№ Стом-21 (ИН)

Federal State Budgetary Educational Institution higher education "North Ossetian State MedicalAcademy" of the Ministry of Health of the Russian Federation

Department of Microbiology

APPROVED

protocol of the meeting of the Central Coordinating Educational and Methodological Council dated May 23, 2023, protocol No. 5.

ASSESSMENT MATERIALS
discipline - microbiology, virology, immunology - microbiology of the oral cavity

the main professional educational program of higher education - specialist's program in thespecialty 31.05.03 Dentistry,
approved on May 24, 2023.

for students of 2 course

by specialty 31.05.03 Dentistry

Reviewed and approved at the meeting of the departmentdated May 15, 2023 (protocol No. 10)

Head of the Department of Microbiology

Doctor of Medical Sciences_____Tretyakova I. E.

Vladikavkaz, 2023

STRUCTURE OF THE ASSESSMENT MATERIALS

1. Title page
2. Structure of the assessment materials
3. Review of assessment materials
4. Passport of assessment materials
5. *A set of assessment materials :*

    - questions to the module,
    - exam questions
    - bank of situational problems
    - bank of practical tasks/business games
    - sample test items (with title page and table of contents),
    - exam tickets.

Федеральное государственное бюджетное образовательное учреждение высшего образования «Северо-Осетинская государственная медицинская академия» Министерства здравоохранения Российской Федерации

РЕЦЕНЗИЯ
на оценочные материалы

по дисциплине «Микробиология, вирусология, иммунология-микробиология полости рта»

для студентов стоматологического факультета 2 курса

по специальности 31.05.03 «Стоматология»

Оценочные материалы составлены на кафедре микробиологии на основании рабочей программы дисциплины «Микробиология, вирусология, иммунология-микробиология полости рта» и соответствуют требованиям ФГОС ВО по специальности 31.05.03 «Стоматология».

Оценочные материалы включают в себя:
- вопросы к модулю,
- вопросы к экзамену,
- банк ситуационных задач,
- банк практических заданий/деловых игр
- эталоны тестовых заданий (с титульным листом и оглавлением),
- экзаменационные билеты.

Банк ситуационных задач включает в себя сами задания и шаблоны ответов.

Все тестовые задания соответствуют рабочей программе дисциплины «Микробиология, вирусология, иммунология-микробиология полости рта», формируемым при ее изучении компетенциям, и охватывают все ее разделы. Сложность заданий варьируется. Количество заданий по каждому разделу дисциплины достаточно для проведения контроля знаний и исключает многократное повторение одного и того же вопроса в различных вариантах. Эталоны содержат ответы ко всем тестовым заданиям.

Количество экзаменационных билетов достаточно для проведения экзамена и исключает неоднократное использование одного и того же билета во время экзамена в течение одного дня. Экзаменационные билеты выполнены на бланках единого образца по стандартной форме, на бумаге одного цвета и качества. Экзаменационный билет включает в себя 3 вопроса. Формулировки вопросов совпадают с формулировками перечня вопросов, выносимых на экзамен. Содержание вопросов одного билета относится к различным разделам рабочей программы дисциплины, позволяющее более полно охватить материал дисциплины. Сложность вопросов в экзаменационных билетах распределена равномерно.

Дополнительно к теоретическим вопросам предлагается банк ситуационных задач. Ситуационные задачи дают возможность объективно оценить уровень усвоения обучающимся теоретического материала при текущем контроле успеваемости и промежуточной аттестации.

Замечаний к рецензируемым оценочным материалам нет.

В целом, оценочные материалы по дисциплине «Микробиология, вирусология, иммунология-микробиология полости рта» способствуют качественной оценке уровня владения обучающимися общепрофессиональными компетенциями.

Рецензируемые оценочные материалы по дисциплине «Микробиология, вирусология, иммунология-микробиология полости рта» могут быть рекомендованы к использованию для текущего контроля успеваемости и промежуточной аттестации на стоматологическом факультете у обучающихся 2 курса.

Рецензент:
Начальник отдела
эпидемиологического надзора
Управления Роспотребнадзора
по РСО-Алания

Бекузарова Ф.Т.

Федеральное государственное бюджетное образовательное учреждение высшего образования «Северо-Осетинская государственная медицинская академия» Министерства здравоохранения Российской Федерации

РЕЦЕНЗИЯ
на оценочные материалы

по дисциплине «Микробиология, вирусология, иммунология-микробиология полости рта»

для студентов стоматологического факультета 2 курса

по специальности 31.05.03 «Стоматология»

Оценочные материалы составлены на кафедре микробиологии на основании рабочей программы дисциплины «Микробиология, вирусология, иммунология-микробиология полости рта» и соответствуют требованиям ФГОС ВО по специальности 31.05.03 «Стоматология».

Оценочные материалы включают в себя:
- вопросы к модулю,
- вопросы к экзамену,
- банк ситуационных задач,
- банк практических заданий/деловых игр
- эталоны тестовых заданий (с титульным листом и оглавлением),
- экзаменационные билеты.

Банк ситуационных задач включает в себя сами задания и шаблоны ответов.

Все тестовые задания соответствуют рабочей программе дисциплины «Микробиология, вирусология, иммунология-микробиология полости рта», формируемым при ее изучении компетенциям, и охватывают все ее разделы. Сложность заданий варьируется. Количество заданий по каждому разделу дисциплины достаточно для проведения контроля знаний и исключает многократное повторение одного и того же вопроса в различных вариантах. Эталоны содержат ответы ко всем тестовым заданиям.

Количество экзаменационных билетов достаточно для проведения экзамена и исключает неоднократное использование одного и того же билета во время экзамена в течение одного дня. Экзаменационные билеты выполнены на бланках единого образца по стандартной форме, на бумаге одного цвета и качества. Экзаменационный билет включает в себя 3 вопроса. Формулировки вопросов совпадают с формулировками перечня вопросов, выносимых на экзамен. Содержание вопросов одного билета относится к различным разделам рабочей программы дисциплины, позволяющее более полно охватить материал дисциплины. Сложность вопросов в экзаменационных билетах распределена равномерно.

Дополнительно к теоретическим вопросам предлагается банк ситуационных задач. Ситуационные задачи дают возможность объективно оценить уровень усвоения обучающимся теоретического материала при текущем контроле успеваемости и промежуточной аттестации.

Замечаний к рецензируемым оценочным материалам нет.

В целом, оценочные материалы по дисциплине «Микробиология, вирусология, иммунология-микробиология полости рта» способствуют качественной оценке уровня владения обучающимися общепрофессиональными компетенциями.

Рецензируемые оценочные материалы по дисциплине «Микробиология, вирусология, иммунология-микробиология полости рта» могут быть рекомендованы к использованию для текущего контроля успеваемости и промежуточной аттестации на стоматологическом факультете у обучающихся 2 курса.

Рецензент:

Председатель ЦУМК
естественно-научных и математических дисциплин
с подкомиссией экспертизы оценочных материалов,
доцент кафедры химии и физики Боциева Н.И.

ВЕРНО: специалист по кадрам отдела
кадров и документооборота
ФГБОУ ВО СОГМА Минздрава России
Дудова С.А.
"___" _____ 20___ г.

ОТДЕЛ КАДРОВ
И
ДОКУМЕНТООБОРОТА

Passport of assessment materials by discipline

"Microbiology, Virology, Immunology - microbiology of the oral cavity"

№ p/p	Name of the controlled section (topic) of the discipline/module	Code of the formed competence (stage)	Name of the assessment materials
1.	2.	3.	4.
Type of control	**Current progress monitoring/Intermediate certification**		
1.	Section 1. General microbiology. Morphology of microbes.	GPC-5	test control, questions to the module, exam tickets
2.	Section 2. Physiology of microorganisms.	GPC-5	test control, questions to the module, exam tickets
3.	Section 3. Ecology of microbes. Normal microflora of the human body.	GPC-5	test control, questions to the module, exam tickets
4.	Section 4. Human symbiosis with microbes. Doctrine of infection	GPC-5	test control, questions to the module, exam tickets
5.	Section 5. Medical immunology. Medical immunobiological preparations	GPC-5	test control, questions to the module, exam tickets
6.	Section 6. Fundamentals of genetics of microbes. Fundamentals of genetic engineering and medical biotechnology	GPC-5	test control, questions to the module, exam tickets
7.	Section 7. General virology	GPC-5	test control, questions to the module, exam tickets
8.	Section 8. Bacteria-causative agents of human infectious diseases	GPC-5	test control, questions to the module, bank of situational problems, bank of practical tasks/business games, exam tickets
9.	Section 9. Viruses-causative agents of human infectious diseases	GPC-5	test control, questions to the module, bank of situational problems, bank of practical tasks/business games, exam tickets

QUESTIONS FOR MODULES
GENERAL MICROBIOLOGY
MODULE #1
"MORPHOLOGY, STRUCTURE AND DETECTION METHODS OF PROKARYOTES, EUKARYOTES"

1. Arrangement and equipment of the microbiological laboratory
2. Rules for working in a microbiological laboratory
3. Morphology of bacteria
4. Ultrastructure of a bacterial cell
5. Reproduction of bacteria
6. Simple and complex methods for staining bacteria
7. Rules for the preparation of a smear
8. Methods for detecting bacterial motility
9. Methods for laboratory diagnosis of infectious diseases
10. Differences between prokaryotic and eukaryotic cells
11. Structure and detection methods of spirochetes, mycoplasmas, actinomycetes, chlamydia, rickettsia
12. Morphology of fungi
13. Ultrastructure of mushrooms
14. Methods of propagation of mushrooms
15. Methods for coloring mushrooms
16. Morphology of protozoa
17. Ultrastructure of protozoa
18. Methods for staining protozoa.

MODULE #2
«PHYSIOLOGY OF MICROBES.PRINCIPLES OF CULTIVATION AND IDENTIFICATION OF MICROBES. ANTIMICROBIAL DRUGS»

1. Types of nutrition of microorganisms
2. Methods of nutrient entry into the microbial cell
3. Principles of cultivation of microorganisms
4. Nutrient media, their classification
5. Methods of sterilization, equipment
6. Bacteriological method, its stages
7. Methods for isolating a pure culture of microorganisms
8. Cultural properties of microbes
9. Identification of microbes
10. Enzymatic activity of bacteria
11. Methods for determining the enzymatic activity of bacteria
12. Phage typing of bacteria
13. Antibiotics, classification of antibiotics
14. Methods for determining the antibiotic sensitivity of bacteria
15. Mechanisms of emergence of antibiotic resistance of bacteria
16. Sideeffectsofantibiotics
17. Principlesofrationalantibiotictherapy.

MODULE #3
«TEACHING ABOUT INFECTION.MEDICAL IMMUNOLOGY.IMMUNE REACTIONS. IMMUNOBIOLOGICAL PREPARATIONS»

1. Infection, definition of infection
2. Conditions for the occurrence of infection
3. Entry gate for infection
4. What is the pathogenicity and virulence of microorganisms?
5. Factors of pathogenicity of microorganisms
6. Forms of infection
7. Periods of infectious disease
8. What is immunity?
9. Types of immunity
10. The structure of the human immune system
11. Functions of immunocompetent cells
12. The mechanism of development of humoral immunity
13. The mechanism of development of cellular immunity
14. What is immunological memory?
15. The structure of antibodies, classes of immunoglobulins
16. Serological method for laboratory diagnosis of infectious diseases
17. What is serodiagnosis? What is seroindication?
18. Diagnostic sera, their production, classification, application
19. Diagnosticums, their preparation, classification, application
20. Serological reactions
21. Agglutination reaction, components, methods of formulation
22. Precipitation reaction, components, methods of formulation
23. Complement fixation reaction, components, mechanism
24. Enzyme immunoassay, components, mechanism
25. Immunofluorescence reaction, components, mechanism
26. Radioimmunoassay, components, mechanism
27. What is immunoprophylaxis and immunotherapy of infectious diseases?
28. Vaccines, production, classification and use of vaccines
29. Medicinal serums, their production, classification and use
30. Method of administration of therapeutic sera
31. Immunoglobulins, theirproductionanduse.

