

**FEDERAL STATE BUDGET EDUCATIONAL INSTITUTION OF HIGHER EDUCATION
"ROSTOV STATE MEDICAL UNIVERSITY" OF THE MINISTRY OF HEALTH OF THE
RUSSIAN FEDERATION**

FACULTY OF TREATMENT AND PREVENTION

Evaluation materials

in the discipline MYCOBIOLOGY, VIRUSOLOGY

Specialty 05/31/01 General Medicine

2023

1. Scroll competencies, formed discipline (fully or partially)

general professional (OPK):

Code and name general professional competence	Achievement indicator(s) general professional competence
OPK-4. Able to use medical devices provided for in the procedure for providing medical care, as well as conduct examinations of the patient in order to establish a diagnosis.	Knows how to use medical devices in diagnostic studies provided for in the procedures for providing medical care. Able to apply diagnostic methods, including the use of instrumental methods, when conducting examinations patient for the purpose of making a diagnosis.

2. Kinds estimated materials V compliance With formed competencies

Name competencies	Types of assessment materials	number of tasks for 1 competency
OPK-4	Closed tasks	25 with sample answers
	Tasks open type: situational tasks	75 with sample answers

OPK-4:

Closed type tasks:

Task 1. Instructions: choose several correct answers.

Main forms of bacteria:

1. spherical
2. rod-shaped
3. triangular
4. twisted
5. cubic
6. oval

Sample answer: 1, 2, 4

Task 2. Instructions: choose one correct answer.

Staining method for detecting acid-fast bacteria:

1. Neissera
2. Morozova
3. Ozheshko
4. Ziehl-Neelsen

Sample answer: 4. Ziehl-Neelsen

Task 3. Instructions: choose one correct answer.

Heterotrophic pathogenic microorganisms absorb carbon and nitrogen from:

1. inorganic compounds using solar energy
2. inorganic compounds using the energy of chemical reactions
3. complex organic compounds using the energy of chemical reactions
4. complex organic compounds using solar energy

Sample answer: 3. complex organic compounds using the energy of chemical reactions

Task 4. Instructions: choose one correct answer.

Bacteria that determine vaginal colonization resistance:

1. gardnerella
2. lactobacilli
3. mobilejuncus
4. mycoplasma

Sample answer: 2. lactobacilli

Task 5. Instructions: choose one correct answer.

Main functions of antibodies:

1. specific recognition of antigens and binding to them
2. destruction of antigens by lysis
3. specific binding to lymphocytes
4. destruction of antigens by apoptosis

Sample answer: 1. specific recognition of antigens and binding to them

Task 6. Instructions: choose one correct answer.

Infections for which equine antitoxic serums are used:

1. brucellosis, plague
2. measles, rabies
3. tetanus, diphtheria, botulism
4. influenza, parainfluenza, adenoviral infection

Sample answer: 3. tetanus, diphtheria, botulism

Task 7. Instructions: choose several correct answers.

Methods for diagnosing viral infections:

1. virological
2. serological
3. allergological
4. immunobiological
5. biochemical
6. molecular biology

Sample answer: 1, 2, 6

Task 8. Instructions: choose one correct answer.

Interferon is a glycoprotein:

1. synthesized by plasma cells, which prevents the virus from entering the body's cells
2. synthesized by leukocytes and destroys the supercapsid of the virus
3. synthesized by red blood cells, which prevents the adhesion of viruses to body cells
4. synthesized by leukocytes and other cells of the body, which disrupts the reproduction of viruses

Sample answer: 4. synthesized by leukocytes and other cells of the body, which disrupts the reproduction of viruses

Task 9. Instructions: choose one correct answer.

The main method for diagnosing staphylococcal infections:

1. microscopic

2. bacteriological
 3. serological
 4. allergological
- Sample answer:* 2. bacteriological

Task 10. Instructions: choose one correct answer.

Diseases caused by gonococci:

1. granuloma venereum, chancroid
2. gonococcal infection of the genitourinary organs, pharyngitis
3. otitis, pyelonephritis
4. pneumonia, enteritis

Sample answer: 2. gonococcal infection of the genitourinary organs, pharyngitis

Task 11. Instructions: choose one correct answer.

Sources of infection in plague:

1. cattle
2. marmots, gophers, rats
3. bacteria carrier
4. hares, muskrats, ticks

Sample answer: 2. marmots, gophers, rats

Task 12. Instructions: choose one correct answer.

