CALENDAR-THEMATIC PLAN
201 9 -2020 academic year
Department: Microbiology, Virology and Immunology
Science: Microbiology, Virology and Immunology
Faculty: treatment and professional education : 2 semester: 3
Semester : lectures - 18 hours allocated for practical training - 45
Lecture classes

No.	date	Lesson topic	hour
1	4 .09 .- 10 .09.1 9	Microbiology of medicine. Purpose, objectives and history of the development of microbiology, virology and immunology . Systematization, classification of microorganisms. Bacterial morphology.	2
2	1 1 -1 7 .09. 1 9	The structure and structure of the bacterial cell and its composition, size. Importance in microbiological practice. Morfological microorganisms and unique features: Spyros broad, Rickettsia, actinomycetes, chlamydia , mycoplasma and other fungus , simple animals.	2
3	1 8 -2 4 .09. 1 9	The physiology of microorganisms - nutrition, respiration, reproduction, growth. Food environments. The production of microorganisms in life.	2
4	2 5. 09 - 30 . 09 . 1 9	The influence of environmental factors on microorganisms. Chemotherapeutic drugs and antibiotics.	2
5	02. 10 - 0 8 .10. 1 9	Ecology of microorganisms. Water, soil, air microflora. Normal microflora of a person .	2
6	0 9 5 -1 .10. 1 9	General virology. Structure, reproduction, growth of viruses. Methods for isolating the virus. Bacteriophages, structure, secretion and use .	2
7	1 6 -2 2 .10. 1 9	The concept of infection. Infectious processes, infectious diseases, laboratory methods for their diagnosis. Genetics of microorganisms. Oh , a change in their practical role.	2
8	2 3 9 -2 10. 1 9	Specific, non-specific protective factors of the body. Immunity. Types of immunity. Immune organs Antigens and antibodies.	2
9	30 .10.- 0 5 .11. 19	The concept of serological reactions . Cellular and humoral type of immune responses . T and B - lymphocyte system and subpopulation.	2
		common	18

Practical training

No.		Lesson topic	hour

1	4.09.- 10.09. 19	Microbiological, virological laboratories and their equipment. Laboratory working condition. The morphology of bacteria. Microscopic research methods. The technique of making ointments. Simple drawing method. **Laboratory No. 1.** ***TMI is the bacterial identifier of bacteria.***	3
2	11 17.09. 19	Ultrasound, the chemical composition of microorganisms. Bacteria of permanent structural elements: nukleoid with itoplazma cortex (cell wall and SPM). Advanced drawing methods. **Laboratory work No. 2.** ***TMI - leading scientists of Uzbekistan who have contributed to the development of microbiology, virology, immunology, parasitology.***	3
3	09/18/09. 19	Ultrasrtructure of microorganisms. Unstable structural elements: spores, capsules, mosquitoes, inserts, etc. Methods for their identification. **Laboratory work No. 3.** ***TMI - The role of nanotechnology in microbiology.***	3
4	09.25- 30.09. 19	The structure of microorganisms (Spyros broad, Rickettsia, aktinomits in the weekly newspaper, chlamydia , mycoplasmas, simple, fungi, animals), their morphology. Ways to study them. **Laboratory work No. 4.** ***The role of TMI in prion practice (visual protein kinase).***	3
5	10/2/08/10. 19	Bacterial physiology: nutrition, respiration, growth, reproduction. Less d Lee Mu h dogs. **Laboratory work No. 5.** ***TMI - Bioplay bacteria.***	3
6	09- 15.10. 19	Methods for the identification and identification of pure cultures of aerobic and anaerobic bacteria. **Laboratory work No. 6.** ***TMI is a bacterial infection of computers and phones.***	3
7	16- 22.10. 19	Bacterial waste products. Enzymes, pigments, toxins, aromas and the head. **Laboratory No. 7** ***TMI - Bacterial processes in bacteria. Environmental pollution by biological and technological waste*** .	3
8	23- 29.10. 19	The influence of external factors on the activity of microorganisms: sterilization, disinfection, aseptic and antiseptic. Description of chemotherapeutic drugs, antibiotics and methods for their study. **Laboratory work No. 8** ***TMI- Biol -meteorological materials, bacterial kontaminas iyasini biochemical methods for determining Q care. surgical, obstetric and gynecological, and adjacent sections of the sanitary-bacteriological analysis and evaluation of .***	3
9	10.30.- 05.11. 19	Ecology of microorganisms: water, soil, air and normal human microflora, their significance and research methods. **Practical skills** ***TMI*** **No. 2 -** ***Genetic engineering and its application in medical practice.***	3
10	06 - 12 .1 1 . 1 9	Infectious diseases, infectious processes. Diagnostic methods for infectious diseases. Genetics of microorganisms. **Laboratory work No. 12.** ***TMI -***	3

		endogenous and infectious diseases, description , pathogenesis, laboratory diagnostics. The genetics of mushrooms.	
ele ven	13-19.1 1 . 1 9	General virology : structure , morphology , reproduction , che mical composition . Enzymes. Methods for isolating the virus. **Laboratory work No. 10.** ***TMI - the formation of the immune system and age change.***	3
12	20 - 2 6 .1 1 . 19	The concept of immunity. Types of immunity. Immune organs Special and nonspecific protective factors of the body, their significance. **Laboratory work No. 11.** ***TMI - The origin, course, diagnosis of autoimmune diseases. Depending on fungi and parasitic diseases, immunity levels.***	3
1 3	11/27/03/12. 19	Antigen and anti O s. Serological reactions . Vaccine and immune serum. Methods for their preparation . **Laboratory work No. 14.** ***TMI-interferon and cytokines, synthesis, mechanism of action.***	3
1 4	04 - 10 .1 2 . 1 9	T and B lymphocytes and their subpopulation. CD - markyorlar. Immune reactions of the humoral and cellular type. **Laboratory work No. 13.** ***TMI- ELISA, immunoblot, PCR reaction, radioimmun radio immune diagnosis of infectious diseases, the use of technology.***	3
1 5	11 - 17 .1 2 . 1 9	Immunodeficiency conditions (congenital, acquired during life). Allergy and allergic diseases. Oncology and immunity. Methods for evaluating the immune system of the organism . **Laboratory work No. 15.** ***TMI - immunopathology, its role in the origin of tumor cells. Immunity deficiencies opportunistic infectionsion is regular molecular mechanism.***	3
		common	4 5

CALENDAR-THEMATIC PLAN

2019-2020 academic year

Department: Microbiology, Virology and Immunology

Science: Microbiology, Virology and Immunology

Faculty: Treatment and vocational education : 2 semester: 4

Semester hours allocated: lectures - 18; practical exercises - 45

Lecture classes

No .	date	Lesson topic	hou r
1	03-08.02. 20	Purulent Describe microorganisms inflammation processes and laboratory diagnosis (staphylococci, streptococci, Pseudomonas aeruginosa Q Chase). Laboratory diagnosis of wound infections (tetanus , gas gangrene).	2
2	10-15.02 . 20	Causes of the disease by airborne droplets Description i. Cough, blue cough,	2

		pneumococcus, meningococcus, tuberculosis, leprosy. Laboratory diagnosis of airborne infections.	
3	17-22.02. 20	Intestinal flame infections - electronic sherichioses intestinal yerschiniosis, klebsiollose, salmonelles, shigellosis and general description . Laboratory diagnostics.	2
4	02.24.-29.02. 20	Microorganisms causing food poisoning: salmonella, botulism, protein, staphylococcal and other infections, laboratory diagnosis.	2
5	07/02/03. 20	The most dangerous infections are: cholera, and anthrax, BRU with Ellen, tularemiya and plague pathogens with laboratory diagnosis.	2
6	09-14.03. 20	Skin and sexually transmitted diseases pathogens audience against PKK. Laboratory diagnosis of acute respiratory viral infections, SLE, Chlamydia, Microplasmosis.	2
7	16-21.03. 20	Viral infections with RNA viruses that cause DEFENSE diseases: Ob ortho-, pikorno-, raptoviruses description , laboratory diagnosis.	2
8	23 28 +0.03. 20	Viral infections. Diseases caused by DNA-binding viruses: herpes virus, description of poxvirus , laboratory diagnosis.	2
9	30. 03.- 04.04. 20	Viral infections. Gepatotrop viruses, retroviruses description , laboratory diagnostics.	2
		J ami	18

Practical training

No.	date	Lesson topic	hour
1	03-08.02. 20	Microorganisms causing purulent-inflammatory diseases: laboratory diagnosis of diseases caused by staphylococci, streptococci, blue pus. **Practical skills No. 5** ***TMI-The role of pathogenic anaerobic cocci (peptococcus, peptostreptococcus, veylonella) in surgical and gynecological diseases. Wh ndli diabetes is a frequent r infection , pathogenesis and laboratory diagnosis.***	3
2	10-15.02 . 20	Wound infections: tetanus and gas gangrene pathogens with H sec laboratory, show and external smell. **Practical skills** ***TMI No. 4 - Changes in dog bronchial disease , pathogenesis and laboratory diagnosis. Diagnosis of the practical significance of hemophilic bacteria (inflorescence stick, moderate chancellor).***	3
3	17-22.02. 20	The airborne infections: diphtheria, whooping cough and whooping cough , pneumonia- Okoker, meningokokkes with , if the disease, caused by a diagnosed. **Practical skills No. 4.** ***TMI- pediatric I practice***	3

		most common infections pathogenesis, laboratory diagnosis.	
4	02.24.-29.02. 20	In airborne infections: tuberculosis, leprosy, actinomycosis, klebsiellosis phatogenises description and diagnosis of the diseases caused by them. **Practical skills No. 4.** ***TMI - Atypical mycobacteria and their significance in practice.***	3
5	07/02/03. 20	Intestinal infections: Escherichia coli, diarrhea and iersinisis disease with zeros and external laboratory odor. **Practical skills No. 5.** ***TMI- The role of microorganisms in the occurrence of gastritis, gastrointestinal tract and colitis, pathogenesis, laboratory diagnosis. Campylobacter, helikobacters and practicing the role of the hour .***	3
6	09-14.03. 20	Typhoid and Paratii A and B are described in phatogens diseases caused by laboratory diagnosis. **Practical skills No. 4,** ***TMI- The role of microorganisms in the occurrence of glomerulonephritis, endocarditis, ulcerative colitis and other diseases.***	3
7	16-21.03. 20	Microorganisms causing food poisoning: salmonella, botulism, protein, staphylococcal and other infections, laboratory diagnosis. **Practical skills No. 5.** ***TMI - Diareyagen viruses , klassifikas iyasi , pathogenesis , laboratory diagnostics .***	3
8	23 28 +0.03. 20	The most dangerous infections: anthrax, bubonic plague, BRU with ellyoz, tularemia, plague phatogens Welded , shows and laboratory diagnostics. **Practical skills No. 4, 5.** ***TMI - Ebola, Lass, Zika viruses, pathogenesis of the disease, laboratory diagnostics.***	3
9	30,035. - 04. 04. 20	Skin-venereal infections: syphilis, gonorrhea, hlamidioz, mycoplasmosis phatogenesis V zeros and diagnosis. **Practical skills No. 4.** ***TMI - Pathogens of skin infections, pathogenesis, laboratory diagnostics. Pathogenesis of pathogenesis, laboratory diagnosis of nonspecific urinary tract infections.***	3
10	06-11.04. 20	Vector-borne infections : rikkets (typhoid fever, tempreture), frequency of borellioz (TIF) v zeros and laboratory diagnosis. **Mental abilities # 4 .** ***TMI is the cause of hemorrhagic fever, pathogenesis, and laboratory diagnosis. Morphology, structure, prevalence, causative diseases and laboratory diagnosis of leptospirosis.***	3
11	13-18.04. 20	Viral infections: ortho, para, picardo, rhabdovirus and laboratory diagnostics. **Laboratory work No. 18** . ***TMI - Avian influenza and swine flu and its current problems.***	3
12	April 20-25. 20	Viral infections: herpes, and poksviruslar Zeros and laboratory diagnostics. **Practical skills No. 6 .** ***TMI-*** **Gerpesviruslarning** ***types, prevalence, pathogenesis of the disease, laboratory diagnosis.***	3