MODULE #4
«ECOLOGY OF MICROBES.NORMAL MICROFLORA OF THE HUMAN BODY.MICROFLORA OF ENVIRONMENTAL OBJECTS.GENETICS. GENERAL VIROLOGY»

1. Normal microflora of the human body
2. What is dysbacteriosis, causes of dysbacteriosis development?
3. Microflora of air, water, soil
4. Influence of environmental factors on the vital activity of microbes
5. Genetics of microorganisms
6. What are modifications?
7. What are mutations?
8. Classification of mutations
9. What is genetic recombination?

10. What is transformation?
11. What is transduction?
12. What is conjugation?
13. What is reparation?
14. PCR
15. Viruses, structure, classification of viruses
16. Why are viruses absolute intracellular parasites?
17. Types of interaction of viruses with the host cell
18. Stages of a productive type of interaction of viruses with a host cell
19. Bacteriophages, structure of bacteriophages
20. Virulent and temperate bacteriophage
21. What is a prophage?
22. What is lysogeny?
23. What is phage conversion?
24. What is the practical application of bacteriophages in medicine?
25. Methods for detecting viruses
26. Virus cultivation methods
27. Virus detection methods
28. Virus identification methods
29. Methods for laboratory diagnosis of viral infections.

PRIVATE MEDICAL MICROBIOLOGY
MODULE #1
BACTERIA - CAUSES OF RESPIRATORY AND CONTACT INFECTIONS"

1. Staphylococci, characteristics of staphylococci, pathogenicity factors of staphylococci, pathogenesis and clinical picture of staphylococcal infection, laboratory diagnostics, treatment and prevention of staphylococcal infection
2. Streptococci, characteristics of streptococci, pathogenicity factors of streptococci, pathogenesis and clinical picture of streptococcal infection, laboratory diagnostics, treatment and prevention of streptococcal infection
3. Meningococci, characteristics of meningococci, pathogenicity factors of meningococci, pathogenesis and clinical picture of meningococcal infection, laboratory diagnostics, treatment and prevention of meningococcal infection
4. Gonococci, characteristics of gonococci, pathogenicity factors of gonococci, pathogenesis and clinical picture of gonorrhea and blennorrhea, laboratory diagnostics, treatment and prevention of gonorrhea and blennorrhea
5. Diphtheria bacillus, characteristics of diphtheria bacillus, pathogenicity factors of diphtheria bacillus, pathogenesis and clinical picture of diphtheria, laboratory diagnostics, treatment and prevention of diphtheria
6. Tuberculosis bacillus, characteristic of tuberculosis bacillus, factors of pathogenicity of tuberculosis bacillus, pathogenesis and clinical picture of tuberculosis, laboratory diagnostics, treatment and prevention of tuberculosis
7. Pertussis and parapertussis pathogens, characteristics of these pathogens, pathogenicity factors, pathogenesis and clinical picture of whooping cough and parapertussis, laboratory diagnostics, treatment and prevention of whooping cough and parapertussis

8. The causative agent of tetanus, characteristics of tetanus bacillus, pathogenicity factors of the causative agent of tetanus, pathogenesis and clinical picture of tetanus, laboratory diagnosis, treatment and prevention of tetanus
9. Causative agents of gas gangrene, characteristics of causative agents of gas gangrene, pathogenicity factors of causative agents of gas gangrene, pathogenesis and clinical picture of gas gangrene, laboratory diagnostics, treatment and prevention of gas gangrene
10. Pale treponema, characteristics of the causative agent of syphilis, pathogenicity factors of pale treponema, pathogenesis and clinical picture of syphilis, laboratory diagnostics, treatment and prevention of syphilis
11. Causative agents of chlamydia, characteristics of chlamydia, pathogenicity factors of chlamydia, pathogenesis and clinical picture of chlamydia, laboratory diagnostics, treatment and prevention of Chlamydia.

MODULE #2
"BACTERIA - CAUSES OF INTESTINAL INFECTIONS"

1. Characteristics of the Enterobacteriaceae family
2. Escherichia coli, characteristics, pathogenesis and clinical picture of escherichiosis, laboratory diagnostics, treatment and prevention of escherichiosis
3. Dysentery bacillus, characteristics, pathogenesis and clinical picture of dysentery, laboratory diagnostics, treatment and prevention of dysentery
4. Causative agents of typhoid fever and paratyphoid fever, characteristics, pathogenesis and clinical picture of typhoid fever and paratyphoid fever, laboratory diagnostics, treatment and prevention of these diseases
5. Vibrio cholerae, characteristics, pathogenesis and clinical picture of cholera, laboratory diagnostics, treatment and prevention of cholera
6. The causative agent of yersiniosis, characteristics, pathogenesis and clinical picture of yersiniosis, laboratory diagnostics, treatment and prevention of yersiniosis.

MODULE #3
«THE CAUSES OF ZONONOSE BACTERIAL INFECTIONS.RICKETSIOSIS. MUSHROOMS AND PROTOISTS - CAUSES OF HUMAN INFECTIOUS DISEASES»

1. The causative agent of anthrax, characteristics of the causative agent of anthrax, pathogenicity factors of the causative agent of anthrax, pathogenesis and clinical picture of anthrax, laboratory diagnostics, treatment and prevention of anthrax
2. Plague causative agent, characteristics of this pathogen, pathogenicity factors of the plague bacillus, pathogenesis and clinical picture of plague, laboratory diagnostics, treatment and prevention of plague
3. Causative agents of brucellosis, characteristics of these pathogens, pathogenicity factors of brucella, pathogenesis and clinical picture of brucellosis, laboratory diagnostics, treatment and prevention of brucellosis
4. Causative agent of tularemia, characteristics of this pathogen, pathogenicity factors of the causative agent of tularemia, pathogenesis and clinical picture of tularemia, laboratory diagnostics, treatment and prevention of tularemia
5. Relapsing fever, characteristics of the causative agent of relapsing fever, borrelia pathogenicity factors, pathogenesis and clinical picture of relapsing fever, laboratory diagnostics, treatment and prevention of relapsing fever

6. Leptospirosis, characteristics of the causative agent of leptospirosis, pathogenicity factors of leptospirosis, pathogenesis and clinical picture of leptospirosis, laboratory diagnostics, treatment and prevention of leptospirosis
7. Causative agents of typhus, characteristics of causative agents of typhus, pathogenicity factors of causative agents of typhus, pathogenesis and clinical picture of typhus, laboratory diagnostics, treatment and prevention of typhus
8. Fungi that cause mycoses, characteristics of fungi, pathogenesis and clinical picture of mycoses, laboratory diagnostics, treatment and prevention of mycoses
9. Protozoal infections, characteristics of protozoa, pathogenesis and clinical picture of protozoal infections, laboratory diagnostics, treatment and prevention of protozoal infections.

MODULE #4
"VIRUS - CAUSES OF HUMAN INFECTIOUS DISEASES"

1. Influenza, parainfluenza, coronavirus, measles, rubella, mumps, adenovirus infections, their characteristics, pathogenesis and clinical picture, laboratory diagnostics, treatment and prevention
2. Poliomyelitis, Coxsackie, Echo viruses, their characteristics, pathogenesis and clinical picture of poliomyelitis and poliomyelitis-like diseases, laboratory diagnostics, treatment and prevention of these diseases
3. Herpes viruses, their characteristics, pathogenesis, clinical picture, laboratory diagnostics, treatment and prevention of herpes infection
4. Hepatitis viruses A, B, C, D, E, G. Characteristics of viruses.Pathogenesis and clinical picture of hepatitis. Laboratory diagnostics, treatment and prevention of hepatitis
5. HIV infection. characteristics of HIV. Pathogenesis and clinical picture of HIV infection. Laboratory diagnostics, treatment and prevention of HIV infection
6. Rabies virus, characteristics, pathogenesis and clinical picture of rabies, laboratory diagnostics, treatment and prevention
7. Tick-borne encephalitis virus, characteristics, pathogenesis and clinical picture of tick-borne encephalitis, laboratory diagnostics, treatment and prevention
8. Oncogenic viruses, their characteristics, pathogenesis, clinical picture, laboratory diagnostics, treatment and prevention of diseases caused by oncogenic viruses.

EXAM QUESTIONS

THE COMMON PART

I. Morphology of microorganisms

1. Basic principles of classification of microbes.
2. Morphological and tinctorial properties of bacteria. Painting methods.
3. The structure and chemical composition of bacterial cells. Features of the structure of gram-positive and gram-negative bacteria.
4. Morphology of fungi. Principles of classification.
5. The morphology of the protozoa. The principles of classification.
6. Features of virus biology.
7. Principles of classification of viruses.
8. Structure and chemical composition of viruses and bacteriophages.
9. Microscopy methods (luminescent, dark-field, phase-contrast, electronic).

II. Physiology of microorganisms

1. Growth and reproduction of bacteria, reproduction phases.
2. Methods for obtaining energy by bacteria (respiration, fermentation). Methods for the cultivation of anaerobes.
3. Types and mechanisms of bacteria nutrition.
4. Basic principles of bacterial cultivation.
5. Artificial culture media, their classification. Requirements for culture media.
6. Principles and methods of isolation of pure cultures of bacteria.
7. Enzymes of bacteria. Identification of bacteria by enzymatic activity.
8. Intraspecific identification of bacteria (epidemic marking).
9. Normal microflora of the human body and its functions. Dysbiosis Eubiotics.
10. The action of physical and chemical factors on microorganisms. The concept of sterilization,disinfection, asepsis and antiseptics.
11. Methods of sterilization, equipment.
12. The concept of chemotherapy and chemotherapy drugs. Mechanisms of action of sulfonylamides and quinolones.
13. Antibiotics: classification by source of production, method of obtaining.
14. Antibiotics: classification by chemical structure, mechanism and spectrum of action.
15. Complication of antibiotic therapy, their prevention.
16. Mechanisms of drug resistance of infectious agents. Ways to overcome drug resistance.
17. Methods for determining the sensitivity of bacteria to antibiotics.
18. Methods of virus cultivation.
19. Types of interaction of the virus with the cell. Virus reproduction phases.
20. Bacteriophages. Interaction of a phage with a bacterial cell. Moderate and virulent bacteriophages. Lysogeny.
21. Application of phages in medicine and biotechnology.

III. Genetics of bacteria

1. The structure of the genome of bacteria. The concept of genotype and phenotype. Types

ofvariability.
2. lasmids of bacteria, their functions and properties. The use of plasmids in genetic engineering.
3. Mechanisms of transfer of genetic material in bacteria.

