

# Oral and medical microbiology for DENTISTRY studies, 2009/2010

Students answer *one triplet* of questions containing one question from each of the following groups:

1. General and clinical microbiology
2. Special bacteriology, mycology, and oral microbiology
3. General and special virology and parasitology

## FIRST QUESTIONS

### General and clinical microbiology

1. Morphology of bacteria and structure of bacterial cell
2. Microbial metabolism, bacterial growth
3. Bacterial genetics and resistance to antimicrobials
4. Pathogenicity and virulence
5. Infection process – its course, forms and outcomes
6. Microbial invasivity
7. Microbial toxins
8. Innate immunity (overview)
9. Acquired immunity (overview)
10. Microbial antigens, antibody production
11. Antibody production
12. Evasion
13. Hypersensitivity
14. Microbes and environment
15. Sterilization
16. Disinfection
17. Effects of antimicrobials on bacteria
18. Adverse effects of antibiotics
19. Principles of rational antibiotic therapy and prophylaxis
20. Penicillines, monobactams and carbapenems
21. Tetracyclines and chloramphenicol, cephalosporins
22. Aminoglycosides, polypeptides, glycopeptides and ansamycins
23. Macrolides, lincosamides and antibacterial chemotherapeutics
24. Active immunization
25. Passive immunization
26. Etiology of CNS infections
27. Etiology of sepsis
28. Etiology of upper respiratory tract infections and eye and ear infections
29. Etiology of lower respiratory tract infections
30. Etiology of wound infections, bones and joints infections
31. Etiology of skin infections
32. Etiology of STI and congenital infections
33. Etiology of urinary tract infections
34. Etiology of infectious diarrhea
35. Etiology of nosocomial infections
36. Oral symptoms of the systemic infections
37. Biofilm and its importance in medicine
38. Oral biofilm

## **SECOND QUESTIONS**

### **Special bacteriology**

1. Gramnegative non-fermenting rods (*Pseudomonas, Acinetobacter sp.*)
2. *Legionella, Brucella, Bordetella, Francisella sp.*
3. *Campylobacter, Helicobacter and Vibrio sp.*
4. *Salmonella, Shigella, and Yersinia sp.*
5. *Escherichia* and other facultative pathogens among enterobacteriaceae
6. *Haemophilus, Pasteurella, and Actinobacillus sp.*
7. *Neisseria sp.*
8. Non-sporulating anaerobes
9. *Staphylococcus aureus*
10. Coagulase-negative staphylococci
11. *Streptococcus pyogenes*
12. *Streptococcus agalactiae*
13. *Streptococcus pneumoniae*
14. Oral streptococci
15. *Enterococcus and Listeria sp.*
16. *Corynebacterium, Arcanobacterium, Bacillus and Lactobacillus sp.*
17. *Nocardia, Rhodococcus, and Rothia sp.*
18. *Clostridium botulinum and Clostridium tetani*
19. *Clostridium difficile* and gas gangrene clostridia
20. *Actinomyces, Propionibacterium and Bifidobacterium sp.*
21. *Mycobacterium sp.*
22. *Mycoplasma and Ureaplasma sp.*
23. *Chlamydia and Chlamydophila sp.*
24. Rickettsia and related microorganism (overview)
25. *Borrelia sp.*
26. *Treponema and Leptospira sp.*

### **Mycology**

1. General features of fungi, antifungal therapy
2. Yeasts (other than *C. albicans*)
3. *Candida sp*
4. Filamentous and dimorphic micromycetes
5. Mycoses localized primarily in the oropharynx

### **Oral microbiology (other “oral questions” are dealt with other topics)**

1. Dental plaque, its importance and structure
2. Dental plaque and the cariogenic process
3. Cariogenic microorganisms
4. Bacterial infection localized primarily in the oropharynx
5. Anaerobic bacteria in the mouth
6. Parodontitis
7. Oral microflora in systemic infections

## **THIRD QUESTIONS**

### **General virology**

1. Classification and structure of viruses
2. Multiplication of viruses and viral genetics
3. Antiviral immunity and impacts of viral infections on the cell

4. Viral infections – their course, forms and pathogenesis
5. Prevention, prophylaxis and therapy of viral infections
6. Viruses and environment, inactivation of viruses
7. Viral infections localized primarily in the oropharynx
8. Symptoms of immunosuppression in the mouth and their impact on the oral flora

### **Special virology**

1. *Rotavirus*
2. *Enterovirus*
3. *Rhinovirus*
4. *Coronavirus*
5. *Hepatovirus*
6. Arboviruses (overview)
7. *Rubivirus*
8. *Flavivirus* (incl. TBEV) - overview
9. *Hepacivirus*
10. HIV
11. *Respirovirus* a *Rubulavirus*
12. *Morbillivirus*
13. *Pneumovirus*
14. *Lyssavirus* a *Hantavirus*
15. Inflenzaviruses
16. *Erythrovirus*
17. *Papillomavirus*
18. *Mastadenovirus*
19. *Simplexvirus*
20. *Varicellovirus* a *Ortopoxvirus*
21. *Cytomegalovirus*
22. *Roseolovirus*
23. *Lymphocryptovirus*
24. *Orthohepadnavirus*
25. Prions

### **Parasitology**

1. Main medically important protozoa
  2. Main medically important nematodes
  3. Main medically important trematodes
  4. Main medically important cestodes
  5. Main medically important arthropods
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