200. What microorganism is the most likely cause of the patient's condition in this case?
Правильна відповідь	Salmonella typhi
B	Leptospira interrogans
C	Vibrio cholerae
D	Enterohemorrhagic E. coli
E	Mycobacterium tuberculosis
№	крок 2023
Тема	Microbiological bases of antimicrobial chemotherapy and antiseptics
Текст завдання	Before a surgery, the patient was prescribed a synthetic antiprotozoal drug to prevent a wound infection. The prescribed drug is highly effective against Helicobacter pylori. What drug is it?

Правильна відповідь	Metronidazole
B	Doxycycline hydrochloride
C	Aciclovir
D	Isoniazid
E	Chingamin (Chloroquine)
№	крок 2023
Тема	Medical protozoology
Текст завдання	What period of the malaria plasmodium life cycle coincides with the manifestation of clinical symptoms of malaria in a patient?
Правильна відповідь	When merozoites emerge from destroyed erythrocytes
B	When sporozoites enter the human bloodstream
C	During gametocyte formation
D	When merozoites invade erythrocytes
E	In the period of tissue schizogony
№	крок 2023
Тема	Methods of immune status examination. Immunodeficiencies
Текст завдання	Examination detects lymphopenia in a patient, who has been taking glucocorticoids for a long time. How can the functional state of the patient's immune system be characterized in this case?
Правильна відповідь	Secondary immunodeficiency
B	Tolerance to autoantigens
C	Congenital immunodeficiency
D	Primary immunodeficiency
E	Anaphylaxis
№	крок 2023
Тема	Causative agents of viral hepatitis
Текст завдання	Laboratory findings of a patient diagnosed with jaundice are as follows: HBsAg-, HBeAg-, anti-HBsAg+, anti- HBsM-, HCAg+. What disease can be characterized by such laboratory findings?
Правильна відповідь	Hepatitis C with history of hepatitis B
B	Chronic hepatitis B with low replicative activity
C	Hepatitis B reinfection
D	Hepatitis B relapse
E	-

№	крок 2023
Тема	Methods of laboratory diagnostics of the infections.
Текст завдання	A certain infectious agent can damage mucosa, cause inflammation of internal organs, sepsis, provoke formation of blue- green pus, and is quite resistant to most antibiotics. What pathogen is it?
Правильна відповідь	<i>Pseudomonas aeruginosa</i>
В	<i>Proteus vulgaris</i>
С	<i>Staphylococcus aureus</i>
Д	<i>Escherichia coli</i>
Е	<i>Streptococcus mutants</i>
№	крок 2023
Тема	Salmonella of enteric typhus and paratyphoids. Salmonella – causative agents of acute gastroenterocolitis.
Текст завдання	A patient was hospitalized with the provisional diagnosis of typhoid fever. The disease onset was three days ago. The temperature is 39°C. What method of laboratory diagnostics must be used to confirm this diagnosis?
Правильна відповідь	Obtaining a blood culture
В	Obtaining a coproculture
С	Obtaining a urinoculture
Д	Serology
Е	Obtaining a biliculture
№	крок 2023
Тема	Serological diagnostics of infectious diseases
Текст завдання	After eating canned mushrooms, a person developed signs of bulbar paralysis: ptosis, diplopia, aphonia, difficulty swallowing. Provisionally, this person was diagnosed with botulism. What reaction can be used in this case to determine the type of toxin?
Правильна відповідь	Neutralization
В	Precipitation
С	Immunofluorescence
Д	Complement fixation
Е	Agglutination
№	крок 2023
Тема	Microbiological bases of antimicrobial chemotherapy and antiseptics

Текст завдання	A woman was diagnosed with Chlamydia-induced pneumonia. The doctor prescribed her antibiotic doxycycline. What type of pharmacotherapy is it?
Правильна відповідь	Etiotropic
B	Replacement
C	Symptomatic
D	Pathogenetic
E	Preventive
№	крок 2023
Тема	Infection. Biological method of investigation.
Текст завдання	Some parasites in their life cycle may have a host that can accumulate the parasite at its invasive stage and facilitate its transmission to the final host. What type of host is it?
Правильна відповідь	Optional host
B	Additional host
C	Obligate host
D	Reservoir host
E	Definitive host
№	крок 2023
Тема	Methods of immune status examination. Immunodeficiencies
Текст завдання	The mother complains that her 7- month-old child has recurrent bacterial infections, such as conjunctivitis, otitis, sinopulmonary infections, diarrhea, and skin infections. Examination detects reduced size of the child's tonsils and lymph nodes. In the blood, examination of serum immunoglobulins shows noticeably reduced levels of IgM, IgA, and IgE, IgG is less than 100 mg/dL. What disease can be characterized by these pathological changes?
Правильна відповідь	X-linked agammaglobulinemia (Bruton disease)
B	DiGeorge syndrome
C	Hereditary adenosine deaminase defect in T lymphocytes
D	Wiskott-Aldrich syndrome
E	Hypogammaglobulinemia
№	крок 2017
Topic	Bases of sanitary microbiology. Sanitary microbiology and virology of water, soil, air

Task	During sanitary and bacteriological testing of water with the membrane filter technique there were revealed two red colonies on the membrane filter (Endo medium) through which 500 ml of water was filtered. Calculate the coli index and coli titer of this water:
Correct answer	4 and 250
B	2 and 500
C	250 and 4
D	500 and 2
E	250 and 2
№	krok 2017
Topic	Phagocytosis. Determination of phagocytic activity of the neutrophils. Determination of humoral factors of nonspecific protection (lysozyme, complement).
Task	Protective function of saliva is based on several mechanisms, including the presence of enzyme that has bactericidal action and causes lysis of complex capsular polysaccharides of staphylococci and streptococci. Name this enzyme:
Correct answer	Lysozyme
B	Alpha-amylase
C	Oligo-1,6-glucosidase
D	Collagenase
E	Beta-glucuronidase
№	krok 2017
Topic	Vibrio. Campylobacter. Helicobacter.
Task	After inoculation of investigated material (feces) on 1% alkaline peptone water and 8-hour-long incubation in the thermostat under 37° C there is growth of pale bluish film observed. Such cultural properties are characteristic of the agent of the following disease:
Correct answer	Cholera
B	Plague
C	Typhoid fever
D	Paratyphoid A fever
E	Dysentery
№	krok 2017
Topic	Causative agents of viral hepatitis.

Task	In a township there was registered an outbreak of hepatitis, which was attributed to water supply. What hepatitis virus could be the cause of the outbreak in this township?
Correct answer	Hepatitis E virus
B	Hepatitis C virus
C	Hepatitis D virus
D	Hepatitis G virus
E	Hepatitis B virus
№	krok 2017
Topic	Vibrio. Campylobacter. Helicobacter
Task	During fibergastroscopy of a patient with ulcer disease of the stomach, the mucosal biopsy material is taken from the area of an ulcer. Impression smear is prepared from the biopsy material and stained by Gram method; the rest of the biopsy material is tested for urease activity. Microscopy of the impression smear revealed gram-negative spiral-shaped microorganisms, urease activity test is positive. What bacteria were detected?
Correct answer	<i>Helicobacter pylori</i>
B	<i>Spirilla minor</i>
C	<i>Shigella flexneri</i>
D	<i>Treponema pallidum</i>
E	<i>Campylobacter jejuni</i>
№	krok 2017
Topic	Yersinia. Bacillus anthracis
Task	Old burial ground for animal refuse, which has not been in use for the last 50 years, is planned to be given for housing development. However, the soil analysis detected viable spores of a causative agent of an extremely dangerous disease. What microorganism is the most likely to remain in the soil for such a long period of time?
Correct answer	<i>Bacillus anthracis</i>
B	<i>Francisella tularensis</i>
C	<i>Brucella abortus</i>
D	<i>Yersinia pestis</i>
E	<i>Mycobacterium bovis</i>
№	krok 2017
Topic	Retroviruses. HIV.



Task	T-lymphocytes are determined to be affected with HIV. In this case viral enzyme reverse transcriptase (RNA-dependent DNA-polymerase) catalyzes the synthesis of:
Correct answer	DNA based on the viral RNA matrix
B	Viral RNA based on the DNA matrix
C	Viral protein based on the viral RNA matrix
D	Viral DNA based on the DNA matrix
E	Informational RNA based on the viral protein matrix
№	krok 2017
Topic	Mycobacteria. Actinomycetes
Task	A 40-year-old man developed skin redness and swelling in the neck area, where eventually a small abscess appeared. On section the focus is dense and yellow-green colored. In the purulent masses there are white granules. Histologically there are fungal druses, plasma and xanthome cells, and macrophages detected. Specify the most correct etiological name of this pathological process:
Correct answer	Actinomycosis
B	Furuncle
C	Carbuncle
D	Syphilis
E	Leprosy
№	krok 2017, 2016, 2015, 2014
Topic	Serological method of research. Serological identification of culteres. Serological methods for rapid diagnosis. Serological diagnosis of infectious diseases. Diagnosticums. Diagnostic serum
Task	A patient has been hospitalized with provisional diagnosis of virus B hepatitis. Serological reaction based on complementation of antigen with antibody chemically bound to peroxidase or alkaline phosphatase has been used for disease diagnostics. What is the name of the applied serological reaction?
Correct answer	Enzyme-linked immunosorbent assay
B	Radioimmunoassay technique
C	Immunofluorescence test
D	Complement fixation test
E	Immobilization test
№	krok 2017
Topic	Serological method of research. Serological identification of culteres. Serological methods for rapid diagnosis. Serological diagnosis of infectious diseases. Diagnosticums. Diagnostic serum

Task	A bacteriological laboratory tests canned meat for botulinum toxin. Extract of the tested material and ABE botulinum antitoxin serum was introduced into the test group of mice; the control group of mice received the extract without antitoxin serum. What serological reaction was used?
Correct answer	Neutralization
B	Precipitation
C	Complement binding
D	Opsonophagocytic
E	Double immunodiffusion
№	krok 2017
Topic	Immunopathology.Allergy.
Task	After sensitization a test animal received subcutaneously a dose of antigen. At the site of injection a fibrinous inflammation developed with alteration of vessel walls, basal substance, and fibrous structures of connective tissue. The inflammation took form of mucoid and fibrinoid degeneration, fibrinoid necrosis. What immune response occurred in the test animal?
Correct answer	Immediate hypersensitivity
B	Delayed hypersensitivity
C	Transplantation immune reaction
D	Normergic reaction
E	Granulomatosis
№	krok 2017
Topic	Rhabdoviruses.Arboviruses.
Task	Brain autopsy revealed an edema, hyperemia, and small hemorrhages in the medulla oblongata. Microscopically chromatolysis, hydropia and nerve cell necrosis are observed; within the cytoplasm of hippocampal nerve cells there are eosinophilic structures (Negri bodies) detected. What diagnosis corresponds with the described morphological signs?
Correct answer	Rabies
B	Meningococcal meningitis
C	Encephalitis
D	Encephalomyelitis
E	Brucellosis
№	krok 2017

Topic	Neutralization test (NT). Serological tests with use of the labels: immunofluorescence test (IFT), enzyme linked immunosorbent assay (ELISA), radioimmunoassay (RIA).
Task	Pathologic material (mucosal excretion from the nasal passages) obtained from a patient provisionally diagnosed with influenza was delivered to the virological laboratory. What quick test allows detecting specific viral antigen in the investigated material?
Correct answer	Direct and indirect immunofluorescence (IF)
B	Direct and indirect enzyme-linked immunosorbent assay (ELISA)
C	Hemagglutination inhibition assay (HAI)
D	Reverse indirect haemagglutination (RI-HA)
E	Radioimmunoassay (RIA)
№	krok 2017
Topic	Methods of determination of the immune state of the organism. Immunodeficiencies.
Task	A 5-year-old child is diagnosed with Bruton syndrome (X-linked agammaglobulinemia) that manifests itself in severe clinical course of bacterial infections and absence of B lymphocytes and plasma cells. What changes of immunoglobulin content can be observed in blood serum of the child with immunodeficiency?
Correct answer	Decreased IgA, IgM
B	Increased IgA, IgM
C	Decreased IgD, IgE
D	Increased IgD, IgE
E	No changes
№	krok 2017
Topic	Clostridia of wound anaerobic infection, tetanus, botulism.
Task	Gram-positive spore-forming bacilli were extracted in anoxic environment from the patient's wound contaminated with soil. Cultivation on a blood-glucose agar resulted in growth of the colonies surrounded with hemolysis zone. What agent was extracted from the wound?
Correct answer	<i>Clostridium perfringens</i>
B	<i>Staphylococcus aureus</i>
C	<i>Clostridium botulinum</i>
D	<i>Escherichia coli</i>
E	<i>Pseudomonas aeruginosa</i>
№	krok 2017, 2016, 2015
Topic	Microbiological basis of antimicrobial therapy and antiseptic.

Task	A 26-year-old woman with bronchitis has been administered a broad spectrum antibiotic as a causal treatment drug. Specify this drug:
Correct answer	Doxycycline
B	Interferon
C	BCG vaccine
D	Ambroxol
E	Dexamethasone
№	krok 2017
Topic	Microbiological basis of antimicrobial therapy and antiseptic
Task	To treat bronchitis the patient was prescribed a beta-lactam antibiotic. Its mechanism of action is based on inhibition of murein production, which results in death of the causative agent. Name this drug:
Correct answer	Penicillin G Sodium Salt
B	Bijochinol (Quinine bismuth iodide)
C	Ciprofloxacin
D	Azithromycin
E	Streptomycin
№	krok 2017
Topic	. Immunopathology.Allergy.
Task	A 22-year-old woman ate some seafood. 5 hours later her torso and distal parts of her limbs developed small itchy papules which were partially fused together. One day later the rash disappeared spontaneously. Specify the hypersensitivity mechanism underlying these changes:
Correct answer	Atopy (local anaphylaxis)
B	Systemic anaphylaxis
C	Cellular cytotoxicity
D	Immune complex hypersensitivity
E	Antibody-dependent cell-mediated cytotoxicity
№	krok 2017, 2013
Topic	Clostridia of wound anaerobic infection, tetanus, botulism. Anaerobic non-clostridial infections.
Task	Typical manifestations of food poisoning caused by <i>C. botulinum</i> are double vision, abnormal functioning of the swallowing and breathing. These symptoms develop as the result of:
Correct answer	Exotoxin action
B	Enterotoxin action

C	Enterotoxigenic shock development
D	Activation of adenylate cyclase
E	Pathogen adhesion to the enterocyte receptors
№	krok 2017
Topic	Corynebacteria. Pertussis
Task	On examination of a 6-year-old child the doctor noticed grayish film on the child's tonsils. Microscopy of the smears stained by Neisser method detected there <i>Corynebacterium diphtheriae</i> . What morphologic feature was the most indicative for determining the type of the agent?
Correct answer	Polar placement of volutin granules
B	Localization of the causative agent within macrophages
C	Spores that exceed cells in diameter
D	Fence-like position of the agent's cells
E	Presence of the capsule
№	krok 2017, 2016, 2015
Topic	.Vibrio. Campylobacter. Helicobacter.
Task	A man is suffering from diarrhea. In summer he spent his vacation in the south at the sea coast. Bacteria with the following properties were detected in his feces: gram-negative curved mobile monotrichous bacilli that do not produce spores or capsules. They are undemanding to nutrient medium but require alkaline reaction (pH - 8,5-9,5). Described are the agents of the following enteric infection:
Correct answer	Cholera
B	Shigellosis
C	Typhoid fever
D	Colienteritis
E	Pseudotuberculosis
№	krok 2017
Topic	Types of the immune response. Biology of immune response Humoral immune response. The cellular immune response
Task	A pregnant woman was detected to have IgM to rubella virus. An obstetrician-gynecologist recommended therapeutic abortion due to the high risk of teratogenic affection of the fetus. Detection of IgM was of great importance as it is these specific immunoglobulins that:
Correct answer	Indicate recent infection
B	Penetrate placental barrier

C	Have the largest molecular weight
D	Are associated with anaphylactic reactions
E	Are the main factor of antiviral protection
№	krok 2017
Topic	Molecular genetic methods of investigation
Task	A young family came for a genetic counseling to identify the father of their child. The husband insists that the child does not resemble him at all and cannot possibly be his. Polymerase chain reaction method for person identification is based on the following:
Correct answer	Gene amplification
B	Nucleotide deletion
C	Genetic recombination
D	Missense mutation
E	Transduction
№	krok 2017
Topic	Microbiological basis of antimicrobial therapy and antiseptic.
Task	A patient with pulmonary tuberculosis is prescribed the most effective anti-tuberculous antibiotic. Name this drug:
Correct answer	Rifampicin
B	Tetracycline
C	Streptocide
D	Furasolidone
E	Bactrim (Co-trimoxazole)
№	krok 2017
Topic	Brucella. Francisella tularensis
Task	On examination of a patient with disease onset 5 days ago the doctor suspected tularemia and prescribed the patient tularin intracutaneously. What is the purpose of this drug administration in the patient?
Correct answer	Allergy diagnostics
B	Prevention
C	Treatment
D	Treatment evaluation
E	Prognosis for the disease
№	krok 2017

Topic	Immunopathology.Allergy.
Task	A 13-year-old boy presents with eczematous rashes on his shins and torso. Anamnesis states cases of otitis, pneumonia, and furuncles in the patient. Blood test: platelets - $70 \cdot 10^9/l$ , low activity of T helper and T suppressor cells, low IgM, with normal IgA and IgG. What immunodeficient disease does this boy have?
Correct answer	Wiskott-Aldrich syndrome
B	Louis-Bar syndrome (Ataxia-telangiectasia)
C	Severe combined immunodeficiency (Swiss type)
D	DiGeorge syndrome
E	Chediak-Higashi syndrome
№	krok 2017
Topic	Infection.
Task	A patient developed pyoinflammatory process of periodontal tissues caused by activation of the microorganisms inherent in the body, which are a part of oral mucosal microflora. What type of infection is it?
Correct answer	Autoinfection
B	Exogenous infection
C	Reinfection
D	Superinfection
E	krok 2016
№	krok 2017
Topic	Bases of sanitary microbiology. Sanitary microbiology and virology of water, soil, air
Task	Bacteriological analysis of tap water has resulted in the following: total bacterial count in 1,0 ml of water is 80, coli index is 3. What would be the conclusion?
Correct answer	The water is safe for consumption
B	The water quality is doubtful
C	The water quality is extremely doubtful
D	The water is polluted
E	The water is extremely polluted
№	krok 2016, 2015, 2014
Topic	Mycobacteria. Actinomycetes
Task	A 6-year-old child with suspected active tuberculous process has undergone di-agnostic Mantoux test. What immunobiological preparation was injected?

