

**EXAMINATION QUESTIONS ON THE DECIPLINE
“MICROBIOLOGY. VIROLOGY. IMMUNOLOGY”
for Medical Faculty for International Students (English medium)
Specialty 1 – 79 01 01 «General Medicine»**

EXAMINATION QUESTIONS ON GENERAL MICROBIOLOGY

1. Microbiology as a science. Classification of microbiological sciences. The tasks of Medical Microbiology. History of Microbiology. Methods of microbiological diagnostics. Taxonomy of microorganisms.
2. Morphology and ultra-structure of the bacterial cell. Classification and taxonomy; morphological and ultra-structural peculiarities of actinomycetes, spirochetes, rickettsiae, chlamydiae and mycoplasmas. Fungi: classification and taxonomy, morphological and ultra-structural peculiarities.
3. The exchange of substances and energy in prokaryotes. Reproduction of bacteria and the principles of their cultivation. The culture method of diagnostics.
4. Bacteriophages. Genetics of bacteria.
5. Microbial ecology (environmental microbiology): basic concepts, ecological relationships in microbiocoenoses, ecological niches of microorganisms and microbiological aspects of protection of environment. Micro-flora of human body. Influence of the factors of environment on microorganisms and microbial decontamination.
6. Infection and its forms. Pathogenicity, virulence of bacteria and bacterial toxins.
7. Microbiological principles of chemotherapy.

EXAMINATION QUESTIONS ON IMMUNOLOGY

1. The conception of immunity. The factors of non-specific resistance or innate immunity. Complement system. Phagocytosis.
2. The human immune system.
3. The methods of immunological diagnostics.
4. Antigens.
5. Immune response.
6. Immunoglobulins.
7. Allergy.
8. Immunologic tolerance. Autoimmunity. The immune reactions involved into graft rejection. Immune reactivity to tumours. Immunity in ageing. Immunity in mycoses. Immune deficiencies (defects). Immune status.
9. Immune prophylaxis. Immune therapy.

EXAMINATION QUESTIONS ON MEDICAL BACTERIOLOGY WITH BASICS OF MYCOLOGY AND PROTOZOOLOGY

1. Pyogenic cocci.
2. The main characteristics of the family of Enterobacteriaceae. Escherichia. Shigella.
3. Salmonellae.
4. Klebsiellae. Proteus. Yersinia (excluding the plague pathogen).
5. The Pseudomonas group. The genus Burkholderia and Acinetobacter.
6. Campylobacter. Helicobacter.
7. Main characteristics of special danger bacterial infections. Vibrios.
8. Brucellae. The pathogen causing tularaemia.
9. Yersinia pestis.
10. Bacillus spp.
11. Mycobacteria.
12. Actinomycetes. Listeriae.
13. Ecological group of anaerobic bacteria.
14. Corynebacteria.
15. Bordetellae. Haemophilic bacteria.
16. Legionellae. Coxiella.
17. Spirochetes.
18. Bartonella. Rickettsia. Orientia. Ehrlichia.
19. Chlamydiae. Mycoplasmas.
20. The pathogens producing mycoses.
21. The pathogenic protozoa.

EXAMINATION QUESTIONS ON VIROLOGY

1. The history of discovery of the first viruses. Classification of viruses. Structure of virions (fully assembled infectious viruses).
2. Interaction of the viruses with the infected cell. Genetics of the viruses. Interaction of the viruses with the human organism (general scheme of pathogenesis of viral infections). Immunity in viral infections. Chemotherapy, immune therapy and immune prophylaxis of viral infections. Laboratory diagnostics of viral infections.
3. Orthomyxoviruses.
4. Paramyxoviruses. Coronaviruses. Rubella virus.
5. Retroviruses.
6. Picornaviruses. Caliciviruses.
7. Ecologic grouping of arbo- and reoviruses. Togaviridae (the genus Alphavirus). Bunyaviruses. Arenaviruses. Filoviruses. Reoviruses.
8. Flaviviruses.
9. Rhabdoviruses.
10. Herpesviruses.

11. Main peculiarities of DNA viruses. Poxviruses. Adenoviruses.
Papillomaviruses. Polyomaviruses. Parvoviruses.
12. Hepatitis viruses. Modern theory of oncogenic transformation and oncogenic viruses. Slow infections.