13	04/27/02/05. 20	Hepatitis viruses, retroviruses , and if recommended for the treatment of disease ng laboratory diagnosis. Disease in uterine spreading infectious diseases qo'zg`atuvchilari. **Laboratory work No. 16 .** ***TMI - co-infected agents of AIDS , pathogenesis, laboratory diagnostics.***	3
14	04-09.05. 20	Laboratory diagnosis of fungal diseases (superficial and deep mycotic pathogens) **Laboratory work No. 19.** ***TMI- fungal diseases phatogens, pathogenesis, laboratory diagnosis.***	3
15	11- 16. 05. 20	Simple animals: trypanasomes, balantidia, giardia, amoebic dysentery, trichomoniasis and laboratory diagnosis. **Laboratory work No. 20.** ***The TMI - Laboratory diagnosis of iatrogenic infections in the infected mother Worm medical practice roles and external h h smell.***	3
		common	45

CALENDAR-THEMATIC PLAN

Click on the 2019-2020 school year

Department: Microbiology, Virology and Immunology

Science: Microbiology, Virology and Immunology

Faculty: Prevention course: 3 semester: 5

Semester hours allocated: lectures - 18; practical exercises Typo - 72

Lecture classes

No.	date	Lesson topic	hour
1	4.09.- 10.09. 19	In purulent inflammation, devastated by microorganisms gr c, if and laboratory diagnostics (staphylococci, streptococci, Pseudomonas aeruginosa). Laboratory diagnosis of wound infections (tetanus, gas gangrene).	2
2	11-17.09. 19	Air - falling infections Calls to feed atuvchilariga v adj. Diphtheria and pertussis, tuberculosis, leprosy, actinomycosis qo'zgatuvchilariga description . I recommend pathogens of pneumococcus and I ngococcus . Laboratory diagnosis of airborne infections.	2
3	09/18/09. 19	Intestinal infections - e sherixiozlar, intestinal iersiniozlari, klebsiellyozlar, v s , shows and laboratory diagnostics.	2
4	09.25- 30.09. 19	Intestinal infections - Salmonella (typhoid fever, Paratii) , Shigella V s , shows summer and laboratory diagnosis.	2
5	10/2/08/10. 19	Microorganisms causing food poisoning: salmonella, botulism, protein, staphylococcal and other infections, laboratory diagnosis.	2
6	09-15.10. 19	Dangerous infections: cholera, and anthrax , brustellez, tularemia , and they qo'zg'atuvchilariga s h with laboratory diagnosis.	2
7	16-22.10. 19	Skin and sexually transmitted diseases Calls to feed atuvchilari IF v S i . Disease, spleen, chlamydia, mycoplasmosis. Their laboratory diagnosis.	2

8	23-29.10 . 19	Viral infections: viral diseases caused by RNA viruses. Ortomiksoviruslar, paramiksoviruslar, pikornoviruslar retroviruses, rabdoviruslar, description , laboratory diagnostics.	2
9	10.30.- 05.11. 19	Viral infections: diseases caused by DNA-saving viruses. Gerpesviruslar, poksvir Uslan, gepatotropviruslarga with hours for laboratory diagnosis.	2
		common	18

Practical training

No.	date	Lesson topic	hour
1	4.09.-10.09. 19	Microorganisms causing purulent-inflammatory diseases: laboratory diagnosis of diseases caused by staphylococci, streptococci, breast bacillus. Traumatic infections: descriptive and laboratory diagnosis of causative agents of tetanus and gaseous ngren . **Practical skills No. 4,5.** ***TMI - The condition of pathogenic anaerobic cocci (peptococci, peptostreptococci, veylonella) in their surgical and gynecological diseases. TMI-Klostridi generation of anaerobic bacteria (which are not bakteroidlar, fuzabakteriyalar, privavtellalar) is the surgical value of the practice.***	5
2	11-17.09. 19	Air-borne infections: diphtheria, pertussis cough and Ob convulsive cough , pneumococcal, meningococcal disease diagnosis. **Practical skills No. 4.** ***TMI-Hemophilus bacteria (flu stem cells), their practical significance, diagnostics.***	5
3	09/18/09. 19	Air-borne infections: tuberculosis , leprosy, actinomycosis , Klebsiella qo'zg'atuvchilariga descripti on . Laboratory diagnosis of the diseases that they cause. **Practical Skills No. 4.** ***Typical toxicity is bacterial TMI-A and its significance in practice.***	5
4	09.25- 30.09. 19	Intestinal infections: E. coli , iersiniyalar and shegellalar disease caused by descriptive and laboratory diagnosis **. Practical skills No. 5.** ***TMI. Campylobacter, Helicobacteria and their practical significance. Importance and bacteriological diagnosis of pathogenic enterobacteria in the optional state (Enterobacter, Citrobacter, Morgonella, Hafna, Proteus, etc.) in medical practice.***	5
5	10/2/08/10. 19	B and B to occur in typhoid and Paratii pathogens causing disease. Their description and laboratory diagnosis. **Laboratory 12.** ***TMI is an optional conditional species of patogenentero soluble***	5

		descendants (Enterobacter, S itrobakter, Morgonella, Xafna, Proteus and head.) Importance of medical practice and bacteriological diognostikasi.	
6	09-15.10. 19	Microorganisms causing food poisoning: laboratory diagnosis of salmonella, botulism, protein, staph infections. **Practical skills No. 4.5.** ***TMI - Food poisoning by mushrooms and bastillas (mycotoxicosis, mysticism) and their diagnosis.***	5
7	16-22.10. 19	Dangerous infections: anthrax, bubonic plague, burustellyoz , plague and tularemia pathogens books c s , exhibitions and laboratory diagnostics. **Laboratory work No. 13.** ***Importance and bacteriological diagnostics in medical practice of TMI-Amyoba dize n skin, Paragemolytic, NAG vibration .***	5
8	23-29.10. 19	Skin-venereal infections: syphilis, gonorrhea, chlamydia , mycoplasma qo'zg'atuvchilariga with a, if and diagnostics. **Laboratory work 4 .** ***TMI - chlamydia, trichomoniasis, soft chancre and other skin and sexually transmitted infections , their description , laboratory diagnostics.***	5
9	10.30.- 05.11. 19	Vector-borne infections: rikketsiyalar (hay fever, Q - isitmasi) describing the incidence of borellioz (TIF) and laboratory diagnosis. **Lab 14.** ***TMI- Ricciiosis. Diagnosis of tuberculous paraxismal rickettsiosis and causative agents of borononellosis, laboratory diagnosis.***	4
10	06 - 12 .1 1 . 1 9	Viral infections: ortomiksoviruslar and paramiksoviruslar v c, if I also have laboratory diagnosis **. No. 6. Ability to** ***TMI - birds and gun " of swine flu and its present - day problems. Bovine viral diagnostics , togovirusov, arenaviruses, reovirus, vesicular stomatitis, adenovirus,*** ***parvovirus and their virological diagnosis.***	4
eleve n	13- 19.1 1 . 1 9	Viral infections: pikarnoviruslar, rabdoviruslar v SIF and laboratory diagnostics. **The practical skills of** ***TMI No.*** **6** ***are flaviviruses (yellow fever, snail , Japanese encephalitis viruses) and their diagnosis. Rhinoviruses, aftoviruslar, reoviruslar*** ***limfogranulematoz, micro obiologik diagnosis*** .	4
12	20 - 2 6 .1 1 . 19	Viral infections: gerpesviruslar, poksviruslar viruses are a family of characteristics and laboratory diagnosis of the diseases caused by them. **Practical skills No.**	4

		6. *RMI and DNA sequencing viruses TMI-Oncogen, their virological diagnosis.*	
thirteen	11/27/03/12. 19	Viral infections iyalar: hepatitis B virus the C s , and if the laboratory diagnosis of diseases caused by them. **Practical skills No. 6 *TMI - Hepatotrofvirus (HepatitisF, TTV, etc.)***	4
14	04 - 10 .1 2 . 1 9	Retroviruses v sec disease , and if laboratory diagnosis. Infectious diseases. Infectious diseases. **Laboratory work No. 16. *TMI - Extremely dangerous viruses Ebola, Zika and others.***	4
fifteen	11 - 17 .1 2 . 1 9	Laboratory diagnosis of fungal diseases (superficial and deep mycotic pathogens) **Laboratory work No. 19. *TMI-pathogenic fungi. They are diagnosed with aspergilliosis, candidal pneumostistosis.***	4
16	18 - 2 4 .1 2 . 1 9	The simplest animals: tripanasomalar, bolantidiy, lyambliya, amoebic dysentery , trichomoniasis of the female " g " atuvchilari and laboratory diagnostics. **Laboratory work No. 20. *TMI - Infectious Diseases Infectious Diseases in a Hospital .***	4
		common	72

CALENDAR-THEMATIC PLAN

2019-2020 academic year

Department: Microbiology, Virology and Immunology

Science: Microbiology, Virology and Immunology

Faculty: Prevention course: 2 semester: 4

Semester : lectures - 18 hours allocated for practical training - 72

Lecture classes

No.	date	Lesson topic	hour
1	03-08.02. 20	Microbiology of medicine. The purpose, objectives and stages of development of microbiology, virology, immunology. Systematization, classification of microorganisms. Bacterial morphology.	2
2	10-15.02 . 20	Morphology, ultrasound and identity of prokaryotic and eukaryotic cells , their structure and size. Importance in microbiological practice. Microscopic research methods.	2
3	17-22.02. 20	Microbiology Physiology - nutrition, respiration, growth and reproduction, food environment. Products of microorganisms formed in the life.	2
4	02.24.-29.02. 20	General virology. Structure, reproduction, isolation of viruses. The structure, reproduction and practical use of bacterial phagocytes.	2
5	07/02/03. 20	The concept of infection. Infectious process or release, infectious diseases, laboratory and diagnostic	2

		methods. Genetics of microorganisms. The structure of the genetic system of bacteria. Heredity and variability in microorganisms. Importance in practice.	
6	09-14.03. 20	The influence of environmental factors on microorganisms. To imiotherapeutic drugs and antibiotics.	2
7	16-21.03. 20	Ecology of microorganisms. Water, soil, air microflora. Normal microflora of a person. Methods of sanitary-bacteriological assessment of environmental objects.	2
8	23 28 +0.03. 20	Immunity. Types of immunity. Immune organs Antigens and antibodies. Anti sealing mechanisms to be created. The concept of serological reactions.	2
9	30. 03.- 04.04.20	Immunoreactive cell and humorous type inks . T and lymphatic fi dogs system and subpopulya with iyalari. Ways to evaluate them. Vac with base and immune serum.	2
		common	18

Practical training

No.	date	Lesson topic	hour
1	03 - 08.02. 20	Microbiological laboratories and their equipment. Compliance with laboratory rules when working with living microorganisms in microbiological laboratories. The morphology of bacteria. Microscopic research methods . Embroidery technique . Simple drawing method. **Laboratory No. 1.** ***TMI - beryllium identifier***	5
2	10 15.02 . 20	Ultrasound, the chemical composition of microorganisms. Stable structural elements of bacteria : nucleoid, cytoplasm, membranes (cell wall and S P M). Advanced drawing methods. Unstable structural elements: spores, capsules, mosquitoes, inserts and much more. Ways to identify them. **Laboratory No. 2 -** ***TMI - Scientists who have contributed to the development of microbiology, immunology and virology in Uzbekistan.***	5
3	17-22.02. 20	Spirohetalar, rickettsia, aktinomisetlar, chlamydia , mycoplasma, simple, zambrug'lar animals, their morphology and structure. Ways to study them. **Laboratory work No. 3, 4.** ***TMI - The use of genetic engineering in medical practice.***	5
4	02.24.- 29.02. 20	Bacterial physiology: nutrition, respiration, growth, reproduction. Food environments. Bacterial waste products. Flavors, pigments, enzymes, toxins,	5