Routes of infection for anthrax:

1. contact, nutritional
2. transmissible, parenteral
3. sexual, transplantation
4. transplacental, intrapartum

Sample answer: 1. contact, nutritional

Task 13. Instructions: choose one correct answer.

Positive functions of common Escherichia for the body:

1. immunosuppressive, histamine synthesis
2. immunostimulating, antagonistic, vitamin synthesis
3. synthesis of prostaglandins, immunoglobulins
- 4., synthesis of perforins and granzymes

Sample answer: 2. immunostimulating, antagonistic, vitamin synthesis

Task 14. Instructions: choose one correct answer. Material for bacteriological diagnosis of typhoid fever:

1. blood serum
2. liquor
3. sputum, oropharyngeal swab
4. blood, feces

Sample answer: 4. blood, feces

Task 15. Instructions: choose one correct answer.

Pathogenicity factors of cholera pathogens:

1. pili for adhesion on colonocytes, invasion factors
2. pili for adhesion on enterocytes, exotoxin
3. endotoxin, hyaluronidase
4. outer membrane proteins, proteases

Sample answer: 2. drank for adhesion on enterocytes, exotoxin

Task 16. Instructions: choose one correct answer.

Material for suspected diphtheria:

1. cerebrospinal fluid, blood
2. sputum, bronchial lavage water
3. mucus or discharge from the affected organ
4. feces, vomit

Sample answer: 3. mucus or discharge from the affected organ (oropharynx, nose, etc.)

Task 17. Instructions: choose one correct answer.

The nature of immunity in tuberculosis:

1. sterile, humoral
2. non-sterile, cellular
3. antitoxic, anticomplementary
4. transplacental, latent

Sample answer: 2. non-sterile, cellular

Task 18. Instructions: choose one correct answer.

Non-clostridial anaerobes include:

1. chlamydia, gonococci, streptococci
2. bacteroides, fusobacteria, peptococci
3. rickettsia, mycoplasma
4. Treponema, Leptospira, Borrelia

Sample answer: 2. bacteroides, fusobacteria, peptococci

Task 19. Instructions: choose one correct answer.

Material for microbiological diagnosis of primary syphilis:

1. liquor
2. tissue fluid from skin rashes
3. removed gummas
4. chancre discharge, blood serum

Sample answer: 4. chancre discharge, blood serum

Task 20. Instructions: choose one correct answer.

Methods for diagnosing chlamydial infection:

1. bacteriological, allergological
2. immunochemical, RSC
3. biological, histochemical
4. PCR, serological

Sample answer: 4. PCR, serological

Task 21. Instructions: choose several correct answers.

Diseases caused by the measles virus:

1. chicken pox
2. measles
3. spongiform encephalopathy
4. rubella
5. polio
6. SSPE (subacute sclerosing panencephalitis)

Sample answer: 2, 6

Task 22. Instructions: choose one correct answer.

Methods for diagnosing influenza:

1. RIF, ELISA, virological
2. biological, RINGA, RMP
3. allergological, RSK, RP
4. immunoblotting, RN, RAL

Response standard: 1. RIF, ELISA, virological

Task 23. Instructions: choose several correct answers.

Material for diagnosing polio:

1. sputum
2. liquor
3. urine
4. saliva
5. feces
6. conjunctival discharge

Sample answer: 2, 5

Task 24. Instructions: choose one correct answer.

Drug for specific prevention of hepatitis B:

1. recombinant yeast vaccine
2. inactivated culture vaccine
3. live culture vaccine
4. chemical vaccine

Sample answer: 1. recombinant yeast vaccine

Task 25. Instructions: choose several correct answers.

AIDS-marking infections:

1. hemorrhagic fevers
2. mycobacteriosis
3. rotavirus infection
4. pneumocystis pneumonia
5. candidiasis
6. polio

Sample answer: 2, 4, 5 Open

type tasks:

Exercise 1.

An important condition for the development of a food poisoning clinic is the massive contamination of food products with microorganisms more _____ CFU in 1g or 1 ml.

Sample answer: 10⁵.

Task 2.

The patient was diagnosed with typhoid fever.

- 1) Latin name of the pathogen;
- 2) The main method of laboratory diagnostics;

Sample answer:

- 1) *Salmonella typhi*;
- 2) Bacteriological.

Task 3.

A 32-year-old patient complains of pain in the epigastric region associated with eating. When performing fibrogastroscopy of the pyloric part of the stomach

an ulcerative defect was detected. What microorganism may be involved in this pathology?