IV. Infection and immunity

1. The concept of infection. Conditions for the occurrence of an infectious process.
2. Stages of development and characteristic signs of an infectious disease.
3. Pathogenicity and virulence of bacteria. Pathogenic factors.
4. Bacterial toxins, their nature, properties, production.
5. The role of I.I. Mechnikov in the formation of the doctrine of immunity. Nonspecific factorsof the body's defense.
6. Complement, its structure, functions, activation pathways, role in immunity.
7. Interferons, nature. Methods for obtaining and using.
8. Species (hereditary) immunity.
9. The concept of immunity. Types of immunity.
10. Structure and function of the immune system. Cooperation of immunocompetent cells.
11. Immunocompetent cells. T and B lymphocytes, macrophages, their cooperation.
12. Immunoglobulins, structure and function.
13. Classes of immunoglobulins, their characteristics.
14. Antigens: definition, basic properties. Bacterial cell antigens
15. Antibody formation: primary and secondary response.
16. Immunological memory. Immunological tolerance.
17. Classification of hypersensitivity according to Jayle and Coombs. T-dependent hypersensitive and its clinical and diagnostic value.
18. Allergic tests, their essence, application.
19. B - dependent hypersensitivity. Mechanisms of occurrence, clinical significance.
20. Anaphylactic shock and serum sickness. Causes of occurrence. Mechanism. Their warning.
21. The concept of clinical immunology. Human immune status and factors affecting it.
22. Assessment of the immune status: basic indicators and methods of their determination
23. Primary and secondary immunodeficiencies.
24. The concept of immunomodulators. Operating principle. Application.
25. Features of antiviral immunity.
26. Diagnostic drugs, receipt, application.
27. Monoclonal antibodies.
28. Methods of preparation and use of agglutinating, adsorbed serums.
29. Reaction of agglutination. Components, mechanism, methods of setting. Application.
30. Coombs reaction. Mechanism. Components. Application.
31. Reaction of passive hemagglutination. Components. Application.
32. Reaction of precipitation. Mechanism. Components. Staging methods. Application.
33. Reaction of binding complement. Mechanism. Components. Application.
34. Reaction of neutralization of toxin with antitoxin. Mechanism. Staging methods. Application.
35. Reaction of immunofluorescence. Mechanism, components, application.
36. Immunoassay, immunoblotting, mechanism, components, application.
37. Serological tests used to diagnose viral infections.

38. Vaccines, definition, modern classification, use.
39. Live vaccines, obtaining, application. Advantages and disadvantages .
40. Killed vaccines, receipt, application.
41. Chemical vaccines. Receiving. Advantages, application.
42. Toxoid. Receiving, purification, titration, application.
43. Genetically engineered vaccines. Principles of obtaining, application.
44. Medical biotechnology, its objectives and achievements.
45. Antitoxic serum. Receiving, purification, titration, application. Complications during use andtheir prevention.
46. Preparations of immunoglobulins. Receiving, cleaning, indications for use.

SPECIAL PART

PRIVATE MICROBIOLOGY

1. Methods of microbiological diagnostics of infectious diseases.
2. Pathogens of typhoid and paratyphoid. Taxonomy and characteristics. Microbiological diagnostics. Specific therapy.
3. Pathogens of Escherichiosis. Taxonomy and characteristics. Microbiological diagnostics. Treatment.
4. Pathogens of intestinal Yersiniosis. Taxonomy and characteristics. Microbiological diagnostics. Specific prevention and treatment.
5. The causative agents of Shigellosis. Taxonomy and characterization. Microbiological diagnostics. Specific prevention and treatment.
6. The causative agents of Salmonellosis. Taxonomy and characteristics. Microbiological diagnostics. Specific prevention and treatment.
7. The causative agents of Cholera. Taxonomy and characteristics. Microbiological diagnostics. Specific prevention and treatment.
8. Staphylococcus. Taxonomy and characteristics. Microbiological diagnostics. Specific prevention and treatment.
9. Streptococcus. Taxonomy and characteristics. Microbiological diagnostics. Specific prevention and treatment.
10. Meningococcus. Taxonomy and characteristics. Microbiological diagnostics. Specific prevention and treatment.
11. Gonococcus. Taxonomy and characteristics. Microbiological diagnostics. Treatment.
12. The causative agent of Tularemia. Taxonomy and characteristics. Microbiological diagnostics. Specific prevention and treatment.
13. The causative agent of Anthrax. Taxonomy and characteristics. Microbiological diagnostics.Specific prevention and treatment.
14. The causative agent of Brucellosis. Taxonomy and characterization. Microbiological diagnostics. Specific prevention and treatment.
15. The causative agent of Plague. Taxonomy and characteristics. Microbiological diagnostics.Specific prevention and treatment.
16. Features of microbiological diagnosis in quarantine infections. Express-diagnostic.The causative agents of gas anaerobic infection. Taxonomy and characteristics. Microbiological diagnostics. Specific prevention and treatment.
17. The causative agent of Botulism. Taxonomy and characteristics. Microbiological

diagnostics.Specific prevention and treatment.

18. Causative agent of Tetanus. Taxonomy and characteristics. Microbiological diagnostics. Specific prevention and treatment.
19. Causative agent of Diphtheria. Taxonomy and characteristics. Microbiological diagnostics.Specific prevention and treatment.
20. The causative agent of Whooping cough and Parapertussis. Taxonomy and characteristics.Microbiological diagnostics. Specific prevention and treatment.
21. The causative agents of Tuberculosis. Taxonomy, characteristics. Opportunistic mycobacteria. Microbiological diagnostics. Specific prophylaxis and treatment.
22. Causative agent of Spotted fever. Taxonomy, Characteristics. Brill-Zinsser's disease. Microbiological diagnostics. Specific prevention and treatment
23. The causative agent of Q-fever. Taxonomy. characteristics, microbiological diagnostics. Specific prevention and treatment.
24. The causative agent of Chlamydia. Taxonomy, characteristics, microbiological diagnostics.Specific prevention and treatment.
25. The causative agents of Legionellosis. Taxonomy, characteristic, microbiological diagnostics. Treatment.
26. The causative agent of Syphilis. Taxonomy. Characteristic. Microbiological diagnosis andtreatment.
27. Causative agent of Leptospirosis. Taxonomy, characteristics. Microbiological diagnostics.Specific prevention and treatment.
28. The causative agents of relapsing fever. Taxonomy. Characteristic. Microbiological diagnostics and treatment.
29. The role of opportunistic microorganisms in the occurrence of nosocomial diseases infections. Clinical microbiology, its tasks.
30. Pseudomonas aeruginosa. Taxonomy. Characteristic. Microbiological diagnosis and treatment.
31. Non-spore-forming anaerobes. Taxonomy. Characteristic. Microbiological diagnostics andtreatment.
32. Classification of fungi. Characteristic. Role in human pathology. Laboratory diagnostics andtreatment.
33. The causative agents of Malaria. Taxonomy. Characteristic. Microbiological diagnostics andtreatment.
34. The causative agent of Toxoplasmosis. Taxonomy. Characteristic. Microbiological diagnostics and treatment.
35. Causative agents of Leishmaniasis. Taxonomy. Characteristics. Microbiological diagnosis.Treatment
36. Significance of D.I. Ivanovsky's discovery. Stages of Virology development. Role of Russianscientists in the development of Virology.
37. ARVI Pathogens. Taxonomy. Characteristic. Laboratory diagnostics. Specific prevention andtreatment.
38. The causative agent of Influenza. Taxonomy. Characteristic. Laboratory diagnostics and treatment.
39. The causative agents of Poliomyelitis. Taxonomy. Characteristic. Laboratory diagnostics. Specific prevention.
40. Pathogens of Hepatitis A and E. Taxonomy. Characteristic. Laboratory diagnostics. Specificprophylaxis.
41. The Arboviruses. Taxonomy. Characteristic. Laboratory diagnostics. Specific

prophylaxis.

42.Causative agent of Tick-borne Encephalitis. Taxonomy. Characteristic. Laboratorydiagnostics. Specific prophylaxis.

43.The causative agent of Rabies. Taxonomy. Characteristic. Laboratory diagnostics. Specificprophylaxis.

44.Causative agent of Smallpox. Taxonomy. Characteristics. Laboratory diagnostics. Specificprevention of smallpox at the present stage.

45.The causative agent of Rubella. Taxonomy. Characteristics, Laboratory diagnostics. Specificprophylaxis.

46.The Measles virus. Taxonomy. Characteristics, Laboratory diagnostics. Specific prophylaxis.

47.Herpes infection. Taxonomy. Characteristic. Laboratory diagnostics. Specific prevention.Treatment.

48.Pathogens of Hepatitis B, C, and D. Taxonomy. Characteristic. Carriage. Laboratorydiagnostics. Specific prophylaxis.

49.HIV infection. Taxonomy. Characteristic. Laboratory diagnostics. Specific prophylaxis.

50.Classification and characteristics of Oncogenic viruses.

SANITARY MICROBIOLOGY

1. The doctrine of sanitary indicative microorganisms
2. Air microflora and methods of its study
3. Pathogenic microbes in the air, mechanisms of spread and transmission of infection
4. Sanitary indicative air microorganisms.
5. Sanitary-bacteriological examination of air. Methods. Equipment.
6. Microflora of water. Factors affecting the number of microbes in water.
7. Methods of sanitary and bacteriological research of water.
8. Indicators of water quality: microbial number, coli-titer, coli-index.
9. Determination of the coli-titer of water by the fermentation method.
10. Study of drinking water for the presence of pathogens of typhoid fever, cholera and leptospirosis
11. Soil microflora. Factors affecting the quantitative and species composition of soil microbes.
12. Soil as a factor in the transmission of infectious diseases.
13. Sanitary and microbiological study of soil. Microbial number, coli-titer, perfringens-titer ofsoil.
14. Sanitary and bacteriological examination of environmental objects, hand washes, inventory,equipment.
15. Control of the dressing material for sterility.
16. The value of opportunistic microbes in the etiology of foodborne toxicoinfections.
17. Sanitary and microbiological examination of food products.
18. Sanitary and microbiological examination of milk and dairy products.
19. Sanitary and microbiological research in case of food toxicoinfections and bacterial toxicosis.
20. Sanitary and bacteriological examination of meat and meat products.
21. Viruses circulating in wastewater, methods of indication.
22. The role of the air in the spread of viral diseases, methods of air sampling and indication of viruses.

Federal State Budgetary Educational Institution of Higher Education "North Ossetian State Medical Academy"
Ministry of Health of the Russian Federation

Department **: microbiology**
Faculty: **dentistry** **course 2**
Discipline: **microbiology, virology, immunology-microbiology of the oral cavity**

Situational task No. 1

10 hours after eating homemade canned cucumbers, a 7-year-old child developed vomiting and diarrhea. The next day, the child developed a dry mouth and could no longer clearly see surrounding objects. Hoarseness of voice appeared, the act of swallowing became difficult. The child was hospitalized with a diagnosis of botulism. The child was prescribed intravenous administration of antitoxic antibotulinum serum. By what method should it be administered to prevent the development of anaphylactic shock?

1. According to the Mechnikov method
2. According to Koch's method
3. Bezredko method
4. The Ramon method

Situational task No. 2

The patient consulted a dermatologist due to the appearance of an ulcer on the labia majora. The doctor, having examined the patient, identified ulcers on the labia majora and a hard chancre. Name the correct research methods:

1. Dark field microscopy
2. Wasserman reaction
3. Cytocholic test
4. Kahn's reaction
5. Immunofluorescence

Situational task No. 3

A patient at the gynecological hospital began to complain of pain in the lower back and lower abdomen. The patient was prescribed a course of ampicillin intramuscularly, but the symptoms remained without significant changes. A urine examination revealed leukocytes and crystals of calcium salts. Urine culture: gram-negative oxidase-positive rod-shaped bacteria forming greenish mucoid colonies. Which of the following bacteria best matches these characteristics?