		and REMOVE . Methods of biochemical identification of bacteria. **Laboratory work No. 5, 7.** ***TMI - Enzymatic processes in bacteria. Environmental pollution by biological and technological waste.***	
5	07/02/03. 20	Methods and stages of isolation of pure cultures of aerobic and anaerobic bacteria and their identification. **Lab 6.** ***TMI - Biological materials, bacterial counts, human biochemical methods for identifying SSID Q care. Hirurgik, obstetric and gynecological and adjacent parts of the sanitary and bacteriological analysis and assessment of h .***	5
6	09-14.03. 20	T USA secret of microorganisms and environmental factors : sterilizasiya , disinfection , ase ptic and antiseptic . The secret of biological agents , bacteria . Chemotherapeutic drugs , a ntibiotics recommended , shows and the secret of mehanizimlari . To study the sensitivity of bacteria to antibiotics O ' methods . **Laboratory work No. 8.** ***TMI - Computers and phones BBC bacteria count people . The use of nanotechnology in the science of microbiology.***	5
7	March 16-21, 20	Ecology of microorganisms: microflora of water, soil, air and environment, their significance and research methods. Normal microflora of the human body and its significance. Dysbacteriosis, etiology of its occurrence, conditions, principles of prevention and treatment. Logical methods for the diagnosis of bactericidal dysbiosis. **Laboratory work No. 9 .** ***TMI - Bioplastics of bacteria. The genetics of mushrooms.***	5
8	23 28 +0.03. 20	Infectious diseases, infectious diseases. Methods of microbiological diagnosis of infectious diseases. Genetics of microorganisms. **Practical skills No. 3.** ***TMI - Prions (visually impaired infectious infections). Their importance in practice.***	5
9	30. 03.- 04.0 4. 20	General virology: structure, morphology, reproduction, chemical composition. Methods for isolating the virus. Identification and identification of viruses. Enzymes. The use of bacteria in medical practice. **Laboratory No. 10.** ***TMI - Interferon and itokines, synthesis, mechanism of action.***	4
10	06-11.04. 20	Immunology Immune organs . Antimicrobial nonspecific and defective factors of the body and their mechanisms. Phagocytosis, complement, lysosim and interferon and much more. Identification Methods. **Lab # 11.** ***TMI - Immune System Formation and Age Change. The origin, course, diagnosis of autoimmune diseases.***	4

eleven	13-18.04. 20	Specific immune factors. Antibodies . Antigen. Bacteria, viral antigens. Antigen and antibody o reaction. Seroidentification and serodiagnosis. Agglyutina T Ni and presipita T Ni reaction. Mechanisms, ingredients, principles of results and practical relevance. **Laboratory work No. 1 7 .** ***TMI - monoclonal antibodies, methods of preparation and use in medicine .***	4
12	April 20-25. 20	Immuntanqisliklar. Immunotherapy and immunoprophylaxis . Immunobiological preparations: vaccines, serum, immunoglobulins, cytokines. Acquisition and use. **Laboratory work No. 2 .** ***TMI - immunopathology, its role in the origin of tumor cells. Autoimmune diseases come to see the work of late diagnosis.***	4
thirteen	04/27/02/05. 20	Sanitary Microbiology. Sanitary and bacteriological research of water, soil and air. Day 1 **Practical skills No. 2 -** ***Endogenous parasitic diseases, classification, pathogenesis, laboratory diagnostics.***	4
14	04-09.05. 20	Sanitary Microbiology. 2 days of sanitary-bacteriological examination of water, soil and air . 1 day of sanitary-microbiological examination of food, inpatient and nursing mothers. **Practical skills No. 2.** ***TMI - the connection of fungal and parasitic diseases with the immune system.***	4
fifteen	11-16.05.20	Sanitary Microbiology. 3 days of sanitary-microbiological research of water, soil and air. 2 days of sanitary-bacteriological examination of food and kitchens. **The practical skills of** ***TMI*** **No. 2** ***are the use of ELISA, mmunoblot, PCR, and radioimmune reactions in the diagnosis of infectious diseases.***	4
16	May 18-23. 20	Sanitary Microbiology. Completion of water, soil and air microflora, conclusion. Completion of a sanitary-bacteriological examination of nursing and nursing mothers. Complete the results of independent work on SM , write a note on a notebook . **Practical Skills No. 2.** ***TMI - The molecular mechanism for controlling opportunistic infections in the immune system.***	4
		common	72

CALENDAR-THEMATIC PLAN

2019-2020 academic year

Department: Microbiology, Virology and Immunology

Science: Microbiology, Virology and Immunology

Faculty: OMX course: 1 semester: 1

Semester hours allocated: lectures - 18; practical exercises - 54

Lecture classes

No.	date	Lesson topic	hour
1	3.09.-9.09. 1 9	Medical microbiology, virology , immunology of key sanction subjects has been cultivated, and history development . Systematics, classification of microorganisms . Bacterial morphology. The role of science in nursing in higher education.	2
2	10 -16.09. 1 9	The physiology of microorganisms - nutrition, respiration, reproduction, growth. Food environments. Hay microorganisms at work manufacturing products. Their importance	2
3	1 7 -23.09. 1 9	Study of the influence of environmental factors on microorganisms and their study. Classification of antibiotics. Ecology. The microflora of the human body. The concept of dysbiosis.	2
4	2 4 -30.09. 1 9	The concept of infection. Infectious processes, infectious ionic diseases, laboratory methods for their diagnosis. Immunity, a brief history . Types of immunity. Nonspecific protective factors of the body. Immune organs Antigens and antibodies. The concept of serological reactions . Immunoprophylaxis, immunotherapy, vaccines and immune serum, their types.	2
5	02. 10 - 07.10. 1 9	Laboratory diagnosis (staphylococcus, streptococcus, breast bacillus) for microorganisms that cause purulent inflammatory processes . Laboratory diagnosis of traumatic infections (tetanus, gas gangrene) , general characteristics of pathogens and laboratory diagnostics	2
6	08-14.10. 1 9	The air-drop infectious diseases common characteristics are . Laboratory diagnostics and general diagnosis of pathogens , pertussis, pneumococcus, meningococcus, tuberculosis, leprosy and white tinomycosis .	2
7	1 5 - 2 1 .10. 1 9	Enterobakteriyalarga general characteristics. Characteristics of escherichiosis, salmonellosis, mummification, abdominal fever and paratypes, pathogens of food poisoning (botulism and head damage). Shigellosis is their common characteristic. Laboratory diagnostics.	2
8	2 2 -28,10. 1 9	Characterization of pathogens of skin diseases . Dangerous infektiyalar : and anthrax brustellez plague, tularemia , and they qo'zg'atuvchilariga s h with laboratory diagnosis.	2

9	10.29.- 04.11. 19	Laboratory diagnosis and characterization of picornoviruses, rhabdoviruses, herpes viruses, retro, hepatitis. Characterization and laboratory diagnosis of ortho, paramyxoviruses.	2
		common	18

Practical training

No.	date	Lesson topic	hour
1	4.09.- 10.09. 1 9	The composition and equipment of bacteriological, virological and immunological laboratories . The concept of microorganisms . I work in a bacteriological laboratory. Methods of studying bacteria. Painting technique, simple painting. Bacterial morphology. **Laboratory work *TMI* No. 1 - *Bacterial bacteria detector.***	4
2	11-17.09. 1 9	Bacteria and their structure. Complex painting of bacteria. The structure of spirochetes, rickettsia, chlamydia and other microorganisms. **Laboratory work of *TMI* No. 2 - *Modern systematics and nomenclature of microorganisms.***	4
3	1 8 - 24.09. 1 9	Morphology, structure, reproduction of viruses . Virus replication methods . Diagnosis of viral infectious diseases . Bacterial cigarettes. **Practical skills No. 6 - *Differentiation of the structure of simple animals and fungi from prokaryotes.***	4
4	2 5 - 01.10. 1 9	Thus, physiology, the cultivation of microorganisms and pure cultures of extraction methods. Methods for the recovery of pure cultures of aerobic and anaerobic bacteria. The use of microorganisms in the identification of waste products (pigments, enzymes, toxins). **Laboratory work No. 3 *TMI- anaerobic bacteria for the extraction of pure kul'turasini modern methods.***	4
5	02. 10 - 08.10. 1 9	The impact of external factors, etc. I, probably, it is the microorganisms and research. Sterilization, disinfection, aseptic and antiseptic. Their use in medicine. Infectious diseases and their laboratory diagnosis. Ecology of microorganisms: water, soil, air and normal human microflora, their significance and research methods. **Laboratory work No. 4, practical skills, No. 2, 3. *TMI- Foundation with a base and immune serum. Diseases of the immune system*.**	4
6	09-15.10. 19	Chemotherapeutic agents. Antibiotics. Methods for determining the sensitivity of microorganisms to	4

		antibiotics. **Laboratory work No. 5** ***TMI- rational visits to bee chemotherapy , historical antibiotics and methods. Mechanisms of the emergence of antibiotic-resistant forms of bacteria.***	
7	1 6 - 2 2 .10. 1 9	Immunity Specific and nonspecific protective factors of the body . Immune organs, toSeptember and B - limfostitlar and their immune response iyalarning Q role receipts . **Lab No. 7.** ***TMI- independent Subject : Ra T himoterapiya visit Zion bee, historical antibiotics and method. Mechanisms of the emergence of antibiotic-resistant forms of bacteria .***	3
8	2 3 - 29,10. 1 9	Antigens and antibodies. Serological reactions. Serologi cal reactions : indirect hemagglutination, KBR, Cumbs reactions . Immunoenzyme, methods PZR. The mechanism of antibody formation. **Laboratory No. 8.** ***TMI - Allergy, allergic reactions , types. The use of allergy tests in medical practice.***	3
9	10.30.- 05.11 . 19	Private microbiology. PUS-u allig'lanish and wound infections , microorganisms that cause disease; staphylococci, streptococci , light, blue pus bacillus, gas from the middle of the grain, paralyzed. **Laboratory work No. 6** ***TMI- Klostridial anae`rob the importance of purulent wound infections and bacterial diseases.***	3
10	06 - 12 .1 1 . 1 9	Airborne diseases : Characterization of the causative agent of diphtheria, pertussis and paracellular cough, tuberculosis, leprosy, actinomycosis, laboratory diagnosis. **Practical skills No. 4.5.** ***TMI- Diagnosis of meningococcal, pneumococcal, legionellosis disease, its significance in practice***	3
eleve n	13-19.11. 19	Intestinal infections of iyalari: Esherixioz, Shigella, Salmonella disease description of rights , laboratory diagnosis. Microorganisms causing food poisoning, laboratory diagnostics. **Practical skills No. 4.5.** ***TMI- iersiniozi loops and klebsiellalar diseases the practical significance of returns.***	3
12	20-26.11. 19	Particularly dangerous infections: cholera, anthrax, characterized by burustellosis and plague, a laboratory diagnosis. **Practical skills No. 4.5.** ***TMI - tularemia and cholera, hemorrhagic fever, pathogenesis, laboratory diagnosis.***	3
thirte en	11/27.- 03/12. 19	Diagnosis and diagnosis of skin and sexually transmitted infections : syphilis, spleen, chlamydia, mopoplasmosis . **Practical skills No. 4.5.** ***TMI- C readings in parts of the United Nations***	3

		nospes IFIK infectious pathogens, pathogenesis, laboratory diagnosis. Ureaplasmosis, hlamidioz, if dnellez qo'zg`atuvchilariga with a, if and laboratory diagnostics.	
14	04 - 1 0 .1 2 . 1 9	DNA - viruses that have characteristics and laboratory diagnosis of the diseases caused by them. **Laboratory work No. 9** ***TMI - Ebola, Lass, Zika viruses, pathogenesis of the disease, laboratory diagnostics*** .	3
fiftee n	11 - 17 .1 2 . 1 9	RNA viruses that have characteristics and laboratory diagnosis of the diseases caused by them. **Practice Exercise 6.** ***TMI - Avian influenza and swine flu and its current problems. Coxsackie and foot and mouth disease*** *viruses* ***, pathogenesis, laboratory diagnosis of the disease*** .	3
16	18 - 2 4 .1 2 . 1 9	Viral infections: laboratory diagnosis of hepatitis viruses and HIV. **Laboratory work No. 10** ***TMI - : pathogens, pathogenesis, laboratory diagnosis of fungal diseases. The value and diagnosis of helminthiases in medical practice.***	3
		common	54

CALENDAR-THEMATIC PLAN

2019-2020 academic year

Department: Microbiology, Virology and Immunology

Science: Microbiology, Virology and Immunology

Faculty: Biomedical course: 3 semester: 5

Semester hours allocated: lectures - 16 ; practical exercises - 7 4

Lecture classes

No.	date	Lesson topic	hour
1	4.09.- 10.09. 19	In purulent inflammation, devastated by microorganisms gr c, if and laboratory diagnostics (staphylococci, streptococci, Pseudomonas aeruginosa). Laboratory diagnosis of wound infections (tetanus, gas gangrene).	2
2	11-17.09. 19	Air - drop in infections Calls to feed atuvchilariga v sec IF. It is recommended for diphtheria and whooping cough, tuberculosis , leprosy and inomycosis . I recommend pathogens of pneumococcus and I ngococcus . Air drops of infection and laboratory diagnosis.	2
3	09/18/09. 19	Intestinal infections - e sherixiozlar, intestinal iersiniozlari, klebsiellyozlar, gr, gr , show and laboratory diagnosis.	2