Correct answer	Tuberculin
B	BCG vaccine
C	DTP vaccine
D	Tularinum
E	Td vaccine
№	krok 2016
Topic	Clostridia of wound anaerobic infection, tetanus, botulism. Anaerobic non-clostridial infections.
Task	A bacteriological laboratory has been investigating a sample of homemade dried fish that was the cause of severe food poisoning. Microscopy of the culture inoculated in Kitt-Tarozzi medium revealed microorganisms resembling a tennis racket. What diagnosis can be made?
Correct answer	Botulism
B	Salmonellosis
C	Cholera
D	Dysentery
E	Typhoid fever
№	krok 2016
Topic	Vibrio. Campylobacter. Helicobacter.
Task	Initial inoculation of water in 1% peptone water resulted in growth of a thin film on the medium surface in 6 hours. Such cultural properties are characteristic of causative agent of the following disease:
Correct answer	Cholera
B	Plague
C	Tuberculosis
D	Dysentery
E	Pseudotuberculosis
№	krok 2016
Topic	Vibrio. Campylobacter. Helicobacter.
Task	Stool culture test of a 6-month-old bottlefed baby revealed a strain of intestinal rod-shaped bacteria of antigen structure 0-111. What diagnosis can be made?
Correct answer	Colienteritis
B	Gastroenteritis
C	Choleraform disease
D	Food poisoning



E	Dysentery-like disease
№	krok 2016
Topic	Causative agents of viral hepatitis.
Task	Immune-enzyme assay has detected HBs antigen in blood serum. What disease is it characteristic of?
Correct answer	Viral hepatitis type B
B	Viral hepatitis type A
C	AIDS
D	Tuberculosis
E	Syphilis
№	krok 2016
Topic	Immunopathology.Allergy
Task	Development of both immune and allergic reactions is based upon the same mechanisms of immune system response to an antigen. What is the main difference between immune and allergic reactions?
Correct answer	Development of tissue lesion
B	Amount of released antigen
C	Antigen structure
D	Routes by which antigens are delivered into the body
E	Hereditary predisposition
№	krok 2016
Topic	Yersinia. Bacillus anthracis
Task	A worker of an agricultural enterprise had been suffering from an acute disease with aggravating intoxication signs, which resulted in his death. On autopsy: the spleen is enlarged, flaccid, dark cherry-red in the section, yields excessive pulp scrape. Soft meninges of fornix and base of the brain are edematous and saturated with blood ("cardinal's cap"). Microscopically: serous-hemorrhagic inflammation of meninges and cerebral tissues. Make the diagnosis:
Correct answer	Anthrax
B	Tularemia
C	Plague
D	Cholera
E	Brucellosis
№	krok 2016, 2015, 2014
Topic	Immunopathology.Allergy

Task	Parents of a 5-year-old child report him to have frequent colds that develop into pneumonias, presence of purulent rashes on the skin. Laboratory tests have revealed the following: absence of immunoglobulins of any type; naked cells are absent from the lymph nodes punctate. What kind of immune disorder is it?
Correct answer	X-linked hypogammaglobulinemia (Bruton type agammaglobulinemia)
B	Autosomal recessive agammaglobulinemia (Swiss type)
C	Hypoplastic anemia
D	Agranulocytosis
E	Louis-Barr syndrome
№	krok 2016
Topic	Immunopathology.Allergy
Task	A woman resting in the countryside has been stung by a bee. Immediately after she developed pain in the stung area. In a few minutes there developed a vesicle, erythema and intense itch; later - urticaria and expiratory dyspnea. What factors resulted in the patient developing expiratory dyspnea?
Correct answer	Histamine
B	Hageman's factor
C	Lysosomal enzymes
D	Noradrenaline
E	Adrenaline
№	krok 2016, 2013
Topic	Immunopathology.Allergy
Task	What condition may develop 15-30 minutes after re-administration of an antigen as a result of the increased level of antibodies, mainly IgE, that are adsorbed on the surface of target cells, namely tissue basophils (mast cells) and blood basophils?
Correct answer	Anaphylaxis
B	Antibody-dependent cytotoxicity
C	Delayed-type hypersensitivity
D	Immune complex hyperresponsiveness
E	Serum sickness
№	krok 2016
Topic	Infection
Task	Material obtained from a patient contains several types of microorganisms (staphylococci and streptococci) causative of the patient's disease. Name this type of infection:

Correct answer	Mixed infection
B	Superinfection
C	Reinfection
D	Consecutive infection
E	Coinfection
№	krok 2016
Topic	Infection
Task	A laboratory has been investigating virulence of a diphtheria agent. In the process of the experiment the infection was introduced intraperitoneally into test animals. The dosage of bacteria resulting in 95% mortality of test animals was found. What unit of virulence measurement was determined?
Correct answer	DLM
B	DCL
C	LD50
D	ID
E	LD5
№	krok 2016, 2015, 2013
Topic	Clostridia of wound anaerobic infection, tetanus, botulism. Anaerobic non-clostridial infections.
Task	A patient consulted a dentist about restricted mouth opening (trismus). He has a history of a stab wound of the lower extremity. What infection can cause these symptoms?
Correct answer	Tetanus
B	Brucellosis
C	Whooping cough
D	Wound anaerobic infection
E	Tularemia
№	krok 2016, 2014, 2013
Topic	Microflora of the human organism and its age peculiarities.
Task	Administration of doxycycline hydrochloride has caused an imbalance of the symbiotic intestinal microflora. Specify the kind of imbalance caused by the antibiotic therapy:
Correct answer	Dysbacteriosis
B	Sensibilization
C	Idiosyncrasy
D	Superimposed infection

E	Bacteriosis
№	krok 2016, 2015
Topic	Staphylococcus and streptococcus
Task	A 40-year-old woman was diagnosed with glomerulonephritis based on her clinical symptoms and the results of urine analysis. Anamnesis states chronic tonsillitis. What microorganisms are the most likely cause for the kidney damage in this case?
Correct answer	Streptococci
B	Staphylococci
C	Escherichia
D	Mycoplasma
E	Meningococci
№	krok 2016, 2015
Topic	Methods of laboratory diagnosis of bacterial infections. Meningococcus and gonococcus
Task	A patient diagnosed with acute dysentery has been treated for 3 days in an infectious diseases hospital. On admission there were complaints of high temperature, stomachache and fluid excrements with mucus up to 8-10 times a day. What sample should be taken for analysis?
Correct answer	Feces
B	Urine
C	Bile
D	Liquor
E	Blood
№	krok 2016
Topic	Methods of laboratory diagnosis of bacterial infections. Meningococcus and gonococcus
Task	A patient with signs of intestinal infection (vomiting, diarrhea, abdominal pain) has been presenting with increasing symptoms of intoxication for three days. Papular rash appeared on the uncovered skin areas and spread to the torso. A doctor suspected pseudotuberculosis. What laboratory test allows confirming this diagnosis within the first week from the onset of disease?
Correct answer	Bacteriological
B	Microscopic
C	Serological
D	Allergic
E	Biological

№	krok 2016
Topic	Vibrio. Campylobacter. Helicobacter.
Task	Impression smear of mucosa biopsy material has been obtained from a patient with peptic ulcer disease of the stomach. Gram-negative arcuate bent microorganisms were detected, urease activity test was positive. What microorganisms were detected in the patient?
Correct answer	Helicobacter
B	Spirochete
C	Spirilla
D	Leptospira
E	Treponema
№	krok 2016
Topic	Immunopathology.Allergy
Task	30 minutes after drinking mango juice a child suddenly developed a local swelling in the area of the soft palate, which impeded swallowing and, eventually, respiration. Mucosa of the swollen area was hyperemic and painless. Blood test revealed moderate eosinophilia. Body temperature was normal. Anamnesis states that the elder sister of the child has been suffering from bronchial asthma attacks. What kind of edema has developed in the child?
Correct answer	Allergic
B	Inflammatory
C	Cardiac
D	Alimentary
E	Hepatic
№	krok 2015
Topic	Corynebacteria. Pertussis
Task	Pure culture of microorganisms was obtained from pharynx of a child with suspected diphtheria. Morphologic, tinctorial, cultural, and biochemical properties of the microorganisms were studied and revealed to be characteristic of diphtheria agents. What investigation should be additionally performed to make a conclusion, that these microorganisms are pathogenic diphtheria bacilli?
Correct answer	Determine toxigenic properties
B	Determine proteolytic properties
C	Determine urease activity
D	Determine cystinase activity

E	Determine amyolytic activity
№	krok 2015
Topic	Staphylococcus and streptococcus
Task	Analysis of sputum taken from a patient with suspected pneumonia revealed slightly elongated gram-positive diplococci with pointed opposite ends. What microorganisms were revealed in the sputum?
Correct answer	<i>Streptococcus pneumoniae</i>
B	<i>Staphylococcus aureus</i>
C	<i>Klebsiella pneumoniae</i>
D	<i>Neisseria meningitidis</i>
E	<i>Neisseria gonorrhoeae</i>
№	krok 2015, 2012
Topic	Reactions of "antigen-antibody" (serological tests): Agglutination test (AT), precipitation test (PT).
Task	Serological diagnostics of infectious diseases is based upon specific interaction with antigens. Specify the serological reaction that underlies adhesion of microorganisms when they are affected by specific antibodies in presence of an electrolyte:
Correct answer	Agglutination reaction
B	Precipitation reaction
C	Complement-binding reaction
D	Hemadsorption reaction
E	Neutralization reaction
№	krok 2015
Topic	Immunopathology.Allergy.
Task	A 12-year-old child has developed nephritic syndrome (proteinuria, hematuria, cylindruria) 2 weeks after the case of tonsillitis, which is a sign of affected glomerular basement membrane in the kidneys. What mechanism is the most likely to cause the basement membrane damage?
Correct answer	Immune complex
B	Granulomatous
C	Antibody-mediated
D	Reaginic
E	Cytotoxic
№	krok 2015
Topic	Immunopathology.Allergy.

Task	Several minutes after a dentist administered novocaine for local anaesthesia of a patient's tooth, the following symptoms sharply developed in the patient: fatigue, skin itching. Objectively the following can be observed: skin hyperemia, tachycardia, BP dropped down to 70/40 mm Hg. What kind of allergic reaction is this pathology?
Correct answer	Anaphylactic
B	Cytotoxic
C	Stimulating
D	Cell-mediated immune reaction
E	Immune complex
№	krok 2015
Topic	Staphylococcus and streptococcus
Task	A child is 10 years old. The following presentations have developed: sharp pain during swallowing, swollen neck, body temperature rise up to 39, 0° C , bright-red finely papular rash all over the body. Pharynx and tonsils are sharply hyperemic ("flaming pharynx"), "crimson tongue". On the tonsils surface there are isolated greyish necrosis focuses. What disease it might be?
Correct answer	Scarlet fever
B	Meningococcal nasopharyngitis
C	Diphtheria
D	Influenza
E	Measles
№	krok 2015
Topic	. Immunoprophylaxis. Immunotherapy
Task	In a village a case of anthrax has been registered. Medical services began epidemiologically indicated specific prophylaxis of population against anthrax. What preparation was used for this purpose?
Correct answer	Live vaccine
B	Inactivated vaccine
C	Chemical vaccine
D	Genetically engineered vaccine
E	Anatoxin
№	krok 2015, 2014
Topic	Immunopathology. Allergy.

Task	During blood transfusion a patient has developed intravascular erythrocyte hemolysis. What kind of hypersensitivity does the patient have?
Correct answer	II type (antibody-dependent)
B	I type (anaphylactic)
C	III type (immune complex)
D	IV type (cellular cytotoxicity)
E	IV type (granulomatosis)
№	krok 2015
Topic	Corynebacteria. Pertussis
Task	A 4-year-old child presents with general weakness, sore throat and deglutitive problem. After his examination a doctor suspected diphtheria and sent the material to a bacteriological laboratory. To determine the diphtheria causative agent the material should be inoculated into the following differential diagnostic medium:
Correct answer	Blood tellurite agar
B	Endo's agar
C	Ploskyrev's agar
D	Sabouraud's agar
E	Levenshtein-Yessen agar
№	krok 2015
Topic	Molecular genetic methods of investigation
Task	A doctor was addressed by a 30-year-old man. There is a probability of the patient being HIV-positive. To clarify the diagnosis the doctor proposed to perform polymerase chain reaction. The basic process in this kind of investigation is:
Correct answer	Gene amplification
B	Transcription
C	Genetic recombination
D	Genomic mutation
E	Chromosome mutation
№	krok 2015, 2014
Topic	Herpesviruses. Adenoviruses. Papillomaviruses. Polyomaviruses. Parvoviruses. Oncoviruses. Poxviruses.



Task	An HIV-positive patient's cause of death is acute pulmonary insufficiency resulting from pneumonia. Pathohistological investigation of lungs has revealed interstitial pneumonia, alveolocyte desquamation and metamorphoses: alveolocyte enlargement, large intranuclear inclusions surrounded by lightly-coloured areas. Transformed cells resemble owl's eye. Name the causative agent of pneumonia:
Correct answer	Cytomegalovirus
B	Pneumococcus
C	Influenza virus
D	<i>Candida</i> fungi
E	Toxoplasma
№	krok 2015, 2014
Topic	Morphology and structure of bacteria, spirochetes, actinomycetes, fungi and protozoa.
Task	The organisms to be identified have a nucleus surrounded by a nuclear membrane. Genetic material is concentrated predominantly in the chromosomes that consist of DNA strands and protein molecules. These cells divide mitotically. Identify these organisms:
Correct answer	Eukaryotes
B	Bacteriophages
C	Prokaryotes
D	Viruses
E	Bacteria
№	krok 2015
Topic	Methods of laboratory diagnosis of bacterial infections. Meningococcus and gonococcus
Task	Microscopy of a female patient's swabs made from vaginal secretion revealed gram-negative bean-shaped diplococci. What provisional diagnosis can be made?
Correct answer	Gonorrhoea
B	Syphilis
C	Chlamydiosis
D	Mycoplasmosis
E	Toxoplasmosis
№	krok 2015
Topic	Phagocytosis. Determination of phagocytic activity of the neutrophils. Determination of humoral factors of nonspecific protection (lysozyme, complement).