1. Enterococcus species
2. Escherichia coli
3. Klebsiella pneumonia
4. Proteus mirabilis
5. Pseudomonas aeruginosa

Situational task No. 4

A patient suffering from pustular skin lesions underwent culture of the discharged lesions. On blood small creamy round colonies grew in the agar, surrounded by a zone of hemolysis. They were formed by gram-positive catalase-positive and oxidase-positive cocci, fermenting mannitol and located in random clusters in smears. Which of the following bacteria most closely matches these characteristics?

1. Streptococcus pyogenes
2. Streptococcus agalactia
3. Staphylococcus aureus
4. Staphylococcus epidermidis
5. Staphylococcus saprophiticus

Situational task No. 5

A man came to the infectious diseases hospital with complaints of headache and fever that appeared after a hunting trip to the Astrakhan steppes. Physical examination revealed enlarged axillary lymph nodes. Some of them are highly inflamed and fluctuate, which indicates the possibility of their opening. Indicate the symptoms of which diseases resemble the listed signs?

1. Brucellosis
2. Tularemia
3. Plague

Situational task No. 6

A 27-year-old patient with suspected HIV infection is in the infectious diseases department. What serological tests are needed to make a diagnosis?

1. Linked immunosorbent assay
2. Immunoblotting method
3. Immunofluorescence method
4. Passive hemagglutination reaction
5. Complement fixation reaction

Situational task No. 7

A patient with suspected hepatitis was admitted to the infectious diseases department of the Republican Hospital. The medical history revealed that there was a blood transfusion 4 months ago. What laboratory test should be prescribed for the patient?

1. Immunoenzyme method
2. Immunoblotting method
3. Immunofluorescence method
4. Passive hemagglutination reaction
5. Complement fixation reaction

Situational task No. 8

A laboratory examination of a vaginal smear reveals diplococci resembling coffee beans, located both inside and outside of leukocytes. Which of the following media do you use to culture the suspected pathogen?

1. Nutrient medium Endo
2. Nutrient medium containing ascitic fluid
3. Whey agar
4. Meat-peptone agar

Federal State Budgetary Educational Institution of Higher Education "North Ossetian State Medical Academy"
Ministry of Health of the Russian Federation

Department **: microbiology**
Faculty: **dentistry** **course 2**
Discipline: **microbiology, virology, immunology-microbiology of the oral cavity**

Practical task/Business game No.1

Fill out the protocol for microbiological diagnosis of diphtheria.

Practical task/Business game No.2

Fill out the protocol for microbiological diagnosis of botulism.

Practical task/Business game No.3

Fill out the protocol for microbiological diagnosis of dysentery.

Practical task/Business game No.4

Fill out the protocol for microbiological diagnosis of staphylococcal infection.

Practical task/Business game No.5

Fill out the protocol for microbiological diagnosis of brucellosis.

Practical task/Business game No.6

Fill out the protocol for microbiological diagnosis of whooping cough.

Practical task/Business game No.7

Fill out the protocol for microbiological diagnosis of cholera.

Practical task/Business game No.8

Fill out the protocol for microbiological diagnosis of influenza.

Practical task/Business game No.9

Fill out the protocol for microbiological diagnosis of coronavirus infection.

Practical task/Business game No.10

Fill out the protocol for microbiological diagnosis of HIV infection.

№ Стом-21 (ИН)

Federal State Budgetary Educational Institution higher education "North Ossetian State MedicalAcademy" of the Ministry of Health of the Russian Federation

Department of Microbiology

Samples of test tasks

in microbiology, virology, immunology - microbiology of the oral cavity

the main professional educational program of higher education - a specialist'sprogram in the specialty 31.05.03 Dentistry,
approved on May 24, 2023.

for students of 2 course

by specialty 31.05.03 Dentistry

Vladikavkaz, 2023

Table of contents

Tests for assessing the entrance level of knowledge in microbiology

1. **What microorganisms are prokaryotes?**

A) Viruses
B) Mushrooms
C) Bacteria
D) the simplest

2. **What organelles are absent in a prokaryotic cell?**

A) Nucleus
B) Nucleoid
C) mitochondria
D) Ribosomes

3. **What organelles are present in a eukaryotic cell?**

A) mitochondria
B) Nucleus
C) Golgi complex
D) Nucleoid

4. **The optical part of the microscope includes:**

A) tube
B) Eyepiece
C) Lens
D) Subject table

5. **Viruses are:**

A) prokaryotes
B) Intracellular parasites
C) eukaryotes
D) the simplest

6. **In what units are the sizes of microorganisms measured?**

A) in micrometers
B) in centimeters
C) in nanometers
D) In meters

7. **What microorganisms are eukaryotes?**

A) mushrooms
B) Bacteria
C) viruses
D) the simplest

8. **The mechanical part of the microscope includes:**

A) object table
B) Mirror
C) condenser
D) Eyepiece

9. What microorganisms in the cytoplasm contain a nucleus?

A) bacteria
B) Mushrooms
C) viruses
D) the simplest

10. What microorganisms reproduce by spores?

A) bacteria
B) Viruses
C) mushrooms
D) the simplest

TEST ASSIGNMENTS # 1
GENERAL MICROBIOLOGY
"MORPHOLOGY OF PROKARYOTES, EUKARYOTES, AND NON-CELLULAR FORMS OF MICROBES"
I OPTION
(Indicate one correct answer)

1. The discovery of fermentation (1857) is associated with the name of which scientist, microbial contamination and contagiousness of infectious diseases (1881), methods of vaccine production and methods of prevention of chicken cholera, anthrax and rabies (1882-1885)?
a) Levenguc
b) Mechnikov
c) Koch
d) Pasteur

2. Which microorganisms are gram-positive?
a) gonococci
b) E. coli
c) meningococci
d) streptococci

3. To detect a capsule in bacteria in pure culture, use staining:
a) simple
b) byBurri
c) Gram staining
d) byBourry-Hinz

4. What structures are referred to as bacterial intracellular inclusions?
a) nucleus
b) mitochondria
c) grains of volutin
d) Golgi complex

5. Staining that is used to detect spores in bacteria is:
a) byNeisser
b) byRomanowsky-Giemsa
c) byBurri-Hinz
d) according to Augerschka

6. Which microorganisms belong to the tortuous forms?
a) streptococci
b) staphylococci
c) bacilli
d) spirochaetes

7. Acid resistance in bacteria is due to the presence of:

a) nucleic acids
b) capsule
c) high lipid content
d) ribosomes

8. Which structure in bacteria performs the function of protein synthesis?
a) mesosome
b) ribosome
c) nucleotide
d) plasmid

9. Spore-forming microorganisms:
a) vibrios
b) clostridia
c) staphylococci
d) meningococci

10. Prokaryotes include:
a) fungi
b) bacteria
c) viruses
d) protozoa

11. Protozoa
a) belong to prokaryotes
b) have a nucleoid
c) belong to eukaryotes
d) do not have a nuclear membrane

12. What features are characteristic of the capsule in bacteria?
a) an obligatory shell
b) has a protective function
c) containstheichoic acids
d) detected by the Burri method

13 The noncellular form of microbes includes:
a) bacteria
b) prions
c) protozoa
d) fungi

14. Yeast-like fungi include:
a) mucor
b) yeast
c) candida
d) aspergillus

15. A filamentous fungus that forms endospores:

a) aspergillus
b) yeast
c) penicillium
d) mucor

16. Viruses reproduce by:
a) binary fission
b) disjunctive reproduction
c) budding
d) spore formation

17. An obligatory structural component of a bacterial cell:
a) capsule
b) spore
c) nucleoid
d) flagella

MAKE LOGICAL PAIRS: QUESTION AND ANSWER

18. Viroidsa) prokaryotes
19. Protozoa b) non-cellular forms of microbes
20. Fungi c) eukaryotes
21. Prions d) do not belong to any group of microbes

OPTION II
(Indicate one correct answer)

1. Who is one of the founders of the immunological stage of microbiology and the creator of the phagocytic theory of immunity?
a) Bezredka
b) Pasteur
c) Koch
d) Mechnikov

2. Which staining methods are complex, differential diagnostic methods?
a) byZill-Nielsen
b) methylene blue
c) Burri
d) diluted carbolic fuchsin.

3. Which microorganisms are gram-negative?
a) staphylococci
b) pneumococci
c) clostridia
d) gonococci

4. To detect a capsule in bacteria, use:
a) Burry-Hines staining

b) Romanowsky-Giemsa staining
c) Ziehl-Nielsen staining
(d) Gram staining

5. Which bacteria are spore-forming bacteria?
a) sarcines
b) mycobacteria
c) bacilli
d) spirochaetes

6. The differential Gram staining of bacteria is due to the structure of:
a) cytoplasmic membrane
b) cell wall
c) nucleoid
d) capsule

7. Which research method is used to study bacterial motility?
a) fuchsin staining
b) Neisser method
c) Ziehl-Nielsen method
d) phase-contrast microscopy

8. What is the structure of a protozoan cell?
a) like a prokaryotic cell
b) contains a nucleus with a nuclear membrane
c) as complicated as a bacterial cell
d) similar to viruses.

9. Which microbes do not have a cellular structure?
a) viruses
b) protozoa
c) bacteria
d) fungi

10. Prokaryotes include:
a) protozoa
b) fungi
c) bacteria
d) prions

11. Prokaryotes are characterized by:
a) absence of a cell wall
b) absence of cytoplasmic membrane
c) absence of nuclear membrane
d) absence of ribosomes

12. What features are characteristic of mesosomes in bacteria?
a) are formed as a result of the invagination of cytoplasmic membrane into cytoplasm

b) function as a digestive vacuole
c) synthesize protein
d) detected by the Ziehl-Nielsen method

13. Filamentous fungi that form exospores:
a) mucor
b) penicillium
c) yeast-like fungi
d) yeast

14. A complexly organized virus:
a) contains two types of nucleic acid
b) contains one type of nucleic acid (either DNA or RNA)
c) does not have a supercapsid
d) does not contain a capsid.

15. Hyphaltic (mold) fungi include:
a) candida
b) mucor
c) yeast
d) yeast-like fungi

16. What are bacteria that have many flagella around the cell called?
a) lophotrichs
b) peritrichs
c) monotrichs
d) amphitrichs

17. Bacterial motility is determined by the method:
a) Ziehl-Nielsen
b) Neisser
c) Augeshko
d) "hanging drop".

MAKE LOGICAL PAIRS: QUESTION AND ANSWER

18. The function of movement in bacteria is carried out by: a. Porins
19. the adhesion of bacteria to their cells is performed by: b. Inclusions
c. Flagella
d. Pili
20. The extracellular form of virus existence: a. Capsid
21. Bacterial virus b. Capsomere
c. Virion
d. Bacteriophage

TEST ASSIGNMENTS # 2
GENERAL MICROBIOLOGY
"THE PHYSIOLOGY OF MICROBES. PRINCIPLES OF MICROBIAL CULTIVATION AND IDENTIFICATION".
I OPTION.
(Specify one correct answer)

1. In order to carry out active transport of substances into the bacterial cell, the presence of:
a) transcriptase
b) permease
c) hyaluronidase
d) neurominidase

2. Nutrient media are used to obtain a dense consistency:
a) carbohydrates
b) agar-agar
c) proteins
d) enzymes

3. Thioglycolic medium is used for the isolation of:
a) obligate aerobes
b) obligate anaerobes
c) facultative aerobes
d) facultative anaerobes

The optimum temperature for cultivation of most pathogenic microbes is
a) 20°C
b) 30°C
c) 37°C
d) 39°C

5. Cultural properties of bacteria:
a) shape, structure of the bacterial cell
b) nature of bacterial growth on nutrient media
c) ability to cause infection
d) ability to stain

6. For biochemical identification of bacteria, study:
a) sensitivity of bacteria to antibiotics
b) antigenic structure of bacteria
c) morphological features
d) saccharolytic and proteolytic properties

7. Viruses are cultured in:
a) in medium 199
b) on MPA
c) in MPB
d) in Hella cell culture

8. Microscope-visible morphological changes of cells up to their death, resulting from the damaging effects of viruses, is a sign of:
a) hemadsorption phenomenon
b) cytopathic effect
c) hemagglutination phenomenon
d) "color reaction".