4	09.25- 30.09. 19	Intestinal infections - Salmonella (typhoid, Paratii) , of Shigella summer , food poisoning (salmonella, botulism, the Proteus, of Staphylococcus) , the V 's show and laboratory diagnostics.	2
5	10/2/08/10. 19	Infektiyalar: dangerous plague and anthrax , brustellez, tularemia , and they qo'zg'atuvchilariga SIF, laboratory diagnosis.	2
6	09-15.10 . 19	Skin and sexually transmitted diseases Calls to feed atuvchilari IF v S i . Disease, spleen, chlamydia, mycoplasmosis. Their laboratory diagnosis.	2
7	16-22.10. 19	Viral infections: viral diseases caused by RNA viruses. Ortomiksoviruslar, paramiksoviruslar, pikornoviruslar, the R abdoviruslar retroviruses, if a s i , laboratory diagnostics.	2
8	23-29.10. 19	Viral infections: diseases caused by DNA-saving viruses. gerpesviruslar, poksviruslar , gepatotropviruslarga description , laboratory diagnostics.	2
		common	16

Practical training

No.	date	Lesson topic	hour
1	4.09.- 10.09. 19	Microorganisms causing purulent-inflammatory diseases: laboratory diagnosis of diseases caused by staphylococci, streptococci, breast bacillus. Traumatic infections : a description of the causative agents of tetanus and gas gangrene and laboratory diagnosis. **Practical skills No. 4, 5.** ***TMI - conditionally pathogenic anaerobic cocci (peptococci, peptostreptococci, veylonella) with their surgical and gynecological diseases. Klostridi is not part of the generation of b- matriarchal bacteria (bakteroidlar, fuzabakteriyalar, privavtellalar) surgical practice value.***	5
2	11-17.09. 19	Air-borne infections: diphtheria, pertussis cough and Ob convulsive cough , pneumococcal, meningococcal disease diagnosis. **Practical skills No. 4.** ***TMI-Hemophilus bacteria (flu stem cells), their practical significance, diagnostics.***	5
3	09/18/09. 19	Air-drop infections: tuberculosis , leprosy, actinomycosis , klebsiellyozlar qo'zg'atuvchilariga descripti on . Laboratory diagnosis of the diseases that they	5

		cause. **Practical skills No. 4.** ***TMI-Atypical mycobacteria and their significance in practice.***	
4	09.25-30.09. 19	Intestinal infections: Escherichia coli, iersiniyalar and Shigella disease caused by descriptive and laboratory diagnosis. **Talent number 5.** ***TMI-optional conditional patogenentero Bhakti implies descendants (Enterobacter, S itrobakter, Morgonella, Xafna, Proteus and head.) Importance of medical practice and bacteriological diognostikasi.***	5
5	10/2/08/10. 19	Korintifi Paratii and B are the cause of pathogens and diseases. Their description and laboratory diagnosis. **Lab 12.** ***TMI. Campylobacter, Helicobacteria and their practical significance.***	5
6	09-15.10. 19	Microorganisms causing food poisoning: laboratory diagnosis of salmonella, botulism, protein, staph infections. **Practical skills No. 4, 5.** ***TMI-food poisoning by fungi and bastilias (mycotoxicosis, mystetism) and their diagnosis.***	5
7	16-22.10. 19	Particularly dangerous zoonotic infections: a description of the causes of anthrax, plague, cholera, burustellosis and tularemia and laboratory diagnosis . **Practical skills No. 4, 5.** ***TMI - especially dangerous viruses Ebola, Zika and others.***	5
8	23-29.10. 19	Skin and sexually transmitted infections: description and diagnosis of pathogens of syphilis, sulfates, chlamydia , mycoplasmas . **Practical skills No. 4, 5.** ***TMI - chlamydia, Trichomonas, soft chancre and other skin and sexually transmitted infections, their description , laboratory diagnostics.***	5
9	10.30.-05.11. 19	Vector-borne infections: rikketsiyalar (hay fever, Q - isitmasi) describing the incidence of borellioz (TIF) and laboratory diagnosis. **Laboratory work 14** . ***TMI-Rikketsiozlar. Laboratory diagnosis of cancer of paraxismal rickettsiosis and boronellosis. Laboratory diagnosis of morphology, structure, spreading diseases of TMI-leptospirosis and borelliosis.***	5
10	06 - 12 .1 1 . 1 9	Viral infections: ortomiksoviruslar and paramiksoviruslar characterization a nd laboratory diagnosis. **Practical skills No. 6.** ***TMI - poultry and cannons " swine flu and its current day- time problems. Diagnosis of bovine viruses , togoviruses, arenoviruses, reoviruses, vesicular stomatitis, adenoviruses, parvoviruses and their virological diagnosis.***	5
eleven	13-19.1 1 . 1 9	Viral infections: a description of picarnoviruses, rhabdoviruses and laboratory diagnosis. **Practical skills No. 6.** ***TMI- enteroviruses.***	4

12	20 - 2 6 .1 1 . 19	Viral infections: gerpesviruslar, poksviruslar viruses are a family of characteristics and laboratory diagnosis of the diseases caused by them. **Practical skills No. 6.** ***TMI - flaviviruses (yellow fever, fever, Japanese encephalitis viruses) and their diagnosis. Microbiological diagnosis of rhinoviruses, aftoviruses, reoviruses, lymphogranulomatosis.***	4
thirteen	11/27/03/12. 19	Viral infections: characterization of hepatitis viruses and laboratory diagnosis of their diseases . **Practical skills No. 6.** ***TMI - Hepatotropvirus (HepatitF, TTV, etc.)***	4
14	04 - 10 .1 2 . 1 9	Characterization of retroviruses and laboratory diagnosis of the disease . Infectious diseases. Infectious diseases. **Laboratory work No. 16.** ***RMI and DNA sequencing viruses TMI-Oncogen, their virological diagnosis.***	4
fifteen	11 - 17 .1 2 . 1 9	Laboratory diagnosis of fungal diseases (superficial and deep mycotic pathogens) **Laboratory work No. 19.** ***TMI-pathogenic fungi. They are diagnosed with aspergilliosis, candidal pneumostistosis.***	4
16	18 - 2 4 .1 2 . 1 9	The simplest animals: tripanasomalar, bolantidiy, lyambliya, amoebic dysentery , trichomoniasis of the female " g " atuvchilari and laboratory diagnostics. **Laboratory work No. 20.** ***TMI Infectious Diseases Infectious Diseases.***	4
		common	74

CALENDAR-THEMATIC PLAN

2019-2020 academic year

Department: Microbiology, Virology and Immunology

Science: Microbiology, Virology and Immunology

Faculty: Biomedical course: 2 semester: 4

16 semester hours allocated for: lectures - practical classes - 7 4

Lecture classes

No.	date	Lesson topic	hour
1	03-08.02. 20	Microbiology of medicine. The purpose, objectives and stages of development of microbiology, virology, immunology. Systematization, classification of microorganisms. Bacterial morphology.	2
2	10-15.02 . 20	The structure and chemical composition of the bacterial cell. Importance in microbiological practice. Morphology and features of microorganisms : spirochetes, rickettsia, actinomycetes , chlamydia, mycoplasmas, fungi and simple animals.	2
3	17-22.02. 20	Microbiology Physiology - nutrition, respiration, growth and reproduction, food environment. Products of microorganisms formed in the life.	2

4	02.24.-29.02. 20	The influence of environmental factors on microorganisms. Chemical oterapevtik drugs and antibiotics. Ecology of microorganisms. Water, soil, air microflora. Normal microflora of a person.	2
5	07/02/03. 20	General virology. Structure, reproduction, growth of viruses. Methods for isolating the virus. Bacteriophages, structure, secretion and use.	2
6	09-14.03. 20	The concept of infection. Infectious processes, infectious diseases, laboratory methods for their diagnosis. Genetics of microorganisms. Variability, their practical significance.	2
7	16-21.03. 20	Immunity. A brief history . Types of immunity. Specific protective factors of the body. Immune organs Antigens and antibodies. Anti O product with transmission mechanisms. The concept of serological reactions .	2
8	23 28 +0.03. 20	Immune reactions of the cellular and humoral type. Stem T and B lymphocytes c and their subpopulations . Pathological conditions of the immune system. Methods for assessing the immune system. Immunization, vaccines and immune serum.	2
		common	1 6

Practical training

No.	date	Lesson topic	hour
1	03-08.02. 20	Microbiological laboratories and their equipment. Compliance with laboratory rules when working with living microorganisms in microbiological laboratories. The morphology of bacteria. Microscopic research methods . Embroidery technique . Simple drawing method. **Laboratory No. 1.** ***TMI - beryllium identifier Scientists who contribute to the development of microbiology, immunology and virology in Uzbekistan .***	5
2	10-15.02 . 20	Ultrasound, the chemical composition of microorganisms. Elements of a bacterial constant structure: new cleoid, cytoplasm, crustaceans (hu wall and S P M). Unstable structural elements: spores, capsules, mosquitoes, inserts and much more. Ways to identify them. Advanced drawing methods. **Laboratory work No. 2 .** ***TMI - Prions (low vision infectious infections). Their importance in practice.***	5
3	17-22.02. 20	Perfumes, rickettsia, actinomycetes, chlamydia, mycoplasmas, fungi, simple animals, their morphology and	5

		structure. Ways to study them. **Laboratory work No. 3, 4. *TMI - fungus and their genetics.***	
4	02.24.-29.02. 20	Bacterial physiology: nutrition, respiration, growth, reproduction. Food environments. Bacterial waste products. Flavors, pigments, enzymes, toxins, and REMOVE . Methods of biochemical identification of bacteria . **Laboratory work No. 5.7. *TMI - Enzymatic processes in bacteria. Environmental pollution by biological and technological waste.***	5
5	07/02/03. 20	Methods and stages of separation of pure cultures of aerobic and anaerobic strains of bacteria and their identification. **Laboratory work No. 6. *TMI - Microbiology science nanotehnologiyaning is used in the search .***	5
6	09-14.03. 20	The secret of external environmental factors of microorganisms : sterilizasiya , disinfection , aseptic an d antiseptic . **Practical skills No. 1. *TMI- biological materials, bacterial counts, human biochemical methods for identifying SSID Q care. Hirurgik, obstetric and gynecological and adjacent parts of the sanitary and bacteriological analysis and assessment of h .***	5
7	16-21.03. 20	Normal microflora of the human body and its significance. Dysbacteriosis, etiology of its occurrence, conditions, principles of prevention and treatment. Methods of bacteriological diagnosis of dysbiosis. **Practical Skills No. 3. *TMI - Computers and phones are the number of bacteria people are BBC.***	5
8	23 28 .03.20	Sanitary Microbiology. The microflora of water, air, soil and habitats. Sanitary indicator of microorganisms. Microbiological aspects of the prevention of environmental pollution. **Practical skills No. 2. *TMI - Bioplastics of bacteria.***	5
9	30. 03.- 04.04 . 20	The influence of biological factors on bacteria. Oterapevtik drugs, antibiotics, chemical characteristics and their mehanizimlari effects. Methods for studying the resistance of bacteria to antibiotics . **Laboratory oratorio building number 8 . *TMI - monoclonal antibodies, methods for their preparation and use in medical practice.***	5
10	06-11.04. 20	Infectious diseases, infectious diseases. Methods of microbiological diagnosis of infectious diseases. Genetics of microorganisms. **Laboratory work No. 9. *TMI - Genetic engineering and its application in medical practice.***	5
eleve n	13-18.04. 20	General Virology: strukuturasi, morphology, reproduce ksiya has a chemical composition. Methods for isolating viruses . Indication and identification	4

		of viruses . Enzymes. The use of bacteria in medical practice. **Laboratory work No. 1 0 .** ***TMI - interferon and itokines, synthesis, mechanism of action.***	
12	April 20-25. 20	Immunology Immune organs Special and non-specific protective factors of the body and their mechanisms. Phagocytosis, complement, lysosim and interferon and much more. Identification Methods. **Laboratory work No. 1 .** ***TMI - the formation of the immune system and age change.***	4
thirteen	04/27/02/05. 20	Specific immune factors. Antibody. Antigen. Bacteria, viral antigens. Antigen and antibody reactions. Methods for assessing the immune system. **Laboratory work No. 2 .** ***TMI - immunopathology, its role in the origin of tumor cells. The origin, course, diagnosis of autoimmune diseases.***	4
14	04-09.05. 20	Seroidentification and serodiagnosis of infectious diseases. IGF, immunolysis, hemolysis, bacteriolysins. KBR, direct and indirect in situ hemagglutination reactions . The mechanisms, principles and practical significance of the ingredients. **Laboratory work No. 13.** ***TMI - modern methods for the diagnosis of fungi and simple animals .***	4
fifteen	11-16.05. 20	Serodiagnosis of infectious diseases. Direct and indirect enzyme-linked immunosorbent assay (ELISA) . Immunoblotting reaction, mex anxiety, practical significance. **Laboratory work No. 15.** ***TMI - the use of ELISA, immunoblot, PCR, radioimmune reactions in the diagnosis of infectious diseases, detection methods .***	4
16	May 18-23. 20	Immunotherapy and immunoprophylaxis. Immunobiological preparations: vaccines, serum, immunoglobulins, cytokines. Acquisition and use. **Laboratory work No. 17.** ***TMI is the molecular mechanism for controlling opportunistic infections in immunodeficiency .***	4
		common	7 4

