

Department of Environmental and Preventive Medicine
Questions to prepare for the general hygiene course exam
for 2nd year FIS students for academic year 2023-2024

1. Purpose, objectives and methods of hygiene. Hygiene as a science, laws of hygiene. Place of hygiene among other medical sciences, importance of hygiene for medical specialists.
2. The human environment as a set of natural and social elements.
3. Health as a state of complete physical, mental and social well-being. Criteria for assessing health.
4. Health assessment at individual, group and population levels. Criteria for assessing individual health.
5. Integral indicators of individual health: a person's capacity for work, duration of work activity.
6. Pre-morbid hygiene diagnosis. Pre-morbid conditions of the human body, their signs, evaluation criteria.
7. Preventive medicine. Types of prevention: primary, secondary, tertiary.
8. The main legal acts of the Republic of Belarus regulating the protection of public health.
9. Hygiene standardisation of human environment factors, principles of standardisation.
10. Classification of risk factors. External risk factors: nutrition, housing, working and occupational hazards, recreation, ethnicity, standard of living and lifestyle, natural and geographical conditions.
11. Internal risk factors (congenital and acquired): arterial hypertension, hypercholesterolemia, excess body weight, endocrine dysregulation, etc.
12. Grouping of risk factors: lifestyle; genetics; human environment, climatic conditions; health care.
13. The main areas of prevention in the field of health care: creating conditions for healthy lifestyles; improving the environmental situation.
14. Noncommunicable diseases and models of their development: ecological, accumulation, ontogenetic and genetic models. Prevention of the most common noncommunicable diseases.
15. Physical activity as an important factor in maintaining health and preventing noncommunicable diseases.
16. The impact of the atmosphere on the human body. Electrical state of the air environment, characteristics of the main indicators, impact on human health. Ionisation of air. Concept of heavy and light, positive and negative ions. Effect of ionisation on the human body.
17. Chemical composition of the air environment and its hygienic characteristics. Influence of different air constituents on human health.
18. Sanitary significance of air carbon dioxide in residential and public buildings.
19. Anthropotoxins in residential air: conditions conducive to their accumulation, impact on human health.
20. Hygienic characteristics of the main sources of air pollution in human settlements. Mechanical and gaseous impurities in the air.
21. The impact of air pollution on public health. Measures to combat atmospheric pollution.
22. Weather and climate, characteristics, definition. Classification of climate, hygienic characteristics.
23. The impact of climatic factors on the human body. The concept of seasonal and meteo-tropic diseases. Meteorological dependency. The importance of active prevention.
24. The concept of microclimate. Acclimatisation and adaptation as a complex socio-biological process of human adaptation to new living conditions.
25. The importance of working, resting, living, dietary patterns, settlement patterns, physical training and hardening for acclimatisation and adaptation.
26. Hygienic characterisation of the physical factors of the air environment: temperature, humidity, air mobility, barometric pressure.