9. nutrient media are called selective media:
a) used for the cultivation of many bacteria
b) used for selective isolation and accumulation of microbes of a particular species
c) used for differentiation of individual microbe species (or groups)
d) liquid media
10. Aerobes are used for the cultivation of aerobes:
a) anaerostat
b) Pasteur stove
c) autoclave
d) thermostat

11. For what purpose are bacteriophages used in the bacteriological method of diagnosing infectious diseases?
a) for biochemical identification of bacteria
b) forphagotyping bacteria
c) for determination of antibiotic sensitivity of bacteria
d) for serotyping of bacteria

12. The purpose of the bacteriological method of diagnosing infectious diseases is:
a) to study the morphology of microbes
b) isolation of a pure culture of microbes followed by identification
c) detection of antibodies in the serum of the examinee
d) determination of antibiotic sensitivity of microbes.

13. Method of isolation of pure culture of mobile microorganisms:
a) Drigalsky method
b) Shukevich method
c) Koch's method
d) Platelet dilution method

14. The method of creating anaerobic conditions:
a) Koch's method
b) glove box method
c) Grazia method
d) paper disc method

15. Saccharolytic properties of pure culture of microorganisms are studied:
a) on blood agar
b) on Hiss's medium
c) on MDB

d) on MPA

16. Microorganisms that feed on finished organic compounds:
a) lithotrophs
b) auxotrophs
c) prototrophs
d) heterotrophs

17. Simple nutrient media includes:
a) blood agar
b) IPA
c) serum agar
d) medium 199

MAKE LOGICAL PAIRS: QUESTION AND ANSWER
18. Use an inorganic source of carbon a) phototrophs
19. use an organic source of hydrogen b) chemotrophs
20. Obtain energy from chemical reactions c) autotrophs
d) organotrophs
21. energy is obtained by fermentation a) strict anaerobes
b) facultative anaerobes
c) both

OPTION II
(Specify one correct answer)

1. All microbes are divided by their ability to assimilate carbon sources into:
a) phototrophs and chemotrophs
b) autotrophs and heterotrophs
c) aerobes and anaerobes
d) prototrophs and auxotrophs.

2. Microbes that use inorganic sources of hydrogen and need chemical sources of energy are called
a) photolithotrophs
b) photoorganotrophs
c) chemolithotrophs
d) chemoorganotrophs

3. The density of nutrient media depends on the content of:
a) serum
b) sucrose
c) agar-agar
d) peptone

4. Selective/elective nutrient media can be used to:
a) isolation of a particular species of microbes
b) study of proteolytic properties of microbes

c) differentiation of certain microbial species
d) study of saccharolytic enzymes of microbes

5. What task is accomplished in the third step of the bacteriological method of diagnosing infectious diseases?
a) isolation of a pure culture of microorganisms
b) determination of the isolated culture of microorganisms
c) identification of a pure culture of microorganisms isolated
d) study of growth pattern of microorganisms on nutrient medium

6. Viruses are used for culturing:
a) chicken embryo
b) Eagle's medium
c) IPA
d) blood agar

7. Nature of cytopathic action of viruses:
a) "color test"
b) monolayer cell formation
c) symplast formation
d) all incorrect.

8. Microorganisms that do not need growth factors:
a) organotrophs
b) heterotrophs
c) lithotrophs
d) prototrophs

9. In the bacteriological method of investigation, place the steps in the correct sequence:
a) sowing a pure culture in Hiss medium
b) obtaining isolated colonies
c) evaluating the results of identification of a pure culture of microbes
d) obtaining a pure culture of microbes

10. Anaerobes are cultured in medium:
a) MPA, MPB
b) Kit-Tarazzi
c) Ploskirev
d) Hiss

11. tinctorial properties of bacteria are:
a) the growth pattern of bacteria on nutrient media
b) ability to degrade proteins and carbohydrates
c) ability to stain
d) bacterial structure

12. Which method is used to mechanically separate microorganisms during culture on nutrient media?
a) Shukevich method
b) Drigalsky method
c) Gratzia method
d) Fortner's method

13. Fagovars are variants within a given bacterial species that differ in:
a) biochemical properties
b) antigenic properties
c) sensitivity to antibiotics
d) sensitivity to phages

14. Zeissler's method is used to:
a) determination of sensitivity of bacteria to bacteriophage
b) isolation of a pure aerobic culture
c) isolation of a pure culture of anaerobes
d) creation of aerobic conditions

15. Most pathogenic microorganisms belong to:
a) psychrophiles
b) mesophiles
c) microaerophiles
d) thermophiles

16. Bacteriophages are characterized by:
a) reproduction by binary fission
b) growth and reproduction on nutrient media
c) reproduction in bacterial cells
d) anaerobic type of respiration

17. The toxic effect of molecular oxygen on obligate anaerobes is due to the accumulation of:
a) carbon dioxide
b) oxygen radicals
c) fermentation end products
d) pyruvate

MAKE LOGICAL PAIRS: QUESTION AND ANSWER

18. In which type of respiration is the final electron acceptor an organic compound?a) aerobic

b) fermentation

19. Die in the presence of oxygen:

a) strict aerobes
b) facultative anaerobes
c) strict anaerobes
d) microaerophile

20. Energy is obtained only by fermentation:

21. Can change the type of respiration:

TEST TASKS # 3
IN GENERAL MICROBIOLOGY
"ECOLOGY OF MICROBES. NORMAL MICROFLORA OF THE HUMAN BODY. MICROFLORA OF THE ENVIRONMENTAL OBJECTS. THE INFLUENCE OF ENVIRONMENTAL FACTORS ON THE VITAL ACTIVITY OF MICROBES. GENETICS. ANTIMICROBIAL DRUGS"
OPTION I
(Specify one correct answer)

1. The process of genetic recombination, in which the bacteriophage participates:
   1. Conjugation
   2. Transformation
   3. Transduction
   4. Modification

2. The sensitivity of bacteria to antibiotics is determined by:
   1. Membrane filters
   2. Serial dilutions
   3. Grazia Titrations
   4. Sedimentation

3. The phenotypic variability of bacteria is due to:
   1. Mutation
   2. Transformation
   3. By transduction
   4. Modification

4. One of the mechanisms of the emergence of antibiotic sensitivity of bacteria is due to:
1. F-plasmids
2. R-plasmids
3. Plasmids of bacteriocinogenicity
4. Tox plasmids

5. The antifungal antibiotic includes:
   1. Penicillin
   2. Nystatin
   3. Tetracycline
   4. Erythromycin

6. Macrolide antibiotics include:
   1. Streptomycin
   2. Tetracycline
   3. Erythromycin
   4. Cephalosporin

7. Side effect of beta-lactam antibiotics:
   1. Nephrotoxic effect
   2. Allergic reactions

3. Irreversible damage to the auditory nerve
4. Embryotoxic effect

8. Genetic recombinations include:
1. Plasmids
2. Transposons
3. Transformation
4. Modification

9. Extra-chromosomal factors of heredity include:
1. Mesosomes
2. Ribosomes
3. Disputes
4. Plasmids

10. The process of restoring the cellular genome is called:
1. Modification
2. By transduction
3. Dissociation
4. Reparations

11. Normally sterile in the human body:
1. Stomach
2. Upper respiratory tract
3. Blood
4. Small intestine

12. The highest bacterial contamination is characterized by:
1. Bladder
2. Stomach
3. The large intestine
4. Lung alveoli

13. Beta-lactam antibiotics include:
1. Tetracycline
2. Penicillin
3. Gentamicin
4. Kanamycin

14. The antagonistic effect of E. coli on related bacteria is associated with the synthesis of:
1. Interferon
2. Pesticides
3. Kolitsinov
4. Polymyxin

15. Specify the method of complete sterilization of the material:
1. Filtering

2. Steam under pressure
3. Calcination
4. Tindalization

16. Chemical methods of sterilization include:
1. The effect of ultrasound
2. Formaldehyde treatment
3. Steam sterilization under pressure
4. UV rays

17. List the sterilization method that frees the object from the spore forms of microbes:
1. Filtration
2.Autoclaving
3. Pasteurization
4. Boiling

MAKE LOGICAL PAIRS: QUESTION AND ANSWER

18. The number of E. coli in 1 liter of water	A. Microbial number
19. The smallest amount of water in which one E. coli is determined	B. Perfringens-titer
20. The total number of microorganisms	C. Koli-titr
21. The smallest amount of soil in which one cell of clostridium perfringens is determined	G. Koli-index

OPTION II
(Specify one correct answer)

1. The term "disinfection" means:
1. Liberation of the object from vegetative forms
2. Release only from aerobic forms of bacteria
3. Release from spores and vegetative forms
4. Destruction of pathogenic microbes

2. The complication of antibiotic therapy by microorganisms includes:
1. Violation of the mobility of microbes
2. Changing the type of respiration of microbes
3. Acquisition of pathogenic properties
4. Formation of antibiotic resistance

3. The transposon is:
1. A substance that causes the formation of induced mutations
2. Reparative agent
3. Extra-chromosomal factor of heredity
4. Moderate bacteriophage

4. Determination of the sensitivity of bacteria to antibiotics is carried out:
1. The Fortner method
2. By the paper disk method

3. By the Drigalsky method
4. The Koch method

5. Hereditary abrupt change of the trait:
1. Reparations
2. Mutation
3. Modification
4. Phage conversion

6. Repair of damaged DNA
1. Mutation
2. Transformation
3. Transduction
4. Reparations

7. Moderate bacteriophage is involved in the process of:
1. Conjugation
2. Transductions
3. Transformations
4. Modifications

8. The most common complication after taking broad-spectrum antibiotics is:
1. Irreversible damage to the auditory nerve
2. Allergic reactions
3. Dysbiosis
4. Formation of a population of bacteria resistant to antibiotics

9. Mechanism of action of beta-lactam antibiotics:
1. Disrupt the synthesis of nucleic acids
2. Violate the integrity of the cytoplasmic membrane
3. Disrupt the synthesis of peptidoglycan of the cell wall
4. Disrupt protein synthesis

10. Disrupts protein synthesis:
1. Tetracycline
2. Penicillin
3. Polymyxin
4. Rifampicin

11. Where is steam sterilization performed under pressure?
1. In the Pasteur oven
2. In the autoclave
3. In the thermostat
4. In the Koch apparatus

12. Physical methods of sterilization include:
1. Alcohol treatment
2. The effect of ultraviolet rays

3. Filtering
4. Use of antibiotics

13. Sterilization is:
1. A set of measures aimed at the destruction of specific types of microbes at facilities
2. A set of measures aimed at preventing the ingress of microorganisms into the wound
3. A set of measures aimed at the complete provision of facilities
4.All the answers are correct

14. Koli-titer of water:
1. The amount of E. coli in 1 liter of water
2. The number of microbes in 1 ml of water
3. The minimum amount of water that contains 1 E. coli
4. The number of E. coli in 10 liters of water

15. Pathogenic microbes that can persist in the soil for a long time (for years):
1. The causative agent of typhoid fever
2. Clostridium gas gangrene
3. E. coli
4. Staphylococci

16. Sanitary-indicative air bacteria are:
1. E. coli
2. Pseudomonas aeruginosa
3. Staphylococcus aureus
4. Micrococci

17. To restore the normal microflora of the human body, prescribe:
1. Antibiotics
2. Eubiotics
3. Bacteriophages
4. Vaccines

MAKE LOGICAL PAIRS: QUESTION AND ANSWER

18. The number of E. coli in 1 liter of water	A. Microbial number
19. The smallest amount of water in which one E. coli is determined	B. Perfringens-titer
20. The total number of microorganisms	C. Koli-titr
21. The smallest amount of soil in which one cell of clostridium perfringens is determine	G. Koli-index

TEST TASKS # 4
IN GENERAL MICROBIOLOGY
"THE DOCTRINE OF INFECTION. MEDICAL IMMUNOLOGY. IMMUNE REACTIONS. IMMUNOBIOLOGICAL PREPARATIONS.