Task	Lymphocytes and other cells of our body synthesize universal antiviral agents as a response to viral invasion. Name these protein factors:
Correct answer	Interferon
B	Interleukin - 2
C	Cytokines
D	Interleukin - 4
E	Tumor necrosis factor
№	krok 2015
Topic	Types of the immune response. Biology of immune response Humoral immune response. The cellular immune response
Task	A pregnant woman was detected with IgM to rubella virus. An obstetrician-gynecologist recommended therapeutic abortion due to the high risk of teratogenic affection of the fetus. Detection of IgM was of great importance as it is these specific immunoglobulins that:
Correct answer	Indicate recent infection
B	Penetrate placental barrier
C	Have the largest molecular weight
D	Are associated with anaphylactic reactions
E	Are the main factor of antiviral protection
№	krok 2015
Topic	Methods of laboratory diagnosis of bacterial infections. Meningococcus and gonococcus
Task	In winter a 3-year-old child has sharp rise of body temperature up to $40^{\circ}C$ . Hemorrhagic rash is observed on the skin and mucosa. Bean-shaped gram-negative microorganisms situated in pairs are detected in the blood. What provisional diagnosis can be made?
Correct answer	Meningococcosis
B	Gonorrhea
C	Scarlet fever
D	Influenza
E	Diphtheria
№	krok 2015
Topic	Staphylococcus and streptococcus

Task	A 9-year-old boy has acute onset of disease: sore throat, body temperature rise up to 39, 5° C ; on the second day diffuse skin rash was detected all over his skin except for nasolabial triangle. On examination of oral cavity: crimson tongue, "flaming pharynx", necrotic tonsillitis. What diagnosis is the most likely?
Correct answer	Scarlet fever
B	Measles
C	Diphtheria
D	Influenza
E	Meningococemia
№	krok 2015
Topic	Mycobacteria. Actinomycetes
Task	Granulomas containing lymphocytes and macrophages were detected during analysis of skin biopsy material. Among macrophages there are large cells with fat inclusions, which contain microorganisms in spheric packages (Virchow's cells). The following disease is based on the described type of hypersensitivity:
Correct answer	Leprosy
B	Syphilis
C	Tuberculosis
D	Rhinoscleroma
E	Epidemic typhus
№	krok 2015
Topic	Microbiological basis of antimicrobial therapy and antiseptic.
Task	An 18-year-old patient has developed candidiasis after the case of pneumonia treated with $\beta$ -lactam antibiotic. What antimycotic agent should be prescribed?
Correct answer	Fluconazole
B	Streptomycin
C	Ampicillin
D	Phthalylsulfathiazole
E	Trimethoprim/sulfamethoxazole (Bi-septol)
№	krok 2015
Topic	Herpesviruses. Adenoviruses. Papillomaviruses. Polyomaviruses. Parvoviruses. Oncoviruses. Poxviruses
Task	A 50-year-old woman is being treated for shingles in a neurology unit. What reactivated virus causes this disease?

Correct answer	Varicella zoster virus (chickenpox virus)
B	Herpes simplex virus type 1
C	Herpes simplex virus type 2
D	Measles virus
E	Cytomegalovirus
№	krok 2014
Topic	Shigella.
Task	The infectious diseases department of a hospital admitted a patient with nausea, liquid stool with mucus and blood streaks, fever, weakness. Dysentery was suspected. What method of laboratory diagnostics should be applied to confirm the diagnosis?
Correct answer	Bacteriological
B	Serological
C	Mycological
D	Microscopic
E	Protozoological
№	krok 2014
Topic	Opportunistic infections. Hospital infections
Task	Bacteriological examination of the urine of the patient with pyelonephritis revealed microorganisms that produced yellow-green pigment and characteristic odor in meat-peptone agar. What are they called?
Correct answer	Pseudomonas
B	Escherichia
C	Proteas
D	Klebsiella
E	Azotobacter
№	krok 2014
Topic	Structure of a bacterial cell
Task	A smear from the tonsillar coating of a patient with suspected diphtheria was found to contain blue bacilli with a thickening at the poles. What method of smear staining was used?
Correct answer	Leffler
B	Burri
C	Hins
D	Gram

E	Neisser
№	krok 2014
Topic	Neutralization test (NT). Serological tests with use of the labels: immunofluorescence test (IFT), enzyme linked immunosorbent assay (ELISA), radioimmunoassay (RIA).
Task	A patient has been hospitalised with provisional diagnosis of botulism. What serological reaction should be used to reveal botulinum toxin?
Correct answer	Neutralization reaction
B	Agglutination reaction
C	Bordet-Gengou test
D	Precipitation reaction
E	Immunofluorescence test
№	krok 2014
Topic	Staphylococcus and streptococcus
Task	A 10-year-old child has painful swallowing, neck edema, temperature rise up to 39, 0° C, the whole body is covered with bright-red petechial rash. Back of the throat and tonsils are hyperemic, the tongue is crimson-colored. Tonsillar surface is covered with isolated grayish-colored necrosis nidi. What disease is it?
Correct answer	Scarlet fever
B	Meningococcal nasopharyngitis
C	Diphtheria
D	Influenza
E	Measles
№	krok 2014
Topic	Immunoprophylaxis. Immunotherapy
Task	In a village, a case of anthrax had been registered. Medical services began epidemiologically indicated specific prophylaxis of population against anthrax. What preparation was used for this purpose?
Correct answer	Live vaccine
B	Inactivated vaccine
C	Chemical vaccine
D	Genetically engineered vaccine
E	Anatoxin
№	krok 2014

Topic	Herpesviruses. Adenoviruses. Papillomaviruses. Polyomaviruses. Parvoviruses. Oncoviruses. Poxviruses.
Task	A 3-year-old child has continuous fever, lymph nodes are enlarged, the amount of lymphocytes in blood is significantly increased. Enzyme-linked immunosorbent assay (ELISA) revealed antigen of Epstein-Barr virus. What diagnosis can be made based on the information given above?
Correct answer	Infectious mononucleosis
B	Burkitt's lymphoma
C	Herpetic lymphadenopathy
D	Generalized infection caused by herpeszoster
E	Cytomegalovirus infection
№	krok 2014
Topic	Methods of laboratory diagnosis of bacterial infections. Meningococcus and gonococcus
Task	A young woman suddenly developed fever up to 39° C accompanied by a strong headache. Examination revealed marked nuchal rigidity. Spinal puncture was performed. Gram-stained smear of cerebrospinal fluid contained many neutrophils and Gram-positive diplococci. What bacteria could be the cause of this disease?
Correct answer	Neisseria meningitidis
B	Streptococcus pneumonia
C	Haemophilus influenzae
D	Staphylococcus aureus
E	Pseudomonas aeruginosa
№	krok 2014
Topic	Molecular genetic methods of investigation
Task	Hepatitis B is diagnosed through laboratory tests that determine the presence of HBA-DNA in blood serum of the patient. What reference method is applied for this purpose?
Correct answer	Polymerase chain reaction
B	Hybridization method
C	Hybridization signal amplification method
D	Ligase chain reaction method
E	ELISA diagnostic method
№	krok 2014, 2013
Topic	Medical protozoology

Task	A patient who has recently arrived from an endemic area presents with elevated body temperature, headache, chills, malaise, that is with the symptoms which are typical for a common cold. What laboratory tests are necessary to prove or to disprove the diagnosis of malaria?
Correct answer	Microscopy of blood smears
B	Study of lymph node punctate
C	Urinalysis
D	Study of cerebrospinal fluid
E	Microscopy of bone marrow punctuate
№	krok 2014
Topic	Rhabdoviruses.Arboviruses
Task	An outbreak of an intestinal infection occurred in a kindergarten on the eve of New Year holidays. Bacteriological examination of patients' faeces didn't reveal any pathogenic bacteria. Electron microscopy revealed roundish structures with clear outer edges and a thick core resembling a wheel. Specify the most likely causative agent of this infection:
Correct answer	<i>Rotavirus</i>
B	<i>Adenovirus</i>
C	<i>Coxsacki-virus</i>
D	<i>E.coli</i>
E	<i>P.vulgaris</i>
№	krok 2014
Topic	Structure of a bacterial cell
Task	A smear of streptobacillus preparation stained by Ozheshko method has been studied microscopically with oil immersion. What structural feature of the bacteria has been studied?
Correct answer	Spores
B	Capsule
C	Flagella
D	Inclusions
E	Structure of cell wall
№	krok 2014
Topic	Reactions of "antigen-antibody" (serological tests): Agglutination test (AT), precipitation test (PT).
Task	At a bacteriological laboratory animal skins are analyzed by means of Ascoli precipitaion test. What is detected if the reaction is positive?

Correct answer	Anthrax agent antigens
B	Anaerobic infection toxin
C	Brucellosis agent
D	Yersinia surface antigen
E	Plague agent
№	krok 2013
Topic	Immunopathology.Allergy
Task	A child with suspected tuberculosis was given Mantoux test. After 24 hours the site of the allergen injection got swollen, hyperemic and painful. What are the main components that determine such response of the body?
Correct answer	Mononuclear cells, T-lymphocytes and lymphokines
B	Granulocytes, T-lymphocytes and IgG
C	Plasma cells, T-lymphocytes and lymphokines
D	B-lymphocytes, IgM
E	Macrophages, B-lymphocytes and monocytes
№	krok 2013
Topic	Esherichia.
Task	A 12-year-old boy has been hospitalized for suspected food poisoning. The fecal samples were inoculated on the Endo agar, which resulted in growth of a large number of colorless colonies. What microorganism is most likely to be <b>EXCLUDED</b> from the list of possible causative agents of the disease?
Correct answer	<i>Escherichia coli</i>
B	<i>Salmonella enteritidis</i>
C	<i>Proteus vulgaris</i>
D	<i>Pseudomonas aeruginosa</i>
E	<i>Yersinia enterocolitica</i>
№	krok 2013
Topic	Shigella.
Task	A patient with suspected dysentery has been admitted to the infectious diseases hospital. Which basic method of laboratory diagnosis must be applied in the first place?
Correct answer	Bacteriological
B	Serological
C	Allergic



D	Biological
E	Microscopic
№	krok 2013
Topic	Salmonella of enteric typhus and paratyphoids.
Task	A 50-year-old patient has been administered laevomycetin for the treatment of typhoid fever, but on the next day the patient's condition worsened, the temperature rose to 39, 6 <sup>0</sup> C . The deterioration of the patient's condition can be explained by:
Correct answer	Effects of endotoxins of the causative agent
B	Allergic reaction
C	Insensitivity of the pathogen to laevomycetin
D	Secondary infection
E	Reinfection
№	krok 2013
Topic	Rhabdoviruses.Arboviruses
Task	A hospitalized patient bitten by a rabid animal has an avulsive wound of shin. What kind of vaccine must be given to prevent rabies?
Correct answer	Anti-rabies vaccine
B	DTaP
C	Td
D	BCG
E	TABte
№	krok 2013
Topic	Mycobacteria. Actinomycetes
Task	A child entering the school for the first time was given Mantoux test in order to determine if there was a need for revaccination. The reaction was negative. What is the meaning of this test result?
Correct answer	No cell-mediated immunity to tuberculosis
B	Availability of cell-mediated immunity to tuberculosis
C	No antibodies to the tuberculosis bacteria
D	No anti-toxic immunity to tuberculosis
E	Presence of antibodies to the tuberculosis bacteria
№	krok 2013

Topic	Corynebacteria. Pertussis
Task	A diseased child has a high fever, sore throat, swelling of submandibular lymph nodes. Objectively: pharyngeal mucosa is edematous, moderately hyperemic, the tonsils are enlarged, covered with grayish membrane tightly adhering to the tissues above. Attempts to remove the membrane produce the bleeding defects. What disease are these presentations typical for?
Correct answer	Diphtheria
B	Catarrhal tonsillitis
C	Scarlet fever
D	Meningococcal disease
E	Measles
№	krok 2013
Topic	The basic methods of research of microorganisms.
Task	A smear of sputum from the patient with suspected lobar pneumonia was stained with the use of the following stains and reagents: solution of gentian violet, Lugol's solution, 96° alcohol, water magenta. What staining method was applied in this case?
Correct answer	Gram
B	Ziehl-Nielsen
C	Romanovsky
D	Neisser
E	Leffler
№	krok 2013
Topic	Spirochaetes
Task	A patient underwent biopsy of the soft palate arches for a suspected tumor (macroscopy revealed an ulcer with a dense floor). Study of the biopsy material revealed mucosal necrosis with infiltration of lymphocytes, epithelioid cells, plasma cells, single neutrophils in the submucosa. There were also apparent signs of endovasculitis and perivasculitis. The described changes are typical for:
Correct answer	Primary syphilis
B	Aphthous stomatitis
C	Ulcerative stomatitis
D	Necrotizing ulcerative Vincent stomatitis
E	Pharyngeal diphtheria

№	krok 2013
Topic	Corynebacteria. Pertussis
Task	A patient has severe catarrhal symptoms. Material growth on Bordet-Gengou agar showed mercury-drop-like colonies. Examination of the blood smears revealed some small ovoid gram-positive bacilli sized 1-3 microns. What microorganisms were isolated?
Correct answer	Bordetella
B	Corynebacteria
C	Mycobacteria
D	Meningococcus
E	Brucella
№	krok 2013
Topic	Causative agents of viral hepatitis.
Task	A patient has been admitted to the infectious diseases department for malaise, fever up to 38° C, jaundice. A few months ago, the patient underwent blood transfusion. The doctor suspected viral hepatitis B. What are the principal methods of laboratory diagnosis of hepatitis B?
Correct answer	Serological and gene diagnostics
B	Virus isolation in cell culture and its identification by the cytopathic effects
C	Detection of virions in blood by electron microscopy
D	Isolation of the virus in laboratory animals (neutralization reaction)
E	Isolation of the virus in chicken embryos
№	krok 2013
Topic	Immunopathology. Allergy.
Task	A child cut his leg with a piece of glass while playing and was brought to the clinic for the injection of tetanus toxoid. In order to prevent the development of anaphylactic shock the serum was administered by Bezredka method. What mechanism underlies this method of desensitization of the body?
Correct answer	Binding of IgE fixed to the mast cells
B	Blocking the mediator synthesis in the mast cells
C	Stimulation of immune tolerance to the antigen
D	Stimulation of the synthesis of antigen-specific IgG
E	Binding of IgE receptors to the mast cells
№	krok 2013

Topic	Picornaviruses
Task	In our country, routine preventive vaccinations against poliomyelitis involve using live vaccine that is administered orally. What immunoglobulins are responsible for the development of local post-vaccination immunity in this case?
Correct answer	Secretory IgA
B	IgM
C	IgG
D	Serum IgA
E	IgE
№	krok 2013
Topic	Immunopathology.Allergy
Task	10 days after having quinsy caused by beta-hemolytic streptococcus a 6-year-old child exhibited symptoms of glomerulonephritis. What mechanism of glomerular lesion is most likely in this case?
Correct answer	Immunocomplex
B	Cellular cytotoxicity
C	Anaphylaxis
D	Atopy
E	Antibody-dependent cell-mediated cytotoxicity
№	krok 2013
Topic	Immunopathology.Allergy.
Task	A 22-year-old woman ate some seafood. 5 hours later the trunk and the distal parts of limbs got covered with small itchy papules which were partially fused together. After one day, the rash disappeared spontaneously. Specify the hypersensitivity mechanism underlying these changes:
Correct answer	Atopy (local anaphylaxis)
B	Systemic anaphylaxis
C	Cellular cytotoxicity
D	Immune complex hypersensitivity
E	Antibody-dependent cell-mediated cytotoxicity
№	krok 2013
Topic	Physiology of bacteria. Nutrient media. Methods of sterilization. Disinfection.