27. Methods of measurement and hygienic standardisation of microclimate indicators. The effect of high and low air pressure on the human body (caisson and altitude sickness).
28. Wind rose, methodology and hygienic assessment.
29. The concept of light climate. Hygienic characteristics of the visible part of the solar spectrum. General biological effect of visible spectrum, specific effect on visual organ.
30. Influence of various factors on the state of natural illumination in enclosed spaces. Light and geometric method of assessing natural light.
31. Artificial lighting. Hygienic characteristics of artificial lighting. Research methods and hygienic assessment of natural and artificial lighting in enclosed spaces using a luxmeter.
32. Hygiene requirements for dwellings, building materials, structures and interior decoration.
33. Natural and artificial ventilation. Types of artificial ventilation (supply, exhaust and combined) and their hygienic characteristics. Classification of artificial ventilation systems.
34. Ventilation efficiency indicators: ventilation volume, air exchange rate, air cube, calculation and evaluation principles. Air conditioning.
35. Physiological and hygienic importance of water. Sources of natural water and their hygienic characteristics.
36. Endemic diseases, the role of water in the occurrence of endemic diseases.
37. Hygiene requirements for drinking water quality.
38. Hygiene assessment of the physical and organoleptic characteristics of water.
39. Hygienic assessment of chemical indicators of organic water pollution (pH, nitrogen, ammonia, nitrite, chloride, acidity).
40. Methods to improve water quality: clarification and bleaching, disinfection.
41. Water disinfection (physical methods: boiling, water treatment with ultraviolet rays, ultrasound; chemical methods: chlorination, ozonation, etc.). Combined methods for improving water quality. Advantages and disadvantages of water quality improvement methods.
42. Soil chemistry and its impact on the human body. Indicators of organic pollution in soil. Biogeochemical provinces. Sources of soil pollution and their hygienic characteristics.
43. Soil as a basic link in the cycle of xenobiotics in the human environment. Types of xenobiotics and their hygienic characteristics.
44. Soil as a reservoir and transmission factor for infectious and parasitic diseases.
45. Definition and content of food hygiene. The impact of nutrition on public health. The preventive and therapeutic role of nutrition. Types of nutrition.
46. Modern problems of human nutrition. Genetically modified foods. Functional foods. Biologically active food supplements.
47. The importance of proteins in human nutrition. The concept of reference protein and the biological value of proteins. Protein intake standards, World Health Organization (FAO/WHO) recommendations. Content and quality of proteins in staple foods
48. Fats in the human diet. Excessive consumption of fats, consequences, preventive measures. Consumption standards for fats and their essential components.
49. Carbohydrates in human nutrition. Role of fibre and pectin substances. Sources and rates of carbohydrate intake.
50. Vitamins and their role in human nutrition. Prevention of vitamin deficiency and hypervitaminosis. Sources of vitamins.
51. Minerals in human nutrition. Deficiency and excess of minerals in the diet, preventive measures.
52. The laws of good nutrition and their characteristics.
53. The law of energy adequacy of nutrition. Methods for determining energy expenditure and methods for determining actual nutrient energy intake.

54. The law of nutrient (plastic) adequacy of nutrition. Classification of nutrients on the basis of functional purpose and the principle of indispensability. The formula for a balanced diet.
55. The law of biorhythmological adequacy of nutrition, a rational diet and its physiological justification.
56. The law of enzymatic (enzymatic) nutritional adequacy. Disorders associated with changes in the chemical composition of food. Consequences due to the use of hormones, antibiotics, genetic engineering in animal husbandry. Changes in the qualitative composition of food caused by preservatives and food additives. Hereditary and acquired enzymopathies.
57. The law of biotic adequacy (harmlessness) of nutrition.
58. Alimentary diseases: definition, causes, classification. Protein-energy malnutrition diseases: classification, diagnosis, clinical manifestations, prevention.
59. Overweight eating status. Obesity as a social problem: Diagnosis, prevention and diet therapy of obesity.
60. Syndrome of protein overnutrition: causes of development, clinical manifestations, prevention. Methods for assessing the protein supply of the human body.
61. Microelement diseases: definition, classification. Microcellular diseases characteristic of the population of the Republic of Belarus.
62. Hypocelenosis: clinical manifestations, prevention.
63. Iodine deficiency diseases: clinical manifestations, prevention.
64. Criteria for rationing the nutritional needs of the human body, physiological norms of nutrition of the population. Methods of determining the energy requirements of the human body: calorimetric, time-table, calculation using the coefficient of physical activity.
65. Determining a person's individual energy needs (using the WHO methodology using a physical activity ratio) and nutrients (using a balanced mega-calorie).
66. Calculation of the actual nutrient intake and energy value of a menu-based diet using the 24-hour interview method.
67. Hygienic assessment of the adequacy of the actual diet to the needs of the human body, the development of recommendations for dietary rationalisation.
68. Hygienic assessment of nutritional status (somatometric, somatoscopic, physiometric and biochemical indicators).
69. Hygienic assessment of human vitamin A and C supply. Methods for studying the vitamin value of diets: questionnaire survey, calculation, weighing, chemical and analytical.
70. Methods of studying the vitamin status of the human organism: somatometric, physiometric, general clinical, somatoscopic, physiological and biochemical testing, haematological, immunological.
71. Classification of food poisoning. Food poisoning of microbial etiology: types, clinical manifestations, prevention measures.
72. Botulism: factors of transmission, clinical manifestations, prevention.
73. Staphylococcal toxicosis: factors of transmission, clinical manifestations, prevention.
74. Mycotoxicoses and phytotoxicoses, their characteristics.
75. Food poisonings of non-microbial nature. Chemical intoxications: clinical manifestations, prevention.
76. Food poisonings with products of plant and animal origin.
77. Poisonous mushrooms poisoning: clinical manifestations, prevention.
78. Methods of investigation of food poisoning.
79. Hygiene principles of human diet. Characteristics of the main therapeutic diets.
80. Organization of nutrition in health care organizations.
81. Features of nutrition in coronavirus infection.