OPTION I
(Specify one correct answer)

1. Who is the author of the phagocytic theory of immunity?
   1. Burnett F.
   2. Erne N.
   3. Erlich P.
   4. Mechnikov I.I.

2. What kind of immunity is naturally active?
   1. After the introduction of immune serums
   2. Post-vaccination
   3. Transplacental
   4. Postinfectious

3. Latent infections without clinical manifestations are called:
   1. Acute infections
   2. Chronic infections
   3. Latent infections
   4. Mixed infections

4. Describe the secretory immunoglobulin of class A
   1. Provides local immunity
   2. Is a pentamer
   3. Does not contain a secretory component
   4. Passes through the placenta

5. Which class of immunoglobulins is most contained in the blood serum of a healthy person?
   1. A
   2. E
   3. M
   4. G

6. Which cells have phagocytic activity?
   1. Lymphocytes
   2. Neutrophils
   3. Plasmocytes
   4. Red blood cells

7. In what phenomena of the immune response are B-lymphocytes involved?
   1. Antibody production
   2. Immune phagocytosis
   3. Cellular immune response
   4. Killer function

8. The transfer of delayed-type hypersensitivity is carried out with the introduction of:
   1. Immunoglobulin E

2. Immunoglobulin G
3. Sensitized B-lymphocytes
4. Sensitized T-lymphocytes

9. What are the causes of primary immunodeficiency:
1. Chronic viral infections
2. Malignant neoplasms
3. Bacterial infections
4. Birth defects of development

10. Antitoxic immunity suffers from insufficiency:
1. Phagocytic system
2. Complement
3. T-systems of lymphocytes
4. B-lymphocyte systems

11. What is the effect of vaccines on the immune system?
1. Nonspecific activation
2. Specific suppression
3. Nonspecific suppression
4. Specific activation

12. Re-infection of an organism that has not yet recovered from infection with the same microbe is called:
1. Reinfection
2. Superinfection
3. Relapse
4. Secondary infection

13. Infectious diseases transmitted only from person to person are called:
1. Zoonoses
2. Sapronoses
3. Anthroponoses
4. Zooanthroponose

14. Hypoglobulinemia occurs with a defect
1. Eosinophils
2. B-lymphocytes
3. Complement
4. T-lymphocytes

15. What factor causes an anaphylactic reaction?
1. Properdin
2. Lysozyme
3. C-reactive protein
4. Immunoglobulin E

16. The following are involved in the formation of antibacterial cellular immunity:

1. Lactoferin
2. B-lymphocytes
3. Complement
4. Phagocytes

17. During the period of reconvalescence,:
1. Intensive reproduction of microorganisms
2. Termination of reproduction and death of microorganisms
3. Colonization of sensitive cells
4. Adhesion of microorganisms on sensitive cells

Make logical pairs: question-answer

18.
1. IgM
2. IgG
3. Ig E

a. Exists in the form of a pentamer
b. Participates in allergic reactions
c. Passes through the placenta
d. Exists in the form of a dimer

19.
1. Macrophages:
2. B-lymphocytes:

a. Antibodyproduction
b. Phagocytosis
c. Both
d Neither

20.
1. Primary immunodeficiency:
2. Secondary immunodeficiency:

a. Congenital developmental defect
b. Radiation exposure
c. Both
d. Neither one nor the other

21.
1. Determination of incomplete antibodies:
2. Determination of corpuscular antigens:

a. Precipitation reaction
b. Agglutination reaction
c. Coombs reaction

OPTION II
(Specify one correct answer)

1. Who is the author of the humoral theory of immunity?
   1. Burnett F.
   2. Erne I.
   3. Mechnikov IM.
   4. Erlich P.

2. What kind of immunity is artificial passive?
   1. After the introduction of immune serums
   2. Post-vaccination
   3. Transplacental
   4. Postinfectious

3. Which component of the complement is part of the membrane-attacking complex?
   1. C2
   2. C3
   3. C4
   4. C5

4. Class E immunoglobulin has tropism to:
   1. Neutrophils
   2. Macrophages
   3. Fat cells
   4. Fibroblasts

5. Mark the period of infectious disease:
   1. Mixed
   2. Toxic
   3. Prodromal
   4. Viral

6. Which cells belong to phagocytes?
   1. T-lymphocytes
   2. Alveolar macrophages
   3. B-lymphocytes
   4. T-killers

7. What forms of immune response do T - lymphocytes take part in?
   1. Antibody production
   2. Killer function
   3. Immune phagocytosis
   4. Immediate type hypersensitivity

8. Immunoglobulins are synthesized and secreted:
   1. T-lymphocytes
   2. Neutrophils
   3. Plasma cells
   4. Macrophages

9. The exotoxin of microbes by chemical structure is:
1. LPS
2. A substance of protein nature
3. Pigment
4. Disaccharide

10. Agammaglobulinemia occurs with insufficiency:
1. Phagocytic function
2. Complement
3. T-systems of lymphocytes
4. B-lymphocyte systems

11. For specific activation of the immune system, use:
1. Immunoglobulins
2. Adjuvants
3. Anatoxins
4. Tolerogens

12. What ingredient is used in RPGA to determine the antigen?
1. Sheep erythrocytes
2. Test serum
3. Antigenic erythrocyte diagnosticum
4. Antibody erythrocyte diagnosticum

13. The period of infectious disease from the moment of infection to the appearance of the first signs is called:
1. Prodromal
2. The height period
3. Incubation
4. Manifest

14. Deficiency of killer function occurs when insufficiency:
1. Complement
2. B-lymphocyte systems
3. Lysozyme
4. T-systems of lymphocytes

15. What type of allergic reactions does serum sickness belong to?
1. Type IV
2. Type II
3. Type I
4. Type III

16. Type I hypersensitivity is characterized by participation:
1. Complement
2. T-lymphocytes
3. Cytotoxic antibodies
4. Mast cells

17. Mass diseases that have spread to several countries and continents are called:
1. Epidemic
2. Endemic
3. Pandemic
4. Sporadic diseases

Make logical pairs: question-answer

18. 1. The primary immune response is characterized by:
2. The secondary immune response is characterized by:

a. Increased production of antibodies upon repeated administration of the antigen
b. The highest level of antibodies at 3 weeks after administration of the antigen
c. Both
d. Neither one nor the other

19. 1.Nonspecific resistance:
2. Immune response:

a. T-helpers
b. Lysozyme
c. Both
d. Neither one nor the other

20. 1.Class E immunoglobulin:
2. Sensitized T-lymphocytes:

a. Causes HRT
b. Calls GNT
c. Both
d. Neither one nor the other

21. 1. Antigen in agglutination reaction:
2. Antigen in precipitation reaction:

a. Molecular
b. Corpuscular
c. Both
d. Neither one nor the othen

TEST ASSIGNMENTS # 1
IN PRIVATE MEDICAL MICROBIOLOGY
"BACTERIA - AGENTS OF INTESTINAL INFECTIONS"
I OPTION
(Specify one correct answer)

1. Which family the causative agent of typhoid fever belongs to:
1. Leptospiraceae
2. Vibrionaceae
3. Enterobacteriaceae
4. Picornavirus

2. Properties of bacteria in the genus Salmonella:
1. They form a spore.
2. Lactose-negative
3. Are immobile
4. Gram-positive

3.Bacteriologic specimens for cholera:
1.Blood
2.Vomit
3. Urine
4.Cerebrospinal fluid

4. Reactions are used for serodiagnosis of typhoid fever:
1.PPGA
2.RTGA
3.PCR
4.RA on glass

5. Diaregenic Escherichia coli:
1.Produce enterotoxins.
2.Lactose-negative.
3. Do not have pathogenicity plasmids
4.Gram-positive

6. An elective nutrient medium for culturing shigellosis pathogens:
1.Ploskireva
2.Yolk-salt agar.
3.Blood agar
4.Alkaline peptone water

7. Properties of bacteria of the genus Shigella:
1. Form spores
2.Gram-positive
3. Have H-antigen.
4.Anaerobes are facultative.

8. Pathogenicity factors of cholera pathogens:
1.Spore formation
2. Cholerogenesis
3.Peritrite
4.Capsule formation

9. Culturing conditions for the causative agent of intestinal yersiniosis:
1.Does not grow on simple nutrient media
2.Strictly anaerobic conditions
3.Incubation time 5-7 days
4.Optimal incubation time 5-7 days

10. The primary method of microbiological diagnosis of intestinal yersiniosis:
1. Bacteriological
2. Bacterioscopic
3.Serological
4.Biological

11. Which nutrient medium is used to test a hemoculture to isolate the typhoid pathogen:
1.Gall broth
2. Bouchine
3. Alkaline peptone water
4.Levine

12. The serological method of diagnosing typhoid fever allows:
1.Isolate a pure culture of microorganisms
2.Detect bacteriocarriers
3.Phage the pathogen
4.Serotyping the pathogen

13. Material for bacteriological examination in week 1 of typhoid fever:
1.Urine
2. Feces
3.Serum
4.Blood

14. The importance of opportunistic E. coli to the macroorganism:
1. Antagonist of pathogenic intestinal microflora
2.Does not secrete bacteriocins
3. Cannot cause inflammation in the bladder or gallbladder
4.Cannot cause sepsis

15. The main method of microbiological diagnosis of typhoid fever in the 3rd week of illness:
1. Bacterioscopic
2.Bacteriological.
3. Biological
4.Serologic

16. Salmonellosis is:
1. Anthroponosis
2. Polymicrobial infection
3. Mono-microbial infection
4. Chronic intestinal infection

17. The main method of laboratory diagnosis of salmonellosis:
1. Biological
2. Microscopic
3. Bacteriological

4. Serological

MAKE LOGICAL PAIRS: QUESTION AND ANSWER

18.

