

Portal: Questions for final examination in Microbiology (1. LF UK, GM)

GENERAL MICROBIOLOGY

1. Methods to identify bacteria
2. Structure of bacterial cell
3. Bacterial cell wall
4. Difference in cell wall structure of G+ and G- bacteria
5. Capsule and Glycocalyx
6. Bacterial spores and process of sporulation
7. Superficial structures of bacterial cell
8. Bacterial metabolism types
9. Growth and multiplication of bacterial populations
10. Bacterial culture, media for differential diagnostics
11. Genetic information in bacterial cells
12. Extrachromosomal genetic information
13. Genetic information transfer in bacteria
14. Disinfection and Sterilisation Techniques
15. Pathogenicity and Virulence of bacteria
16. Bacteria and Environment
17. Bacteria and Humans
18. "Normal" bacterial flora of human body
19. Adherence of bacteria, infection of mucoid membranes
20. Bacterial invasion into tissues and cells
21. Protein bacterial exotoxins
22. Cytolytic toxins
23. Toxins acting inside the host cells
24. Neurotoxins
25. Enterotoxins
26. Bacterial Superantigens
27. Endotoxin - composition and biological effect
28. Bacterial escape of host's immunity mechanisms (survival)
29. Sepsis and Septic shock
30. Classification of Antimicrobials and their group characterisation
31. Comparison of antibiotics structural characteristics
32. Mechanisms of action of antibiotics
33. Methods to determine effect of antibiotics, bacterial susceptibility
34. Interpretation of bacterial susceptibility test results (Inhibition zones, MIC, MBC)
35. Strategies of antimicrobial therapy
36. Bacterial resistance to antimicrobials
37. Antifungals and antiparasitic drugs
38. Types of Vaccines
39. Active immunisation
40. Passive immunisation
41. Role of cellular immunity in bacterial infections
42. Immunity mechanisms against extra- and intracellular parasites
43. Phagocytosis, Complement and Immunoglobulins
44. Cutaneous immunity tests, use in infectology, interpretation
45. Urinary tract pathogens
46. Respiratory tract pathogens
47. Gastrointestinal tract pathogens
48. Infections of CNS
49. Emerging infections
50. Genetic probes and their diagnostic use

SPECIAL BACTERIOLOGY AND MYCOLOGY

1. *Treponema pallidum*
2. *Leptospira interrogans*
3. *Borrelia burgdorferi*, *Borrelia afzelii* and *Borrelia recurrentis*
4. *Staphylococcus aureus*
5. Coagulase-negative staphylococci
6. *Streptococcus pyogenes*
7. *Streptococcus agalactiae* and other β -group streptococci
8. *Streptococcus pneumoniae*
9. Other viridising streptococci
10. Enterococci
11. *Neisseria gonorrhoeae*

12. *Neisseria meningitidis*
13. *Listeria monocytogenes*
14. *Bacillus anthracis* and *Bacillus cereus*
15. Neurotoxic clostridia
16. Histotoxic clostridia
17. *Clostridium perfringens* and *Clostridium difficile*
18. Non-sporulating anaerobic G+ bacteria
19. Pharyngeal *Neisseria*
20. *Pseudomonas aeruginosa*
21. *Burkholderia mallei* and *Burkholderia pseudomallei*
22. *Francisella tularensis*
23. *Brucella*
24. *Bordetella pertussis* and *Bordetella parapertussis*
25. *Legionella pneumophila*
26. Characteristics of G- enteric rods (Enterobacteriaceae)
27. *Escherichia coli*
28. *Salmonella*
29. *Shigella*
30. *Yersinia pestis*, *Yersinia enterocolitica* and *Yersinia pseudotuberculosis*
31. Facultatively pathogenic enteric G- rods
32. *Vibrio cholerae* and other vibrios
33. *Campylobacter*
34. *Helicobacter pylori*
35. *Haemophilus influenzae*
36. *Corynebacterium diphtheriae* and *Corynebacterium ulcerans*
37. Facultatively pathogenic corynebacteria
38. *Arcanobacterium haemolyticum*
39. Classification of mycobacteria
40. *Mycobacterium tuberculosis* complex
41. Other pathogenic mycobacteria
42. *Mycobacterium leprae*
43. Actinomycetes and actinomycoses
44. *Nocardia*
45. *Mycoplasma pneumoniae*, *Mycoplasma hominis* and *Ureaplasma urealyticum*
46. Chlamydia and Chlamydophila
47. Rickettsia, Orientia, Bartonella and Ehrlichia
48. Fungal agents in superficial and subcutaneous mycoses
49. Fungal agents in systemic mycoses
50. *Candida albicans* and *Cryptococcus neoformans*

VIROLOGY AND PARASITOLOGY

1. Structure of viruses
2. Classification of viruses
3. Viral replication
4. Interaction between virus and host cell
5. Principles of defence against viral infections
6. Virus-host interaction (whole organism level)
7. Antiviral therapy and antiviral drugs - mechanisms of action
8. Anti-viral immunisation
9. Diagnostics of viral infections
10. Poxviruses
11. VZV - varicella-zoster virus
12. HSV - virus herpes simplex
13. CMV - cytomegalovirus
14. EBV - Epstein-Barr virus
15. Influenza viruses
16. Parotitis virus
17. Morbillivirus
18. Rubella virus
19. Rabies virus
20. Adenoviruses
21. Rhinoviruses
22. Human Papillomaviruses
23. Flaviviruses
24. TBE - Tick-borne encephalitis virus and other arthropod-borne viruses
25. Coxsackie viruses
26. Enteroviruses - Poliomyelitis viruses
27. Arenaviruses and Filoviruses
28. Hepatitis viruses
29. HBV and HCV - Hepatitis B virus, Hepatitis C virus
30. HAV and HEV - Hepatitis A virus, Hepatitis E virus
31. Retroviruses
32. HIV - Human Immunodeficiency viruses

33. Viral diarrhoeas
34. Prions and prionic infections
35. *Trichomonas vaginalis*
36. *Trypanosoma gambiense* and *Trypanosoma cruzi*
37. *Leishmania*
38. *Entamoeba histolytica*
39. *Naegleria fowleri*
40. *Toxoplasma gondii*
41. *Plasmodium malariae*, *Plasmodium vivax* and *Plasmodium falciparum*
42. *Pneumocystis carinii*
43. Taeniae (Tapeworms)
44. *Enterobius vermicularis*
45. *Ascaris lumbricoides*
46. *Trichinella spiralis*
47. *Toxocara*
48. Filariae
49. Nematods
50. Arthropods as vectors of infectious diseases