

MEDICAL MICROBIOLOGY
Topics of the End-Semester Examination
General Medicine
2014/2015 academic year, 1st semester

I.

1. Prokaryotic cell structure, essential and non-essential organelles
2. Antibiotics inhibiting bacterial cell wall synthesis. Mechanism of action, spectrum of effect, resistance mechanisms
3. Antibiotics inhibiting bacterial protein synthesis. Mechanism of action, spectrum of effect, resistance mechanisms
4. Antibiotics inhibiting bacterial folate, DNA, or RNA synthesis. Mechanism of action, spectrum of effect, resistance mechanisms
5. Antituberculous agents. Mechanism of action
6. Antibiotic sensitivity testing
7. Physiology of bacterial growth. Resources and environmental requirements. Kinetics of bacterial growth. Types of metabolism in heterotrophic bacteria
8. Bacterial genetics. Mutation. Conjugation, transduction, transformation. Recombination. Plasmids. Transposons
9. Sterilization
10. Disinfectants
11. Bacterial virulence factors
12. Transmission of infections, the portals of entry of pathogenic microbes
13. Non-specific defence mechanisms against pathogenic microbes
14. Specific immune responses against pathogenic microbes
15. Hypersensitivity reactions in infectious diseases. Serum sickness
16. Active and passive immunization: principles, side effects and complications
17. Bacterial vaccines
18. Diagnostic immune reactions in microbiology

II.

1. Staphylococci
2. Streptococcus pyogenes
3. Alpha hemolytic streptococci (*S. pneumoniae*, viridans group)
4. Streptococcus agalactiae, *E. faecalis*, anaerobic streptococci
5. Neisseria
6. *E. coli*
7. Salmonellae causing enteric fever
8. Salmonellae causing enterocolitis
9. Shigella genus
10. Klebsiella, Serratia, Enterobacter, Proteus - Morganella - Providencia group
11. Yersinia genus
12. Vibrio genus
13. Haemophilus genus, Gardnerella vaginalis
14. Pseudomonas, Acinetobacter, Burkholderia, Stenotrophomonas
15. Legionella pneumophila, Listeria monocytogenes
16. Brucella genus, Francisella tularensis
17. Bordetella genus
18. Bacillus genus
19. Clostridia causing gas gangrene
20. Clostridia producing neurotoxins
21. Clostridia causing intestinal diseases
22. Non-spore forming anaerobic bacteria
23. Campylobacter genus, Helicobacter pylori
24. Treponema genus
25. Borrelia genus
26. Leptospira genus
27. Corynebacterium diphtheriae
28. Mycobacterium tuberculosis
29. Mycobacterium leprae, atypical mycobacteria
30. Rickettsia genus, Coxiella burnetii
31. Chlamydia genus
32. Mycoplasmas

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