Microbiology semi-final examination
List of topics for medical students 2018/2019-1.

1. Shape and size of bacteria, structure of prokaryotic cells.
2. The cell wall of bacteria.
3. Bacterial cytoplasmic membrane, cytoplasm and nucleoid.
4. Nonessential bacterial components.
5. Cultivation of bacteria and growth characteristics.
6. Mutations of bacteria.
7. Gene transfer in bacteria.
8. General principles of usage of antibiotics, selective toxicity, therapeutic index.
9. Beta-lactams
10. Glycopeptides, fosfomycin, bacitracin
11. Inhibitors of cytoplasmic membrane function
12. Aminoglycosides and tetracyclines
13. Chloramphenicol, oxazolidinones, mupirocin, fusidic acid
14. Macrolides, lincosamides, ketolides and streptogramins
15. Sulfonamides és trimethoprim
16. Rifamycins, nitroimidazoles, nitrofurans
17. Quinolones és fluoroquinolones
18. Chemotherapy of infections by mycobacteria
19. Resistance of bacteria to antimicrobial drugs. Development and mechanisms of resistance.
20. Pathogenicity and virulence of microorganisms (Koch's postulates; classical and molecular postulates).
21. Exotoxins.
22. Endotoxins.
23. Nontoxic virulence factors.
24. Microscopic examinations of unstained specimens for morphological studies.
25. Preparation of bacterial smears, simple staining.
26. Gram staining and Ziehl-Neelsen (acid-fast) staining.
27. Neisser staining, spore staining.
28. Categories of culture media. Colony morphology of bacteria.
29. Selective media.
30. Differential media.
31. Methods for counting bacteria.
32. Biochemical tests related to intracellular enzymes of bacteria.
33. Biochemical tests related to extracellular enzymes of bacteria.
34. Differential diagnosis of cocci on the bases of their morphology and cultural characteristics.
35. Differential diagnosis of the main groups of enteric bacteria based on their biochemical activities.
36. Anti-streptolysin O test.
37. Quantitation and modification of virulence.
38. Antimicrobial susceptibility testing.

39. *Staphylococcus aureus*
40. Coagulase-negative staphylococci
41. *Streptococcus pyogenes.*
42. *Streptococcus agalactiae,* viridans streptococci, *Enterococcus faecalis*, Peptostreptococci.
43. *Streptococcus pneumoniae* (Pneumococcus).
44. *Neisseria gonorrhoeae.*
45. *Neisseria meningitidis.*
46. *Escherichia coli.*
47. Salmonellae causing enteric fever.
48. Salmonellae causing enterocolitis.
49. Shigellae.
50. Klebsiellae, Proteus, Morganella, Providencia.
51. *Corynebacterium diphtheriae* and other Corynebacterium species.
52. *Listeria monocytogenes*, Propionibacterium
53. *Yersinia pestis*.
54. *Yersinia enterocolitica.*
55. *Francisella tularensis.*
56. *Bordetella pertussis.*
57. Brucellae.
58. *Haemophilus influenzae* and other haemophilus species
59. *Vibrio cholerae* and otherVibrio species.
60. Campylobacter.
61. *Helicobacter pylori*.
62. *Legionella pneumophila.*
63. *Bacillus anthracis, Bacillus cereus.*
64. Histolytic clostridia. *Clostridium difficile.*
65. Neurotoxic clostridia.
66. *Pseudomonas aeruginosa, Burkholderia mallei.*
67. Stenotrophomonas genus
68. *Mycobacterium tuberculosis*
69. Atypical mycobacteria and *Mycobacterium leprae.*
70. *Actinomyces israelii*, Lactobacillus, Mobiluncus, Nocardiae.
71. Bacteroides, Prevotella, Porphyromonas, Fusobacterium.
72. Relapsing fever: etiological agents and disease.
73. Lyme disease.
74. *Treponema pallidum* and other Treponema species.
75. Leptospirae.
76. Mycoplasma.
77. Bartonella
78. Biological characteristics of rickettsiae. The spotted fever group. *Orientia tsutsugamushi.*
79. Rickettsiae of the typhus group.
80. *Coxiella burnetii.*
81. *Chlamydia trachomatis.*
82. *Chlamydophila psittaci, Chlamydophila pneumoniae.*
83. HACEK group