«Approved»
Head of department
microbiology, virology, immunology with a course of clinical microbiology
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Protocol № 1 от 26.08.2024.

Calendar-thematic lesson plan of seminary type in the discipline "Microbiology, Virology" for students in the educational program specialist in the specialty 31.05.01 General Medicine, focus (profile) General Medicine, Full-time form of education for 2024-2025 academic year (3rd semester)

End of semester – 25.12.2024

№	Thematic blocks	Hours (academic)
1 02.09-07.09	Introduction in a course of General Microbiology. Problems, objectives, tasks, methods. Equipment and work in a bacteriological laboratory. Mode and rules of working. Morphology of microorganisms. [1]	2
2 09.09-14.09	Bacterial ultrastructure. Study of morphology of bacteria. Complex staining metods. Microscopic method for study of microorganisms. [1]	2
3 16.09-21.09	Prokaryote and eukaryote: common properties and differences. Morphology of fungi, actinomyces, spirochetes, rickettsias, chlamydiae, mycoplasmas. Classification. Methods of their studies. [1]	2
4 23.09-28.09	Physiology of microorganisms: nutrition and respiration of microbes. The main types of nutrition and respiration. Microbial growth and multiplication. Classification of culture media, their composition. Bacteriological method for study of microorganisms. [1]	2
5 30.09-05.10	Enzymes of the microorganisms. Biochemical identification of microorganisms. Bacteriological method for study of microorganisms. [1]	2
6 07.10-12.10	Morphology and physiology of viruses. Classification. Methods of their studies. [1]	2
7 14.10-19.10	**Concluding session: «Morphology and physiology of microorganisms. General virology».** [1]	2
8 21.10-26.10	Genetics of microorganisms. Organization of genetic material in bacteria. Genetic variability of microorganisms. Molecular genetic method of research. [1]	2
9 28.10-01.11	Sanitary microbiology. Microflora of water, air, soil. Sanitary-indicative microorganisms. Microflora of food products. Normal microbiota of the human body, its significance. Formation of the microbiota. Dysbacteriosis, conditions of development, prevention. [1]	2
10 04.11-09.11	The effect of environmental factors on microorganisms. Influence of physical and chemical factors. Sterilization and disinfection. Aseptic and antiseptic. [1]	2
11 11.11-16.11	Action of biological factors on microorganisms. Chemotherapeutic agents, mechanisms of their action. Antibiotics: classification, mechanism of action. Determination of sensitivity to antibiotics. Complications of antibiotic therapy and their prevention. [1]	2
12 18.11-23.11	**Concluding session: «Genetics of microorganisms. Ecology of microorganisms and sanitary microbiology. Influence of environmental factors on microorganisms. Asepsis, antisepsis, disinfection, sterilization. The doctrine of antibiotics»** [1]	2
13 25.11-30.11	The doctrine of infection. Forms of infection, conditions for the development of the infectious process. Pathogenicity, virulence. Characterization of bacterial toxins. Biological research method. [1]	2
14 02.12-07.12	The doctrine of immunity. Types and forms of immunity. innate immunity. Factors and mechanisms of non-specific anti-infective defense of the body (anatomico-physiological mechanisms, humoral and cellular factors). [1]	2

15 09.12-14.12	Adaptive immunity. The human immune system. Antigens. Antibodies. Antigens of microorganisms and viruses. Interaction of antigens with antibodies. Serological research method. [1]	2
16 16.12-21.12	Seroidentification and serodiagnosis of infectious diseases. Serological research method (continued). Immunobiological preparations: vaccines, sera. Preparation and appointment. **Concluding session: «The doctrine of infection. The doctrine of immunity»**[1]	2