Task	In the surgical ward, the dressing material was undergoing sterilization in an autoclave. Through an oversight of a nurse the mode of sterilization was changed and the temperature in the autoclave reached only 100° C instead of the due 120OC . What microorganisms can stay viable under these conditions?
Correct answer	Bacilli and clostridia
B	Staphylococci and streptococci
C	Mold and yeast fungi
D	Salmonella and klebsiella
E	Corynebacteria and mycobacteria
№	krok 2012, 2010, 2008
Topic	Corynebacteria. Pertussis
Task	Bacterioscopic examination of a smear from the pharynx of a diphtheria suspect revealed bacilli with volutine granules. What etiotropic drug should be chosen in this case?
Correct answer	Antidiphtheritic antitoxic serum
B	Bacteriophage
C	Diphtheritic anatoxin
D	Eubiotic
E	Interferon
№	krok 2012
Topic	Staphylococcus and streptococcus
Task	Analysis of sputum taken from a patient with suspected pneumonia revealed rather elongated gram-positive diplococci with somewhat pointed opposite ends. What microorganisms were revealed in the sputum?
Correct answer	<i>Streptococcus pneumoniae</i>
B	<i>Staphylococcus aureus</i>
C	<i>Klebsiella pneumoniae</i>
D	<i>Neisseria meningitidis</i>
E	<i>Neisseria gonorrhoea</i>
№	krok 2012
Topic	Retroviruses. HIV.
Task	The immunoblot detected gp120 protein in the blood serum. This protein is typical for the following disease:
Correct answer	HIV-infection
B	Virus B hepatitis

C	Tuberculosis
D	Syphilis
E	Poliomyelitis
№	krok 2012
Topic	Herpesviruses. Adenoviruses. Papillomaviruses. Polyomaviruses. Parvoviruses. Oncoviruses. Poxviruses.
Task	The contents of vesicles that appeared on the mucous membrane of a patient with variola was sent to a virological laboratory. Which of the listed changes were revealed during the smear microscopy?
Correct answer	Paschen bodies
B	Babes-Negri bodies
C	Guarnieri bodies
D	Babes-Ernst bodies
E	Syncytium
№	krok 2012, 2011, 2010
Topic	Corynebacteria. Pertussis
Task	In order to determine toxigenicity of diphtheria bacilli a strip of filter paper impregnated with antitoxic diphtherial serum was put on the dense nutrient medium. There were also inoculated a microbial culture under examination and a strain that is known to be toxigenic. If the microbial culture under examination produces exotoxin, this wil result in formation of:
Correct answer	Precipitin lines
B	Haemolysis zones
C	Zones of diffuse opacification
D	Zones of lecithovitellinous activity
E	Precipitin ring
№	krok 2012
Topic	Vibrio. Campylobacter. Helicobacter
Task	A patient underwent esophagogastroduodenoscopy. Analysis of the biopsy material enabled doctors to diagnose him with helicobacteriosis. What property of the bacteria found in this patient had to be obligatory taken into account during their cultivation?
Correct answer	Microaerophilic ability
B	Presence of urease
C	Colonisation of gastral cells
D	Absence of spores and capsules

E	Presence of six polar flagella
№	krok 2012
Topic	Immunopathology.Allergy
Task	A 10 year old child had the mantoux tuberculin test administered. 48 hours later a papule up to 8 mm in diameter appeared on the site of the injection. What type of hypersensitivity reaction developed after the tuberculin injection?
Correct answer	Type IV hypersensitivity reaction
B	Arthus phenomenon
C	Seroreaction
D	Atopic reaction
E	Type II hypersensitivity reaction
№	krok 2012
Topic	Immunopathology.Allergy
Task	A patient has been diagnosed with acute glomerulonephritis that developed after he had had streptococcal infection. It is most likely that the affection of basal glomerular membrane is caused by an allergic reaction of the following type:
Correct answer	Immune complex
B	Anaphylactic
C	Cytotoxic
D	Delayed
E	Stimulating
№	krok 2012
Topic	Phagocytosis. Determination of phagocytic activity of the neutrophiles. Determination of humoral factors of nonspecific protection (lysozyme, complement).
Task	Examination of patients with periodontitis revealed the interdependence between the rate of affection of periodontal tissues and the amount of lysozymes in saliva and gingival liquid. These results can be obtained during studying the following protection system of an organism:
Correct answer	Non-specific resistance
B	Humoral immunity
C	Cellular immunity
D	Autoresponsiveness
E	Tolerance

№	krok 2012
Topic	Microflora of the human organism and its age peculiarities.
Task	As a result of durative antibiotic therapy a 37 year old patient developed intestinal dysbacteriosis. What type of drugs should be used in order to normalize intestinal microflora?
Correct answer	Eubiotics
B	Sulfanilamides
C	Bacteriophages
D	Autovaccines
E	Vitamins
№	krok 2012
Topic	Shigella
Task	A 71 year old man had been presenting with diarrhea for 10 days. The feces had admixtures of blood and mucus. He was delivered to a hospital in grave condition and died 2 days later. Autopsy of the body revealed the following: diphtheritic colitis with multiple irregularlyshaped ulcers of different depth in both sigmoid colon and rectus. Bacteriological analysis revealed Shigella. What was the main disease?
Correct answer	Dysentery
B	Typhoid fever
C	Salmonellosis
D	Nonspecific ulcerous colitis
E	Yersiniosis
№	krok 2012
Topic	Methods of immune status examination. Immunodeficiencies.
Task	Examination of a child who frequently suffers from infectious diseases revealed that IgG concentration in blood serum was 10 times less than normal, IgA and IgM concentration was also significantly reduced. Analysis showed also lack of B-lymphocytes and plasmocytes. What disease are these symptoms typical for?
Correct answer	Bruton's disease
B	Swiss-type agammaglobulinemia
C	Dysimmunoglobulinemia
D	Louis-Bar syndrome
E	Di George syndrome
№	krok 2012
Topic	Yersinia. Bacillus anthracis.



Task	There was a record of some anthrax cases among animals in a countryside. The spread of disease can be prevented by means of immunization. What kind of vaccine should be used?
Correct answer	STI live vaccine
B	BCG vaccine
C	Salk vaccine
D	Sabin's vaccine
E	Diphtheria and tetanus toxoids and pertussis vaccin
№	krok 2012, 2010
Topic	Mycobacteria. Actinomycetes.
Task	A bacteriological laboratory received sputum sample of a patient suffering from tuberculosis. Bacterioscopic examination of smears and detection of tuberculosis bacillus can be realized by one of enrichment methods that involves processing of sputum only with solution of caustic soda. What is this method called?
Correct answer	Homogenization
B	Inactivation
C	Flotation
D	Filtration
E	Neutralization
№	krok 2012, 2011
Topic	Organization and equipment of microbiological laboratory. Microscopic examination of microorganisms. Types of microscopy.
Task	Vomiting matters of a patient suspected of having cholera were delivered to the bacteriological laboratory. The material was used for preparing a "hanging drop"specimen. What type of microscopy will be applied for identification of the causative agent by its mobility?
Correct answer	Phase-contrast microscopy
B	Electron microscopy
C	Immune and electron microscopy
D	Fluorescence microscopy
E	Immersion microscopy
№	krok 2012, 2010
Topic	Microflora of the organism and its age peculiarities.
Task	During examination of a patient a dentist revealed a lot of "white spots zones of enamel demineralization. What microorganisms take part in the development of this process?

Correct answer	<i>Streptococcus mutans</i>
B	<i>Streptococcus salivarius</i>
C	<i>Streptococcus pyogenes</i>
D	<i>Veilonella parvula</i>
E	<i>Staphylococcus epidermidis</i>
№	krok 2012
Topic	corynebacteria. Pertussis
Task	A 4 year old child presents with general weakness, sore throat and deglutitive problem. After his examination a doctor suspected diphtheria and sent the material to the bacteriological laboratory. In order to determine the diphtheria causative agent the material should be inoculated into the following differential diagnostic medium:
Correct answer	Blood tellurite agar
B	Endo's agar
C	Ploskyrev's agar
D	Sabouraud's agar
E	Levenshtein-Yessen agar
№	krok 2011
Topic	Methods of immune status examination. Immunodeficiencies.
Task	Quite often the cause of secondary immunodeficiency is an infection involvement, when the causative agents propagate directly in the cells of immune system and destroy it. The following diseases are characterized by:
Correct answer	Infectious mononucleosis, AIDS
B	Tuberculosis, mycobacteriosis
C	Poliomyelitis, type A hepatitis
D	Dysentery, cholera
E	Q-febris, epidemic typhus
№	krok 2011
Topic	Essentials of sanitary microbiology. Sanitary microbiology and virology of water, soil, air.
Task	Sanitary bacteriological research on water by the membrane filter method revealed two red colonies on a membrane filter (Endo agar) through which 500 ml of analyzed water were passed. Calculate the coli index and coli titer of the analyzed water:
Correct answer	4 and 250
B	2 and 500

C	250 and 4
D	500 and 2
E	250 and 2
№	krok 2011
Topic	Methods of laboratory diagnostics of the infections. Meningococci and gonococci.
Task	A 55-year-old male patient was hospitalised to a surgical clinic for suspected septicemia. What material should be taken for analysis?
Correct answer	Blood, sugar broth
B	Liquor, serum agar
C	Urine, beef-extract broth
D	Pus, yolk saline agar
E	Lymph node punctate, cysteine agar
№	krok 2011
Topic	corynebacteria. Pertussis
Task	During examination of a 6-year-old child a doctor revealed greyish films on the pharyngeal tonsils. Their removal provoked moderate haemorrhage. Bacterioscopy revealed gram-positive clublike bacteria. What symptoms will develop in this child within the next few days if no specific treatment is provided?
Correct answer	Toxic lesions of myocard, liver and kidney
B	Pulmonary edema
C	Strong paroxysmal cough
D	Papulous skinrash
E	Intermittent fever
№	krok 2011, 2009
Topic	Pathogenic spirochaetae.
Task	A man died from an acute infectious disease accompanied by fever, jaundice, haemorrhagic rash on the skin and mucous membranes as well as by acute renal insufficiency. Histological examination of renal tissue (stained by RomanovskyGiemsa method) revealed some convoluted bacteria looking like C and S letters. What bacteria were revealed?
Correct answer	Leptospira
B	Treponema
C	Spirilla
D	Borrelia

E	Campilobacteria
№	krok 2011
Topic	Medical mycology
Task	Microscopic examination of a gram-stained scrape from a patient's tongue revealed oval, round, elongated chains of dark-violet gemmating cells. What disease can be caused by this causative agent?
Correct answer	Candidiasis
B	Actinomycosis
C	Streptococcic infection
D	Staphylococcic infection
E	Diphtheria
№	krok 2011, 2008
Topic	retroviruses. hiv
Task	It was revealed that T-lymphocytes were affected by HIV. Virus enzyme - reverse transcriptase ( <i>RNA</i> -dependent <i>DNA</i> -polymerase) - catalyzes the synthesis of:
Correct answer	<i>DNA</i> on the matrix of virus <i>mRNA</i>
B	Virus informational <i>RNA</i> on the matrix of <i>DNA</i>
C	<i>DNA</i> on virus ribosomal <i>RNA</i>
D	Viral <i>DNA</i> on <i>DNA</i> matrix
E	<i>mRNA</i> on the matrix of virus protein
№	krok 2011, 2009
Topic	Cellular and humoral factors of nonspecific defense. Phagocytic activity determination.
Task	After transfusion of 200 ml of blood a patient presented with body temperature rise up to 37, 9° C. Which of the following substances is the most likely cause of temperature rise?
Correct answer	Interleukin-1
B	Interleukin-2
C	Tumour necrosis factor
D	Interleukin-3
E	Interleukin-4
№	krok 2011, 2009
Topic	Immunopathology. allergy

Task	A 10-year-old child had the mantoux tuberculin test administered. 48 hours later a papule up to 8 mm in diameter appeared on the site of the injection. What type of hypersensitivity reaction developed after the tuberculin injection?
Correct answer	Type IV hypersensitivity reaction
B	Arthus phenomenon
C	Seroreaction
D	Atopic reaction
E	Type II hypersensitivity reaction
№	krok 2011
Topic	Human immune system. Humoral and cellular immune response. Biology of immune response. Theories of immunogenesis.
Task	Examination of a pregnant woman having Rh-negative blood revealed high level of antierythrocytic antibodies. For its reduction she was implanted with her husband's Rh-positive skin graft. The graft was rejected in two weeks. Its microscopic examination revealed circulatory disturbance, edema and cellular infiltration with lymphocytes, neutrophils and macrophages predominance. What is the most likely pathology?
Correct answer	Graft immunity
B	Immediate hypersensitivity
C	Delayed-type hypersensitivity
D	Granulomatous inflammation
E	Interstitial inflammation
№	krok 2011
Topic	Immunopathology. allergy.
Task	During surgical manipulations a patient has been given novocaine injection for anesthesia. 10 minutes later the patient developed paleness, dyspnea, hypotension. What type of allergic reaction is it?
Correct answer	Anaphylactic immune reaction
B	Cellulotoxic immune reaction
C	Aggregate immune reaction
D	Stimulating immune reaction
E	Cell-mediated immune reaction
№	krok 2011, 2008
Topic	Picornaviruses.

Task	A culture of monkey cells (Vero) and a group of mouse sucklings were infected with an inoculum taken from a child with provisional diagnosis "enterovirus infection". There was no cytopathic effect on the cell culture but mouse sucklings died. What enteric viruses might have caused disease of this child?
Correct answer	Coxsackie A
B	Coxsackie B
C	ECHO virus
D	Polioviruses
E	Unclassified enteric viruses 68-71
№	krok 2011
Topic	Vibrio. Campylobacter. Helicobacter.
Task	A male patient has been diagnosed with gastric ulcer. Bacteriological examination of biopsy material from the affected part of stomach revealed small colonies of gram-negative, oxide reductase-positive flexibacteria that grew on the chocolate agar on the fifth day. Which of the following microorganisms is the most likely causative agent?
Correct answer	<i>Helicobacter pylori</i>
B	<i>Campilobacter jejuni</i>
C	<i>Campilobacter fetus</i>
D	<i>Mycoplasma hominis</i>
E	<i>Chlamydia trachomatis</i>
№	krok 2011
Topic	Methods of immune status examination. Immunodeficiencies.
Task	After an immunoassay a child was diagnosed with immunodeficiency of humoral immunity. What is the reason for the primary immunodeficiency development in the child?
Correct answer	Hereditary abnormality of immune system
B	Embryonal development abnormalities
C	Pathometabolism in mother's organism
D	Immune responsiveness and resistance disorders
E	Toxic damage of B-lymphocytes
№	krok 2011
Topic	Rhabdoviruses.Arboviruses

Task	A three-year-old child has had marked diarrhea for three days. Immune electron microscopy of his excrements revealed bilayer pseudocovered capsid viruses that looked like small spoke wheels. What viruses have been revealed?
Correct answer	Rotaviruses
B	Coxsackie viruses
C	ECHO viruses
D	Coronaviruses
E	Reoviruses
№	krok 2011
Topic	Cloctridia of wound anaerobic infection. Tetanus. Botulism.
Task	A patient has food poisoning. Laboratory analysis revealed a culture of anaerobic gram-positive spore-forming bacteria. What is the most likely kind of the isolated causative agent?
Correct answer	<i>C. perfringens</i>
B	<i>Proteus vulgaris</i>
C	<i>P. mirabilis</i>
D	<i>Vibrio parahemolyticus</i>
E	<i>Esherichia coli</i>
№	krok 2011, 2008
Topic	infection
Task	A pregnant woman was registered in an antenatal clinic and underwent complex examination for a number of infections. Blood serum contained <i>I gM</i> to the rubella virus. What is this result indicative of?
Correct answer	Of primary infection
B	Of a chronic process
C	The woman is healthy
D	Of exacerbation of a chronic disease
E	Of recurring infection with rubella virus
№	krok 2011, 2009
Topic	corynebacteria. Pertussis
Task	After inoculation of the material obtained from the pharynx of an angina patient onto the blood-tellurite agar, grey colonies could be observed. They were 4-5 mm in diameter, radially striated (in form of rosettes). Microscopical examination revealed gram-positive bacilli with clavate swollen ends arranged in form of wide-spread fingers. Identify these microorganisms:

Correct answer	Diphtheria corynebacteria
B	Clostridium botulinum
C	Diphtheroids
D	Streptococci
E	Streptobacilli
№	krok 2011
Topic	corynebacteria. Pertussis
Task	A 4-year-old child presents with general weakness, sore throat and deglutitive problem. After his examination a doctor suspected diphtheria and sent the material to the bacteriological laboratory. In order to determine the diphtheria causative agent the material should be inoculated into the following differential diagnostic medium:
Correct answer	Blood tellurite agar
B	Endo's agar
C	Ploskyrev's agar
D	Sabouraud's agar
E	Levenshtein-Yessen agar
№	krok 2009
Topic	Methods of immune status examination. Immunodeficiencies.
Task	Quite often the cause of secondary immunodeficiency is an infection involvement, when the causative agents propagate directly in the cells of immune system and destroy it. The following diseases are characterized by:
Correct answer	Infectious mononucleosis, AIDS
B	Tuberculosis, mycobacteriosis
C	Poliomyelitis, type A hepatitis
D	Dysentery, cholera
E	Q-febris, epidemic typhus
№	krok 2009
Topic	Pathogenic spirochaetae.
Task	While studying a microslide obtained from the punctuate of a regional lymph node and stained by Romanovsky-Giemsa method a physician revealed some light-pink thin microorganisms with 12-14 regular spiral coils and pointed ends, up to 10-13 micrometer long. This might be the causative agent of the following disease:
Correct answer	Syphilis