Sample answer: Helicobacter pylori.

Task 4.

During post-mortem diagnostics, bright red Babes-Negri cytoplasmic inclusions were found in fingerprint smears from the hippocampal area of the deceased. What infectious disease did the patient die from?

Sample answer: rabies.

Task 5.

The patient died of meningitis. Microscopic examination of impression smears from the soft membrane of the brain revealed gram-negative bean-shaped diplococci and a large number of leukocytes. Name the causative agent of the disease.

Sample answer: Neisseria meningitidis.

Task 6.

Tetanus toxoid antitoxic serum (horse).

- 1) What complication may occur when this drug is administered?
- 2) What method should be used to prevent this complication?

Sample answer:

- 1) Anaphylactic shock;
- 2) Fractional administration of the drug.

Task 7.

At bacteriological research carbuncle on meat-peptone agar growth of colonies in the R-form in the form of a "lion's mane" was detected.

- 1) Presumptive diagnosis;
- 2) Latin name of the pathogen;

Sample answer:

- 1) Anthrax;
- 2) *Bacillus anthracis.*

Task 8.

Diffuse-turbid growth was found in the meat-peptone broth, and lactose-positive colonies were found on Endo medium. What microorganism can produce such growth?

Sample answer: Escherichia coli.

Task 9.

Adsorbed diphtheria-tetanus toxoid (ADT toxoid).

- 1) Prescription of the drug;
- 2) What type of immunity does it create by origin?

Sample answer:

- 1) Specific prevention of diphtheria and tetanus;
- 2) Acquired, artificial, active.

Task 10.

Antidiphtheria antitoxic serum (horse).

- 1) For what purpose is the drug used?
- 2) What type of immunity does it create by origin?

Sample answer:

- 1) Specific treatment of diphtheria;
- 2) Acquired, artificial, passive.

Task 11.

A patient with diabetes mellitus has boils on the skin. Which microorganism most often causes this pathology?

Sample answer: Staphylococcus aureus.

Task 12.

The patient, 14 years old, became acutely ill. An increase in temperature (39.90C), repeated vomiting, a sharp headache, and the appearance of hemorrhagic rashes on the skin of the torso and limbs were noted. The preliminary diagnosis is meningococemia.

- 1) Latin name of the pathogen;
- 2) What material needs to be sent to the laboratory for microbiological testing?

Sample answer:

- 1) *Neisseria meningitidis*;
- 2) Blood, nasopharyngeal swab.

Task 13.

In a 40-year-old patient, ulcus durum (chancroid) was found on the glans penis. A microscopic examination of the discharged chancre revealed corkscrew-shaped bacteria with small, uniform primary curls.

- 1) Presumptive diagnosis;
- 2) Latin name of the pathogen.

Sample answer:

- 1) Primary syphilis;
- 2) *Treponema pallidum*.

Task 14.

A patient was admitted to the hospital with a preliminary diagnosis of meningitis.

- 1) Material for research from the patient;
- 2) The most common causative agents of bacterial meningitis.

Sample answer:

- 1) Liquor;
- 2) *Neisseria meningitidis*, *Streptococcus pneumoniae*, *Haemophilus influenzae*.

Task 15.

Purified tuberculin.

- 1) What diagnostic test is it used for?
- 2) What form of allergy is detected with its help?

Sample answer:

- 1) Mantoux test.
- 2) Infectious allergy.

Task 16.

The patient was diagnosed with leprosy.

- 1) Latin name of the pathogen;
- 2) Microbiological diagnostic methods.

Sample answer:

- 1) *Mycobacterium leprae*;
- 2) Microscopic examination, PCR.

Task 17.

A 35-year-old man complains of pain when urinating and copious purulent discharge from the urethra. In smears of urethral discharge, bean-shaped diplococci were found inside and outside leukocytes.

- 1) Presumptive diagnosis;
- 2) Latin name of the pathogen;
- 3) What other methods are used to diagnose this disease?

Sample answer:

- 1) Gonococcal urethritis.
- 2) *Neisseria gonorrhoeae*;
- 3) PCR, bacteriological method.

Task 18.

What laboratory methods diagnostics Can confirm diagnosis "rabies" posthumously?

Sample answer: viroscopic, virological.

Task 19.

Tuberculosis live dry vaccine BCG.

- 1) Prescription of the drug;
- 2) What immunological component does it contain?
- 3) What type of immunity does it create by origin?