CALENDAR-THEMATIC PLAN

201 9 -2020 academic year

Department: Microbiology, Virology and Immunology

Subject: Microbiology, Virology and Immunology

Faculty: Medical and Medical-pedagogical course: 2 semester: 3

Chase Live Semester: Lectures - 18 ; practical exercises - 45

Lecture classes

No.	data	Topic Title	clock

1	4.09.-10.09. 1 9	Medical Microbiology. Tselim, Zadar stages of development "is the subject of microbiology, virusologii, immunology." Systematics and classification of microorganisms. Bacterial morphology.	2
2	1 1-17.09. 1 9	The structure of bacterial cellulose and chemical composition , size. The value of practical microbiology. The morphology of microorganisms and their feature: spiroxets, rickettsia, actinomycetes, chlamydia, mycoplasmas, fungi, prostate.	2
3	09/18/09. 1 9	Physiology of microorganisms - herbivores, diets, truths and chances . Nutrient The production of microorganisms.	2
4	01/25/10. 1 9	Infections in microorganisms. Chemotherapeutic drugs and antibiotics.	2
5	02. 10 -08.10. 1 9	Ecology of microorganisms. The microphone is water, soil, vacuum. Normal microflora of a person.	2
6	09-15.10. 1 9	General virology. The structure, reproduction, methylation of viruses. The structure of the bacteriophage, reproduction, practical use.	2
7	16-22.10. 1 9	Pneumonia with infection. Infectious process, infectious diseases ix laboratory diagnostic method. Genetics of microorganisms. Changing microorganisms its practical significance.	2
8	23-29.10 . 1 9	Specific and nonspecific human protection factories. Immunity. Types of immunity. Organic immunity. Antigen and antibody.	2
9	30.10.- 0 5 .11. 19	The concept of a serological reaction. Cellular and humoral immune-type reactions. System T i V lymphocytes and IX subpopulations.	2
		inquiry	18

Practical employment

No.	**data**	Topic Title	clock
1	4.09.-10.09. 1 9	Microbiological, virological laboratory ix equipment. Pravia Rabate Lab. Bacterial morphology. Microscopic research methods. Prigov technique to the detection of smear. Here is the technique of the district. **Laboratory number 1. *C R C - Violation of the bacterial function "Bergey".***	3
2	1 1-17.09. 1 9	Ultrasonic microorganisms, chemical compounds, methods. Post-element bacterial elemental bacteria: nucleoid, cytoplasm, stench (clonal fibers and PCM). Metodi County slide show. **Laboratory number 2. *C R C - Zaslugi uchyonyx He is zbekista or vnyosshix vklad***	3

		Development microbiologist , immunologist II virusologi .	
3	09/18/09. 1 9	Ultrasonic microorganisms. Continuous structural elements: spore, capsule, yugutiki, insertion and others. Ix study methods. **Laboratory number 3. *SRS - Polymer nanotechnology and microbiological practice.***	3
4	01/25/10. 1 9	The structure of microorganisms (spiroxets, rickettsia, actinomycetes, chlamydia, mycoplasmas, fungi, prostheses), ix morphology. Ix research methods. **Laboratory number 4. *KRK - Prions (eng , shale infectious part - protein frequency), IX practical value.***	3
5	02. 10 -08.10. 1 9	Bacterial physiology: pituitary, diarrhea and truth. Nutrient **Laboratory number 5** . ***C R C - Bacterial bacteria.***	3
6	09-15.10. 1 9	Identification of cultivated aerobic and anaerobic bacteria using the ix method. **Laboratory number 6** . ***SRS - Bacterial contamination of telephones and computers.***	3
7	16-22.10. 1 9	The bacteriophage is produced by life bacteria. Fermented, pigmented, toxic, aromatic vesicles, etc. **Laboratory No. 7. *C R C - F is an erotic process that protects bacteria. Learn more about biology and technology* .**	3
8	23-29.10. 1 9	Infections in microorganisms: sterilization, disinfection, aseptic and antiseptic. Classification of chemotherapeutic drugs, antibiotics and treatment methods. **Laboratory of work No. 8 *C R C - Biochemical methods of impregnation of biological material with pollutants. Sanitary and bacteriological diseases and hernia surgery, obstetric and gynecological and auxiliary departments.***	3
9	30.10.- 0 5 .11. 19	Ecology of microorganisms: abandoned, vodka, soil and normal microflora . **Prakticheskiy Navy No. 2 *CRC - Genetic engineering eyo primenenie medical practice.***	3
10	0 6- 1 2,1 1 . 1 9	Infectious disease, infectious process. Diagnostic methods for infectious diseases. Genetics of microorganisms. **Laboratory study No. 12 - *Endogenous parasitic disease, classification, pathogenesis, laboratory diagnosis. Genetic group.***	3
eleven	13-19.1 1 . 1 9	General virology: morphology, structure, reproduction, chemical infections. Bacteriophages. Methods for isolating	3

		viruses. **Lab # 10** ***C R C - Formulating the immune system and replacing your eyes.***	
1 2	20-26.1 1 . 19	The concept of immunity. Types of immunity. Organic immunity. Specific and non-specific factorial defense organizations, ix **Laboratories No. 11** . ***C R C - Definition of autoimmune diseases, specification, diagnosis. The relationship of the immune system with gradients and parasitic diseases.***	3
1 3	2 7 .11.- 0 3 .12. 19	Antigen and antibody. Serological reactions. Vaccines and serum immunity. Ix receipt and application. **Laboratory No. 14** ***CRC - Interferons and cytokines, synthesis, production mechanism.***	3
1 4	0 4-10.1 2 . 1 9	Subpopulation of T and B lymphocytes i ix. SD markers. Humoral and cellular types of immune responses. **Laboratory work No. 13** ***CRC - Primer for the diagnosis of infectious diseases ELISA, immunoblots, PCR, radioimmune reagent, procedure.***	3
1 5	1 1- 1 7.1 2 . 1 9	Immunodeficiency (congenital, acquired). Allergy and allergic reactions. Oncology and immunity. Assessment of the immune status of the body. **Laboratory work No. 15** ***CRC - Immunopathology, Intensity of opiate colitis. The molecular mechanism of regulation of opportunistic infections in immunodeficiencies.***	3
	inquiry		45

CALENDAR-THEMATIC PLAN

201 9 -2020 academic year

Department: Microbiology, Virology and Immunology

Subject: Microbiology, Virology and Immunology

Faculty: Medical and Medical-pedagogical course: 2 semester: 4

Chase Live Semester: Lectures - 18; practical exercises - 45

Lecture classes

No.	data	Employment Topics	clock
1	03-08.02. 20	Characterization and laboratory diagnosis of microorganisms causing a purulent - inflammatory process (staphylococcus, streptococcus, synovial larynx) and rheumatic infection (drying, gas gangrene).	2
2	10-15.02 . 20	Features pathogens vozduschno - droplet infection. Disease, diarrhea, snail, pneumococcus, meningococcus, tuberculosis, leprosy. Laboratory diagnosis of abdominal infection	2

3	17-22.02. 20	Intestinal infections-esherexioses, mild hemorrhoids, Klebsiellosis, salmonellosis, shigellosis and ix are characteristic. Laboratory diagnostics.	2
4	02.24.-29.02. 20	Microorganisms, viscous cavities: salmonellosis, botulism, protein, staphylococcus and other infections, laboratory diagnostics.	2
5	07/02/03. 20	Characterization, laboratory diagnosis of pathogens of a particularly infectious infection: cholera, anthrax, brucellosis, tularemia and plague.	2
6	09-1 4.03. 20	Characteristics of causative agents of skin and venereal diseases. Laboratory diagnosis of vomiting, syphilis, gonorrhea, chlamydia, mycoplasmosis.	2
7	16-21.03. 20	Viral infection. Characterization, laboratory diagnosis of diseases caused by the sodium RNA transporter of the virus: ortho-, para-, pico-, rhabdoviruses.	2
8	23 28 +0.03. 20	Viral infection. Characterization, laboratory diagnosis of diseases caused by DNA-sodium transporter virus: herpes viruses, poxviruses.	2
9	23-28.03. 20	Viral infection. Characterization, laboratory diagnosis of hepatotropic viruses, retroviruses.	2
		inquiry	18

Practical employment

No.	data	Employment Topics	clock
1	08/03/02.20	Characteristics of the laboratory diagnostic zabolevaniy, vyzvannyx vozbuditelyami gnoyno - vospalitelnyx zabolevaniy: staphylococci, streptokokkami, sinegnoynoy palochkoy. **Practical fleet number 5. *SRS - pathogenic anaerobic cocci (peptococci, peptostreptococci, veylonella) and importance in surgery and gynecological diseases. Infections, symptoms and symptoms of diabetes, pathogenesis and laboratory diagnosis.***	3
2	10-15.02 . 20	X Characterization and laboratory diagnosis of proponents of wound infection: lips. Gangrene, tetanus, Practical Fleet **No. 4 *CPC - Respiratory: bronchitis, pathogenesis and laboratory diagnosis. Hemophilia bacteria (hollow inflorescences, soft chancre finder), ix practical significance, diagnosis.***	3
3	17-22.02. 20	Characteristics of a hollow-drop infection: diphtheria, cochlea and paracocclusion, pneumococcus, meningococcus, diagnosis of the caused. Laboratory diagnostics. **Practical fleet number 4 . *SRS - interdisciplinary infectious frequency in pediatric practice, pathogenesis, laboratory diagnosis.***	3
4	02.24.-29.02. 20	X characteristic voids - drip infections: tuberculosis, leprosy, actinomycosis , Klebsiellosis and diagnosis	3

		caused. **Practical fleet number 4.** ***SRS - Atypical mycobacteria and intensity in practice.***	
5	07/02/03. 20	X Characteristics of personal infection agents: acne, dysentery and ixinia laboratory diagnosis. **Practical fleet number 5.** ***CPC - microorganisms for gastritis, ulcerative colitis and colitis, pathogenesis, laboratory diagnosis. Campylobacterium, Helicobacterium and ix Practical Importance.***	3
6	09-14.03. 20	Characteristics and laboratory diagnostics caused by the proctor of the bushy type, paratypes A and V. **Practical fleet No. 4.5** ***SRS - Microorganisms for glomerulonephritis, endocarditis, ulcerative colitis.***	3
7	16-21.03. 20	Л aboratornaya diagnostic microorganisms, vyzyvayushchix pishchevye otravleniya: salmonelleza, botulism, prosthetics, staphylococcus I and others. **Practical fleet No. 5.** ***SRS - Diareegenne viruses, classification, pathogenesis, laboratory diagnostics.***	3
8	23 28 +0.03. 20	Characteristics and laboratory diagnostics of agents of especially dangerous infections: Siberian bulls, plague, brucellosis, tularemia, cholera. **Practical fleet No. 4.5** . ***E virus , Lassa, Zika, pathogenesis zabolevaniya Laboratory diagnosis.***	3
9	30. 03.- 04.04. 20	Characterization and laboratory diagnosis of pathogens of cutaneous-venereal zololevias: syphilis, goon , chlamydia, mycoplasmosis . ***SRS*** **No. 4 -** ***Long - term infection, pathogenesis, laboratory diagnosis. Diagnosis of pathogenesis, laboratory diagnosis of non-mucosal infections of the urinary organisms.***	3
10	06-11.04. 20	X arakteristika Laboratory diagnostic transmissivnyx infektsiy: rikketsiozov (sypnogo Category Ku-lixoradki) , borelliozov (TIF vozvratnyy). ***CPC*** **№4** ***CPC - hemorrhagic acid bleeding, pathogenesis, laboratory diagnostics. Morphology, structure, increased prevalence of leptospirosis, diseases caused, laboratory diagnostics.***	3
eleven	13-18.04. 20	Characterization and laboratory diagnosis of viral infections: ortho-, para-, picar-, rhabdoviruses. **Laboratory number 18.** ***SRS - Influenza and I Influenza and problems.***	3
12	April 20-25. 20	X Characterization and laboratory diagnosis of viral infection: herpes, poxoviruses. **Practical fleet number 6.** ***CDS - typical herpes viruses, spread, pathogenesis, laboratory diagnosis.***	3
thirteen	04/27/02/05. 20	Characterization of viral hepatitis and retroviruses laboratory diagnosis caused by it. Infectious	3

		nosocomial infection. **Laboratory work No. 16** ***CPC - Respiratory co-infection of HIV infection, pathogenesis, laboratory diagnostics.***	
14	04-09.05. 20	L aboratornaya diagnosis of zabolevaniy, vyzyvannyx Gribaldi (myxosis verxnostnye glubokie) . **Laboratory number 19 .** ***CPC - determinants of the urinary tract, pathogenesis, laboratory diagnosis.***	3
fifteen	11-16.05. 20	Laboratory diagnosis of prostheses: trypanasoma, bolantidia, lambl, dysentery, amoeba, trichomoniasis. **Laboratory number 20.** ***CPC - Laboratory diagnosis of infectious diseases (iatrogenic) ix Diagnosis Helminths IX in medical practice and diagnosis.***	3
		inquiry	45