B	Trypanosomiasis
C	Leptospirosis
D	Relapsing fever
E	Leishmaniasis
№	krok 2009
Topic	Essentials of sanitary microbiology. Sanitary microbiology and virology of water, soil, air.
Task	Sanitary bacteriological research on water by the membrane Filter method revealed two red colonies on a membrane filter (Endo agar) through which 500 ml of analyzed water were passed. Calculate the coli index and coli titer of the analyzed water:
Correct answer	4 and 250
B	2 and 500
C	250 and 4
D	500 and 2
E	250 and 2
№	krok 2009
Topic	Corynebacteria. Pertussis
Task	While examining a patient an otolaryngologist noticed hyperaemia and significantly edematous tonsils with a grayish Film upon them. Microscopical examination of this Film revealed some grampositive bacilli placed at an angle with each other. What disease might be suspected?
Correct answer	Diphtheria
B	Angina
C	Scarlet fever
D	Meningococcal nasopharyngitis
E	Epidemic parotitis
№	krok 2009
Topic	Methods of laboratory diagnostics of the infections. Meningococci and gonococci.
Task	Bacteriological examination of purulent discharges from the urethra revealed gram-negative bacteria looking like coffee beans. They were localized in the leukocytes and could decompose glucose and maltose to acid. These are the causative agents of the following disease:
Correct answer	Gonorrhoea
B	Syphilis
C	Veneral lymphogranulomatosis

D	Soft chancre
E	Melioidosis
№	krok 2009
Topic	Mycobacteria. Actinomycetes.
Task	Study of bacteriological sputum specimens stained by the Ziel-Neelsen method revealed some bright-red acid-resistant bacilli that were found in groups or singularly. When inoculated onto the nutrient media, the signs of their growth show up on the 10-15 day. These bacteria relate to the following family:
Correct answer	<i>Micobacterium tuberculosis</i>
B	<i>Yersinia pseudotuberculosis</i>
C	<i>Histoplasma dubrosii</i>
D	<i>Klebsiella rhinoscleromatis</i>
E	<i>Coxiella burnettii</i>
№	krok 2009
Topic	Shigella.
Task	Retrospective diagnostics of bacterial dysentery involved serological analysis of blood serum intended for determination of Shigella antibody titre. Which of the following reactions should be applied for this purpose?
Correct answer	Passive haemagglutination
B	Complement binding
C	Precipitation
D	Haemolysis
E	Bacteriolysis
№	krok 2009
Topic	Methods of immune status examination. Immunodeficiencies.
Task	A patient with clinical presentations of immunodeficiency has undergone immunological tests. They revealed significant decrease in number of cells that form rosettes with sheep erythrocytes. What conclusion can be drawn on the ground of the analysis data?
Correct answer	Decrease in T -lymphocyte level
B	Decrease in B -lymphocyte level
C	Decrease in natural killer level (NK -cells)
D	Decrease in complement system level
E	Lack of effector cells of the humoral immunity
№	krok 2009

Topic	Microflora of the organism and its age peculiarities.
Task	As a result of durative antibiotic therapy a 37-year old patient developed intestinal dysbacteriosis. What type of drugs should be used in order to normalize intestinal microflora?
Correct answer	Eubiotics
B	Sulfanilamides
C	Bacteriophages
D	Autovaccines
E	Vitamins
№	krok 2009
Topic	Essentials of sanitary microbiology. Sanitary microbiology and virology of water, soil, air.
Task	During the regular sanitary-epidemiological inspection of a pharmacy, the bacteriological analysis of air was performed. The air was found to have bacilli, yeast fungi, hemolytic streptococci, micrococci. Which of the detected microorganisms indicate the direct epidemic danger?
Correct answer	Haemolytic streptococci
B	Micrococci
C	Bacilli
D	Yeast fungi
E	–
№	krok 2009
Topic	Human immune system. Humoral and cellular immune response. Biology of immune response. Theories of immunogenesis.
Task	Following exposure to radiation a lot of mutant cells appeared in a patient. Some time later most of them were detected and destroyed by the following cells of the immune system:
Correct answer	<i>T</i> -lymphocytes-killers
B	Plasmoblasts
C	<i>T</i> -lymphocytes-suppressors
D	<i>B</i> -lymphocyte
E	Stem cells
№	krok 2009
Topic	Staphylococci and streptococci
Task	A 65-year-old man has purulent abscess on his neck. Analyses revealed a culture of gram-positive cocci with plasmocoagulase activity. This culture relates most likely to:

Correct answer	<i>Staphylococcus aureus</i>
B	<i>Streptococcus pyogenes</i>
C	<i>Staphylococcus epidermidis</i>
D	<i>Staphylococcus saprophyticus</i>
E	-
№	krok 2008
Topic	Cellular and humoral factors of nonspecific defense. Phagocytic activity determination. Lysozyme determination.
Task	In order to speed up healing of a wound of oral mucosa a patient was prescribed a drug that is a thermostable protein occurring in tears, saliva, mother's milk as well as in a new-laid hen's egg. It is known that this protein is a factor of natural resistance of an organism. What is it called?
Correct answer	Lysozyme
B	Complement
C	Interferon
D	Interleukin
E	Imanine
№	krok 2008, 2010
Topic	Staphylococci and streptococci
Task	Examination of a patient with pustular skin lesions allowed to isolate a causative agent that forms in the blood agar roundish yellow middle-sized colonies surrounded by haemolysis zone. Smears from the colonies contain irregularshaped clusters of gram-positive cocci. The culture is oxidase- and catalase-positive, ferments mannitol and synthesizes plasmocoagulase. What causative agent was isolated?
Correct answer	<i>Staphylococcus aureus</i>
B	<i>Streptococcus agalactiae</i>
C	<i>Streptococcus pyogenes</i>
D	<i>Staphylococcus epidermidis</i>
E	<i>Staphylococcus saprophyticus</i>
№	krok 2008
Topic	Medical mycology
Task	Microscopic examination of a Gram-stained scrape from patient's tongue revealed oval, round, elongated chains of dark-violet gemmating cells. What disease can be caused by this causative agent?
Correct answer	Candidosis

B	Actinomycosis
C	Streptococcic infection
D	Staphylococcic infection
E	Diphtheria
№	krok 2008
Topic	Staphylococci and streptococci
Task	Blood of a patient with presumable sepsis was inoculated into sugar broth. There appeared bottom sediment. Repeated inoculation into blood agar caused growth of small transparent round colonies surrounded by hemolysis zone. Examination of a smear from the sediment revealed gram-positive cocci in form of long chains. What microorganisms are present in blood of this patient?
Correct answer	Streptococci
B	Micrococci
C	Staphylococci
D	Tetracocci
E	Sarcina
№	krok 2008
Topic	Yersinia. Bacillus anthracis.
Task	The territory of an old burial ground for animal refuse that hasn't been used for over 50 years is meant for house building. But soil investigation showed the presense of viable spores of a causative agent causing a very dangerous disease. What microorganism might have been preserved in soil for such a long period of time?
Correct answer	<i>Bacillus anthracis</i>
B	<i>Francisella tularensis</i>
C	<i>Brucella abortus</i>
D	<i>Yersinia pestis</i>
E	<i>Mycobacterium bovis</i>
№	krok 2008
Topic	Methods of microscopic examination. Main bacterial shapes. Simple and complex staining. Gram staining.
Task	Microscopy of stained (Ziehl-Neelsen staining) smears taken from the sputum of a patient with chronic pulmonary disease revealed red bacilli. What property of tuberculous bacillus was shown up?
Correct answer	Acid resistance
B	Alkali resistance
C	Alcohol resistance

D	Capsule formation
E	Sporification
№	krok 2008
Topic	Mycobacteria. Actinomycetes.
Task	Histological examination of a skin tissue sampling revealed granulomas consisting of macrophagal nodules with lymphocytes and plasmatic cells. There are also some big macrophages with fatty vacuoles containing causative agents of a disease packed up in form of spheres (Virchow's cells). Granulation tissue is well vascularized. What disease is this granuloma typical for?
Correct answer	Lepra
B	Tuberculosis
C	Syphilis
D	Rhinoscleroma
E	Glanders
№	krok 2008, 2007
Topic	Antigen-antibody reactions (serological tests): agglutination test (AT), precipitation test (PT).
Task	In order to estimate toxigenity of diphtheria agents obtained from patients the cultures were inoculated on Petri dish with nutrient agar on either side of a filter paper strip that was put into the centre and moistened with antidiphtheric antitoxic serum. After incubation of inoculations in agar the strip-like areas of medium turbidity were found between separate cultures and the strip of filter paper. What immunological reaction was conducted?
Correct answer	Precipitation gel reaction
B	Coomb's test
C	Agglutination reaction
D	Rings precipitation reaction
E	Opsonization reaction
№	krok 2008
Topic	Methods of laboratory diagnostics of the infections. Meningococci and gonococci.
Task	A patient with clinical signs of encephalitis was delivered to the infectious diseases hospital. Anamnesis registers a tick bite. Hemagglutination-inhibition reaction helped to reveal antibodies to the causative agent of tick-borne encephalitis in the dilution 1:20 which is not diagnostic. What actions should the doctor take after he had got such result?
Correct answer	To repeat the examination with serum taken 10 days later

B	To examine the same serum
C	To apply more sensitive reaction
D	To repeat examination with another diagnosticum
E	To deny diagnosis of tick-borne encephalitis
№	krok 2008
Topic	Mycobacteria. Actinomycetes.
Task	A 40 year old man noticed a reddening and an edema of skin in the area of his neck that later developed into a small abscess. The incised focus is dense, yellowish-green. The pus contains white granules. Histological examination revealed drusen of a fungus, plasmatic and xanthome cells, macrophages. What type of mycosis is the most probable?
Correct answer	Actinomycosis
B	Aspergillosis
C	Candidosis
D	Sporotrichosis
E	Coccidioidomycosis
№	krok 2008, 2010
Topic	Mycobacteria, Actinomycetes.
Task	48 hours after tuberculine test (Mantoux test) a child had a papule 10 mm in diameter on the spot of tuberculine injection. What hypersensitivity mechanism underlies these changes?
Correct answer	Cellular cytotoxicity
B	Anaphylaxy
C	Antibody-dependent cytotoxicity
D	Immunocomplex cytotoxicity
E	Granulomatosis
№	krok 2008
Topic	Infection
Task	A patient recovered from Sonne dysentery and was once more infected with the same causative agent. What is such infection form called?
Correct answer	Reinfection
B	Recidivation
C	Superinfection
D	Persisting infection

E	Chronic infection
№	krok 2008
Topic	Opportunistic infections. Hospital infections
Task	A patient of surgical department complains about pain in the small of her back and in the lower part of her belly; painful and frequent urination. Bacteriological examination of urine revealed gram-negative oxidase-positive rod-like bacteria forming greenish mucoid colonies with specific smell. What causative agent can it be?
Correct answer	<i>Pseudomonas aeruginosa</i>
B	<i>Proteus mirabilis</i>
C	<i>E.coli</i>
D	<i>Str.pyogenes</i>
E	<i>Mycoplasma pneumonie</i>
№	krok 2008
Topic	Methods of determination of the immune state of the organism. Immunodeficiencies.
Task	A child was born with cleft palate. Examination revealed aorta defects and reduced number of T-lymphocytes in blood. What immunodeficient syndrome is it?
Correct answer	DiGeorge
B	Wiskott-Aldrich
C	Chediak-Higashi
D	Louis-Bar
E	Swiss-type
№	krok 2008
Topic	The structure of bacterial cells.
Task	A specimen stained by Ozheshko method contains rod-like microorganisms stained blue with round terminal components stained red. What are these components called?
Correct answer	Spores
B	Cilia
C	Flagella
D	Capsules
E	Mesosomas
№	krok 2008
Topic	Immunopathology. allergy



Task	A 30 year old woman has applied a lipstick with a fluorescent substance for a long time. Then she got a limited erythema and slight peeling on her lip border, later there appeared transversal striae and cracks. Special methods of microscopic examination of the affected area helped to reveal sensitized lymphocytes and macrophages in the connective tissue; cytolysis. What type of immunological hypersensitivity was developed?
Correct answer	IV type (cellular cytotoxicity)
B	I type (reaginic)
C	II type (antibody cytotoxicity)
D	III type (immune complex cytotoxicity)
E	Granulomatosis
№	krok 2008
Topic	corynebacteria. Pertussis
Task	Inoculum from pharynx of a patient ill with angina was inoculated into blood-tellurite agar. It resulted in growth of grey, radially striated (in form of rosettes) colonies 4-5 mm in diameter. Gram-positive bacilli with clublike thickenings on their ends placed in form of spread wide apart fingers are visible by microscope. What microorganisms are these?
Correct answer	Diphtheria corynebacteria
B	Botulism clostridia
C	Diphtheroids
D	Streptococci
E	Streptobacilli
№	krok 2008
Topic	Mycobacteria. Actinomycetes.
Task	Planned mass vaccination of all newborn 5-7 day old children against tuberculosis plays an important role in tuberculosis prevention. In this case the following vaccine is applied:
Correct answer	BCG
B	Diphtheria and tetanus toxoids and pertussis vaccine
C	Diphtheria and tetanus anatoxin vaccine
D	Adsorbed diphtheria vaccine
E	-
№	krok 2007
Topic	Pathogenic spirochaetae.

Task	A man was admitted to the hospital on the 5th day of disease that manifested itself by jaundice, muscle aching, chill, nose bleedings. In course of laboratory diagnostics a bacteriologist performed dark-field microscopy of the patient's blood drop. Name a causative agent of this disease:
Correct answer	<i>Leptospira interrogans</i>
B	<i>Borrelia dutlonii</i>
C	<i>Calymmatobacterium granulomatis</i>
D	<i>Bartonella bacilloformis</i>
E	<i>Rickettsia mooseri</i>
№	krok 2007
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D	<i>Bartonella bacilloformis</i>
E	<i>Rickettsia mooseri</i>
№	krok 2007
Topic	Medical mycology
Task	Examination of a child revealed some whitish spots looking like coagulated milk on the mucous membrane of his cheeks and tongue. Analysis of smears revealed grampositive oval yeast-like cells. What causative agents are they?
Correct answer	Candida
B	Staphylococci
C	Diphtheria bacillus
D	Actinomycetes
E	Fusobacteria
№	krok 2007
Topic	Retroviruses. HIV.
Task	RNA that contains AIDS virus penetrated into a leukocyte and by means of reverse transcriptase forced a cell to synthesize a viral DNA. This process is based upon:

Correct answer	Reverse transcription
B	Operon repression
C	Reverse translation
D	Operon depression
E	Convariant replication
№	krok 2007
Topic	Cellular and humoral factors of nonspecific defense. Phagocytic activity determination.
Task	A patient who suffers from pneumonia has high body temperature. What biologically active substance plays the leading part in origin of this phenomenon?
Correct answer	Interleukin-I
B	Histamine
C	Bradykinin
D	Serotonin
E	Leukotrienes
№	krok 2007
Topic	. Immunopathology. allergy
Task	A 27 y.o. patient put eye drops that contain penicillin. After a few minutes she felt itching and burning of her body, there appeared lip and eyelid edemata; arterial pressure began to drop. What immunoglobulins took part in the development of this allergic reaction?
Correct answer	<i>IgE</i> and <i>IgG</i>
B	<i>IgM</i> and <i>IgG</i>
C	<i>IgA</i> and <i>IgM</i>
D	<i>IgM</i> and <i>IgD</i>
E	<i>IgG</i> and <i>IgD</i>
№	krok 2007
Topic	Salmonella-causative agents of acute gastroenterocolites.
Task	Bacteriological examination of a patient with food poisoning required inoculation of a pure culture of bacteria with the following properties: gram-negative movable bacillus that grows in the Endo's medium in form of colourless colonies. A representative of which species caused this disease?
Correct answer	<i>Salmonella</i>
B	<i>Shigella</i>
C	<i>Iersinia</i>

D	<i>Esherichia</i>
E	<i>Citrobacter</i>
№	krok 2007
Topic	Retroviruses. HIV.
Task	Examination of a young man in the AIDS centre produced a positive result of immune-enzyme assay with HIV antigens. Patient's complaints about state of his health were absent. What can the positive result of immune-enzyme assay be evidence of?
Correct answer	HIV infection
B	Being ill with AIDS
C	Being infected with HBV
D	Having had AIDS recently
E	HBV persistence
№	krok 2007
Topic	Salmonella of enteric typhus and paratyphoids..
Task	Reaction of passive hemagglutination conducted with erythrocytic typhoid Vi-diagnosticum helped to reveal some antibodies in the dilution of the patient's serum at a ratio of 1:80 that exceeds the diagnostic titer. Such result witnesses of:
Correct answer	Being a potential carrier of typhoid bacilli
B	Being ill with acute typhoid fever
C	Typhoid fever recurrence
D	Incubation period of typhoid fever
E	Reconvalescence of a patient ill with typhoid fever
№	krok 2007
Topic	Immunopathology. allergy
Task	A woman has been applying a new cosmetic preparation for a week that resulted in eyelid inflammation accompanied by hyperemia, infiltration and painfulness. What type of allergic reaction was developed?
Correct answer	IV
B	I
C	II
D	III
E	V
№	krok 2007

Topic	mycobacteria
Task	The first grade pupils were examined in order to sort out children for tuberculosis revaccination. What test was applied for this purpose?
Correct answer	Mantoux test
B	Schick test
C	Supracutaneous tularin test
D	Burnet test
E	Anthraxine test
№	krok 2007
Topic	Neutralization test (NT). Serological tests with the use of labels: immunofluorescence test (IFT), enzyme immunoassay (EIA) (or enzyme-linked immunosorbent assay – ELISA), radioimmunoassay (RIA).
Task	Bacteriological laboratory examines canned meat whether it contains botulinum toxin. For this purpose an extract of test specimen and antitoxic antitoxin serum of A, B, E types were introduced to a group of mice under examination; a control group of mice got the extract without antitoxin serum. What serological reaction was applied?
Correct answer	Neutralization
B	Precipitation
C	Complement binding
D	Opsono-phagocytic
E	Double immune diffusion
№	krok 2007
Topic	Antigen-antibody reactions (serological tests): agglutination test (AT), precipitation test (PT).
Task	For the purpose of retrospective diagnostics of recent bacterial dysentery it was decided to perform serological examination of blood serum in order to determine antibody titer towards Shiga bacilli. What of the following reactions should be applied?
Correct answer	Passive hemagglutination
B	Bordet-Gengou test
C	Precipitation
D	Hemolysis
E	Bacteriolysis
№	krok 2007
Topic	Methods of determination of the immune state of the organism. Immunodeficiencies.