Sample answer:

- 1) Specific prevention of tuberculosis.
- 2) The drug contains an antigen;
- 3) Acquired, artificial, active.

Task 20.

There is an outbreak of acute intestinal infection in settlement N. Gram-negative, comma-shaped rods were isolated from the patient's feces.

- 1) Probable diagnosis of the disease;
- 2) Latin name of the pathogen;
- 3) Name the main diagnostic method.

Sample answer:

- 1) Cholera;
- 2) *Vibrio cholerae*;
- 3) Bacteriological method.

Task 21.

A microscopic examination of the patient's saliva and urine sediment revealed large cells resembling an "owl's eye." What infection can be suspected?

Sample answer: cytomegalovirus infection.

Task 22.

The patient complains of abdominal pain, loose stools mixed with blood, and a false urge to defecate.

- 1) Preliminary diagnosis;
- 2) Latin name of the pathogen;
- 3) Material for research;
- 4) The main diagnostic method.

Sample answer:

- 1) Dysentery;
- 2) *Shigella dysenteriae*;
- 3) Feces;
- 4) Bacteriological.

Task 23.

Staphylococcal bacteriophage.

- 1) Prescription of the drug;
- 2) What needs to be checked before prescribing it?

Sample answer:

- 1) Treatment of staphylococcal infections;
- 2) Sensitivity of the isolated staphylococcus culture to this drug.

Task 24.

Adsorbed diphtheria toxoid (AD toxoid).

- 1) Prescription of the drug;
- 2) What type of immunity does it create by origin?

Sample answer:

- 1) Specific prevention of diphtheria;
- 2) Acquired, artificial, active.

Task 25.

At bacteriological research discharge cutaneous bubo
onOn meat peptone agar, the growth of colonies in the R-form in the form of “lace
handkerchiefs” was detected.

- 1) Presumptive diagnosis;
- 2) Latin name of the pathogen;

Sample answer:

- 1) Plague;
- 2) *Yersinia pestis*.

Task 26.

The patient was admitted to the infectious diseases department with symptoms of food poisoning (vomiting, diarrhea, abdominal pain).

- 1) Is it necessary to isolate a patient to prevent infection of other patients?
- 2) What material should be taken for microbiological diagnostics?

Sample answer:

- 1) Isolation of the patient is not necessary, since he is not a source of infection for others;
- 2) Gastric lavage, vomit, feces.

Task 27.

During gastroscopy, a patient with complaints of pain in the epigastric region was found to have an ulcerative defect in the pyloric region of the stomach.

- 1) Presumptive diagnosis;
- 2) What microorganism is involved in this pathology?

Sample answer:

- 1) Stomach ulcer;
- 2) *Helicobacter pylori*.

Task 28.

A man developed single vomiting, dry mouth, and diplopia 2 hours after eating.

- 1) Preliminary diagnosis;
- 2) Latin name of the pathogen;
- 3) What material is taken for diagnostics?
- 4) What rapid methods should be used to detect the toxin?

Sample answer:

- 1) botulism;
- 2) *Clostridium botulinum*;
- 3) Blood, vomit, feces, gastric lavage;
- 4) RNGA, ELISA.

Task 29.

Adsorbed pertussis-diphtheria-tetanus vaccine (DTP).

- 1) Prescription of the drug;
- 2) What immunological components does it contain?
- 3) What type of immunity does it create by origin?
- 4) What kind of vaccines does it belong to?

Sample answer:

- 1) Specific prevention of whooping cough, diphtheria, tetanus;
- 2) Antigens;
- 3) Acquired, artificial, active;
- 4) Associate.

Task 30.

A 40-year-old patient, who was in the combustiology department for burns on both legs, suddenly had a fever of 39.50C, and symptoms of severe intoxication appeared due to antibiotic therapy. A culture of multidrug-resistant *Pseudomonas aeruginosa* was isolated from the patient's blood. What drugs should be used for specific treatment of *Pseudomonas aeruginosa* infection in a patient?

Sample answer: *Pseudomonas aeruginosa* human plasma, *Pseudomonas aeruginosa* bacteriophage.

Task 31.

After suffering from lobar pneumonia, complicated by otitis, the patient's temperature rose again to 39.60C. Vomiting not associated with food intake, convulsions, and meningeal symptoms appeared.

- 1) Preliminary diagnosis;
- 2) Material for microbiological diagnostics.

Sample answer:

- 1) pneumococcal meningitis;
- 2) Blood, liquor.

Task 32.