CALENDAR-THEMATIC PLAN
201 9 -2020 academic year
Department: Microbiology, Virology and Immunology
Subject: Microbiology, Virology and Immunology
Faculty: Medical and preventive course: 3 semester: 5
Chase Live Semester: Lectures - 18; practical application - 72
Lecture classes

No.	data	Employment Topics	clock
1	4.09. -10.09. 1 9	Characterization and laboratory diagnosis of microorganisms causing a purulent - inflammatory process (staphylococcus, streptococcus, synovial larynx) and rheumatic infection (drying, gas gangrene).	2
2	1 1-17.09. 1 9	X Characteristics and laboratory diagnosis of vaccination - celiac disease (diphtheria and cochlea, tuberculosis, leprosy, actinomycosis, pneumococcus and meningococcus).	2
3	09/18/09. 1 9	Diagnosis and laboratory diagnosis of erythematous infectious, soft hierarchy, glomeruli.	2
4	01/25/10. 1 9	Laboratory diagnosis of acute infections: salmonella (typhoid cyst, paratyphoid), shigelli.	2
5	02. 10 -08.10. 1 9	In the course of abstinence: salmonellosis, botulism protein, staphylococcus and other infectious), laboratory diagnostics.	2
6	09-15.10. 1 9	Characterization and laboratory diagnosis of agents of especially open infection: cholera and Siberian-brucellosis, tularemia and plague.	2
7	16-22.10. 1 9	X arakteristika ozbuditeley kojno-venericheskix zabolevaniy: syphilis, go Noreen, chlamydia, mycoplasmosis. Laboratory diagnostics.	2
8	23-29.10. 1 9	Viral infection: characteristic diseases caused by the sodium RNA virus carrier (orthomyxovirus,	2

		paromicovirus, picornivirus, rhabdovirus, retrovirus). Laboratory diagnostics.	
9	30.10 .- 0 5 .11. 19	Viral infection: characteristic diseases caused by the sodium-DNA transporter of the virus (herpes virus, poxviruses, hepatotropic). Laboratory diagnostics.	2
		inquiry	18

Practical employment

No.	data	Employment Topics	clock
1	4.09.-10.09. 1 9	The causative agents of purulent - inflammatory diseases: staphylococci, streptococci, sonsongue and laboratory diagnostics. Diagnosis of a wound infection: gonorrhea, gangrene, laboratory diagnosis. **Practical fleet number 4.5 . *SRS - pathogenic anaerobic cocci (peptococci, peptostreptococci, veylonella) and importance in surgery and gynecological diseases. Intravenous anaerobic bacterial, neurotoxic agent in the stick "Clostridium" (bacteroid, fusobacteria, preotella).***	5
2	1 1-17.09. 1 9	Diagnosis of diphtheria, cochlea and paracellular infection, pneumococcus, meningococcus and ix laboratory diagnosis. **Practical fleet number 4 . *SRS - Hemophilus bacteria (hollow inflorescence) in practice, diagnosis.***	5
3	09/18/09. 1 9	The causative agents of virulent-droplet infection: tuberculosis, leprosy, actinomycosis , characteristics of Klebsiellosis and laboratory diagnostics. **Practical fleet number 4. *SRS - Atypical mycobacteria, practical diagnostics and ix laboratory diagnostics .***	5
4	01/25/10. 1 9	Vozbuditeli kishechnyx infectious: E. coli - vozbuditeli kishechnyx eshirixiozov iersiniozov, shigella of their characteristics of Laboratory diagnostics. **Practical fleet number 5. *Srs . Campylobacterium, Helicobacterium and ix Practical Importance.***	5
5	02. 10 -08.10. 1 9	Characterization of the labyrinth, type A and V ix, and laboratory diagnostics. **Laboratory No. 12. *SRS - enterobacterial pathogenic facultative bacteria of enterobacteria (Enterobacter, Citrobacter, Morgonella, Hafna, etc.). It is a diagnostic tool in medical practice and bacteriology.***	5
6	09-15.10. 1 9	Vacuum cleaners: characteristics of the evaporator, salmonella, botulism, protein, staphylococcus and other infections and laboratory diagnostics and	5

		prevention. **Practical fleet number 4.5.** ***SRS - Diagnosis of cataract surgery, viral flu and bacilli (mycotoxicosis, mystetism) and IX diagnostics.***	
7	16-22.10. 1 9	Vegetable zoonotic infection: anthrax, plague, brucellosis, cholera, tularemia and laboratory diagnosis. **Laboratory number 13.** ***CPC - intensity in medical practice and bacteriological diagnosis of dysentery, amoeba, parahemolytic, vibra HAG.***	5
8	23-29.10. 1 9	Vertebral diseases: syphilis, gonorrhea, chlamydia, characteristic of mycoplasmosis, laboratory diagnosis. **Laboratory number 4.** ***CPC - classification and laboratory diagnosis of chlamydia, trichomoniasis, mycoplasmosis, soft chancre, etc. Pathogens of skin-venereal infection.***	5
9	30.10.- 0 5 .11. 19	Vector-borne infections with infections: rickettsioses (type syndrome, mucous membranes), borellioses (virulent type) and laboratory diagnosis. **Laboratory number 14** . ***CPC - morphology of leptospirosis and borelliosis, structure, prevalence, caused diseases, laboratory diagnostics. Rikketsiozy. Corticosteroids, rickettsioses and rejection of boronellosis, laboratory diagnosis.***	4
10	0 6- 1 2,1 1 . 1 9	Respiratory viral infection: ortho-, paramyxovirus, IX-characteristic, laboratory diagnosis. **Practical fleet number 6.** ***SRS - Influenza and I Influenza and problems. Bunaviruses, togoviruses, arenoviruses, reoviruses, vesicular vesicular stomatitis, adenoviruses, parvovirus and IX virological diagnostics.***	4
eleven	13-19.1 1 . 1 9	Virusnye infection: semeystvo pikorno-, I rabdovirusov IX characteristics, Laboratory diagnosis. **Practical fleet number 6 .** ***Diagnosis of CPC - flaviviruses (gelatin fever, dengue dichloride, viral envelope). Rhinovirus, aftovirus, lymphogranulomatosis, microbiological diagnosis.***	4
12	20-26.1 1 . 19	Viral infection: semeniviruses and poxviruses, diseases caused by them, laboratory diagnostics. **Practical fleet number 6.** ***SRS - oncogenic RNA and DNA of a sterile virus, ix virological diagnostics.***	4
thirteen	2 7 .11.- 0 3 .12. 19	Viral infections: viral hepatitis, characteristic symptoms of viral infections, laboratory diagnosis. **Practical fleet number 6.** ***SRS - hepatotropic virus (hepatitis F , TTV, etc.)***	4

14	0 4-10.1 2 . 1 9	Viral infection: families of retroviruses, characterization, laboratory diagnosis. VBI runs on VBI. **Laboratory No. 16. *SRS - Oobo dangerous outcrops of Ebola, Zika and others.***	4
fifteen	1 1- 1 7.1 2 . 1 9	Laboratory diagnosis of fluorescence gradients (IX) . **Laboratory number 19. *Srs - . The causative agent of mushrooms. Diagnosis of aspergillosis, candidiasis, pneumocystis insufficiency.***	4
16	1 8-24.1 2 . 1 9	Pathogenesis: trypanasomy, bolantidia, giardia, dysentery, amnesia, trichomoniasis and ix laboratory diagnosis. **Laboratory number 20. *SRS is an infectious nosocomial infection.***	4
		inquiry	72

CALENDAR-THEMATIC PLAN

2019-2020 academic year

Department: Microbiology, Virology and Immunology

Subject: Microbiology, Virology and Immunology

Faculty: Medical and preventive course: 2 semester: 4

Chase Live Semester: Lectures - 18; practical application - 72

Lecture classes

No.	data	Employment Topics	clock
1	03-08.02. 20	Medical Microbiology. Tselim, Zadar stages of development "is the subject of microbiology, virusologii, immunology." Systematics and classification of microorganisms. Bacterial morphology.	2
2	10-15.02 . 20	Morphology, ultrasound, chemical composition, size and prokaryotic lesions and eukaryotic lesions . The value of practical microbiology. Microscopic research methods.	2
3	17-22.02. 20	Physiology of microorganisms - nursery, diarrhea, truth and dilemma . Nutrient The production of microorganisms.	2
4	02.24.-29.02. 20	General virology. The structure, reproduction, methylation of viruses. The structure of the bacteriophage, reproduction, practical use.	2
5	07/02/03. 20	Pneumonia with infection. Infectious process, infectious diseases ix laboratory diagnostic method. Genetics of microorganisms. The structure is genetic in the genetic apparatus. The generation and modification of microorganisms. Practical value.	2
6	09-14.03. 20	Infections in microorganisms. Chemotherapeutic drugs and antibiotics.	2
7	16-21.03. 20	Ecology of microorganisms. The microphone is water, soil, vacuum. Normal microflora of a person. Assessment of sanitary-bacteriological pixels.	2

8	23 28 +0.03. 20	Immunity. Types of immunity. Immune organs Antigen and antibody. The mechanism of the image of antibodies. The concept of a serological reaction.	2
9	30. 03.- 04.04. 20	Cellular and humoral immune-type reactions. System T i V lymphocytes and IX subpopulations. Method Method IX. Vaccines and immune syrups.	2
		inquiry	18

Practical employment

No.	data	Employment Topics	clock
1	03-08.02. 20	Microbiological laboratory ix Equipment. Add to my notebook Bacterial morphology. Microscopic research methods. Technique of turning. Here is the technique of the district. **Laboratory number 1. *C R C - Classification of microorganisms in the "Bergey".***	5
2	10-15.02 . 20	Ultrasonic microorganisms, chemical compounds, methods. Post-element bacterial elemental bacteria: nucleoid, cytoplasm, stench (clonal fibers and PCM). Continuous structural elements : spore, capsule, yugutiki, insertion and others. Ix study methods. Vocabulary coloring method i. **Laboratories No. 2 , 3 . *SRS - Zaslugi uchyonyx He is zbekista or vnyosshix vklad Development of a microbiologist , immunologist II virusologi .***	5
3	17-22.02. 20	Spiroxettes, rickettsia, actinomycetes, chlamydia, mycoplasmas, hernias, prostheses, morphology and structure. Ix study methods **.** The structure of the bacterial secretory method of oocytes. **Laboratory number 4. *CRC - genetic engineering and research in medical practice.***	5
4	02.24.-29.02. 20	Bacterial physiology: pituitary, diarrhea and truth. Nutrient The bacteriophage is produced by life bacteria. Fermented, pigmented, toxic, aromatic vesicles, etc. The method of biochemical identification is bacterial. **Laboratories No. 5 , 7 . *C R C - F is an erotic process that protects bacteria. Learn more about biology and technology .***	5
5	07/02/20.20	Identification of cultivated aerobic and anaerobic bacteria using the ix method. **Laboratory number 6. *SRS - Biological chemistry of biodegradable materials. Sanitary and bacteriological diseases and hernia surgery, obstetric and gynecological and auxiliary departments.***	5
6	09-14.03. 20	Infections in microorganisms: sterilization, disinfection, aseptic and antiseptic . Viral biological factors in bacteria. Classification of chemotherapeutic drugs, antibiotics and the mechanism of	5