Task	A patient with clinical presentations of immunodeficiency went through immunological examinations. They revealed significant loss of cells that form rosettes with erythrocytes of a ram. What conclusion can be made according to the analysis data?
Correct answer	Decrease of T-lymphocytes rate
B	Decrease of B-lymphocytes rate
C	Decrease of natural killer cell rate
D	Decrease of complement system rate
E	Insufficiency of effector cells of humoral immunity
№	krok 2007
Topic	Immunopathology.Allergy
Task	An experimental animal was first sensitized whereupon an antigen dose was introduced subcutaneously. This injection resulted in the development of a fibrinous inflammation with alteration of vessel walls, basal substance and fibrous structures of connective tissue in form of mucoid and fibrinoid swelling and necrosis. What immunological reaction took place?
Correct answer	Immediate hypersensitivity
B	Delayedtype hypersensitivity
C	Reaction of transplanted immunity
D	Normergic reaction
E	Granulomatosis
№	krok 2007
Topic	Opportunistic infections. Hospital infections
Task	Urine examination of a patient with acute cystitis revealed leukocytes and a lot of gram-negative bacilli. Inoculation resulted in growth of colonies of mucous nature that formed green soluble pigment. What microorganism is the most probable cause of the disease?
Correct answer	<i>Pseudomonas aeruginosa</i>
B	<i>Escherichia coli</i>
C	<i>Klebsiella pneumoniae</i>
D	<i>Pasteurella multocida</i>
E	<i>Salmonella enteritidis</i>
№	krok 2007
Topic	Methods of laboratory diagnostics of the infections. Meningococci and gonococci.

Task	A laboratory received a material from a patient's wound. Preliminary diagnosis is gaseous gangrene. What microbiological method should be applied to determine species of causative agent?
Correct answer	Bacteriological
B	Allergic
C	Bacterioscopic
D	Serological
E	RIA
№	krok 2007
Topic	Staphylococci and streptococci
Task	A boy is 7 y.o. Objectively: against the background of hyperemic skin there is knobby bright-pink rash on his forehead, neck, at the bottom of abdomen, in the popliteal spaces; nasolabial triangle is pale. Examination of oropharyngeal surface revealed localized bright-red hyperemia; tonsils are swollen, soft, lacunas contain pus, tongue is crimson. Cervical lymph nodes are enlarged, dense and painful. What is the most probable diagnosis?
Correct answer	Scarlet fever
B	Rubella
C	Whooping cough
D	Diphtheria
E	Infectious mononucleosis
№	krok 2007
Topic	A bacteriological method of research. Methods of isolation of pure cultures of aerobes and anaerobes
Task	In the surgical department of a hospital there was an outbreak of hospital infection that showed itself in often postoperative wound abscesses. Bacteriological examination of pus revealed aureococcus. What examination shall be conducted to find out the source of this causative agent among the department personnel?
Correct answer	Phagotyping
B	Microscopical examination
C	Serological identification
D	Estimation of antibiotic susceptibility
E	Biochemical identification
№	krok 2010
Topic	Methods of laboratory diagnostics of the infections. Meningococci and gonococci.

Task	Clinical diagnosis of a female patient was gonorrhoea. What examination method can be applied for confirmation of this diagnosis?
Correct answer	Microscopy of pathological material
B	Infection of laboratory animals
C	Test with bacteriophage
D	Hemagglutination reaction
E	Immobilization reaction
№	krok 2010
Topic	Neutralization test (NT). Serological tests with the use of labels: immunofluorescence test (IFT), enzyme immunoassay (EIA) (or enzyme-linked immunosorbent assay – ELISA), radioimmunoassay (RIA).
Task	Researchers of a bacteriological laboratory examine tinned meat for botulinic toxin. For this purpose a group of mice was injected with an extract of the material under examination and antitoxic antitoxin serum of A, B, E types. A control group of mice was injected with the same extract but without antitoxin serum. What serological reaction was applied?
Correct answer	Neutralization
B	Precipitation
C	Complement binding
D	Opsonocytotoxic
E	Double immune diffusion
№	krok 2010
Topic	Salmonella of enteric typhus and paratyphoids.
Task	During the repeated Widal's agglutination test it was noticed that the ratio of antibody titers and O-antigens <i>S.typhi</i> in the patient's serum had increased from 1:100 to 1:400. How would you interpret these results?
Correct answer	The patient has typhoid fever
B	The patient is an acute carrier of typhoid microbes
C	The patient is a chronic carrier of typhoid microbes
D	The patient previously had typhoid fever
E	The patient was previously vaccinated against typhoid fever
№	krok 2010
Topic	Cellular and humoral factors of nonspecific defense.
Task	Inflammatory processes cause synthesis of protein of acute phase in an organism. What substances stimulate their synthesis?



Correct answer	Interleukin-1
B	Immunoglobulins
C	Interferons
D	Biogenic amines
E	Angiotensin
№	krok 2010
Topic	A bacteriological method of research. Methods of isolation of pure cultures of aerobes and anaerobes.
Task	Among junior children of an orphanage an outbreak of intestinal infection with signs of colienteritis was registered. In order to identify isolated causative agent it is necessary to:
Correct answer	Study antigenic properties of the causative agent
B	To determine sensitivity to antibiotics
C	To study sensitivity to bacteriophages
D	To study biochemical properties of the causative agent
E	To study virulence of the causative agent
№	krok 2010
Topic	Neutralization test (NT). Serological tests with use of the labels: immunofluorescence test (IFT), enzyme linked immunosorbent assay (ELISA), radioimmunoassay (RIA).
Task	A virological laboratory obtained pathological material (mucous discharges from nasal meatuses) taken from a patient with provisional diagnosis "influenza". What quick test will allow to reveal specific viral antigen in the material under examination?
Correct answer	Direct and indirect immunofluorescence test
B	Direct and indirect fluorescence immunoassay
C	Hemagglutination inhibition assay
D	Radioimmunoassay
E	-
№	krok 2010
Topic	Staphylococci and streptococci
Task	A 7 year old child often suffers from streptococcal angina. Doctor suspected development of rheumatism and administered serological examination. The provisional diagnosis will be most probably confirmed by presence of antibodies to the following streptococcal antigen:
Correct answer	O-streptolysin
B	C-carbohydrate

C	M-protein
D	Erythrogenic toxin
E	Capsular polysaccharide
№	krok 2010
Topic	Corynebacteria. Pertussis
Task	A patient has been suffering from elevated temperature and attacks of typical cough for 10 days. Doctor administered inoculation of mucus from the patient's nasopharynx on the agar. What microorganism is presumed?
Correct answer	Pertussis bacillus
B	Pfeiffer's bacillus
C	Listeria
D	Klebsiella
E	Staphylococcus
№	krok 2010
Topic	Methods of immune status examination. Immunodeficiencies.
Task	Examination of a child who frequently suffers from infectious diseases revealed that IgG concentration in blood serum was 10 times less than normal, IgA and IgM concentration was also significantly reduced. Analysis showed also lack of B-lymphocytes and plasmocytes. What disease are these symptoms typical for?
Correct answer	Bruton's disease
B	Swiss-type agammaglobulinemia
C	Dysimmunoglobulinemia
D	Louis-Bar syndrome
E	Di George syndrome
№	krok 2010
Topic	Methods of immune status examination. Immunodeficiencies.
Task	A patient with skin mycosis has disorder of cellular immunity. The most typical characteristic of it is reduction of the following index:
Correct answer	T-lymphocytes
B	Immunoglobulin G
C	Immunoglobulin E
D	B-lymphocytes
E	Plasmocytes

№	krok 2010
Topic	Human immune system. Humoral and cellular immune response. Biology of immune response. Theories of immunogenesis.
Task	A female patient underwent liver transplantation. 1,5 month after it her condition became worse because of reaction of transplant rejection. What factor of immune system plays the leading part in this reaction?
Correct answer	T-killers
B	Interleukin-1
C	Natural killers
D	B-lymphocytes
E	T-helpers
№	krok 2010
Topic	Clostridia of wound anaerobic infection. Tetanus. Botulism.
Task	Microscopical examination of a microbial culture revealed fusiform spore-forming microorganisms that get violet-blue Gram's stain. What microorganisms were revealed?
Correct answer	Clostridia
B	Streptococci
C	Spirochaete
D	Actinomycete
E	Diplococci
№	krok 2010
Topic	Human immune system. Humoral and cellular immune response. Biology of immune response. Theories of immunogenesis.
Task	A patient in a transplantation centre underwent heart transplantation. The organ was taken from a donor who died in a road accident. Foreign heart can be rejected as a result of development of transplantation immunity. It is usually prevented by means of:
Correct answer	Immunosuppressors
B	Chemotherapy
C	Ultrasound
D	Enzymes
E	X-ray therapy
№	krok 2010
Topic	Ortho- and paramyxoviruses.

Task	Material taken from a patient with provisional diagnosis "influenza" was referred to a laboratory. For virological examination the hemadsorption reaction was applied. This reaction can be applied for detection of the following viruses:
Correct answer	Viruses containing hemagglutinins
B	All the simple viruses
C	All the complex viruses
D	DNA-genomic viruses
E	Any viruses
№	krok 2010
Topic	Herpesviruses. Adenoviruses. Papillomaviruses. Polyomaviruses. Parvoviruses. Oncoviruses. Poxviruses.
Task	A patient has herpetic rash. What medication should be administered?
Correct answer	Acyclovir
B	Gentamycin
C	Clotrimazole
D	Benzympenicillin sodium salt
E	Biseptol
№	krok 2018
Topic	Vibrios. Campylobacter, Helicobacter.
Task	From the feces of a patient with acute gastroenteritis a pure culture of microorganisms was obtained. The microorganisms are small mobile slightly curved gram-negative bacilli that within 6 hours grow into a light blue film on the 1% alkaline peptone water. Such properties are characteristic of the following microorganism:
Correct answer	Vibrio
B	Spirochaete
C	Clostridium
D	Bacillus
E	Spirilla
№	krok 2018
Topic	Salmonella of enteric typhus and paratyphoids.
Task	A patient was brought into the infectious diseases hospital on the 8th day since the disease onset. The patient complains of headache, malaise, and weakness. A sample of blood was taken for the serological test. Widal agglutination test results with blood sample diluted 1:200 and typhoid fever O-diagnosticum were positive. What diagnosis can be made based on the results of this test?

Correct answer	Typhoid fever
B	Dysentery
C	Cholera
D	Leptospirosis
E	Tuberculosis
№	krok 2018
Topic	Cellular and humoral factors of nonspecific defense. Phagocytic activity determination. Lysozyme determination.
Task	Protective function of saliva is based on several mechanisms, including the presence of enzyme that has bactericidal action and causes lysis of complex capsular polysaccharides of staphylococci and streptococci. Name this enzyme:
Correct answer	Lysozyme
B	$\alpha$ -amylase
C	Oligo-1,6-glucosidase
D	Collagenase
E	$\beta$ -glucuronidase
№	krok 2018
Topic	Vibrios. Campylobacter, Helicobacter.
Task	Initial inoculation of water in 1% peptone water resulted in growth of a thin film on the medium surface in 6 hours. Such cultural properties are characteristic of causative agent of the following disease:
Correct answer	Cholera
B	Plague
C	Tuberculosis
D	Dysentery
E	Pseudotuberculosis
№	krok 2018
Topic	Causative agents of viral hepatitis.
Task	In a township there was registered an outbreak of hepatitis, which had supposedly spread through the water supply. What hepatitis virus could be the cause of the outbreak in this township?
Correct answer	Hepatitis E virus
B	Hepatitis C virus
C	Hepatitis D virus

D	Hepatitis G virus
E	Hepatitis B virus
№	krok 2018
Topic	Herpesviruses. Adenoviruses. Papillomaviruses. Polyomaviruses. Parvoviruses. Oncoviruses. Poxviruses.
Task	A medical student was hospitalized into the infectious diseases unit on the 2nd day after the disease onset; the patient is suspected to have infectious mononucleosis. What results of laboratory analysis can confirm this diagnosis immediately on the day of the hospitalization?
Correct answer	IgM antibodies to Epstein-Barr virus were detected
B	IgM antibodies to herpes simplex virus were detected
C	Fourfold increase in number of antibodies to Epstein-Barr virus was detected
D	Herpesvirus was isolated
E	Cytomegalovirus antibodies were detected
№	krok 2018
Topic	Microbiological bases of antimicrobial chemotherapy and antiseptics. Antibiotics
Task	Pathogenic staphylococcus was obtained from the purulent wound of the patient. Its antibiotic sensitivity was determined to be as follows: penicillin growth inhibition zone - 8 mm; oxacillin - 9 mm, ampicillin - 10 mm, gentamicin - 22 mm, lincomycin - 11 mm. What antibiotic should be chosen for treatment in this case?
Correct answer	Gentamicin
B	Oxacillin
C	Ampicillin
D	Penicillin
E	Lincomycin
№	krok 2018
Topic	Mycobacteria. Actinomycetes.
Task	A 40-year-old man developed skin redness and swelling in the neck area, where eventually a small abscess appeared. On section the focus is dense and yellow-green colored. In the purulent masses there are white granules. Histologically there are fungal druses, plasma and xanthome cells, and macrophages detected. Specify the most correct etiological name of this pathological process:
Correct answer	Actinomycosis
B	Furuncle
C	Carbuncle
D	Syphilis

E	Leprosy
№	krok 2018
Topic	Salmonella of enteric typhus and paratyphoids
Task	A patient was hospitalized into the infectious diseases unit on the 11th day since the disease onset and provisionally diagnosed with typhoid fever. What biological material should be collected from the patient for the analyzes at this stage?
Correct answer	Blood serum
B	Urine
C	Feces
D	Bile
E	Roseola secretion
№	krok 2018
Topic	Human immune system. Humoral and cellular immune response. Biology of immune response. Theories of immunogenesis.
Task	A patient with clinical signs of a primary immunodeficiency has functionally disturbed mechanism of antigen-presentation to the immunocompetent cells. What cells are likely to have structural defects?
Correct answer	Macrophages, monocytes
B	T-lymphocyte
C	B-lymphocyte
D	Fibroblasts
E	O-lymphocytes
№	krok 2018
Topic	Immunoprophylaxis. Immunotherapy.
Task	A toxin neutralized with 0.4% formaldehyde under 37-40° C for 4 weeks is used for vaccination. This preparation was first used by Gaston Ramon for diphtheria prevention. Name this preparation:
Correct answer	Anatoxin (Toxoid)
B	Immunoglobulin
C	Antitoxic serum
D	Adjuvant
E	Inactivated vaccine
№	krok 2018

