

TEMATICA DE CONCURS
POZITIA NR. 59, ASISTENT UNIVERSITAR,
DEPARTAMENTUL DISCIPLINE PRECLINCE

PARTEA TEORETICA

1. Introduction in Microbiology. Prokaryotic Cells/ Eukaryotic Cells
2. Bacterial Morphology; compulsory structures – prokaryotic cells
3. Facultative Structures – Prokaryotic Cells
4. The structure and the roles of Cell Wall
5. Bacterial Metabolism. Bio-energetic metabolism
6. Bacterial Genetics
7. Physico-chemical disinfectants; sterilization procedure
8. Chemotherapy. Rules of administration, classification
9. Pathogenicity and Virulence. Exo- and Endotoxins in Human Pathology
10. Infection. General Characteristics. Non-self and self defense mechanisms. Natural Resistance in Infection. Immunity. Types of Immunity
11. Antigenic Structures. Antibodies Classes. Anti-Bacterial Defense Mechanisms
12. Parasites-host relation. Parasites' classification involved in human pathology. Cavitary Flagellates
13. Sporozoa: *Toxoplasma gondii*. Cestodes – classification. *Taenia solium* and *Taenia saginata*; *Echinococcus granulosus*.
14. Nematelminths: *Ascarididae* fam; *Enterobius vermicularis*; *Trichinella spiralis*
15. Genus *Staphylococcus*.
16. Genus *Streptococcus* and *Enterococcus*
17. Genus *Neisseria*.
18. *Enterobacteriaceae*. Genus *Shigella*. Genus *Salmonella*. Genus *Yersinia*
19. Commensal enterobacteria. *Klebsiella*, *Proteus*, *Providencia*, *Morganella* *Enterobacter*, *Serratia*, *Citrobacter*
20. Non-fermentative gram-negative bacilli: family *Pseudomonadaceae*, genus *Acinetobacter*. Curved gram-negative bacilli: genera *Vibrio*, *Campylobacter*, *Helicobacter*.
21. Genus *Haemophilus*. Genus *Bordetella*. Genus *Brucella*.
22. Genus *Mycobacterium*. *Bacillus anthracis*.
23. Infections produced by anaerobes. Sporulating anaerobes - *Clostridium* genus. Non-sporulating anaerobes.
24. Spirochetes: *Treponema*, *Borrelia*, *Leptospira*
25. *Rickettsia*. *Chlamydia*. *Mycoplasmas*. Their role in human pathology
26. General characteristics and virus structure. Virus classification Viral multiplication. Coronaviruses
27. Herpesviruses. Hepatitis viruses
28. Influenzae and parainfluenzae viruses. HIV.

PARTEA PRACTICA

1. Introduction in Laboratory Work. Optical Microscope Presentation
2. Sterilization; Disinfection
3. Quality Assurance – preanalytic, analytic and postanalytic steps
4. Native samples. Simple Staining Methods
5. Complex Staining Methods
6. Collecting Methods / Biological Samples
7. Culture Media
8. Cultivation
9. Identification
10. Antibiotic Sensitivity Test
11. Antigen – Antibodies Reaction

12. Diagnoses Scheme – Bacterial Etiology
13. Diagnoses Scheme – Parasitic Etiology
14. Laboratory diagnosis of staphylococcal infections
15. Laboratory diagnosis of streptococcal infections
16. Laboratory diagnosis of infections with pathogenic Neisseriae
17. Laboratory diagnosis of strict pathogenic enterobacteria infections
18. Laboratory diagnosis of infections with conditional pathogenic enterobacteria
19. Laboratory diagnosis of infections with non-fermentative gram-negative rods. Pseudomonadaceae, Acinetobacter
20. Laboratory diagnosis of infections with curved gram-negative bacilli: genera Vibrio, Campylobacter, Helicobacter.
21. Laboratory diagnosis of tuberculous infection
22. Laboratory diagnosis of Hemophilus, Bordetella, Brucella infections
23. Laboratory diagnosis of anaerobic infections
24. Laboratory diagnosis of spirochetal infections
25. Laboratory diagnosis of chlamydial, mycoplasma si rickettsial infections
26. Laboratory diagnosis of viral infections. Diagnosis of viral hepatitis and HIV infection

Bibliografie

1. Murray P.W., Rosental K.S., Pfaller M.A.: Medical Microbiology, editia 9, 2021, Elsevier
2. Levinson, Waren., Review of Medical Microbiology and Immunology, ed 17, 2022, Mc Graw Hill Lange
3. Jawetz Melnick & Adelbergs Medical Microbiology, 28th Edition, 2019
4. Dumitru Buiuc, Mariana Negut, Tratat de Microbiologie clinica, Editia a III-a , Editura Medicala, Bucuresti, 2017
5. Connie Mahon, Donald Lehman: Textbook of Diagnostic Microbiology, 7th Edition – Elsevier, 2023
6. Bailey & Scott's Diagnostic Microbiology by Patricia Tille, 15th Edition, Editura Elsevier, 2022

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