Exam questions on microbiology and immunology.

Part 1. Basic microbiology and principles of laboratory diagnosis.


Part 2. Immunology.


2. Functional anatomy of immune system: central (primary) and peripheral (secondary) of immune organs. Antigen-independent and antigen-dependent differentiation of T- and B lymphocytes. Results of lymphocyte differentiation in central and peripheral organs of immunity (cloning, selection and maturation of naive lymphocytes).


12. Induction of humoral immunity: activation of B lymphocytes and production of plasma cells. Induction of cell-mediated immunity: activation of CD8+ cells and...
synthesis of mature cytotoxic T-lymphocytes. Role of T helpers in induction of B cells and cytotoxic T lymphocytes. The cell basis of immunology memory.


21. General classification of resident and recruited (inflammation-dependent) defence mechanisms and factors of mucosa, skin, subepitelial tissues, lymph and blood.


Part 3. Pathogens and associated diseases


8. *Escherichia coli*. Infections caused by diarragenic *E. coli* (enteropathogenic, enterotoxigenic, enteroinvasive and entrohaemorrhagic *E. coli*). Determinants of pathogenicity of diarrhea-associated strains.


11. **Clostridia.** *Clostridium tetani*: general properties, toxin and pathogenesis of infection. Immunization. *Clostridium botulinum*: classification, general properties, toxin and pathogenesis of infection. Specific treatment and principles of laboratory diagnosis of botulism.


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**Part 4. Microbiology of the oral cavity: oral microflora and its role in oral cavity diseases.**

1. Obligate (constant) microflora of the oral cavity. The main aerobic and anaerobic representatives. Stabilizing and aggressive flora. Facultative microflora of the oral cavity and its role in oral infections.


7. Odontogenic inflammatory processes. Development of odontogenic inflammation (pulpitis, acute apical inflammation, periostitis, osteomyelitis, abscess and
phlegmon). Microbial etiology (bacterial pathogens) of odontogenic inflammatory diseases.


9. Types of mucosal inflammatory diseases of the oral cavity. Nonspecific and specific stomatitis and their microbial etiology. Staphylococcal and streptococcal lesions of the oral cavity. Examples of systemic infections which may lead to changes in the oral mucosa.