82. Hygiene requirements for the siting of health care facilities. Building systems. Hygiene requirements for land of health care organizations, zoning of hospital area.
83. Hygiene requirements for design, equipment and operation of premises of health care organizations, internal layout.
84. Healthcare-associated infections, preventive measures.
85. Sanitary and epidemiological requirements for the management of medical waste.
86. Aims and objectives of occupational health. Physiological and hygienic and socio-economic concept of labour. Classification of types of labour.
87. Optimal working conditions, biological and social role. Factors determining the nature and conditions of work. Mode, severity, strain of labour. Classification of labour by severity and strain. Indicators characterising heaviness and tenseness of work.
88. Harmful occupational factors, main directions of prevention.
89. Fatigue and its positive and negative role. Measures to reduce the stress of work and to prevent fatigue and over-fatigue.
90. The syndrome of emotional burnout and its prevention.
91. Work and rest mode: the impact on health, performance and neuro-psychic state of people. Hygienic role of dynamic stereotypes. Physiological and hygienic assessment of work and rest mode.
92. Occupational hazards in health care system. Main directions of prevention of occupational diseases of medical workers.
93. Main harmful occupational factors. Acute and chronic occupational diseases.
94. Preventive health examinations and their role in the prevention of occupational diseases.
95. Occupational dust: classification, physical and chemical properties. Methods for studying the dustiness of the air of the production facilities. Dusty occupational diseases, their prevention.
96. Chemical factor in the workplace. Pathways of entry of poisons into the human body, their hygienic characteristics. General patterns of action of industrial poisons in the human body. Occupational poisoning, prevention.
97. Lead, mercury, benzene, nitrogen oxides in production. Clinical manifestations of poisoning, prevention.
98. Occupational noise, its physical and hygienic characteristics. Classification of noise. Instruments. Specific and non-specific effects of noise on the human body. Hygienic standardization of noise. Personal protective equipment.
99. Vibration, types, their hygienic characteristics. Effects of general and local vibration on the human body. Prevention of noise and vibration disease.
100. Infra-red radiation in the workplace: sources, methods of measurement, regulation. Measures to prevent the adverse effects of thermal radiation.
101. Hygiene of children and adolescents: purpose, objectives.
102. Basic patterns of growth and development of the child's body.
103. Biological and passport age. Definition of biological age.
104. Age periods of life of children and adolescents and their characteristics.
105. Structure of chronic diseases in children and adolescents.
106. Methods for assessing the physical development of children and adolescents. Comprehensive assessment of the physical development of children and adolescents.
107. Indicators for assessing the health of children in child and adolescent populations. Factors influencing the formation of children's health. Health groups.
108. School maturity, definition of the concept, assessment criteria.

13.04.2024