A culture of *Staphylococcus aureus* was isolated from the patient's pus. What methods can be used to determine the sensitivity of an isolated culture to antibiotics?

Sample answer: disc diffusion, serial dilution method.

Task 33.

A 28-year-old patient has fever, respiratory failure, and symptoms of general intoxication. An X-ray of the lungs revealed bilateral focal lesions of the lung tissue.

- 1) Preliminary diagnosis;
- 2) Indicate the most common causative agents of this pathology.

Sample answer:

- 1) Pneumonia.
- 2) Pneumococci, Klebsiella, Haemophilus influenzae, Legionella, Chlamydia.

Task 34.

Brucellin.

- 1) Which group of diagnostic drugs does it belong to?
- 2) What sample is it used for?

Sample answer:

- 1) Allergen.
- 2) Intradermal test for diagnosing brucellosis using the allergological method.

Task 35.

The patient was diagnosed with serous meningitis. What viruses most often cause this disease?

Sample answer: enteric viruses, polio viruses, mumps viruses.

Task 36.

IN livestock farm were registered some cases anthrax.

- 1) A drug for specific prevention of anthrax in farm workers;
- 2) What type of immunity does it create by origin? Sample

answer:

- 1) Live anthrax vaccine;
- 2) Acquired, artificial, active.

Task 37.

A new batch of sheep was delivered to the livestock farm. A month later, brucellosis diseases appeared among animals and isolated cases of diseases among livestock farmers.

1) What drug should be used for specific prophylaxis among the population to prevent an outbreak of brucellosis.

- 2) What type of immunity does it create by origin?

Sample answer:

- 1) Live brucellosis vaccine;
- 2) Acquired, artificial, active.

Task 38.

A 35-year-old man has fever, prolonged diarrhea, and progressive weight loss; Generalized candidiasis was detected. The immunogram shows a sharp decrease in the amount of Th.

- 1) Preliminary diagnosis;
- 2) Material for research;
- 3) Microbiological diagnostics.

Sample answer:

- 1) HIV infection;
- 2) Blood;
- 3) ELISA, immunoblotting, PCR.

Task 39.

A 48-year-old man, after a short period of unmotivated anxiety, developed attacks of hydro-, aero-, and phonophobia. Periodically, the attacks were accompanied by motor restlessness. From the anamnesis it was revealed that during a hunt he was bitten by a fox. The patient died 3 days after hospitalization.

- 1) Preliminary diagnosis;
- 2) Material for research;
- 3) Diagnostic methods.

Sample answer:

- 1) Rabies;
- 2) Imprint smears and pieces of brain from the hippocampus region;
- 3) Microscopic, virological, RIF.

Task 40.

A patient with symptoms of arthritis of the knee joint was admitted to the therapeutic department. From the anamnesis it was revealed that several months ago, after a hiking trip, erythema migrans appeared on the legs. I did not see a doctor and did not receive treatment.

- 1) Your preliminary diagnosis;
- 2) What laboratory diagnostic methods can be used to confirm it?

Sample answer:

- 1) Lyme borreliosis;
- 2) Microscopic, serological, PCR.

Task 41.

At carrying out sanitary-bacteriological assessments cleanliness
air Vin the maternity room before work, the following microbial number
was detected: 1000, S. aureus – 10.

- 1) Conclusion on air purity;
- 2) What measures need to be taken to sterilize the air in the maternity room?

hall?

Sample answer:

- 1) Air purity does not meet sanitary standards;
- 2) It is necessary to carry out wet cleaning and treatment of the premises with UV lamps. radiation in combination with aerosol disinfection.

Task 42.

The patient has gray films on the tonsils, closely adhered to the underlying tissue, high temperature, intoxication.

- 1) What disease can be suspected?
- 2) Latin name of the pathogen;
- 3) Material for research.

Sample answer:

- 1) Diphtheria;
- 1) *Corynebacterium diphtheriae*;
- 2) Oropharyngeal swab.

Task 43.

On territory, Where located natural hearth tularemia, is
sentgeological expedition.

- 1) What drug should be used for specific prevention of tularemia in expedition members;
- 2) What type of immunity does it create by origin?

Sample answer:

- 1) Live tularemia vaccine;

2) Acquired, artificial, active.

Task 44.

A 1-month-old child who is bottle-fed has a whitish coating resembling curdled milk on the inner surface of the cheeks, gums and tongue. Microscopy of a smear from the oral mucosa revealed budding, large, round and oval cells.