Topic	Yersinia. Bacillus anthracis.
Task	What diagnostic method should be used in industry to test the raw leather for presence of <i>B. anthracis</i> ?
Correct answer	Ascoli's thermo precipitation test
B	Microscopy with Burry-Gins stain
C	Microscopy with Aujeszky stain
D	Bacteriological analysis
E	Serological test
№	krok 2018
Topic	Methods of immune status examination. Immunodeficiencies.
Task	A 5-year-old child is diagnosed with Bruton syndrome (X-linked agammaglobulinemia) that manifests itself as severe clinical course of bacterial infections and absence of B lymphocytes and plasma cells. What changes of immunoglobulin content can be observed in blood serum of the child with immunodeficiency?
Correct answer	Decreased IgA, IgM
B	Increased IgA, IgM
C	Decreased IgD, IgE
D	Increased IgD, IgE
E	No changes
№	krok 2018
Topic	Mycobacteria. Actinomycetes.
Task	During the skill-building session in microbiology the students need to stain the prepared and fixed sputum smears obtained from a tuberculosis patient. What staining technique should be used in this case?
Correct answer	Ziehl-Neelsen
B	Burry
C	Giemsa
D	Gins
E	Gram
№	krok 2018
Topic	Mycobacteria. Actinomycetes
Task	First-year schoolchildren have received tuberculin skin test (Mantoux test) at the school nurse's office. The purpose of this test was:
Correct answer	To determine the children that need to receive BCG vaccination
B	To preventively vaccinate against tuberculosis



C	To measure immunity stress toward diphtheria
D	To measure allergization rate toward rickettsia
E	To detect parotitis in the schoolchildren
№	krok 2018
Topic	Picornaviruses.
Task	Various biological preparations can be used for poliomyelitis prevention. What drug induces the type of local intestinal mucosal immunity that lasts the longest?
Correct answer	Oral vaccination with live vaccine
B	Parenteral vaccination with inactivated vaccine
C	Oral introduction of poliovirus-specific immunoglobulin
D	Parenteral vaccination with live vaccine
E	Parenteral introduction of normal human immunoglobulin
№	krok 2018
Topic	Retroviruses. HIV.
Task	A man is a carrier of HIV that is an RNA virus. The cells of this patient synthesize viral DNA. This process is based on:
Correct answer	Reverse transcription
B	Replication
C	Transcription
D	Repair
E	Translation
№	krok 2018
Topic	Staphylococci and streptococci
Task	A 40-year-old woman was diagnosed with glomerulonephritis based on her clinical symptoms and the results of urine analysis. Anamnesis states chronic tonsillitis. What microorganisms are the most likely cause for her kidney damage?
Correct answer	Streptococci
B	Staphylococci
C	Escherichia
D	Mycoplasma
E	Meningococci
№	krok 2018

Topic	Mycobacteria. Actinomycetes.
Task	A patient with pulmonary tuberculosis is prescribed the most effective anti-tuberculous antibiotic. Name this drug:
Correct answer	Rifampicin
B	Tetracycline
C	Streptocide
D	Furasolidone
E	Bactrim (Co-trimoxazole)
№	krok 2018
Topic	Microbiological bases of antimicrobial chemotherapy and antiseptics. Antibiotics
Task	An 18-year-old patient has developed candidiasis after the case of pneumonia treated with $\beta$ -lactam antibiotic. What anti-mycotic agent should be prescribed?
Correct answer	Fluconazole
B	Streptomycin
C	Ampicillin
D	Phthalylsulfathiazole
E	Trimethoprim/sulfamethoxazole (Bi-septol)
№	krok 2018
Topic	Picornaviruses.
Task	Preventive vaccination against poliomyelitis is made with inactivated vaccine introduced parenterally. What immunoglobulins create the postvaccinal immunity in this case?
Correct answer	IgM, IgG
B	IgG, secretory IgA
C	IgM, secretory IgA
D	Serum IgA, IgM
E	IgE, IgM
№	krok 2018
Topic	Infection.
Task	A patient developed pyoinflammatory process of periodontal tissues caused by activation of the microorganisms inherent in the body, which are a part of oral mucosal microflora. What type of infection is it?
Correct answer	Autoinfection
B	Exogenous infection

C	Reinfection
D	Superinfection
E	Relapse
№	krok 2019
Topic	Causative agents of viral hepatitis.
Task	To test donor blood for hepatitis B antigens, it is necessary to use highly sensitive detection methods. What test should be used for this purpose?
Correct answer	Solid-phase enzyme-linked immunosorbent assay
B	Indirect hemagglutination
C	Complement binding
D	Immuno-electrophoresis
E	Indirect immunofluorescence
№	krok 2019
Topic	Opportunistic infections. Hospital infections
Task	Urinalysis of a patient with acute cystitis shows leukocytes and a large number of gram-negative bacilli. Inoculation has resulted in the growth of mucous colonies that produce a green soluble pigment. What microorganism is the most likely cause of the patient's disorder?
Correct answer	<i>Pseudomonas aeruginosa</i>
B	<i>Escherichia coli</i>
C	<i>Klebsiella pneumoniae</i>
D	<i>Salmonella enteritidis</i>
E	<i>Proteus mirabilis</i>
№	krok 2019
Topic	Antigen-antibody reactions (serological tests): agglutination test (AT), precipitation test (PT).
Task	The bacteriological laboratory needs to prepare for analysis of materials that are suspected to be contaminated with spores of anthrax causative agent. What diagnostic preparation allows for quick detection of these spores?
Correct answer	Anti-anthrax fluorescent serum
B	Anti-anthrax immunoglobulin
C	Standard anthrax antigen
D	Enzyme-tagged immunoglobulin
E	Monoclonal antibodies to anthrax causative agent

№	krok 2019
Topic	Retroviruses. HIV.
Task	A man is a carrier of HIV that is an RNA virus. The cells of this patient synthesize viral DNA. This process is based on:
Correct answer	Reverse transcription
B	Replication
C	Repair
D	Transcription
E	Translation
№	krok 2019
Topic	Serological method of diagnostics. Serological tests for detection of antigens and antibodies. Serological tests for express-diagnostics. Diagnostic antigens. Diagnostic antisera.
Task	A family has two children. The younger child is under a year. The child has developed spastic cough attacks. Similar clinical presentation was observed in the elder preschool child one month ago. The doctor suspects pertussis infection. What method enables retrospective diagnostics of this disease?
Correct answer	Serological
B	Microscopy
C	Molecular biological
D	Bacteriological
E	Biological
№	krok 2019
Topic	Mycobacteria. Actinomycetes.
Task	A 36-year-old man provisionally diagnosed with renal tuberculosis has undergone urinary sediment analysis. Microscopy revealed acid-fast bacteria, but Pryce method detected no cord factor. Name the most reliable method of investigation that can confirm or refute this provisional diagnosis:
Correct answer	Allergy skin test
B	Inoculation of laboratory animals
C	Phage typing of the obtained culture
D	Toxigenicity testing
E	Serological identification of the causative agent
№	krok 2019
Topic	Ortho- and paramyxoviruses.

Task	Pathologic material (mucosal excretion from the nasal passages) obtained from a patient provisionally diagnosed with influenza was sent to the virological laboratory. What quick test allows detecting specific viral antigen in the investigated material?
Correct answer	Direct and indirect immunofluorescence (IF)
B	Hemagglutination inhibition assay (HAI)
C	Reverse indirect hemagglutination (RIHA)
D	Radioimmunoassay (RIA)
E	Direct and indirect enzyme-linked immunosorbent assay (ELISA)
№	krok 2019
Topic	Yersinia. Bacillus anthracis.
Task	What diagnostic method should be used in industry to test the raw leather for presence of <i>B. anthracis</i> ?
Correct answer	Ascoli's thermo precipitation test
B	Bacteriological analysis
C	Serological test
D	Microscopy with Burry-Gins stain
E	Microscopy with Aujeszky stain
№	krok 2019
Topic	Corynebacteria.
Task	2.5-year-old child is provisionally diagnosed with pharyngeal diphtheria. Smear from the child's mucosa was obtained and inoculated into a coagulated equine serum. What is the purpose of this stage of microbiological diagnostics?
Correct answer	Pure culture isolation
B	Determination of toxin serotype
C	Determination of biochemical properties
D	Detection of toxigenicity
E	Analysis of antigenic properties
№	krok 2019
Topic	Clostridia of wound anaerobic infection. Tetanus. Botulism. Anaerobic non clostridial infections.
Task	The bacteriological laboratory has received for analysis a sample of dried fish from a focus of food poisoning outbreak. The bacteriologist inoculated the sample into a Kitt-Tarozzi medium, where growth of tennis racquet-shaped microorganisms could be observed. These microorganisms are likely to be the causative agents of:

Correct answer	Botulism
B	Typhoid fever
C	Salmonellosis
D	Staphylococcal toxicoinfection
E	Dysentery
№	krok 2019
Topic	Infection.
Task	A 12-year-old boy with clinical presentation of influenza has developed respiratory mycoplasmosis. What type of infection has developed under these conditions?
Correct answer	Mixed infection
B	Superinfection
C	Relapse
D	Iatrogenic infection
E	Autoinfection
№	krok 2019
Topic	Antigen-antibody reactions (serological tests): agglutination test (AT), precipitation test (PT).
Task	To determine toxigenicity of diphtheria causative agents obtained from patients, the cultures were inoculated in a Petri dish with nutrient agar, bilaterally to a strip of filter paper spotted with antidiphtheric antitoxic serum and situated in the center of the Petri dish. After incubation of the inoculated cultures in the agar, strip-like areas of medium turbidity formed between some of the cultures and the filter paper. What immunological test was conducted?
Correct answer	Agar gel precipitation test
B	Opsonization test
C	Ring precipitin test
D	Coombs test
E	Agglutination test
№	krok 2019
Topic	Allergy.
Task	Antileukocytic antibodies are detected in the blood of a patient with leukopenia. What type of Coombs-Gell hypersensitivity reaction developed in this case?
Correct answer	Cytotoxic
B	Stimulating

C	Delayed-type hypersensitivity
D	Immune complex-mediated
E	Anaphylactic
№	krok 2019
Topic	Mycobacteria. Actinomycetes.
Task	First-year schoolchildren have received tuberculin skin test (Mantoux test) at the school nurse's office. The purpose of this test was:
Correct answer	To determine the children that need to receive BCG vaccination
B	To measure allergization rate against rickettsia
C	To detect parotitis in the schoolchildren
D	To measure immunity stress due to diphtheria
E	To preventively vaccinate against tuberculosis
№	krok 2019
Topic	Shigella.
Task	A 23-year-old woman presents to the emergency department complaining of bloody diarrhea, fatigue and confusion. A few days earlier, she went to a fast food restaurant for a birthday party. Her friends are experiencing similar symptoms. Laboratory studies show anemia. Which of the following would you most likely obtain for microbiologic testing?
Correct answer	Stool
B	Bile
C	Blood
D	Cerebrospinal fluid
E	Urine
№	krok 2019
Topic	Mycobacteria. Actinomycetes

Task	A 6-year-old boy is brought to the pediatrician by his mother, who complains of low-grade fever, chronic cough and night sweats in her child. She describes the cough as productive, producing white sputum that is sometimes streaked with blood. She also says that her son has lost some weight in the last month. His vital signs include blood pressure of 115/75 mm Hg, heart rate of 110/min., respiratory rate of 18/min. and temperature of 36.6°C. On physical examination, the patient is ill looking. Pulmonary auscultation reveals some fine crackles in the right upper lobe. The pediatrician suspects an active infection and performs Mantoux test. Intradermal injection of which of the following substances has been most likely used by pediatrician for screening test in this clinical case?
Correct answer	Tuberculin
B	Tetanus and diphtheria toxoids vaccine (Td)
C	Diphtheria-tetanus toxoids-acellular pertussis vaccine (DTaP)
D	Bacillus Calmette-Guerin (BCG) vaccine
E	
№	krok 2019
Topic	Salmonella of enteric typhus and paratyphoids.
Task	A 43-year-old man seeks evaluation at an emergency department with complaints of fever with chills, malaise, diffuse abdominal pain for over a week, diarrhea and loss of appetite. He says that his symptoms are progressively getting worse. He recalls that the fever began slowly and climbed its way up stepwise to the current 39.8°C. His blood pressure is 110/70 mm Hg. A physical exam reveals a coated tongue, enlarged spleen and rose spots on the abdomen. Serologic study shows the agglutinin O titre of 1:200 by the Widal test. Which of the following is the most likely causative organism for this patient's condition?
Correct answer	<i>Salmonella typhi</i>
B	<i>Mycobacterium tuberculosis</i>
C	<i>Vibrio cholerae</i>
D	<i>Leptospira interrogans</i>
E	Enterohemorrhagic <i>E. coli</i>
№	krok 2020
Topic	Shigella.
Task	Shigella capable of producing exotoxin was obtained from a patient diagnosed with dysentery. What Shigella species is it?
Correct answer	<i>Shigella dysenteriae</i>
B	<i>Shigella flexneri</i>



C	<i>Shigella sonnei</i>
D	<i>Shigella boydii</i>
E	<i>Shigella newcastle</i>
№	krok 2020
Topic	Bases of clinical microbiology
Task	A woman hospitalized in the surgical department complains of pain in her lower abdomen and in the small of her back, frequent and painful urination. Urine culture test revealed gram-negative oxidase-positive bacilli that formed green mucoid colonies with a specific smell. What causative agent can be suspected?
Correct answer	<i>Pseudomonas aeruginosa</i>
B	<i>Str. pyogenes</i>
C	<i>Mycoplasma pneumonie</i>
D	<i>E. coli</i>
E	<i>Proteus mirabilis</i>
№	krok 2020
Topic	Allergy.
Task	For the third spring in a row, when poplars start to bloom, a 20-year-old student develops itching and hyperemia in her eyes and nose, rhinorrhea, cough, and urticaria on the exposed areas of her skin. Examination detected a sharp increase in IgE levels. The allergologist prescribed her a special hyposensitization therapy. How is this kind of treatment administered?
Correct answer	Administration of antihistaminic agents
B	Exposure to one large dose of allergen
C	Administration of calcium chloride
D	Exposure to repeated low doses of allergen
E	Administration of adrenal gland hormones
№	krok 2020
Topic	Infection.
Task	A bacteriologist found in a sick child the causative agents of Flexner dysentery type 2, Sonne dysentery type 1, and enteropathogenic colibacillus - 055/B5. Name this type of infection:
Correct answer	Mixed infection
B	Superinfection
C	Secondary infection
D	Carriage of pathogenic bacteria

E	Reinfection
№	krok 2020
Topic	Methods of immune status examination. Immunodeficiencies.
Task	A 2-year-old child was diagnosed with thymic hypoplasia. What indicator of the immune system status is the most characteristic of this type of immunodeficiency?
Correct answer	Low T cell count
B	Low levels of immunoglobulin M
C	Low B cell count
D	Absence of plasma cells
E	T and B cell deficiency
№	krok 2020
Topic	Methods of immune status examination. Immunodeficiencies.
Task	A patient with characteristically hypoplastic thymus suffers from Di George syndrome. What type of immunological pathology is it?
Correct answer	Congenital T cell deficiency
B	Acquired T cell deficiency
C	Congenital B cell deficiency
D	Acquired B cell deficiency
E	Immune depression in the system of T cells
№	krok 2020
Topic	Methods of laboratory diagnostics of the infections. Meningococci and gonococci.
Task	Bacterioscopy of purulent cervical discharge detected gram-negative bean shaped diplococci, both inside and outside of the leukocytes. What is the causative agent of the purulent inflammation of the uterine cervix in this case?
Correct answer	<i>Neisseria gonorrhoeae</i>
B	<i>Chlamidia trachomatis</i>
C	<i>Trichomonas vaginalis</i>
D	<i>Haemophilus vaginalis</i>
E	<i>Calymmatohacterium granulomatis</i>
№	krok 2020
Topic	Salmonella – causative agents of acute gastroenterocolitis.