1. Cholera
2. Shigellosis
3. Salmonellosis
4. Intestinal escherichiosis.

А.EPCP
Б. S enteritidis
В. S.typhi
Г. V.cholerae
Д. S.sonnei

19.

1.Agglutinated with escherichiosis O55 serum
2. Causes purulent inflammatory diseases of various localizations
3. Produce enterotoxins 4.
4. Are psychrophilic.

А. Conditionally pathogenic E. coli
Б. Diaregenic Escherichia coli
В. Both
Г. Neither.

20.

1. Monotrichs
2. Peritrichs
3. Not mobile

А. Shigellae
Б. Cholera vibrios.
В. Salmonellae
Г. EPCP

21

1. Leptospirosis pathogens
2. Pathogens of brucellosis
3. Pathogens of botulism

А. Small ovoid-shaped gram-negative bacilli
Б. Twisted bacteria
В. Spore-forming bacilli

OPTION II

(Specify one correct answer)

1. Botulism is:
   1. Food toxicosis
   2. Caused by facultative anaerobes
   3. The pathogen does not form spores
   4. The spore is centrally located

2. Properties of bacteria of the genus Escherichia:
1.Gram-positive
2. Lactose-positive
3. Form spores
4.Are not motile

3. What property do bacteria of the family Enterobacteriaceae have?
1.Gram-negative bacilli
2. Form spores
3. Are obligate anaerobes
4. Adherent aerobes

4. Brucellosis is:
1. Mono-microbial infection
2. Polymicrobial infection
3. Anthroponosis
4. The causative agent is twisted bacteria

5. Cholera is:
1. Zoonotic infection
2. a particularly virulent infection
3. The route of transmission is hematogenous
4. The causative agent is peritrichosis

6. For serodiagnosis of typhoid fever they use:
1.Wasserman reaction.
2.Vidal's reaction.
3.Wright reaction.
4.The Heddelson reaction

7. Which medium is used in the isolation of cholera pathogen?
1 Alkaline peptone water
2.Blood agar
3.Serum agar
4.Gall broth

8. By what properties do diarrhegic Escherichia coli differ?
1.By their Gram stain.
2.By lactose inactivity
3.By antigenic structure
4.By motility

9. Leptospirosis is:
1. Anthroponosis
2. Zoonosis
3. The causative agent is a small, curved bacillus
4. The causative agent is a gram-positive microbe.

10. The pathogen of intestinal yersiniosis is characterized by the following properties:
1.Gram-positive
2. Is psychrophilic
3. Forms a spore
4.Monotrich

11. How many groups are included in the international classification of shigellae?
1. 5
2. 4
3. 2
4. 3

12. The main method of laboratory diagnosis of dysentery:
1. Microscopic
2. Bacteriological
3. Serological
4. Biological

13. Cholera vibrio is:
1. Acid-resistant microorganism
2. It develops under alkaline conditions
3. Not mobile
4. Gram-positive microorganism

14. Diaregenic Escherichia coli are:
1. Lactose-negative
2. Lactose-positive
3. Gram-positive
4. Not pathogenic to humans

15. Feeding medium for the cultivation of the coli pathogen:
1. Endo
2.Kliegler's
3.Blood agar
4.Gall broth

16. Material for bacteriological examination in shigellosis:
1.Blood
2.Serum
3. Urine
4. Excrement

17. Diaregenic and conditionally pathogenic E. coli are distinguished by:
1. Tinctorial properties
2.Ability to utilize lactose 3.
3. Morphological characteristics
4. Antigenic structure

MAKE LOGICAL PAIRS: QUESTION AND ANSWER
18.
1.Cholera
2. Paratyphus A.
3. Intestinal escherichiosis.
4. Shigellosis
А. S.dysenteriae
Б. V.cholerae
В. S.typhimurium
Г. EPCP
Д. S.paratyphi

19.
1. belongs to serogroup O1.
2. Resistant to polymyxin.
3. Susceptible to bacteriophage C
4. Produces enterotoxin.
А. Biovar cholerae.
Б. Biovar eltor
В. Both
Г. Neither.

20.
1. Do not have flagellae:
А Yersiniae
Б. Cholera vibrio.
В. Salmonellae
Г. Shigellae

21.
1. State the correct sequence of steps in the microbiological diagnosis of shigellosis:
А. Identification of the isolated pure culture
Б. Transplantation of lactose-negative colonies onto Ressel's medium
В. Planting on Levin's and Ploskirev's media
Г. Determination of antibiotic sensitivity

TEST ASSIGNMENTS # 2
IN PRIVATE MEDICAL MICROBIOLOGY
"BACTERIA - AGENTS OF RESPIRATORY AND CONTACT INFECTIONS"
I OPTION.
(Specify one correct answer)

1. Diphtheria pathogen is stained using the method:
А. Ziehl-Nelsen method.
Б. Ozheshko
В. Neisser
Г. Gins-Burry

2. The method used for staining mycobacteria is:
А. Ozheshko
Б. Ziehl-Nelsen
В. Leffler
Г. Burry

3. The onset of tetanus is caused by ingestion of
wound:
А. Brucella melitensis
Б. Clostridium difficile
В. Clostridium tetani
Г. Clostridium novyi

4. According to the type of respiration of the clostridia:
А. Oblate anaerobes.
Б. Facultative anaerobes.
В. Obligated aerobes
Г. Microaerophiles

5. Sequence of steps of bacteriological method of investigation in diphtheria:
А. Determination of toxicity
Б. Planting the test material on special nutrient media
В. Determination of antibiotic sensitivity
Г. Colony transfer to obtain a pure culture 6.

6. Non-associated anaerobes include:
А. Clostridia
Б. Bacteroides
В. Chlamydiae
Г. Mycobacteria

7. A vaccine is used to specifically prevent pertussis:
А. BCG
Б. Solka
В. DPT
Г. STI

8. Group A streptococci are cultured on nutrient media:
А. Ploskireva
Б. Blood agar.
В. Saburo
Г. IPA

9. The causative agent of scarlatina is:
А. S.aureus
Б. S.pyogenes
В. C.trachomatis

Г. F.tularensis
10. Name the clinical form of meningococcal infection:
А. Pneumonia
Б. Diarrhea
В. Nasopharyngitis
Г. Conjunctivitis

11. Meningococci belong to the genus:
А. Micrococcus
Б. Streptococcus
В. Staphylococcus
Г. Neisseria

12. STI vaccine is used for specific prophylaxis:
А. Brucellosis
Б. Cholera
В. Anthrax.
Г. Tetanus

13. The route of infection with gonorrhea:
А. Airborne
Б. Air-dust
В. Alimentary
Г. Sexual

14. Gonococci in the smear are located:
А. In pairs
Б. Four at a time.
В. As a chain
Г. In clusters of 12 to 16.

15. Rough colonies grow on the MPA, the edges of which are compared to the head of a jellyfish or the mane of a lion under low magnification under a microscope:
А. B.melitensis
Б. B.anthracis
В. B.suis
Г. B.pertussis

16. In the laboratory diagnosis of which disease is the Wasserman reaction used?
А. Diphtheria
Б. Tuberculosis
В. Syphilis
Г. Gonorrhea

17. The causative agent of trachoma is:
А. C.trachomatis
Б. S.aureus
С. N. gonorrhoeae

Г. T.pallidum

Make logical pairs: question and answer

18. Proteus	A. K.pneumoniae
19. Klebsiellae	Ю. E.coli
20. Escherichiae	B. P.mirabilis
21. Pseudomonas bacillus	D.P.aeruginosa

OPTION II

(Specify one correct answer)

1. Which vaccine is used to specifically prevent tuberculosis?
А. STI
Б. Solka
В. ACDS
Г. BCG

2. Material for examination in primary syphilis:
А. Blood
Б. Liquor
В. The contents of a hard chancre
Г. The contents of a soft chancre.

3. A reaction is used for the detection of the syberiasis antigen:
А. Vidal
Б. Wright
В. Heddelson
Г. Ascoli

4. The clinical form of anthrax that produces a more favorable outcome:
А. Intestinal
Б. Pulmonary
В. Skin
Г. Septic

5. Specific prevention of syphilis:
А. Live vaccine.
Б. Attenuated vaccine.
В. Not developed
Г. BCG

6. Which property is characteristic of tuberculosis pathogens?
А. Spore formation
Б. Acid resistance
В. Oblate anaerobes
Г. Produce flagella

7. The Mantoux skin allergy test is used in the diagnosis of:
А. Brucellosis

Б. Tuberculosis
В. Syphilis
Г. Diphtheria

8. What morphological features are characteristic of the diphtheria pathogen?
А. The presence of grains of volutin on the ends of the bacillus.
Б. Spore formation
В. Movable
Г. Arranged in a chain

9. By type of respiration, meningococci are:
А. Oblate aerobes.
Б. Oblate anaerobes
В. Facultative anaerobes
Г. Microaerophiles

10. What genus does the pertussis pathogen belong to?
А. Neisseria
Б. Bordetella
В. Corynebacterium
Г. Mycobacterium

11. What is the morphology of the scarlatina pathogen?
А. Bacilliform microorganisms
Б. Streptococci
В. Dipococci
Г. Twisted microorganisms

12. The Wasserman reaction is a reaction of:
А. Agglutination
Б. Precipitation
В. Complement binding
Г. Fluorescence

13. Tetanus refers to:
А. Airborne infection.
Б. Wound infection.
В. Sexual infection
Г. Alimentary infection

14. The causative agents of gas gangrene:
А. Endotoxins with enterotropicity are isolated.
Б. Produce exotoxins affecting CNS
В. Do not produce toxins
Г. Do not secrete enzymes that degrade connective tissue

15. Non-associated anaerobes include:
А. Bacilli

Б. Veilonellae
В. Clostridia
Г. Staphylococci

16. The primary method of laboratory diagnosis of acute gonorrhea is:
А. Bacteriological
Б. Microscopic
В. Serologic
Г. Biological

17. To which genus does Pseudomonas bacillus belong?
А. Yersinia
Б. Pseudomonas
В. Bordetella
Г. Brucella

Make logical pairs: question and answer

18. Morphological features of Klebsiella: А. peritrichs
19. Morphological features of Escherichiae: Б. Intracellular parasites
20. Morphological features of Proteas:
21. Characteristics of chlamydiae: В. The presence of a distinct capsule

TEST ASSIGNMENTS # 3
IN PRIVATE MEDICAL MICROBIOLOGY
"BACTERIA - AGENTS OF BLOOD-BORNE INFECTIONS. FUNGI AND PROTOZOA - AGENTS OF HUMAN INFECTIOUS DISEASES".
I OPTION.
(Specify one correct answer)

1. Morphological and tinctorial properties of the plague pathogen:
А. Gram-positive bacilli
Б. Gram-positive streptobacteria.
В. Gram-negative diprobacilli
Г. Melium ovoid bipolar staining bacilli

2. Which clinical form of plague is the most highly contagious?
А. Bubonic
Б. Intestinal
Г. Bubonic
Д. Pulmonary

3. The causative agent of endemic typhus is:
А. R.prowazekii.
Б. R.typhi
В. R.conorii
Г. R.sibirica

4. Cyst formation is characteristic of:

А. Bacteria
Б. Viruses
В. Protozoa
Г. Fungi

5. Spores reproduce with spores:
А. Fungi
Б. Viruses
В. Bacteria
Г. Chlamydiae

6. The method used to detect malarial plasmodium in the blood is:
А. Biological
Б. Bacteriological
В. Microscopic
Г. Serologic

7. Malaria plasmodia are transmitted by:
А. Alimentary pathway
Б. Airborne.
В. Transmissible pathway
Г. Contact pathway.

8. The method used to stain protozoa is:
А. Ziehl-Nielsen
Б. Ozheshko
В. Romanowsky-Giemsa
Г. Neisser

9. The sexual cycle of toxoplasmas with oocyst formation occurs in the intestine:
А. Birds
Б. Humans
В. Cats
Г. Dogs

10. Amoebiasis is accompanied by:
А. Lesions of the upper respiratory tract
Б. Ulcerative lesions of the colon
В. Small intestinal lesions
Г. Lesions of the urogenital tract

11. To which class of protozoa does malaria plasmodium belong?
А. The flagellates
Б. Ciliated
В. Sporophytes
Г. Sarcods

12. the mechanism of transmission of the causative agent of amoebiasis:

А. Airborne
Б. Sexual
В. Transmissible
Г. Fecal-oral

13. Mycoses are diseases caused by:
А. Bacteria
Б. Fungi
В. Protozoa
Г. Chlamydia

14. Fungi are used to isolate fungi from pathological material:
А. IPA
Б. Sabouraud's medium.
В. Serum agar.
Г. MPB

15. Fungi of the genus Candida:
А. Refers to yeast-like fungi.
Б. Refers to filamentous fungi
В. Related to mycelium fungi
Г. Are pathogenic.