- 1) What disease can be suspected in the child?
- 2) What microorganisms are involved in this process?

Sample answer:

- 1) Oral candidiasis;
- 2) Yeast-like fungi of the genus *Candida*.

Task 45.

A 40-year-old patient, a shepherd by profession, has high undulating fever, chills, severe sweating, and joint pain.

- 1) Preliminary diagnosis.
- 2) Microbiological diagnostic methods?

Sample answer:

- 1) Brucellosis.
- 2) Serological, allergological, PCR.

Task 46.

A 27-year-old woman was diagnosed with infertility. What microorganisms can most often cause this pathology?

Sample answer: gonococci, chlamydia, mycoplasma.

Task 47.

A 30-year-old patient complains of high fever, weakness, nausea, headache, and nosebleeds. On examination, there were multiple hemorrhages and hemorrhagic conjunctivitis on the skin. The patient went on a picnic to the forest-steppe zone, where he was bitten by a tick.

- 1) Preliminary diagnosis;
- 2) Material for research;
- 3) Microbiological diagnostic methods.

Sample answer:

- 1) Hemorrhagic fever;
- 2) Blood;
- 3) Express diagnostics, PCR, serological.

Task 48.

What laboratory diagnostic methods can confirm the diagnosis of HIV infection?

Sample answer: ELISA, immunoblotting, PCR.

Task 49.

A 44-year-old patient was admitted to the infectious diseases department with complaints of a high temperature of 39.0-40.00 C and a severe headache. Then flaccid paralysis of the muscles of the neck and upper limbs appeared. From the anamnesis it was found that the patient worked as a geologist and was on an expedition in Eastern Siberia.

- 1) Preliminary diagnosis;
- 2) Material for research;

3) Microbiological diagnostic methods.

Sample answer:

- 1) Tick-borne encephalitis;
- 2) Blood;
- 3) PCR, serological.

Task 50.

Recombinant vaccine against hepatitis B.

- 1) What does the drug contain?
- 2) What is it used for?

Sample answer:

- 1) Protective antigen of the virus;
- 2) Specific prevention of hepatitis B.

Task 51.

In the patient, the disease began acutely with an increase in temperature to 38.00 C, pain in the epigastric region, vomiting, and diarrhea (stool up to 16 times a day). The stools are copious, watery, and yellow in color.

- 1) Preliminary diagnosis;
- 2) Material for research;
- 3) Diagnostic methods.

Sample answer:

- 1) Rotavirus gastroenteritis;
- 2) Feces;
- 3) Immunochromatographic test, ELISA, RIF.

Task 52.

A 3-year-old child was diagnosed with flaccid paralysis of the right leg in the morning. 2 days before this, fever, headache, runny nose, lethargy, and loose stools appeared.

- 1) Preliminary diagnosis;
- 2) Material for research;
- 3) Microbiological diagnostic methods.

Sample answer:

- 1) Paralytic form of enterovirus infection;
- 2) Feces, cerebrospinal fluid, paired serum samples;
- 3) PCR, serological, virological.

Task 53.

What diagnostic tests can confirm congenital syphilis?

Sample answer: non-treponemal tests (RMP, RPR), treponemal tests (RPGA, ELISA).

Task 54.

Anti-tetanus human immunoglobulin (ATHI).

- 1) Prescription of the drug;
- 2) What type of immunity does it create by origin?

Sample answer:

- 1) Emergency prevention and treatment of tetanus;
- 2) Acquired, artificial, passive.

Task 55.

A 23-year-old woman gave birth to a boy with congenital pathology (microcephaly, heart defects, jaundice, enlarged liver and spleen).

- 1) Preliminary diagnosis;
- 2) Material for research;
- 3) Laboratory diagnostic methods.

Sample answer:

- 1) Congenital cytomegalovirus infection;
- 2) Urine, saliva, blood serum;
- 3) Microscopic, PCR, serological.

Task 56.

A 30-year-old woman was diagnosed with bacterial vaginosis. What changes characterize this condition?

Sample answer: decrease in lactobacilli, increase in pH, increase in the proportion of anaerobic microorganisms, absence of severe inflammation.

Task 57.

A 15-year-old teenager has fever, cough, conjunctivitis. On the mucous membrane of the cheeks and near the molars there are small, white spots surrounded by a halo of hyperemia. Behind the ears, on the bridge of the nose - a maculopapular rash.

- 1) What disease are these symptoms characteristic of?
- 2) What other disease can this virus cause?