		dehydration. Bacterial bacteria to antibiotics. **Laboratory number 8 .** ***C R C - Bacterial contamination of telephones and computers. Nanotechnological application in microbiological applications.***	
7	16-21.03. 20	Ecology of microorganisms: vacuum, water, pillar and microflora, Normal human microflora. Dysbacteriosis Assessment of sanitary-bacteriological pixels. **Laboratory number 9 .** ***CRC - Bacterial bacteria. Genetic group.***	5
8	23 28 .03.20	Infectious disease, infectious process. Microbiological methods for the diagnosis of infectious diseases. Genetics of microorganisms. **Practical fleet number 3.** ***C R C - Prions (eng, shale infectious part - protein frequency), ix practical significance. Genetic engineering and medical sciences in medical practice.***	5
9	30. 03.- 04.04. 20	General virology: morphology, structure, reproduction, chemical infections. Methods for isolating viruses. Indication and identification of viruses. Bacteriophages. Bacteriophages are primitive in medical practice. **Laboratory number 10.** ***C R C - Interferons and cytokines, synthesis, production mechanism.***	4
10	06-11.04 . 20	Immunology Organic immunity. Mechanisms of stimulation of non-microbiological factor . Phagocytosis, complement, lysohem and interferon and others. Methods ix impedion. **Laboratory number 11.** ***CRC - immunodeficiency and immune system Diagnosis of autoimmune diseases, technical conditions, diagnostics.***	4
eleven	13-18.04. 20	Specific factor immunity. Autoantibodies. Antigen. Bacterial antigens and viruses. Seroidentification and serodiagnosis. The reaction of agglutinates and preet. The mechanism, ingredient, principles and practical principles. **Laboratory No. 17. C R C -** ***monoclonal antibodies, metric polyenes and ix primers in medical practice.***	4
12	April 20-25. 20	Immunodefitsity. Immunotherapy and immunoprophylaxis. Immunobiological preparations: vaccines, syrups, immunoglobulins, cytokines. Receiving and application. **Laboratory No. 12. C R C -** ***Immunopathology, a priori***	4
thirteen	04/27/02/05. 20	Sanitary Microbiology. Sanitary and bacteriological problems of diseases, water, soil. -1 per day **. Practical fleet No. 2 C R C -** ***Endogenous parasitic disease,***	4

		classification, pathogenesis, laboratory diagnostics.	
14	04-09.05. 20	Sanitary Microbiology. Sanitary and bacteriological problems of diseases, water, soil. 2 per day. Sanitary and bacteriological problems Fenivix Production, medical facilities and Table 1. **Practical fleet No. 2. - *The relationship of the immune system with gradient and parasitic diseases.***	4
fifteen	11-16.05. 20	Sanitary Microbiology. Sanitary and bacteriological problems of diseases, water, soil. From 3 a.m. Sanitary and bacteriological problems of Fenivix Production, medical facilities and Table 2 **Practical Navy No. 2 *C R C - Textbook for the diagnosis of infectious diseases ELISA, immunoblots, PCR, radioimmune reactivity, methodology.***	4
16	May 18-23. 20	Sanitary Microbiology. Completion and final sanitary and bacteriological issues of the issue of air, water, soil. Supply of sanitary and bacteriological isolation. Completion of independent work on C P , write the results in a notebook. **Practical Fleet No. 2 *C R C - Molecular Mechanism for Vivnication of Oportunisticheskix Infection with Immunodeficiency.***	4
		inquiry	72

CALENDAR-THEMATIC PLAN

2019-2020 academic year

Department: Microbiology, Virology and Immunology

Subject: Microbiology, Virology and Immunology

Faculty: MBA Course: 1 semester: 1

Chase Live Semester: Lectures - 18; practical exercises - 54

Lecture classes

No.	data	Employment Topics	clock
1	4.09.-10.09. 1 9	Medical Microbiology. Microbiology, virology, immunology. Systematics and classification of microorganisms. Bacterial morphology. The subcategory is in the category of practical medicine.	2
2	1 1-17.09. 1 9	The physiology of microorganisms - herbivores, dioxins, truth and contamination. Nutrient The production of microorganisms.	2
3	09/18/09. 1 9	Injection factors in microorganisms and IX. Classification of antibiotics. Ecology. The microflora of the human body. The concept of dysbiosis.	2
4	01/25/10. 1 9	Pneumonia with infection. Infectious process, infectious diseases ix laboratory diagnostic method. Immunity, cataract. Types of	2

		immunity. nonspecific factor defense of the body. Immune organs Antigen and antibody. The concept of a serological reaction. Vaccines and immune syvorotki, ix vidy, receipt.	
5	02. 10 -08.10. 1 9	Characterization and laboratory diagnosis of microorganisms causing a purulent-inflammatory process (staphylococcus, streptococcus, synovial larynx) and rheumatic infection (drying, gas gangrene).	2
6	09-15.10. 1 9	General characteristics and laboratory diagnostics of airborne droplets infections. The causative agents of diphtheria, snails, pneumococcus, meningococcus, actinomycosis, tuberculosis, leprosy.	2
7	16-22.10. 1 9	Enterobacterial characteristic. Escherichiosis, salmonellosis and contusion fever (botulism, etc.).	2
8	23-29.10. 1 9	Characteristics of causative agents of skin and venereal diseases. General characteristics and laboratory diagnostics of agents of especially dangerous infections: cholera, anthrax, brucellosis, tularemia and plague.	2
9	30.10.- 0 5 .11. 19	Characteristics Laboratory diagnostics pikorno-, rabdo-, gerpes-, retro-, gepadno-, ortho-, paramiksovirusov.	2
		inquiry	18

Practical employment

No.	data	Employment Topics	clock
1	4.09.-10.09. 1 9	Microbiological laboratories, virological studies, immunological laboratory of their equipment. The concept of microorganisms. Add the Bacterial method to my notebook . Technique of turning. Here is the technique of the district. Bacterial morphology. **Laboratory number 1. *SRS - Correct bacterial bacterium "Bergey".***	4
2	1 1-17.09. 1 9	Morphology and structure are bacterial. Bacterial bacterial metabolism. Morphology and vibrations: spirochetes, rickettsia, chlamydia and other microorganisms. **Laboratory work No. 2 *CPC- Modern systematics and nomenclature of microorganisms.***	4
3	09/18/09. 1 9	Morphology, structure, reproduction of viruses. The methodology of viruses. Diagnosis of viral diseases. Bacteriophages. **Practical fleet No. 6 *C R C - Difference in the structure of thistles and mushrooms from prokaryotes.***	4
4	01/25/10. 19	Physiology of microorganisms, methods of growing and visualizing cultivated	4

		microorganisms. Vydelenie chistoy Kultury aerobnyx anaerobnyx bacteria are used to identify Gran Products jiznedeyatelnosti bacteria, pigments, enzymes (toxins). **Laboratories No. 3** ***C R C - Modern methods for isolating a pure culture of anaerobic bacteria.***	
5	10/2/08/10. 19	Injection factors in microorganisms and IX. Sterilization, disinfection, aseptic and antiseptic. IX application in medicine. Laboratory diagnosis of infectious diseases and IX Ecology of microorganisms: water, pollen, fumes and normal microflora. **Laboratory work No. 4, Practical Navk No. 2,3 CRS -** ***Vaccines and immune sows. Immune systemic diseases.***	4
6	09-15.10. 1 9	Chemotherapeutic drugs. Antibiotic. Methods of introducing microorganisms into antibiotics. **Laboratory No. 5** ***C R C - Basic rational chemotherapy, chemotherapy and antibiotic metabolism. The mechanism of invasion of antibiotic-resistant bacteria.***	4
7	16-22.10. 1 9	The concept of immunity. Types of immunity. Organic immunity. Inevitable factorial defense of the body, the role of T and B lymphocytes in the role of ix in the immune response. **Laboratory No. 7** ***C R C - Prions (English inguinal infectious part - protein frequency), ix practical value.***	3
8	23-29.10. 1 9	Antigen and antibody. Serological reactions: non-inflammatory hemagglutination, CSC, Coombs reaction. ELISA method, PCR. The mechanism of antibodies. **Laboratory work No. 8** ***C R C - SRS - Allergy, type of allergic reaction. The main allergic testing in medical practice.***	3
9	10.30.-05.11. 19	Frequency microbiology. Microorganisms causing pyoinflammatory and early diseases: staphylococci, streptococci, synovial hernia, gas gangrene, tabbnak. **Laboratories No. 6** ***C R C Importance in surgical practice of anaerobic bacteria not participating in Clostridia.***	3
10	0 6- 1 2,1 1 . 1 9	Characterization, laboratory diagnosis of vasculitis-droplet infection: diphtheria, cochlea, paracoclasm, tuberculosis, leprosy, actinomycosis. **4.5** ***SRS- Laboratory diagnosis of patients with meningococcal infection, pneumococcus, legionellosis, is practicable.***	3

eleven	13-19.11. 19	Characterization and laboratory diagnosis of pathogens of the infections sought: Escherichiosis, shigellosis, salmonellosis. Characterization and laboratory diagnosis of microorganisms that cause avian poisoning. **Practical fleet 4,5** ***C R C - The practical importance of diseases caused by the horny hollow and klepssiella.***	3
12	20-26.1 1 . 19	Characterization and laboratory diagnosis of pathogens of especially dangerous infections: anthrax, plague, brucellosis. **Practical Nav 4,5** ***C R C - Pathogenesis and laboratory diagnosis of tularemia, cholera, hemorrhagic fever.***	3
thirteen	11/27 - 03/12 . 19	Characterization and laboratory diagnosis of pathogens of cutaneous-venereal zololevias: syphilis, gonorrhea, chlamydia, mycoplasmosis. **Practical Nav 4,5** ***C R C - Pathogenesis and laboratory diagnosis of non-specific urinary tract infections. Characterization and laboratory diagnosis of pathogens, ureaplasmosis, chlamydia, gardnerellosis.***	3
14	0 4-10.1 2 . 1 9	Characterization and laboratory diagnosis of viral DNA-sodium chaperones. **Laboratory study No. 9** ***C R C - Pathogenesis and laboratory diagnosis of viral infection: Ebola, Lassa, Zika.***	3
fifteen	1 1- 1 7.1 2 . 1 9	Characterization and laboratory diagnosis of the Soderivirus RNA virus. **Practical Navy 6** ***C R C - Avian and swine flu and problems smashing and burning during. Pathogenesis and laboratory diagnosis of viral infections in Coxax caused.***	3
16	1 8-24.1 2 . 1 9	Characterization and laboratory diagnosis of viral infections: hepatitis and HIV. **Laboratory work No. 10** ***Pathogenesis and laboratory diagnosis of pathogens of fungal soils Helminthiasis, prosthetics and diagnostics and medical practice.***	3
		inquiry	54

CALENDAR-THEMATIC PLAN

201 9 -2020 academic year

Department: Microbiology, Virology and Immunology

Subject: Microbiology, Virology and Immunology

Faculty: Biomedical course: 3 semester: 5

Hours allocated per semester: Lectures - 16; practical exercises - 74

Lecture classes

No.	data	Employment Topics	clock
1	4.09.- 10.09. 1 9	Characterization and laboratory diagnosis of microorganisms causing a purulent-inflammatory process (staphylococcus,	2

		streptococcus, synovial lobster) and rheumatic infections (drying, gas gangrene) and laboratory diagnosis.	
2	1 1- 17.09. 1 9	X Characteristics and laboratory diagnosis of vaccination - celiac disease (diphtheria and cochlea, tuberculosis, pneumococcus and meningococcus).	2
3	09/18/09. 1 9	Diagnosis and laboratory diagnosis of erythematous infectious, soft hierarchy, glomeruli.	2
4	01/25/10 . 1 9	Acne infection: salmonellosis (typhoid, paratyphoid), shigellosis, laboratory diagnosis of pneumonia (salmonellosis, protein , botulism, staphylococcus).	2
5	02. 10 - 08.10. 1 9	Characterization and laboratory diagnosis of pathogens of especially dangerous infections: cholera and Siberian brucellosis, tularemia and plague.	2
6	09-15.10. 1 9	X arakteristika ozbuditeley kojno venericheskix zabolevaniy: syphilis, gonorei, chlamydia, mycoplasmosis. XX Laboratory diagnosis.	2
7	16-22.10. 1 9	Viral infection: characteristic diseases caused by the sodium RNA virus carrier (orthomyxovirus, paromicovirus, picornivirus, rhabdovirus, retrovirus). Laboratory diagnostics.	2
8	23-29.10. 1 9	Viral infection: characteristic diseases caused by the sodium-DNA transporter of the virus (herpes virus, poxviruses, hepatotropic). Laboratory diagnostics.	2
		inquiry	1 6