Task	After a celebratory dinner, several people, who were eating a cake with duck egg cream, developed food poisoning. What genus of bacteria is the most likely cause of food poisoning in this case?
Correct answer	<i>Salmonella</i>
B	<i>Clostridium</i>
C	<i>Corynebacterium</i>
D	<i>Yersinia</i>
E	<i>Shigella</i>
№	krok 2020
Topic	Retroviruses. HIV.
Task	T lymphocytes were affected by HIV In the process, viral enzyme reverse transcriptase (RNA-dependent DNA- polymerase) catalyzes the synthesis of:
Correct answer	DNA on the viral RNA matrix
B	Viral RNA on the DNA matrix
C	Viral DNA on the DNA matrix
D	Viral protein on the viral RNA matrix
E	Viral protein on the viral RNA matrix
№	krok 2020
Topic	Methods of immune status examination. Immunodeficiencies.
Task	A 5-year-old child is diagnosed with Bruton's disease (X-linked agammaglobulinemia) that manifests itself in severe clinical course of bacterial infections and absence of B lymphocytes and plasma cells. What changes of immunoglobulin content can be observed in blood serum of the child with immunodeficiency?
Correct answer	Decreased IgA, IgM
B	Increased IgA, IgM
C	Increased IgD, IgE
D	No changes
E	Decreased IgD, IgE
№	krok 2020
Topic	Infection.
Task	After examination, the doctor diagnosed the patient with parainfluenza, based on the clinical findings. What route of transmltion is characteristic of this disease?
Correct answer	Airborne
B	Saliva-to-blood transmission

C	Fecal-oral transmission
D	Parenteral transmission
E	Vector-borne transmission
№	krok 2020
Topic	Corynebacteria.
Task	A 5-year-old kindergartener has diphtheria. To find the carriers of this disease among the kindergarten staff, samples of pharyngeal mucus were obtained from the employees. One of the employees had gram-positive bacilli in her sample. They were situated at an angle to each other and colored unevenly, when stained according to Loeffler. What method can confirm that this carrier is dangerous to the other people?
Correct answer	Toxin production test
B	Mouse neutralization test
C	Immunofluorescence test
D	Complement fixation test
E	Serum agglutination test
№	krok 2020
Topic	Staphylococci and streptococci
Task	Microscopy of the sputum of a patient with lobar pneumonia revealed a large number of gram-positive lancet-shaped encapsulated diplococci. What causative agent is it?
Correct answer	<i>Streptococcus pneumoniae</i>
B	<i>Klebsiella pneumoniae</i>
C	<i>Chlamidia pneumoniae</i>
D	<i>Staphylococcus aureus</i>
E	<i>Escherichia coli</i>
№	krok 2020
Topic	Staphylococci and streptococci
Task	A 7-year-old boy has a bright-pink punctate rash against the background of hyperemia on his forehead, neck, lower abdomen, and in the popliteal spaces. His nasolabial triangle is pale. In the oropharynx there is a bright-red hyperemic area with clear margins, the tonsils are swollen and friable, lacunas contain pus, the tongue is raspberry pink. The cervical lymph nodes are enlarged and painful. Make the diagnosis:
Correct answer	Scarlet fever
B	Pertussis
C	Rubella

D	Infectious mononucleosis
E	Diphtheria
№	krok 2020
Topic	Vibrios. Campylobacter. Helicobacter.
Task	From the feces of a patient with acute gastroenteritis a pure culture of microorganisms was obtained. The microorganisms are small mobile slightly curved gram-negative bacilli that within 6 hours grow into a light blue film on the 1% alkaline peptone water. Such properties are characteristic of the following microorganism:
Correct answer	Vibrio
B	Clostridium
C	Spirillum
D	Spirochaete
E	Bacillus
№	krok 2020
Topic	Mycobacteria. Actinomycetes.
Task	A laboratory received a sputum sample obtained from a patient with tuberculosis. What staining method should be used to detect the causative agents of tuberculosis?
Correct answer	Ziehl-Neelsen
B	Romanowsky-Giemsa
C	Burri-Gins
D	Gram-Sinov
E	Neisser
№	krok 2021
Topic	Mycobacteria. Actinomycetes
Task	Autopsy of the body of a child shows a primary intestinal tuberculosis complex: the primary affect is a jejunal ulcer, there are lymphangitis and regional caseous lymphadenitis. The death occurred as a result of ulcer perforation and development of diffuse peritonitis. What is the route of tuberculosis infection in this child?
Correct answer	Alimentary
B	Contact
C	Mixed
D	Aerogenic
E	Transplacental
№	krok 2021

Topic	Human immune system. Humoral and cellular immune response. Biology of immune response. Theories of immunogenesis
Task	A 20-year-old woman with intestinal polyposis has a history of frequent fungal and viral diseases. What part of the immune system is most likely to be deficient in this case?
Correct answer	T-lymphocytes
B	Complement
C	B-lymphocytes
D	Natural killers
E	Phagocytes
№	krok 2021
Topic	Causative agents of viral hepatitis
Task	During a surgery, the patient received a following causative agent:
Correct answer	Hepatitis B virus
B	Hepatitis A virus
C	Hepatitis E virus
D	Enteroviruses
E	Adenoviruses
№	krok 2021
Topic	Vibrios. Campylobacter, Helicobacter.
Task	Exo- and endotoxins, aggression enzymes play a significant role in the pathogenesis of Cholera. Dehydration is the main syndrome of this disease. Which of the following pathogenetic effects is the main cause of dehydration?
Correct answer	Adenylate cyclase activation
B	Hyaluronic acid destruction
C	Mucin destruction
D	Membrane phospholipid defect
E	Neuraminic acid elimination
№	krok 2021
Topic	Human immune system. Humoral and cellular immune response. Biology of immune response. Theories of immunogenesis
Task	Examination revealed that the patient has an insufficient immunoglobulin count. The likely cause of this finding is a disfunction of the following immune system cells:

Correct answer	Plasma cells
B	Plasmablasts
C	T-suppressors
D	T-helpers
E	T-killers
№	krok 2021
Topic	Yersinia. Bacillus anthracis
Task	A bioterrorist has mailed an envelope with a powder that is suspected to contain anthrax causative agent. This envelope can remain dangerous for a long time, because anthrax causative agent:
Correct answer	Is a spore-former
B	Forms a protein capsule
C	Forms a polysaccharide capsule
D	Belongs to actinomycetes
E	Forms flagella
№	krok 2021
Topic	Human immune system. Humoral and cellular immune response. Biology of immune response. Theories of immunogenesis
Task	In a woman with bronchial asthma, a viral infection provoked a fatal status asthmaticus. Pulmonary histology shows a spasm and an edema of bronchioles. A marked infiltration with lymphocytes, eosinophils, and other leukocytes, as well as degranulation of mast cells can be observed in their walls. What mechanism of hypersensitivity underlies the described changes?
Correct answer	Reaginic hypersensitivity reaction
B	Inflammatory mechanism
C	Immune-mediated cytotoxicity
D	Autoimmune mechanism
E	Immune complex mechanism
№	krok 2021
Topic	Salmonella of enteric typhoid and paratyphoid
Task	A man with suspected typhoid fever was admitted to the infectious diseases hospital on the 3rd day of illness. What microbiological method should be used for diagnostics in this case?
Correct answer	Method of isolation of a blood culture

B	Method of isolation of a bile culture
C	Method of isolation of the causative agent from the cerebrospinal fluid
D	Method of isolation of a stool culture
E	Method of isolation of a urine culture
№	krok 2021
Topic	Corynebacteria
Task	A smear prepared from the material obtained from a patient with suspected diphtheria contains yellow bacilli with blue, grains at their ends. What staining was used in this case?
Correct answer	Neisser
B	Loeffler
C	Ziehl-Nielsen
D	Kozlovsky
E	Romanowsky
№	krok 2021
Topic	Pathogenic spirochaetae
Task	The Wasserman reaction is markedly positive (++++) in a 30-year-old man. What infectious disease is diagnosed using the Wasserman reaction?
Correct answer	Syphilis
B	Brucellosis
C	Tuberculosis
D	Poliomyelitis
E	Influenza
№	krok 2021
Topic	Mycobacteria. Actinomycetes
Task	A man is being treated for chronic pneumonia for a long time. Microscopy of sputum smears stained using the Ziehl-Nielsen method reveals red bacilli 0.25x4 microns in size, located separately or sometimes in small clusters. What disease can be suspected?
Correct answer	Pulmonary tuberculosis
B	Pulmonary actinomycosis
C	Pneumococcal pneumonia
D	Pulmonary candidiasis
E	Influenza pneumonia



№	krok 2021
Topic	Pathogenic spirochaetae
Task	A person has died of an acute infectious disease accompanied by fever, jaundice, hemorrhagic rash on the skin and mucosa, as well as acute renal failure. Histology of the renal tissues (Romanowsky-Giemsa stain) shows curved bacteria that resemble letters C and S. What bacteria were found?
Correct answer	Leptospira
B	Spirilla
C	Treponema
D	Borrelia
E	Campylobacter
№	krok 2021
Topic	Immunoprophylaxis. Immunotherapy
Task	You work with the following specimens: 1) brucellosis topical vaccine; 2) leptospirosis vaccine; 3) BCG vaccine; 4) adsorbed diphtheria-tetanus pertussis vaccine (DTP vaccine); 5) tetanus toxoid adsorbed. What kind of immunity do they produce?
Correct answer	Artificial active immunity
B	Antibacterial immunity
C	Antitoxic immunity
D	Artificial passive immunity
E	Non-sterilizing (infectious) immunity
№	krok 2021
Topic	Causative agents of viral hepatitis
Task	It is known that hepatitis D virus belongs to defective viruses and can reproduce in the host cells only in the presence of virus of:
Correct answer	Hepatitis B
B	Hepatitis G
C	Hepatitis E
D	Hepatitis C
E	Hepatitis A
№	krok 2021
Topic	Biological method of investigation

Task	A 23-year-old woman came to the emergency department complaining of bloody diarrhea, fatigue and confusion. A few days earlier, she went to a fast food restaurant for a birthday party. Her friends are experiencing similar symptoms. Laboratory studies show anemia. Which of the following would you most likely obtain for microbiologic testing?
Correct answer	Stool
B	Blood
C	Cerebrospinal fluid
D	Bile
E	Urine
№	krok 2021
Topic	Mycobacteria. Actinomycetes
Task	A 16-year-old boy from the rural area entered the technical school. During a regular Mantoux test, it turned out that this boy had a negative reaction. What tactics should the doctor choose as the most rational in this case?
Correct answer	BCG vaccination
B	Express diagnostics of tuberculosis using the Price method
C	Urgent isolation of the boy from his groupmates
D	Repeat the test in a month
E	Serodiagnosis of tuberculosis
№	krok 2021
Topic	Infection
Task	A man had a case of epidemic typhus 5 years ago. After an acute respiratory viral disease, against the background of weakened immune system, he developed signs of typhus again. The exacerbation occurred because of the causative agents, remaining in his body. What type of infection is it?
Correct answer	Relapse
B	Co-infection
C	Secondary infection
D	Superinfection
E	Reinfection
№	krok 2021
Topic	Immunity. Types of immunity. Antigens. Antibodies

Task	A 1.5-year-old boy, who previously received no regular immunization, was in contact with a measles patient. For urgent specific prevention, the child was administered donor gamma globulin. What type of immunity develops in this case?
Correct answer	Passive
B	Natural
C	Antitoxic
D	Local
E	Post-vaccination
№	krok 2021
Topic	Salmonella of enteric typhus and paratyphoids
Task	Autopsy of the body revealed waxy degeneration of the rectus abdominis muscles. In the terminal segment of the small intestine there are ulcers 3-5 sm in diameter. The ulcer walls are covered in a crumbling gray-yellow substance The ulcer edges are moderately raised above the mucosa. Widal test is positive. Make the diagnosis:
Correct answer	Typhoid fever
B	Relapsing fever
C	Crohn's disease
D	Nonspecific ulcerative colitis
E	Dysentery
№	krok 2021
Topic	Herpesviruses. Adenoviruses. Papillomaviruses. Polyomaviruses. Parvoviruses. Oncoviruses. Poxviruses
Task	A 17-year-old girl is undergoing an examination. She has signs of pharyngitis, lymphadenopathy of the neck, and fever and was provisionally diagnosed with infectious mononucleosis. What test can confirm this diagnosis at the onset of the disease?
Correct answer	Measuring the antibodies (IgM) to Epstein-Barr virus
B	Sabin-Feldman dye test
C	Measuring the levels of C-reactive protein
D	Measuring the IgG to Epstein-Barr virus
E	Microscopy of blood smear using Romanovsky-Giemsa method
№	krok 2021
Topic	Human immune system. Humoral and cellular immune response. Biology of immune response. Theories of immunogenesis

Task	A patient with clinical signs of a primary immunodeficiency has functionally disturbed mechanism of antigen-presentation to the immunocompetent cells. What cells are likely to have structural defects?
Correct answer	Macrophages, monocytes
B	Fibroblasts
C	B-lymphocytes
D	T-lymphocytes
E	O-lymphocytes
№	krok 2021
Topic	Pathogenic spirochaetae
Task	A 14-year-old boy was diagnosed with Hutchinson's triad: barrel-shaped teeth, parenchymatous keratitis, and deafness. These signs are characteristic of:
Correct answer	Syphilis
B	Opisthorchiasis
C	Leprosy
D	Toxoplasmosis
E	Tuberculosis
№	krok 2021
Topic	Corynebacteria
Task	Bacteriology testing is one of the methods for laboratory diagnostics of diphtheria. To grow the colonies of <i>C. diphtheriae</i> , it is necessary to know the proper conditions for causative agent cultivation. What nutrient media are optimal for <i>Corynebacterium diphtheriae</i> cultivation?
Correct answer	Blood agar, tellurite blood agar
B	Endo medium, Ploskirev medium
C	Salt egg yolk agar
D	Serum agar, ascitic agar
E	Sugar meat peptone broth, sugar meat peptone agar
№	krok 2021
Topic	Bacteriophages. Microbial genetics
Task	During an outbreak of a hospital-acquired infection, pure cultures of <i>S. aureus</i> were obtained upon inoculation from the nasopharynxes of medical personnel and wound discharge of surgical patients. What analysis must be conducted to find the likely source of infection in this case?
Correct answer	Phage typing of the obtained cultures

B	Repeated inoculations
C	Biochemical properties analysis
D	Sero-identification
E	Antibiotic sensitivity testing
№	krok 2021
Topic	Immunity. Types of immunity. Antigens. Antibodies
Task	A measles outbreak has occurred in a maternity clinic. What class of maternal antibodies can provide a newborn with immunity to measles virus?
Correct answer	IgG
B	IgM
C	IgA
D	IgE
E	IgD
№	krok 2021
Topic	Allergy
Task	A man, who for many years has been suffering from bronchial asthma, has died of asphyxia. Histology of his lungs shows large amounts of mucus with eosinophilic admixtures in the lumina of the bronchioles and small bronchi, the interalveolar septa are sclerotic, the alveolar lumina are dilated. What mechanism of hypersensitivity reaction development is observed in this case?
Correct answer	Reagin reaction
B	Cytotoxic reaction
C	Granulomatosis
D	Immune complex reaction
E	Lymphocyte-induced cytolysis
№	krok 2021
Topic	Methods of laboratory diagnostics of the infections. Meningococci and gonococci
Task	The ophthalmologist noticed a purulent discharge from the conjunctiva of a newborn. Microscopy of the smear obtained from the conjunctiva found there a large number of leukocytes, as well as gram-negative bean-shaped diplococci located inside the leukocytes. What is the causative agent of this disease?
Correct answer	<i>Neisseria gonorrhoeae</i>
B	<i>Neisseria catarrhalis</i>
C	<i>Streptococcus pyogenes</i>

D	<i>Staphylococcus aureus</i>
E	<i>Staphylococcus epidermitis</i>
№	krok 2021
Topic	Retroviruses. HIV
Task	A man is a carrier of AIDS virus that is an RNA virus. The cells of this patient synthesize viral DNA. This process is based on:
Correct answer	Reverse transcription
B	Replication
C	Transcription
D	Translation
E	Repair
№	krok 2021
Topic	Methods of immune status examination. Immunodeficiencies
Task	Significant radiation exposure leads to changes in the body resistance, suppression of phagocytosis, reduction of nonspecific humoral defense factors, and decreased antibody synthesis. What type of infection can develop as a result of radiation sickness?
Correct answer	Secondary
B	Inapparent
C	Recurrence
D	Superinfection
E	Aulo-infection
№	krok 2021
Topic	The structure of bacterial cells
Task	The cell surface of pathogenic gram negative bacteria can be covered in villi and cilia. What function do these structures have?
Correct answer	Bacterial adhesion to the surface of the host cells, conjugation
B	Inhibition of complement activity
C	Nutrient transport into the cell
D	RNA exchange between cells
E	Resistance to antibody opsonization
№	krok 2021
Topic	Herpesviruses. Adenoviruses. Papillomaviruses. Polyomaviruses. Parvoviruses. Oncoviruses. Poxviruses

Task	A medical student was hospitalized into the infectious diseases unit on the 2nd day after the disease onset. The patient is suspected to have infectious mononucleosis. What results of laboratory analysis can confirm this diagnosis immediately on the day of the hospitalization?
Correct answer	IgM antibodies to Epstein-Barr virus were detected
B	IgM antibodies to herpes simplex virus were detected
C	Cytomegalovirus antibodies were detected
D	Herpesvirus was isolated
E	Fourfold increase in number of antibodies to Epstein-Barr virus was detected