Sample answer:

- 1) Measles;
- 2) Subacute sclerosing panencephalitis.

Task 58.

A 30-year-old woman has no lactobacilli in her vagina.

- 1) Which microbiota group do they belong to?
- 2) What is their role in maintaining vaginal eubiosis?

Sample answer:

- 1) Resident microbiota;
- 2) They provide an acidic reaction of the environment and colonization resistance, and have an antagonistic effect against pathogenic bacteria.

Task 59.

Antibotulinum antitoxic serum A, B, C, E (horse).

- 1) Prescription of the drug;
- 2) What type of immunity does it create by origin?

Sample answer:

- 1) Specific treatment of botulism.
- 2) Acquired, artificial, passive.

Task 60.

Immunoglobulin against hepatitis B human.

- 1) Prescription of the drug.
- 2) What type of immunity does it create by origin?

Sample answer:

- 1) Emergency prevention of hepatitis B.
- 2) Acquired, artificial, passive.

Task 61.

After swimming in a pond, a man developed a fever, pain in the calf muscles, jaundice, hemorrhagic rashes on the skin and mucous membranes, and positive meningeal symptoms.

- 1) What disease can be suspected?
- 2) Material for microbiological diagnostics.

Sample answer:

- 1) Leptospirosis;
- 2) Blood, urine, cerebrospinal fluid.

Task 62.

The patient has low-grade fever, dry paroxysmal cough both during the day and at night. Coughing attacks are accompanied by cyanosis of the face and end with vomiting.

- 1) Specify possible pathogens;
- 2) Material for microbiological research;
- 3) Method of collecting material for research.

Sample answer:

- 1) *Bordetella pertussis*, *Bordetella parapertussis*;
- 2) Mucus from the back of the throat;
- 3) "Cough patch" method.

Task 63.

In one of the natural foci of plague, an epizootic of plague among rodents and isolated diseases among humans were registered.

- 1) What drug should be used for specific prophylaxis of the population in order to prevent a plague epidemic?
- 2) What type of immunity does it create by origin?

Sample answer:

- 1) Live plague vaccine;
- 2) Acquired artificial, active.

Task 64.

Alpha interferon recombinant.

- 1) How is this drug obtained?
- 2) What is it used for?

Sample answer:

- 1) In bacterial culture after insertion of the human α -interferon gene into their genome;
- 2) For the treatment of chronic hepatitis B and C, herpetic and human papillomavirus infections.

Task 65.

A 25-year-old woman came to the gynecological department with complaints of periodic blistering rashes on the vulvar mucosa, accompanied by severe itching and pain.

- 1) Your preliminary diagnosis;
- 2) Microbiological diagnostic methods.

Sample answer:

- 1) Genital herpes.
- 2) Express diagnostics, PCR, virological method.

Task 66.

A 25-year-old woman suddenly had a fever of 38.0°C, yellowness of the skin and mucous membranes, dark urine and discolored stools. The liver is enlarged. 2 months before the onset of the disease, the woman was in the hospital, where she received blood transfusion therapy.

- 1) Preliminary diagnosis;
- 2) Material for research;
- 3) Microbiological diagnostics.

Sample answer:

- 1) Viral hepatitis B or C;
- 2) Blood;
- 3) ELISA, PCR.

Task 67.

A patient with purulent appendicitis underwent surgery to remove the appendix. Specify the mode of sterilization of surgical instruments after surgery in a dry-heat oven.

Sample answer: 1800C, 1 hour.

Task 68.

A 22-year-old man complains of general weakness and fatigue. On the 10th day of illness, yellowness of the skin and sclera, dark urine, and discolored stool appeared. On examination, the liver is enlarged. From the anamnesis it was established that there was no parenteral route of infection.

- 1) Preliminary diagnosis;
- 2) Material for research;
- 3) Microbiological diagnostic methods.

Sample answer:

- 1) Hepatitis A;
- 2) Feces, paired serum samples;
- 3) ELISA, PCR.

Task 69.

The patient complains of paroxysmal abdominal pain, loose stools, and fever. The woman took antibiotics for a long time to treat a chlamydial infection.

- 1) Preliminary diagnosis;
- 2) Latin name of the pathogen;
- 3) Material for research;
- 4) Microbiological diagnostic methods.

Sample answer:

- 1) Pseudomembranous colitis;
- 2) *Clostridium difficile*;
- 2) Feces;
- 3) Bacteriological, PCR, ELISA.

Task 70.

Acid-fast bacteria were found in the patient's sputum.