Practical employment

No.	data	Employment Topics	clock
1	4.09.-10.09. 1 9	Laboratory diagnostics, inverted agent of purulent - inflammatory diseases: staphylococcus, streptococcus, Pseudomonas aeruginosa. X Characteristics and laboratory diagnosis of vaccine infections: cerebral palsy, stool. **Practical fleet number 4.5. *SRS - pathogenic anaerobic cocci (peptococci, peptostreptococci, veylonella) and importance in surgery and gynecological diseases. Intravenous anaerobic bacterial bacteria that are not present in Clostridium (bacteroids, fusabacterium, privavtellaly)***	5
2	1 1-17.09. 1 9	Characteristics of a pair-drop infection: diphtheria, cochlea and paracoclucus, pneumococci, meningococci, laboratory diagnostics. **Practical fleet number 4 . *SRS - Hemophilus bacteria (hollow inflorescence) in practice, diagnosis.***	5
3	18-24. 09. 1 9	X arakteristika vozbuditeli AIR - kapelnyx infektsiy: tuberculosis, leprosy,	5

		actinomycosis , klebsielly IX Laboratory diagnosis. **Practical fleet number 4. *SRS - Atypical mycobacteria and intensity in practice.***	
4	01/25/10. 1 9	X Characteristics of the causative agents of personal infection: eshiriciosis and yersiniosis, Shigella IX Laboratory diagnosis. **Practical fleet number 5. *SRS - intravenous and bacteriological diagnostics of facultative, bacterial, bacterial, invasive and "enterobacteria" (enterobacteria, cytrobacters, Morgonella, saffron, Proteus, etc.). In medical practice and bacteriological diagnosis of amoeba dysentery, parahemolytic, NAH, vibrios.***	5
5	02. 10 - 08.10. 1 9	Developed type, paratype A and V. XX Characteristics and laboratory diagnostics. **Laboratory No. 12. *SRS - Campylobacteria, Helicobacterium and ix Practical Importance.***	5
6	09-15.10. 1 9	L aboratornaya diagnostic microorganisms, vyzyvayushchix pishchevye otravleniya: salmonelleza, botulism, prosthetics, staphylococcus I and others. **Practical fleet No. 4.5. *SRS - Diagnosis of cataract surgery, viral flu and bacilli (mycotoxicosis, mystetism) and IX diagnostics.***	5
7	16-22.10. 1 9	Characterization and laboratory diagnosis of pathogens of especially dangerous infections: anthrax, cholera, plague, brucellosis, tularemia. **Practical fleet number 4.5. *SRS - Special Danger Faiths "E kid, Zika and dr"***	5
8	23-29.10. 1 9	Characterization and laboratory diagnosis of pathogens of cutaneous-venereal zololevias: syphilis, gonorrhea, chlamydia, mycoplasmosis . **Practical fleet number 4.5. *CPC - classification and laboratory diagnosis of chlamydia, trichomoniasis, mycoplasmosis, soft chancre, etc. Pathogens of skin-venereal infection.***	5
9	30.10.- 0 5 .11. 19	X Characterization and laboratory diagnosis of a vector- borne infection: rickettsiosis in (syndromic type, Q-fever), borelliosis (return form). **Laboratory number 14. *CPC - morphology of leptospirosis and borelliosis, structure, prevalence, caused diseases, laboratory diagnostics. Rikketsiozy. Corticosteroids, rickettsioses and rejection of boronellosis, laboratory diagnosis.***	5

10	0 6- 1 2,1 1 . 1 9	Characterization and laboratory diagnosis of viral infections: orthomyxoviruses, paramykovoviruses. **Practical fleet number 6. *SRS - Influenza and I Influenza and problems. Bunaviruses, togoviruses, arenoviruses, reoviruses, vesicular vesicular stomatitis, adenoviruses, parvovirus and IX virological diagnostics.***	5
eleven	13-19.1 1 . 1 9	X arakteristika Laboratory diagnostic virusnyx infektsiy: pikornovirusov, rabdovirusov. **Practical fleet number 6. *SRS - enteroviruses.***	4
12	20-26.1 1 . 19	X Characterization of viral infections: allergy to semenivirus, herpes virus, poxviruses and laboratory diagnosis of caused by it. **Practical fleet number 6. *The diagnosis of CPC is flaviviruses (acute fever, dengue fever, viral infections). Rhinovirus, aftovirus, lymphogranulomatosis, microbiological diagnosis.***	4
thirteen	2 7 .11.- 0 3 .12. 19	Viral infection: characteristics of hepatitis viruses and laboratory diagnostics. **Practical fleet No. 6. *SRS - hepatotropic virus (hepatitis F , TTV, etc.)***	4
14	0 4-10.1 2 . 1 9	Characterization of retroviruses, laboratory diagnosis of the diseases caused by them. VBI runs on VBI. **Laboratory No. 16. *SRS - oncogenic diagnosis of viral RNA and DNA***	4
fifteen	1 1- 1 7.1 2 . 1 9	L aboratornaya diagnosis of zabolevaniy, vyzyvannyx Gribaldi (myxosis verxnostnye glubokie) . **Laboratory number 19 . *SRS - the pathogen Mushrooms. Diagnosis of aspergillosis, candidiasis, pneumocystis insufficiency.***	4
16	1 8-24.1 2 . 1 9	Laboratory diagnosis of prostheses: trypanasoma, bolantidia, lambl, dysentery, amoeba, trichomoniasis. **Laboratory number 20. *Srs - . Infectious nosocomial infection.***	4
		inquiry	74

CALENDAR-THEMATIC PLAN

2019-2020 academic year

Department: Microbiology, Virology and Immunology

Subject: Microbiology, Virology and Immunology

Faculty: Biomedical course: 2 semester: 4

Hours allocated per semester: Lectures - 16; practical exercises - 74

Lecture classes

No.	data	Employment Topics	clock

1	03-08.02. 20	Medical Microbiology. Microbiology, virology, immunology. Systematics and classification of microorganisms. Bacterial morphology.	2
2	10-15.02 . 20	This is the bacterial and chemical structure of the bacterial and cellular structure. Intensity in microbiological practice. The morphology of microorganisms and their feature: spiroxettes, rickettsia, actinomycetes, chlamydia, mycoplasmas, blue.	2
3	17-22.02. 20	The physiology of microorganisms - nursery, dixing, true. Nutrient The production of microorganisms.	2
4	02.24.- 29.02. 20	Infections in microorganisms. Chemotherapeutic drugs and antibiotics. Ecology of microorganisms. The microphone is water, soil, vacuum. Normal microflora of a person.	2
5	07/02/03. 20	General virology . Structure, reproduction, real viruses. Methods for isolating viruses. The structure of the bacteriophage, virulence and birthright.	2
6	09-14.03. 20	Pneumonia with infection. Infectious process, infectious diseases ix laboratory diagnostic method. Genetics of microorganisms. Volatility oo practical value.	2
7	16-21.03. 20	Immunity. History Brief. Types of immunity. Nonspecific protective factory organisms. Immune organs Antigen and antibody. The mechanism of the image of antibodies. The concept of a serological reaction.	2
8	23 28 +0.03. 20	Cellular and humoral immune-type reactions. System T i V lymphocytes and IX subpopulations. Method Method IX. Vaccines and immune syrups.	2
		inquiry	16

Practical employment

No.	data	Employment Topics	clock
1	03 - 08.02. 20	Microbiological laboratory ix Equipment. Rabate Pravia Lab. Bacterial morphology. Microscopic research methods. Technique of turning. Here is the technique of the district. **Laboratory number 1. *CRC - Classification of microorganisms in the "Bergey". Microbiology of immunology, virology.***	5
2	10-15.02 . 20	Ultrasonic microorganisms, chemical compounds, methods. Post-element bacterial elemental bacteria: nucleoid, cytoplasm, stench (clonal fibers and PCM). Continuous structural elements: spore, capsule, yugutiki, insertion and others. Ix study methods. Vocabulary methodological helmets Work **laboratory No. 2,3. *CPC - Prions (English, as if antero-infectious parts - protein frequency), IX practical value.***	5

3	17-22.02. 20	The structure of microorganisms (spirochetes, rickettsia, actinomycetes, chlamydia, mycoplasma, influenza, prosthesis), morphology IX. Ix study methods. **Laboratory number 4.** ***CRC - Bacterial bacteria. The method of its creation.***	5
4	02.24.-29.02. 20	Bacterial physiology: pituitary, diarrhea and truth. Nutrient The bacteriophage is produced by life bacteria. Fermented, pigmented, toxic, aromatic vesicles, etc. The method of biochemical identification is bacterial. **Laboratory No. 5.7.** ***The CRC - the F ermentativ processor Nye, protekayushchie bacteria. Learn more about biology and technology .***	5
5	07/02/03. 20	Identification of cultivated aerobic and anaerobic bacteria using the ix method. **Laboratory number 6.** ***SRS - Biological chemistry of biodegradable materials. Sanitary and bacteriological diseases and hernia surgery, obstetric and gynecological and auxiliary departments.***	5
6	09-14.03. 20	Infections in microorganisms: sterilization, disinfection, aseptic and antiseptic. Ecology of microorganisms: vacuum, water, pillar and microflora, **Practical Fleet No. 1.** ***CRC - bacterial infection of phones and computers.***	5
7	16-21.03. 20	Normal microflora of the human body and eyebrows. Dysbacteriosis, etiology of eccentricities, technique, prevention and major problems. Diagnostic methods for dysbiosis. **Practical fleet number 3.** ***CRC - Bacterial contamination of phones and computers.***	5
8	23 28 +0.03. 20	Sanitary Microbiology. Microphone valleys, dumplings, varnishes and jellies. Sanitary microorganisms. Microbiological aspects of predicting intracellular properties. **Practical fleet No. 2.** C R C **-** ***Bacterial bacteria.***	5
9	30. 03.- 04.04. 20	Influence of factors biologicheskix or jiznedeyatelnost bacteria. Chemotherapy, antibiotic classification and dehydration mechanism. An antibiotic is used. **Laboratory number 8. C R C -** ***Nanotechnological and microbiological applications.***	5
10	06-11.04. 20	Infectious intestines, infectious process. Microbiological methods for the diagnosis of infectious diseases. Genetics of microorganisms. **Laboratory number 9. C R C -** ***Endogenous parasitic disease,***	5

		classification, pathogenesis, laboratory diagnosis.	
eleven	13-18.04. 20	General virology: structure, morphology, reproduction, chemistry. Methods for monitoring viruses. Indication and identification of viruses. Bacteriophages. Bacteriophage in medical practice. **Laboratory number 10.** ***C R C - A modern diagnostic method for diagnosis and treatment.***	4
12	April 20-25. 20	Immunology Organ immunity. Specific and nonspecific protective factors of the body, ix mechanism. Phagocytosis, complement, lysohem, interferon, etc. Research methods. **Laboratory number 11.** ***TMI - Formulation of the immune system and replacement for cancer. Diagnosis of autoimmune diseases, technical conditions, diagnostics.***	4
thirteen	04/27/02/05. 20	Specific immune factorials. Autoantibodies. Antigen. Bacterial, antigenic virus. Reaction antigen - antibody. Methods of the immune system. **Laboratory No. 12.** ***C R C - monoclonal antibodies, metric polyenes and ix primers in medical practice. Interferons and cytokines, synthesis, depletion mechanism.***	4
14	04-09.05. 20	Seroidentification and serodiagnosis in infectious diseases. Serological reactions. IFM, immunolysis, hemolytic reactions, bacteriolysins. RSK, victim and indirect reactions. The mechanism, ingredient, oxygen results and practical application. **Laboratory number 13.** ***C R C - The relationship of the immune system with gradients and parasitic diseases. Immunopathology, the intensity of opucolvex*** .	4
fifteen	11-16.05 . 20	Serodiagnosis of infectious diseases. Enzyme-linked immunosorbent assay (ELISA). Direct and indirect method. Immunoblotting reactions, mechanisms, mechanisms of action. **Laboratory number 15.** ***C R C - Primer for the diagnosis of infectious diseases ELISA, immunoblot, PCR, radioimmune reagent, technique.***	4
16	May 18-23. 20	Immunotherapy and immunoprophylaxis. Immunobiological preparations: vaccines, syrups, immunoglobulins, cytokines. Receiving and practical application . **Laboratory work** ***No.*** **17 .-** ***The molecular mechanism of vaccine infection in immunodeficiencies***	4

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Head of department,
district professor **Nuruzova ZA**

Responsible for
educational affairs **Aliyev Sh.R.**