Preventive Medicine and Epidemiology

Examination topics for the state doctoral examination

Risk analysis and assessment

1. Basic principles of health risk assessment
2. Identification of the hazards of chemicals
3. Threshold substances: evaluation of dose-effect, dose-response relationships
4. Non-threshold substances: evaluation of dose-effect, dose-response relationships
5. Use of health risk assessment in public health protection
6. Exposure assessment
7. Biological monitoring of exposure
8. Environmental health risk analysis
9. Occupational health risk analysis
10. Analysis of health risks in food and nutrition
11. The importance of epidemiology for health risk assessment
12. Risk management, principles of risk management in public health protection
13. Risk perception and risk communication
14. Sources of data and information for health risk assessment
15. Risk characterisation

Toxicology

1. Intoxication by organic solvents (benzine, toluene, trichloroethylene, perchloroethylene)
2. Toxic liver damage
3. Carbon monoxide intoxication
4. ethylene glycol and methyl alcohol intoxication

5. Respiratory damage by irritants

6. Mushroom poisoning

7. Lead and its compounds

8. Mercury and its compounds

9. Cadmium

10. Chemical carcinogens

11. Toxic substances in food -inorganic contaminants (toxic metals, nitrates, nitrites)

12. Toxic substances in food -organic contaminants (PCBs, PCDDs, PAHs, phthalates, mycotoxins)

13. Toxicokinetics of substances (absorption, distribution, biotransformation and excretion)

14. Testing the toxic effects of chemicals

15. Permissible limits (principles of determination, environment, working environment, food, drinking water)

Prevention of massively occurring diseases

1. Obesity (aetiopathogenesis, diagnosis, treatment, prevention)

2. Physical activity and overweight. Reduction programmes

3. Effect of regular physical activity on the body

4. Nutrition in pregnancy

5. Nutrition in cancer prevention

6. Nutrition in the prevention of atherosclerosis

7. Main principles of good nutrition

8. Nutrition in the prevention of diabetes

9. Anti-smoking programmes,

10. Drug addiction, prevention

11. Fats, proteins and carbohydrates in nutrition

12. Prevention of psychological stress in the workplace

13. Starvation, malnutrition, alternative diets (benefits and risks)

14. Characteristics of growth and development at different stages of life

15. Basic human needs

16. Prevention of genetic diseases

17. Regular, special, emergency vaccinations

18. basic characteristics of body stress (health consequences of excessive stress)

Non-infectious epidemiology

1. Injury epidemiology

2. Cancer epidemiology

3. Epidemiological surveillance, purpose and elements

4. Internal validity of epidemiological studies

5. Study precision and the effect of random errors

6. Types of epidemiological studies

7. Epidemiology and hazard identification

8. Case-control and cohort studies

9. Describe the differences between the following characteristics variance, standard deviation, mean error of the mean, and interquartile range.

10. The contingency table and its uses. Methods of evaluation?

11. How can the relationship between two quantitative variables be measured? Describe the model used.

12. Describe the basic quantitative risk measures used in epidemiological studies and the interpretation of their confidence intervals.

13. Epidemiology of cardiovascular disease

14. Molecular epidemiology