16. In keratomycosis, keratomycoses are affected:
А. Subcutaneous tissue
Б. Bones
В. Hair
Г. Internal organs

17. In relation to temperature, pathogenic fungi are:
А. Psychrophiles
Б. Mesophiles
В. Thermophiles
Г. All answers are correct

Make logical pairs: question-answer

18. Conditionally pathogenic fungi:	А. Trichophyton
19. Dermatophytes:	Б. Genus Aspergillus
20. Form conidia:	В. Both
21. Produce mycotoxins:	Г. Neither

OPTION II
(Specify one correct answer)

1. The plague pathogen in relation to temperature is:
А. Mesophilus
Б. Psichrophilus
В. Thermophilus
Г. All answers are correct.

2. Virulent strains of plague bacilli form colonies on dense nutrient media:
A. S-form
Б. R-forms that resemble a lace handkerchief
В. Round, convex golden-colored colonies with smooth edges
Г. Small, round, shiny colonies like drops of mercury

3. Which vaccine is used to specifically prevent plague?
A. Killed vaccine.
Б. Live vaccine from an attenuated EV strain
В. Anatoxin
Г. STI

4. The carrier of the typhus epidemic pathogen is:
A. Fleas
Б. Lice.
В. Rats
Г. Ticks

5. The causative agents of endemic typhus fever are:
A. Viruses
Б. Rikettsiae
В. Chlamydiae
Г. Protozoa

6. The Romanowsky-Giemsa method of staining a thick drop of blood is used for diagnosis:
A. Typhoid fever
Б. Malaria
В. Amoebiasis
Г. Epidermophytosis

7. Toxoplasma has the form:
A. Cocciform
Б. Bacilliform
В. Crescent
Г. Spiral-shaped

8. The transplacental route of transmission is possible in:
A. Amoebiasis
Б. Toxoplasmosis
В. Malaria
Г. Candida

9. To which class of protozoa do toxoplasmas belong:
A. The flagellates
Б. Ciliated
В. Sporeworms

Г. Sarcods
10. The main method of laboratory diagnosis of amebiasis is:
А. Bacteriological
Б. Microscopic
В. Skin-allergic
Г. Biological

11. The causative agent of toxoplasmosis is:
А. T.gondii
Б. E.histolytica
В. P.vivax
Г. P.ovale

12. Perfect fungi are:
А. Fungi with sexual reproduction
Б. Fungi that reproduce asexually
В. Fungi that have septa
Г. Fungi that do not form septa

13. Ringworm is caused by fungi of the genus:
А. Trichophyton
Б. Aspergillus
В. Candida
Г. Fusarium

14. Systemic, or deep mycoses include:
А. Histoplasmosis
Б. Favus (scab).
В. Sporotrichosis
Г. Microsporiasis

15. What are conidia?
А. Endospores
Б. Exospores
В. Spore-forming structures.
Г. Transverse septum in the hyphae

16. Diseases resulting from the consumption of foods that contain toxin metabolites produced by Aspergillus flavus and Aspergillus parasiticus:
А. Ergotism
Б. Aflatoxicoses
В. Zygomycoses
Г. Cryptococcosis

17. Opportunistic mycoses:
А. Caused by pathogenic fungi
Б. Caused by opportunistic fungi
В. Causes unclassified pathogenic fungi

Г. Causes dermatophytes

Make up logical pairs: question and answer

18. Keratomycoses:	А. Microsporum
19. Subcutaneous mycoses:	Б. The causative agent of variegated lichen
20. Deep mycoses:	В. Sporotrichosis
21.Epidermophytosis:	Г. Blastomycosi

TESTS ASSIGNMENTS # 4
ON PRIVATE MEDICAL MICROBIOLOGY
"VIRUS - CAUSES OF HUMAN INFECTIOUS DISEASES"
I OPTION
(Choose one or more correct answers)

1. You can set the serological type of the influenza virus using:
a) agglutination reactions on glass;
b) hemagglutination inhibition reactions;
c) reactions of indirect hemagglutination;
d) hemagglutination reactions.

2. "Rabies" in Latin terminology:
a) Variola
b) Rabies
c) Anthrax
d) pestis

3. Interferon provides antiviral protection of the cell, because prevents:
a) adsorption of the virus on the cell;
b) penetration of the virus into the cell;
c) virus reproduction;
d) lysis of the affected cell;
e) activation of killers.

4. The source and reservoir of the herpes simplex virus are:
a) animals
b) food
c) virus carriers
d) birds
e) rodents

5. HIV belongs to the group of viruses:
a) DNA-genomic;
b) RNA-genomic;
c) complex;
d) simple

6. For serodiagnosis of viral hepatitis apply:
a) hemagglutination inhibition reaction;

b) enzyme immunoassay;
c) reaction of indirect (passive) hemagglutination;
d) hemagglutination reaction;
e) agglutination reaction on glass.

7. Neurotropic viruses are:
a) influenza virus;
b) hepatitis C virus;
c) rabies virus;
d) herpes simplex virus;
e) herpes-zoster virus.

8. Airborne viruses are transmitted:
a) hepatitis B virus
b) HIV
c) measles viruses
d) tick-borne encephalitis viruses
e) rabies virus

9. For planned specific prevention of poliomyelitis, use:
a) a live vaccine;
b) toxoid;
c) a killed vaccine;
d) specific serum;
e) interferon.

10. The family of retroviruses is distinguished by the presence of:
a) RNA polymerase
b) DNA polymerase
c) endonucleases
d) reverse transcriptase
e) exonucleases

11. Avian influenza virus refers to:
a) to the influenza virus type C
b) to the influenza virus type A
c) to the influenza virus type B
d) to the influenza virus type D

12. Polio viruses belong to the family:
a) caliciviruses
b) retroviruses
c) poxviruses
d) picornaviruses

13. The main route of transmission of hepatitis A virus:
a) parenteral
b) airborne

c) fecal-oral
d) contact

14. What type of nucleic acid does the hepatitis B virus contain?
a) RNA
b) DNA
c) DNA and RNA
d) does not contain nucleic acid

15. HIV is transmitted in the following ways:
a) sexual
b) airborne
c) fecal-oral
d) parenteral
e) transplacental

16. Indicate the correct statement: HIV infection is:
a) sapronosis
b) anthroponosis
c) zoonosis
d) zooanthroponosis

17. Indicate the correct statement: AIDS is:
a) opportunistic infection
b) a synonym for HIV infection
c) the stage of the disease
d) independent disease

MAKE LOGICAL PAIRS: QUESTION AND ANSWER

18. Fecal-oral route of transmission:	a) hepatitis B, C
19. Parenteral route of transmission:	b) poliomyelitis
20. Transmissible route of transmission:	c) hepatitis A, E
21. Airborne transmission:	d) tick-borne encephalitis
	e) rubella
	f) epidemic parotitis

II OPTION
(Choose one or more correct answers)

1. RNA-containing viruses include:
a) picornaviruses
b) herpesviruses
c) retroviruses
d) orthomyxoviruses

2. The family of orthomyxoviruses includes pathogens:
a) poliomyelitis
b) flu

c) HIV
d) rabies

3. Interferon has the following effect:
a) lysing against the affected cell;
b) stimulating phagocytosis;
c) inhibiting translation;
d) specific binding to the virus:
e) activating translation.

4. To determine the antibodies in the patient's blood to a specific influenza virus serotype, you can use:
a) agglutination reactions on glass;
b) hemagglutination reactions;
c) enzyme immunoassay;
d) precipitation reactions

5. Influenza virus belongs to the group of viruses:
a) DNA-genomic;
b) RNA-genomic;
c) complex;
d) families of retroviruses;
e) the family of picornaviruses.

6. The characteristic features of the family of retroviruses are:
a) H and N capsid antigens;
b) reverse transcriptase enzyme;
c) genome fragmentation;
d) two identical strands of RNA in the genome;
e) exit from the cell by budding.

7. Enterotropic are:
a) polio virus;
b) hepatitis C virus;
c) rabies virus;
d) tick-borne encephalitis virus.

8. The AIDS clinic is determined by a number of complications caused by opportunistic agents:
a) herpes viruses;
b) the causative agent of diphtheria;
c) Candida mushrooms;
d) fusobacteria;
e) Mycobacterium tuberculosis.

9. For specific prevention of rabies use:
a) a live vaccine;
b) toxoid;

c) inactivated vaccine;
d) gamma globulin;
e) gamma-interferon.

10. What complications can cause the mumps virus in humans?
a) orchitis
b) meningitis
c) encephalitis
d) pneumonia
e) hepatitis

11. What type of nucleic acid does the varicella-zoster virus contain?
a) RNA
b) DNA
c) DNA and RNA
d) does not contain nucleic acid

12. Polio viruses are:
a) DNA-containing viruses
b) simple viruses
c) RNA-containing viruses
d) complex viruses

13. What type of nucleic acid do hepatitis A and E viruses contain?
a) DNA
b) RNA
c) DNA and RNA
d) do not contain nucleic acid

14. What family does the causative agent of HIV infection belong to?
a) rhabdoviruses
b) Orthomyxoviruses
c) picornaviruses
d) Retroviruses
e) Togaviruses

15. The rubella virus is characterized by the following properties:
a) DNA containing
b) able to pass through the placental barrier and infect the fetus
c) belongs to the Togavirus family
d) has hemagglutinating activity
e) complex virus

16. Point out the wrong statement. Way of transmission of HIV:
a) airborne
b) transplant
c) sexual
d) transplacental

e) parenteral

17. Point out the wrong statement. HIV-infected persons have the right to:

a) an accessible medical examination

b) to receive qualified medical care of all kinds

c) be a donor

d) voluntary examination

e) anonymous survey

MAKE LOGICAL PAIRS: QUESTION AND ANSWER

What vaccine is used for specific prophylaxis:

18. Mumps	a) DPT
19. Rabies	b) BCG
20 Hepatitis B	c) live vaccine received by Smorodintsev
21. Poliomyelitis	d) anti-rabies vaccine
	e) genetically engineered vaccine
	f) vaccine Smorodintseva A.A. and Chumakova M.P