- 1) What disease can be suspected?
- 2) Latin name of the pathogen;
- 3) Staining method to identify it;
- 4) What other methods can be used for microbiological diagnosis of this disease?

Sample answer:

- 1) Tuberculosis;
- 2) *Mycobacterium tuberculosis*;
- 3) Ziehl-Neelsen staining;
- 4) PCR, bacteriological, allergological.

Task 71.

To kid turned 3 months And to him necessary conduct planned preventive vaccinations, including against whooping cough.

- 1) What drugs should a child be vaccinated with?
- 2) What type of immunity does it create by origin?

Sample answer:

- 1) DTP, acellular vaccines;
- 2) Acquired, artificial, active.

Task 72.

The patient has intestinal dysbiosis caused by *Proteus* and *Pseudomonas aeruginosa*.

1) Which combined bacteriophages can use for treating the patient?

- 2) What needs to be checked before prescribing the drug?

Sample answer:

- 1) Intesti-bacteriophage, pyobacteriophage.
- 2) Sensitivity of isolated microbes to these drugs.

Task 73.

Bacteriophage *P. aeruginosa*.

- 1) Specify the purpose of the drug;
- 2) What needs to be checked before prescribing it?

Sample answer:

- 1) Treatment *Pseudomonas aeruginosa* infections, correction dysbacteriosis intestines, caused by *P. aeruginosa*.
- 2) Susceptibility of *P. aeruginosa* to this drug.

Task 74.

One their features abdominal typhus is high percentage of bacteria carriage.

- 1) Material for research to identify it;
- 2) Diagnostic methods.

Sample answer:

- 1) feces, urine, bile, blood serum;
- 2) serological, bacteriological methods, PCR.

Task 75.

On the day of arrival from Goa, the patient complained of frequent bowel movements (up to 25 times a day) and vomiting.

- 1) Preliminary diagnosis;
- 2) Material for research;
- 3) Diagnostic methods.

Sample answer:

- 1) Cholera;
- 2) Feces, vomit;
- 3) Express diagnostics, bacteriological method, PCR.

CRITERIA for assessing competencies and rating scales

Grade "unsatisfactory"(not accepted) or absence competence development	Grade "satisfactorily"(passed) or satisfactory (threshold) level of competence development	Rating "good" (passed) or sufficient level of mastery competencies	"Excellent" grade (passed) or high level of development competencies
Inability of the learner to learn independently demonstrate knowledge when solving tasks, lack of independence in using skills. Absence confirmation of the availability of competence indicates negative results in mastering the academic discipline	The student demonstrates independence in applying knowledge, skills and abilities to solve educational tasks in full accordance with a sample given by the teacher for tasks whose solutions were shown teacher, it should be considered that the competence formed at a satisfactory level.	The student demonstrates independent application of knowledge, skills and abilities in solving tasks similar samples, which confirms the presence of competencies at a higher level. Availability such competence at a sufficient level indicates sustainable fixed practical skill	The student demonstrates ability to complete independence in choosing a solution non-standar assignments within the discipline using knowledge, skills and abilities, received both during the development of this discipline and related disciplines should be considered competence formed at a high level.

Criteria for assessing test control:

percentage of correct answers	Marks
91-100	Great
81-90	Fine
70-80	satisfactorily
Less than 70	unsatisfactory

When grading tasks with multiple correct answers, one error is allowed.

Criteria for assessing situational tasks:

Mark	Descriptors			
	understanding the problem	analysis of the situation	skills solutions to the situation	professional thinking
Great	full understanding Problems. All	high ability analyze	high ability choose method	high level professional thinking

	requirements, presented for the task, completed	situation, draw conclusions	solutions problems, sure situation solving skills	
Fine	full understanding Problems. All requirements for the task completed	ability to analyze a situation, draw conclusions	ability choose a solution method problems sure situation solving skills	sufficient level of professional thinking. One or two inaccuracies in the answer are allowed
satisfactory	partial understanding of the problem. Most of the requirement presented for the task, completed	satisfactory strong ability to analyze a situation, draw conclusions	satisfactor advanced situation-solving skills, difficulties with choosing a method for solving a problem	sufficient level of professional thinking. More than two inaccuracies in the answer or an error in the sequence are allowed solutions
unsatisfactory	misunderstanding of the problem. Many requirement requirements for the task were not completed. No answer. Did not have attempts to solve the problem	low ability to analyze the situation	insufficient situation solving skills	absent